



CANADA-UNDP
Climate Change Adaptation Facility



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Resilient nations.*



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FILLING BUCKETS, FUELLING CHANGE

Ensuring Gender-Responsive Climate Change Adaptation
Learning from the Canada-UNDP Climate Change Adaptation Facility





FOREWORD



“The 2030 Agenda for Sustainable Development, adopted by the UN General Assembly last year, asserts that gender equality is not only a human right, but also a necessary foundation for a peaceful and inclusive world ... Gender equality is not just a worthy goal in its own right, but also a driver of progress across all development goals.”

*– Helen Clark, Statement on World International Women’s Day 2016,
8 March 2016*

Mali; Photo: Imen Meliane

Without gender equality sustainable development is unattainable. The promotion of gender equality and women's empowerment is therefore at the heart of UNDP's approach to development. This is particularly important for achieving *resilient* development, since societies with underlying inequalities are more vulnerable to external stresses, including climate change. With the range of impacts posed by changing climatic conditions, specifically affecting natural resources on which many developing communities depend, any approach to addressing these impacts requires a consideration of the role, needs, knowledge and engagement of all actors, both women and men.

This is why *gender* in the context of climate change adaptation is not only about vulnerabilities. Typically, we dwell on the fact that women are more vulnerable to climate impacts than men.

This is often true, given the role women play in food and water provisioning, both severely affected by climate change, and in domestic duties, which face further pressure when men are forced to migrate from the home to find sustainable work. Women are also typically limited in their access to knowledge and resources, which are essential in coping or adapting to changing conditions, and in their decision-making power.

However, gender-responsive adaptation is about more than addressing vulnerability; it is about strengthening gender equality and empowerment. Given the role women play in society, they have unique knowledge, understanding and needs that can strengthen climate change adaptation action. Providing women and men the same opportunities to make decisions, inform adaptation processes, and engage in implementation, will inevitably strengthen adaptation.

Gender-responsive adaptation, therefore, is better adaptation.

This means ensuring: that the underlying gender dynamics of the society are understood and considered in the design of all projects; that women are specifically targeted for capacity development and empowerment during implementation; and that success and impact is measured based on results achieved for both men and women.

The Canada-UNDP Climate Change Adaptation Facility (CCAF) is one of UNDP's flagship adaptation projects in the area of gender. All six countries engaged in national adaptation projects under the CCAF, including Cabo Verde, Cambodia, Haiti, Mali, Niger and Sudan, make a concerted and explicit effort to take a gender-responsive approach to all adaptation activities. This is complemented by the Facility's global component, which provides technical support, encourages knowledge exchange, and undertakes in-depth analysis of the experiences these countries have had in gender-responsive approaches.

This publication is the result of the efforts taken by this CCAF global component. It aims to provide concrete examples and experiences from all six CCAF countries on the specific inputs, resources and partnerships needed to design and implement gender-responsive approaches. It hopes to develop a better understanding of how gender-responsive approaches can be cost-effective and lead to greater adaptation impact. I hope the content and evidence provided in this publication will inform and inspire future adaptation, to ensure that gender is not an add-on component, but remains an intrinsic and essential basis of all adaptation initiatives.

Adriana Dinu

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Gender-responsive adaptation is about more than addressing vulnerability; it is about strengthening gender equality and empowerment. Gender-responsive adaptation, therefore, is better adaptation.





Women farmers in Mali; Photo: Imen Meliane

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The teams in Cabo Verde, Cambodia, Niger and Sudan made this research possible by facilitating the field and desk studies. We are especially grateful to Sandra Martins and Antonio Querido for their support, experience, and joyful company in Cabo Verde; to Dara Rat Moni Ung for his enthusiasm in sharing learnings and insights about the project in Cambodia with such dedication and light-heartedness; and to Ai Boubé Boubacar and Douma Soumana for making the field visit in Niger so insightful and lively. We are also thankful to Marthe Diarra and Safia Mohamed, national consultants and gender specialists in Niger and Sudan, respectively, for their extremely valuable contributions to the research study.

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Finally, we wish to express thanks to the people who took us safely to our destinations in the respective countries, and whose company we thoroughly enjoyed: the drivers Soni in Cambodia, Fernando in Cabo Verde and Domingo in Niger.

Carine Pionetti, author, and CCAF project team.



List of Acronyms

ADB	Asian Development Bank
ANAS	National Agency for Water and Sanitation (Cabo Verde)
CBO	Community-Based Organization
CCAF	Canada-UNDP Climate Change Adaptation Facility
CNEDD	National Environmental Council for Sustainable Development (Niger)
FAO	Food and Agriculture Organization
FWUC	Farmer Water-User Committee (Cambodia)
GCF	Green Climate Fund
GEF	Global Environment Facility
GGCA	Global Gender and Climate Alliance
ICIEG	Cabo Verdean Institute for Equality and Gender Equity
ICRW	International Center for Research on Women
IFAD	International Fund for Agricultural Development
INDC	Intended Nationally Determined Contributions
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature

LDCF	Least Developed Countries Fund
MAFF	Ministry of Agriculture, Forests and Fisheries
MDG	Millennium Development Goals
MOWA	Ministry of Women's Affairs (Cambodia)
MWRM	Ministry of Water Resources and Meteorology
NAP	National Adaptation Plans
NAPA	National Adaptation Programmes of Action
PDA	Provincial Department of Agriculture (Cambodia)
PDWRM	Provincial Department of Water Resources and Meteorology (Cambodia)
PSU	Project Supporting Unit
RGA	Rapid Gender Assessment
SDG	Sustainable Development Goals
UNFCCC	United Nations Framework Convention on Climate Change
UNFPA	United Nations Population Fund
VRA	Vulnerability Risk Assessment
WFP	World Food Programme
WUG	Water-User Group (Cambodia)





EXECUTIVE SUMMARY

Over the last two decades gender has been increasingly integrated into the design and implementation of gender-responsive adaptation initiatives at the project level. This experience has demonstrated that gender equality is a condition for successful adaptation to climate change. Yet gender-responsive adaptation remains the exception rather than the norm, and most actors still struggle with the question of how these approaches can be successfully designed, implemented and scaled up.

By shifting the focus from vulnerability to empowerment, adaptation responses have the potential to transform existing gender power imbalances and enhance both women's and men's adaptive capacities, while simultaneously strengthening gender equality and women's rights.

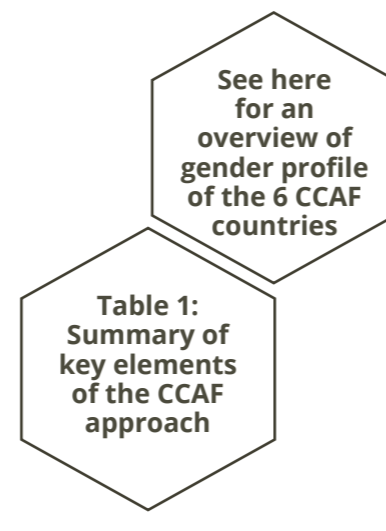


Niger. Photo: Camille Maitre

This research study draws on findings from six countries engaged in adaptation efforts supported by the Canada – UNDP Climate Change Adaptation Facility (CCAF). In all six countries, Cabo Verde, Cambodia, Haiti, Mali, Niger and Sudan, national projects aim to strengthen climate resilience, particularly in the areas of food security and water management. They also specifically demonstrate gender-responsive adaptation strategies, providing insights into the types of resources and partnerships needed at local and national levels for success.

A conceptual framework for understanding adaptation strategies in relation to the goals of gender equality and justice provides a frame to analyse and extract the insights emerging from the six CCAF countries. Specifically, six critical areas form the base of this framework and provide entry points for this research. These include: 1) gendered approaches to food security; 2) water access and governance; 3) time poverty and unpaid care work; 4) control over resources and revenues; 5) participation, decision-making and leadership; and 6) targeting of gender groups most at risk.

This research study demonstrates gender-responsive adaptation strategies, providing insights into the types of resources and partnerships needed at local and national levels for success.



A significant implication of climate change and the resulting decline in agricultural production and food security in many parts of the world is that **women are playing an increasingly important role in provisioning food for the family**, especially during periods of food shortage. This is mostly due to the absence of men who migrate seasonally or permanently in search of more reliable incomes. Across all six CCAF countries, context-specific approaches were designed to increase **food production and incomes** focusing on women as food producers. In Cambodia, the project supported women in developing home gardens as a source of enhanced nutrition and increased incomes which they can control. In Niger and Mali, where individual women face barriers in accessing land, a collective model of vegetable plots for groups of women and men was implemented which helped increase food production, generate new sources of income, and reinforce women's solidarity networks, critical to resource-poor families. Projects have also been successful in supporting women to generate income by **diversifying livelihoods**. In several countries, efforts have been made to transform **social norms in food production**. In Mali for example, women's associations are earning enough profit from selling their crops to acquire land collectively, over which they typically do not have rights thus creating opportunities for more gender-equitable land tenure in CCAF localities.

Food and Nutritional Security





Climate change is also accelerating water scarcity in most parts of the world consequently limiting access to water. Data from time-use studies show that water collection is a significant burden on women, particularly in places with shortage of water infrastructure, which is true for all CCAF countries. In each country, water access has been improved through tanks and solar pumps, connecting homes to water systems, and rehabilitating reservoirs and small-scale dams. However, strengthening access to water resources for climate resilience does not necessarily strengthen gender-responsive adaptation. Approaches must take into account the **gender differences in access to water** for both domestic use and irrigation. Mechanisms must be put into place that manage and distribute water equitably and effectively to reduce **water-related conflicts during times of water stress**. This must also take into account water affordability, particularly for the most vulnerable.

Using these mechanisms as a tool, many projects also promoted **women's participation and leadership on water management**. For example, in Cambodia the project supported the formation and capacity-building of Water-User Groups and Farmer Water-User Committees to manage water resources for domestic use and irrigation,

Access to Water and Governance Structures for Water Distribution



respectively. Further, by ensuring women's participation and leadership in these groups, the projects also supported women's influence in decisions around water use. In Cabo Verde, for example, prioritization over water use generally differs between men and women, as women tend to prioritize water for domestic purposes and food crops, while men prioritize irrigation of commercial crops. Forty-five percent of all households in Cabo Verde are women-headed and they face specific constraints around water access. Therefore, the project prioritized the allocation of individual water tanks to women-headed households.



Water pump installed in Mali; Photo: Imen Meliane



The consideration of care-provisioning patterns at the household level is also critical when designing gender-responsive adaptation approaches. In most parts of the world, societal norms tend to assign care work to women, such as childcare, caring for the sick and the elderly, domestic tasks, and collection of fuel and water. Climate change aggravates the burdens of **unpaid care work**, affecting women more than men and reducing their ability to adapt. CCAF projects have implemented several activities that aim to reduce **women's time poverty** to help strengthen their adaptive capacity. The provision of butane gas in Sudan led to a significant decrease in fuelwood collection by women. In Mali, multifunctional platforms were introduced to **reduce women's workload through access to energy services** for processing cereals, a time-intensive job. In both cases, gender roles progressively changed as women reallocated time from domestic chores to other productive roles (e.g. raising animals, growing crops), education, political participation, etc. This suggests that when gender imbalances around unpaid care work and time poverty are addressed in adaptation, unexpected, subtle, yet tangible transformation of women's and men's roles can happen over time.



Time Poverty and Unpaid Care Work



Effective control over productive resources and incomes without depending on those owned and controlled by their fathers, husbands or sons, is a precondition for women to build their adaptive capacity. This is true especially in countries where women-headed households are increasingly numerous, like Cabo Verde, Haiti and Sudan. In Mali and Niger, building on positive global experiences, the projects addressed the need for **women's control over land** by focusing on collective access. This circumvents the numerous constraints (inheritance laws, customary practices, insufficient financial resources and other barriers) individual women face. An interesting finding from the CCAF projects is that community authorities play an important role in securing women's access to land. It is also important to take **gender-differentiated approaches to management of natural resources** into account, as this can make adaptation interventions more sustainable and cost-effective. The CCAF project in Haiti provides interesting insights on the scope for incorporating gender concerns into reforestation efforts. Different ways that men and women allocate funds is also a critical factor, and measures must be designed to promote **women's control over financial resources**, as has been done through community-based revolving funds called Sandug in Sudan.

Control over Productive Resources, Natural Resources and Income





In the context of adaptation, the CCAF projects show that women's participation, decision-making and leadership are critical to ensure that their knowledge of the immediate environment and their ways of coping and managing economic, social and ecological stresses are taken into consideration. This is particularly true as women, because of their roles in society, are more likely to acknowledge ecological problems and risks, express higher levels of concern, and engage in activities beneficial to the environment. The CCAF projects show that barriers for women can be removed through proactive strategies. For example, in Cambodia, gender expertise and monitoring were used to achieve 40 percent participation of women in Water-User Groups and Farmer Water-User Committees, further **promoting women's participation and leadership in mixed groups**. Addressing underlying causes, such as literacy, can help. In Niger, the low level of female literacy (11 percent) was identified as a key factor hindering women's participation and leadership in mixed groups. As a response, literacy classes for adult women – including financial literacy – were started under the CCAF project. Findings across all six countries recorded that **women's active role in collective action groups** can lead to empowerment. There are even instances of groups of women, supported by the CCAF projects, challenging unjust procedures, questioning wrongdoings of the local elite, and approaching a higher authority to solve a problem or claim their rights.



Participation, Decision-making and Leadership



Finally, targeting of gender groups most at risk and vulnerable to climate change is also essential for effective adaptation. This must take into account analysis of exclusions resulting from age, migration, health and ability. In several CCAF projects implementing labour-demanding activities, such as building small infrastructure, women were often given priority for work to help increase their earning capacity. Several CCAF countries also targeted **women-headed households** with limited access to land and productive resources. In Sudan, such households, which constitute up to 50 percent in some parts of the country, were prioritized. This decision was informed by an analysis of men's migration patterns and seasonal vulnerabilities. There are also instances of targeting other vulnerable groups, such as **girls and young women** who are more susceptible to sexual harassment in times of stress (often triggered by climate change). In Niger, the CCAF project started a sewing workshop for young unmarried women, helping to empower them and increase their resilience.



Targeting of Gender Groups most at risk



At the **institutional level**, each CCAF project took a different approach to establishing mechanisms for integrating gender, some systematic and others *ad hoc*. For example, stepping away from the ‘silo’ vertical culture of ministries, the CCAF project team in Cambodia managed to establish institutional partnerships between ministries addressing Agriculture, Water Resources and Women’s Affairs. It brought together water engineers, agriculture extension workers and gender specialists, along with the three ministries, to strengthen resilience and support adaptation. Cross-sectoral learning helped to create conditions for gender-responsive outcomes, such as a high rate of participation by women in traditionally male-dominated farmer water-user groups. In other countries, different approaches were used, such as internal capacity-building, the use of appropriate gender-sensitive tools and assessments, as well as external reviews and advice from the CCAF global platform. These experiences helped to identify several key drivers of institutional partnerships for gender-responsive adaptation: incorporating and relying on gender expertise, making extensive use of participatory processes, and bridging the gap between rhetoric and practice on gender equality.

Institutional Partnerships for Promoting Gender-Responsive Adaptation



This research study demonstrates gender-responsive adaptation strategies, providing insights into the types of resources and partnerships needed at local and national levels for success.

Findings from all countries strongly suggest that narrowing the gender gap involves recognizing that many of the barriers and constraints women face as a result of gender inequality get compounded by climate change and need to be addressed systematically in adaptation projects.

The analyses of research findings show that there are several prerequisites and enabling conditions that are needed to ensure adaptation projects are gender responsive. For example, gender analyses and participatory approaches which inform complex gender strategies and plans help to incorporate context-specific gender dynamics during the design phase. Incorporating sex-disaggregated data and results frameworks, as well as gender-responsive budgeting, will also ensure effective implementation and accountability.

Table 1:
Summary of
key elements
of the CCAF
approach

**See table 6 for
an overview of
mechanisms employed
in CCAF projects to
integrate gender into
project planning and
activities**



INTRODUCTION

Gender equality is increasingly recognized as a critical variable to achieving sustainable development outcomes, particularly in the context of climate change. Many international agreements¹ recognize “the imperative of gender equality and women’s empowerment to achieve the overall goals of human rights and sustainable development” (UNFCCC 2013). The UN Framework Convention on Climate Change (UNFCCC) calls for National Adaptation Plans (NAP) to be gender sensitive, and calls on the Green Climate Fund (GCF) to promote environmental, social, economic and development co-benefits and take a gender-responsive approach (see Box 1 for definition of gender terms). Despite positive trends in global debates and academic work, NAP processes and adaptation projects on the ground have been slow to integrate gender concerns (WEDO 2008). Few of the early National Adaptation Programmes of Action (NAPAs), the precursors to NAPs, looked at how climate change impacts relate specifically to women’s economic, political and social status. Recently, efforts have been made to incorporate gender concerns and to involve women as key stakeholders in NAPs (Aguilar et al. 2015). Practices and methodologies for designing gender-responsive adaptation projects have also become more accessible in recent years.

Many international agreements recognize the imperative of gender equality and women’s empowerment to achieve the overall goals of human rights and sustainable development ... but NAP processes and adaptation projects on the ground have been slow to integrate gender concerns.

¹ These agreements include Agenda 21 from the Earth Summit on Environment and Development (1992), the Beijing Declaration and Platform for Action adopted at the Fourth World Conference on Women (1995), the Commission on the Status of Women, the outcome document of the Rio+20 United Nations Conference on Sustainable Development (2012) and the Sustainable Development Goals (SDGs) (adopted in 2015).

Box 1: Gender terms: from neutrality to transformation

Gender-neutral policies and programmes are assumed to affect both sexes equally, but in fact they are often gender-blind, meaning that they ignore the different roles, responsibilities and capabilities of men, women, boys and girls, and the social processes that determine these.



Gender-sensitive policies and programmes consider gender norms, roles and relations without necessarily addressing the inequality generated by unequal norms, roles or relations. They indicate gender awareness, but often no remedial action is developed to address root causes of inequality.



Gender-responsive policies and programmes take into account the different socially determined roles, responsibilities and capabilities of men and women. They also consider cultural settings and power relations based on information derived from both men's and women's activities and respond to their different needs and interests.



Gender-transformative policies and programmes consider gender norms, roles and relations for women and men and analyse how they affect access to and control over resources. They consider women's and men's specific needs and address the causes of gender-based inequities. They include ways to transform harmful gender norms, roles and relations, using specific strategies to foster progressive changes in power relationships between women and men.



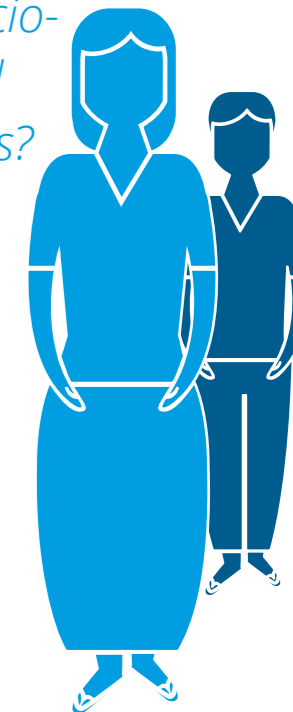
Source: Kabeer 2003; WHO 2011.

With all the institutional and political support to pursue gender-responsive and gender-transformative approaches to sustainable development and climate change adaptation, the question still remains: *How?* What conditions need to be in place for adaptation responses to equally benefit women and men? How can we create opportunities for women's empowerment, participation and leadership in adaptation initiatives across a range of geographical and sociocultural contexts? How can adaptation contribute to promoting gender equality?

Adaptation is intimately linked to resilience. For UNDP, resilience is an "inherent as well as an acquired condition achieved by managing risks over time at individual, household, community and societal levels in ways that minimize costs, build capacities to manage and sustain development momentum, and maximize transformative potential" (UNDP 2013). Strengthening adaptation for resilience thus requires enhancing people's ability to manage the risks they face, to sustain development and to enable transformation. Knowledge systems are an integral part of resilience-building efforts, as are social, human and physical capital.

Literature on adaptation shows that the experience of climate change is shaped by a range of social factors such as the degrees of social inequality and political representation (Pelling 2011). Power facilitates some actors to influence and find security, while others are disempowered and

How can we create opportunities for women's empowerment, participation and leadership in adaptation initiatives across a range of geographical and socio-cultural contexts?



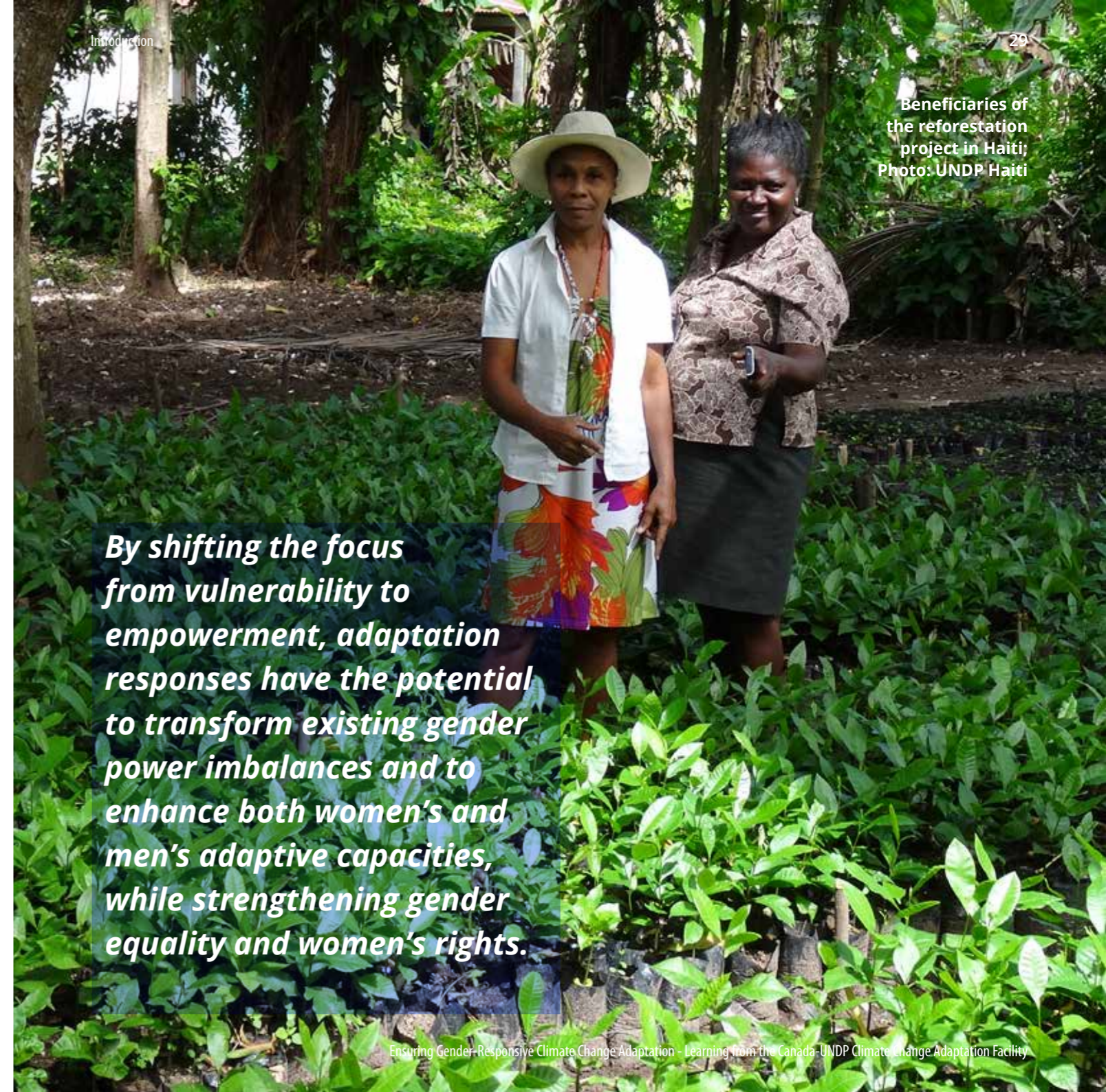
made vulnerable within the context of ongoing socio-environmental transformation (Taylor 2014). Given existing patterns of gender inequality, it is increasingly recognized that gender equality cannot be achieved without social transformation of the norms, institutions and processes that produce unequal power relations between men and women.

Gender equality is a condition for successful adaptation to climate change and the transition to low-carbon pathways in developing countries. This implies that, in order to be effective, adaptation responses need to consider the specific needs of both women and men, as well as the underlying gendered inequalities that may compound the impacts of climate change on women or prevent them from benefiting from climate change policy responses.



Beneficiaries in Cambodia using a new water pump; Photo: UNDP Cambodia

Beneficiaries of the reforestation project in Haiti; Photo: UNDP Haiti

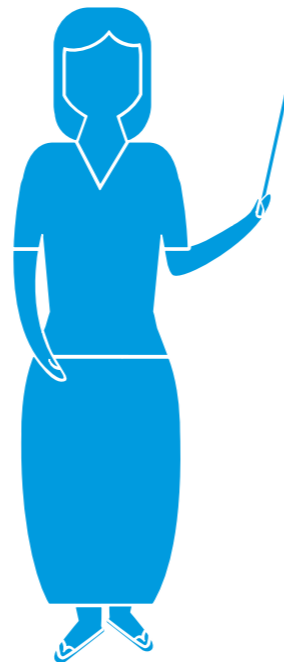


By shifting the focus from vulnerability to empowerment, adaptation responses have the potential to transform existing gender power imbalances and to enhance both women's and men's adaptive capacities, while strengthening gender equality and women's rights.

By shifting the focus from vulnerability to empowerment, adaptation responses have the potential to transform existing gender power imbalances and to enhance both women's and men's adaptive capacities, while strengthening gender equality and women's rights. This requires continuous attention to gender dimensions across all components of adaptation projects: assessments of climate change impacts, vulnerability and adaptation options; planning and design of adaptation initiatives; implementation; monitoring and evaluation; and project and programme management for specific and time-bound climate change adaptation initiatives (UNFCCC 2013). It is important to highlight best practices and available tools for arriving at gender-responsive adaptation, but also to identify enabling conditions both at the local level and in the policy context.

This report will contribute to both of these objectives, drawing on experiences from six national projects implemented under the CCAF. **New approaches for gender-responsive adaptation have been tested in different contexts, leading to the emergence of a new body of knowledge and experience on how to integrate gender into adaptation practices, both at community and institutional levels.** The study attempts to present a better understanding of how and why gender-responsive and gender-transformative approaches operate, and lead to greater adaptation impacts.

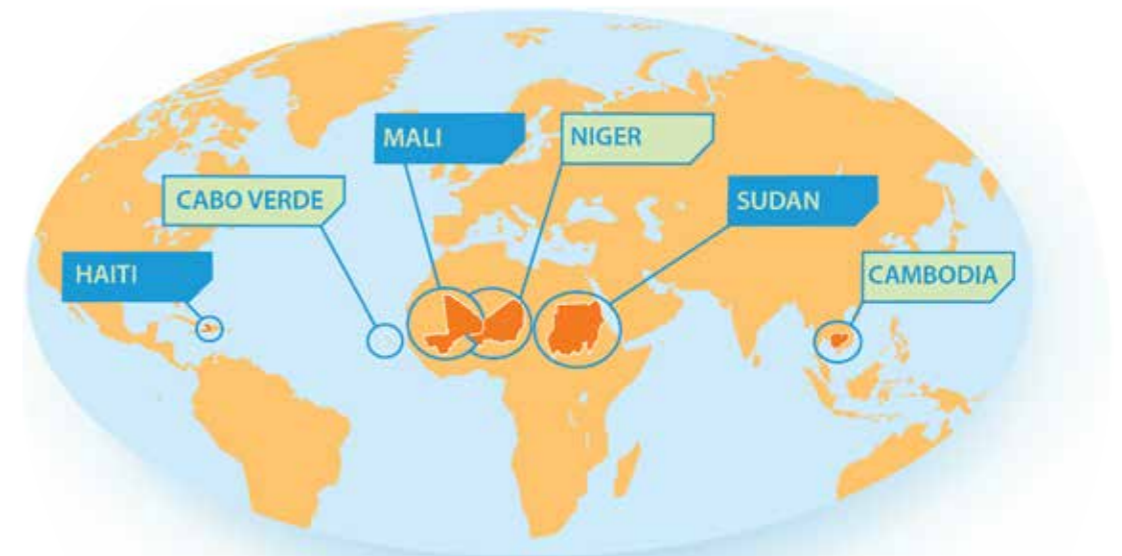
It is important to highlight best practices and available tools for arriving at gender-responsive adaptation, but also to identify enabling conditions both at the local level and in the policy context.



The CCAF supports a portfolio of national climate change adaptation projects implemented in Cabo Verde, Cambodia, Haiti, Mali, Niger and Sudan. These projects were initially supported by the Global Environmental Facility's Least Developed Countries Fund (GEF/LDCF) and built on NAPAs in each country.² In 2014, ongoing LDCF-funded adaptation projects in each country received additional funding from the Government of Canada and UNDP to further enhance the adaptive capacity of vulnerable communities, particularly in the context of food security and water management.

The CCAF also includes a global component, which acts as an umbrella, aiming to document, analyse and share experiences and lessons learned from across the six countries.

**Table 1:
Summary of
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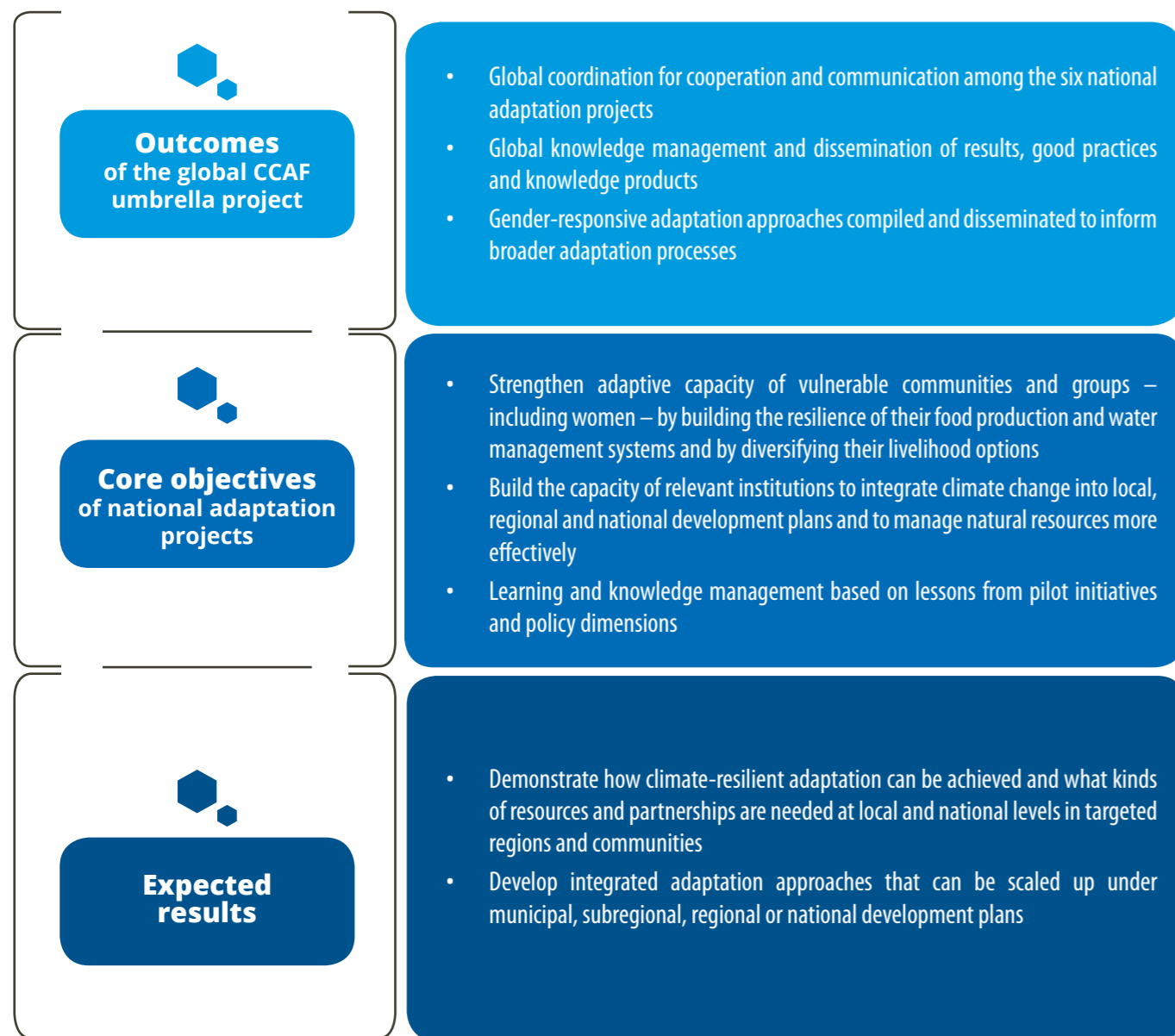
The CCAF supports a portfolio of national climate change adaptation projects implemented in 6 countries

² National Adaptation Programmes of Action (NAPA) were initiated through the United Nations Framework Convention on Climate Change (UNFCCC) to help Least Developed Countries (LDC) identify priority areas for action to address impending climate change risks.

Table 1. Key elements of the CCAF approach

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The Climate Change Adaptation Facility: six countries, one overarching approach



Drawing from the CCAF experiences in integrating gender-responsive and gender-transformative approaches, this research study has three main objectives:

- To demonstrate that such approaches lead to effective adaptation, and are more likely to combine physical adaptation measures with ‘soft’ measures like policy change, behavioural transformation and skills building;
- To show how adaptation strategies can encourage and support transformations in gender relations in order to reach equitable outcomes; and
- To identify necessary conditions, including inputs, resources and partnerships that are needed to pursue successful gender-responsive and gender-transformative adaptation.

This paper has four sections. The first section presents a simplified conceptual framework for understanding adaptation strategies and practices in relation to the goals of gender equality and gender justice. This framework will be used to analyse and extract insights on the different experiences under the CCAF. A series of six critical areas form the background of the conceptual framework, and provide entry points for this research. These include: 1) gendered approaches to food security; 2) water access and governance; 3) time poverty and unpaid care work;

This research study has three main objectives: to demonstrate approaches that lead to effective adaptation, show how adaptation strategies can encourage and support transformations in gender relations, and identify necessary conditions needed to pursue successful gender-responsive and -transformative adaptation.



4) control over resources and revenues; 5) participation, decision-making and leadership; and 6) targeting of gender groups most at risk. A review of the literature around these six areas is also presented.

The second section outlines critical findings from the research study conducted in CCAF countries.³ It consists of six subsections, each focusing on one of the entry points identified in the conceptual framework. Case studies from individual countries are coupled with analysis of trends across all six countries.

In the third section, institutional partnerships around gender and adaptation are explored and achievements are discussed, as well as challenges associated with the institutionalization of gender equity in adaptation initiatives.

The fourth section presents a summary and conclusions providing lessons and recommendations for enabling gender-responsive adaptation in project cycles for future adaptation programmes.

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³ This research study was conducted from November 2015 to March 2016. It included a desk-based review and interviews with key stakeholders in all six countries and field research in Cabo Verde, Cambodia, Niger and Sudan. In each of these four countries, a few sites were selected for more in-depth interactions at the community level (focus-group discussions with women and men, individual interviews, field visits). Interviews were conducted with different actors involved in the CCAF project (UNDP project teams, regional or local project coordinators, representatives from implementing ministries, village authorities, etc.) and with gender and/or adaptation specialists at the national level. In Niger, a sociologist and gender specialist, Marthe Diarra, contributed to the field study. In Sudan, a national gender consultant, Dr. Safia Mohamed, undertook the field research and stakeholder interviews.



Photo: UNDP Cambodia



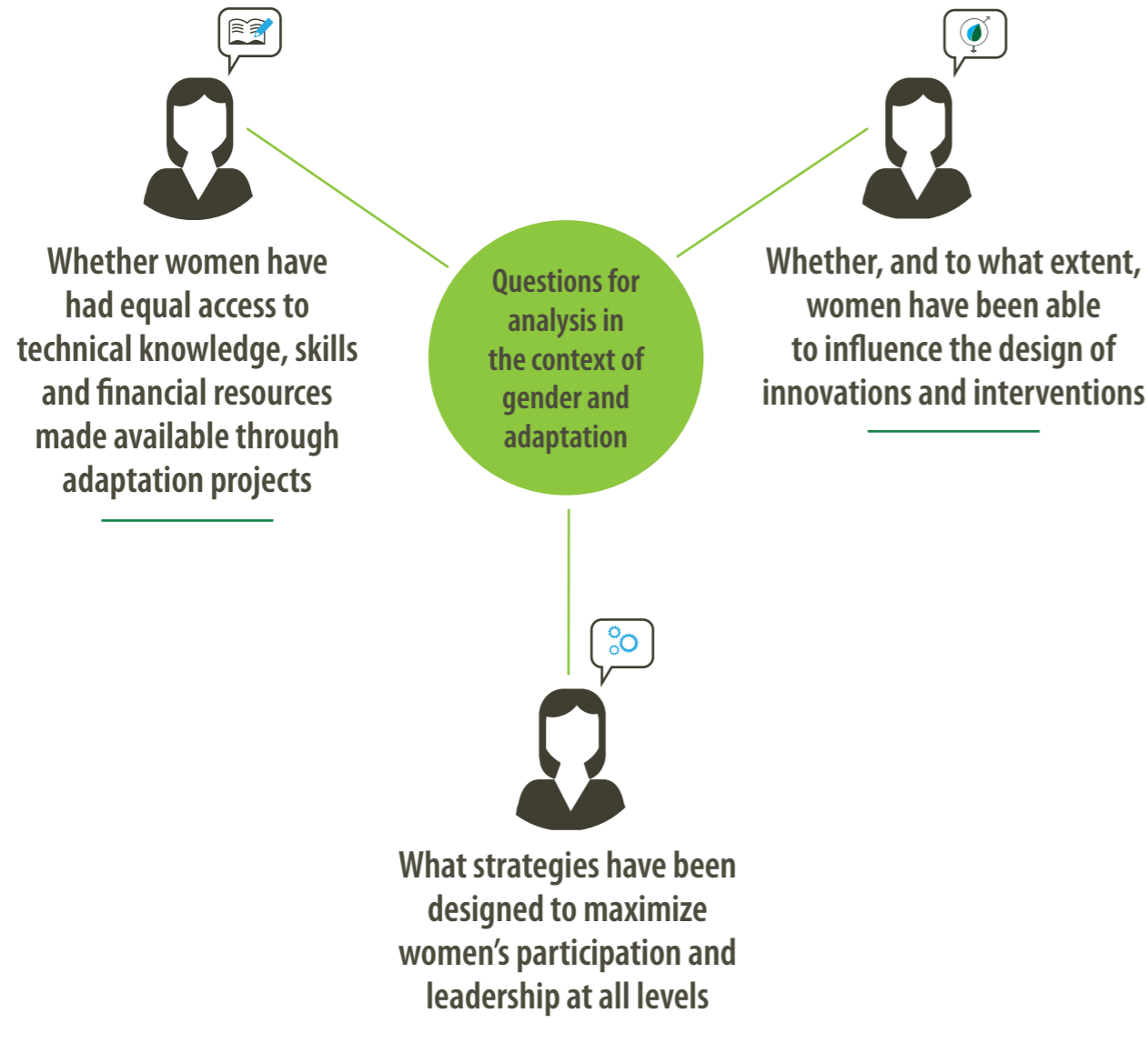
PART I CONCEPTUAL FRAMEWORK AND KEY ENTRY POINTS FOR ANALYSIS

The conceptual framework presented in this section explores the linkages between gender equality, women's empowerment and adaptation to climate change. It aims to bring women's empowerment into the foreground in order to form an elaborate and nuanced picture of what gender-responsive adaptation to climate change involves, how it can be achieved and the impact it has on adaptation outcomes.

This framework proposes that the way human, technical or financial resources for building adaptive capacity are developed, managed, allocated and distributed is as important as the nature and scale of the resources themselves. Taking a gender approach to the study of how human resources, budgets and knowledge have been mobilized in adaptation projects entails examining which roles have been attributed to women and men in this process, and which outcomes have been achieved for different groups of people. Issues of targeting, representation, sharing knowledge and decision-making power, are all central to the analysis.

This framework proposes that the way human, technical or financial resources for building adaptive capacity are developed, managed, allocated and distributed is as important as the nature and scale of the resources themselves.

In the context of gender and adaptation, it is critical to understand:



Clearly, numerical indicators 'counting' the number of women beneficiaries are not sufficient to account for changes in social dynamics, intra-household relations, or new gender roles at family or community levels. In order to assess whether, and under what conditions, adaptive capacity can be strengthened in gender-balanced ways, it is important to focus on processes of change and to include variables that are key to women's empowerment. These include, for example, reduced workload and time poverty, economic empowerment, access to knowledge, participation and leadership.

Adaptation projects prioritizing physical adaptation or 'hardware' such as early warning systems, water infrastructure (e.g. dikes, canals or dams), agricultural improvement and technological innovations rarely address social inequality at the same time. More focus is needed on social approaches or 'software' in adaptation. For instance, an element of a comprehensive adaptation strategy could be ensuring education for girls, and empowering women to better negotiate the timing and number of their pregnancies (UNFPA and WEDO 2009). Promoting women's ability to exercise their political rights, strengthening women's voices in community-level environmental management, prioritizing equal rights at work or reducing gender-based violence can also become priorities for enhancing adaptation (Reyes 2009).

In order to assess whether, and under what conditions, adaptive capacity can be strengthened in gender-balanced ways, it is important to focus on processes of change and to include variables that are key to women's empowerment.

1 A framework for understanding gender perspectives in adaptation

A number of analytical frameworks for gender analysis have been developed over the years. They have been used to map out gendered work and resources in a community, to identify factors influencing gender roles, or to explore women's practical and strategic needs (March, Smyth and Mukhopadhyay 1999).

For example, CARE (2010) produced a framework for exploring women's empowerment in the context of climate change adaptation, with a focus on agency (individual aspirations and capacities), power relations (especially gender power relations) and structures (cultural norms, local adaptation plans).⁴ The UNDP Guidebook Gender, Climate Change and Community-Based Adaptation, launched in 2010, provides insights on how to ensure gender responsiveness in all project phases (Box 2).

A recent publication by IUCN/GGCA provides step-by-step guidance on gender mainstreaming and gender-responsive approaches to climate change decision-making, planning and projects at all levels (Aguilar et al. 2015).

The conceptual framework elaborated for this research builds on CARE's framework by focusing on the roles and responsibilities, access to and control over resources, and power and decision-making at community and household levels (see Figure 1).

⁴ CARE International also developed a participatory approach for community-based adaptation, the *Climate Vulnerability and Capacity Analysis Handbook*, which presents a range of enabling factors that must be in place at household/individual, community/local and national levels in order for effective community-based adaptation to take place (CARE 2009).

Box 2: Applying a gendered community-based adaptation methodology: lessons learned

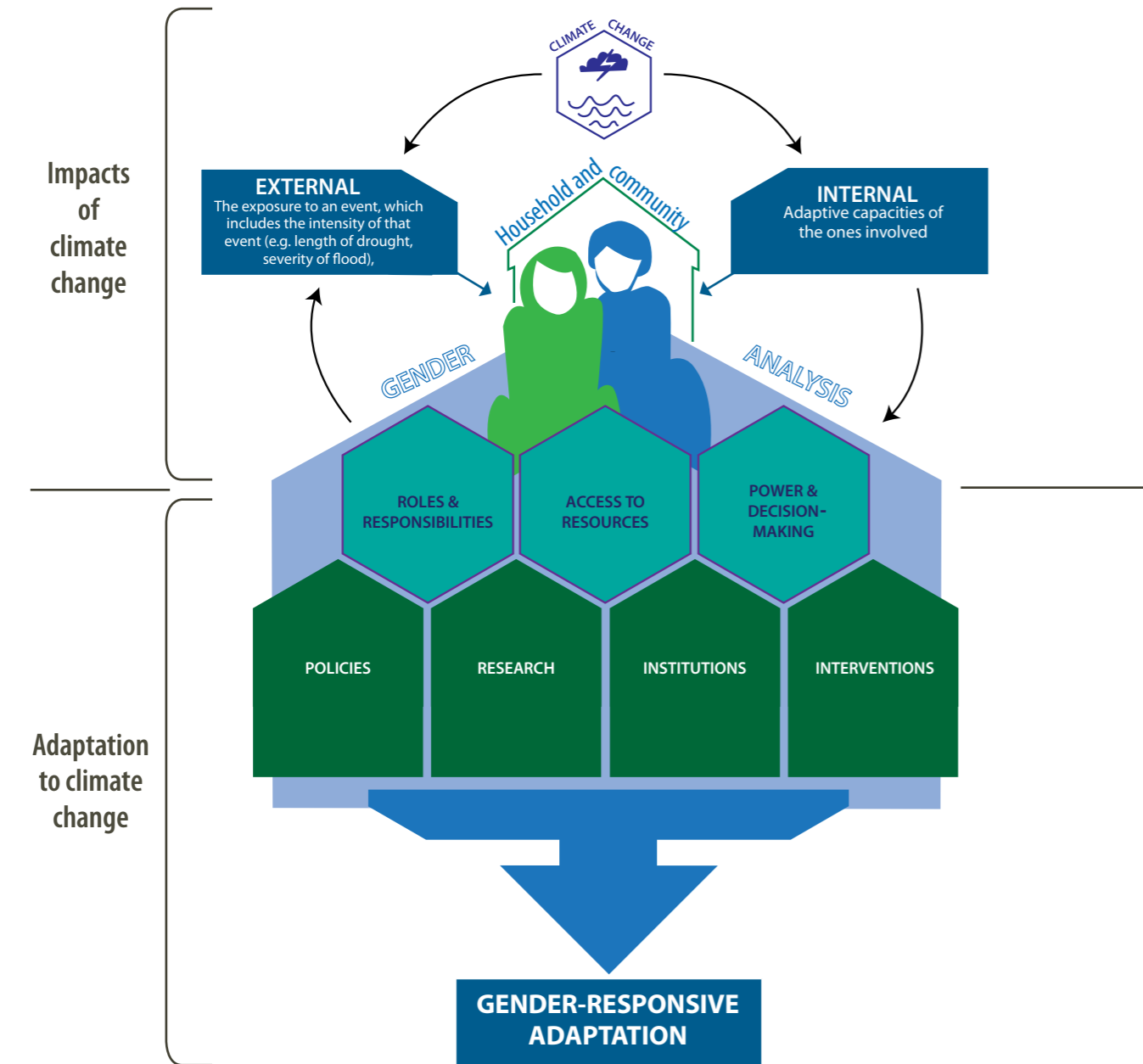
The UNDP Global Environment Facility (GEF) Community-Based Adaptation Programme (2008–2012) piloted gender- and community-based adaptation methodologies in 10 countries. Valuable lessons emerging from this pilot phase include:

- If gender is not given consideration from the very beginning of the project cycle, the choice of adaptation interventions can have unintended gender implications;
- An initial analysis of community dynamics is imperative to determining how to most effectively address gender issues;
- Good facilitation is essential for equitable community participation in discussions and decision-making;
- New techniques and technologies (such as time-saving equipment) can be useful entry points for overcoming traditional gender barriers;
- Gender considerations must be seen in the light of the various power dynamics within a community;
- Gender-balanced participation is critical in all aspects of project planning and implementation;
- Some partner organizations will need capacity-building in gender mainstreaming;
- Projects can be designed to accommodate women's traditional roles and responsibilities – but can also go beyond by transforming traditional gender roles; and
- Gender training can help, but it needs to be easy and accessible.



Source: UNDP (2010)

Figure 1: Conceptual framework for the study



As represented by the two arrows at the top of Figure 1, the impact of climate change on households and communities is related to two variables of vulnerability: the exposure to an event, which includes the intensity of that event (e.g. length of drought, severity of flood), and the sensitivity and adaptive capacity of those involved. This second variable is where gender inequalities come into play. Within a given household or community, gender-based differences in roles and responsibilities, access to resources such as land, water or finance, and power relations produce varying degrees of vulnerability for different categories of women and men. For example, young married women with small children are not affected in the same way by seasonal food shortages or water scarcity as older, widowed women, and their responses to these external stresses are not conditioned by the same factors.

The general context within which these communities and households evolve is influenced by social, cultural and religious factors (which are not represented in Figure 1, but are inherent to the household/community sphere). The internal dynamics of communities and households are also shaped by policies, institutions, interventions and research. (Institutions may include national or international actors involved in development and adaptation programmes (e.g. governments, the World Food Programme (WFP), the International Fund for Agricultural Development (IFAD), GEF, GCF) or private enterprises. Policies, similar to institutions,

The impact of climate change on households and communities is related to two variables of vulnerability: the exposure to an event, which includes the intensity of that event (e.g. length of drought, severity of flood), and the sensitivity and adaptive capacity of those involved. This second variable is where gender inequalities come into play.

may create an enabling or a disabling environment for communities. For instance, gender-blind agriculture and food policies adversely impact women's role in agriculture by creating barriers for their access to land or by undermining their knowledge systems. However, policies addressing gender-based violence or programmes focusing on labour-saving technologies contribute to creating an enabling environment for gender equality. Gendered research and gender-transformative programming can effectively change trends and build equality (UN Women 2015).

As shown in Figure 1, when policies, institutions, research and interventions are guided by the goals of gender equality and women's empowerment, they contribute to creating an enabling environment for gender-responsive adaptation. The cyclical arrow represents the ongoing process of assessing to what extent these four different spheres are informed by a gender perspective, and strengthening gender equality as a goal in policy-making, research and interventions.



A woman farmer in Cabo Verde;
Photo: UNDP Cabo Verde

2 Entry points for analysis – applied to findings from the CCAF countries

Drawing on common threads emerging from the preliminary research from the CCAF projects, six common entry points for analysing and presenting research findings have been identified. The entry points further define the 'household and community level' sphere presented in the conceptual framework above. These entry points cut across roles and responsibilities, access to resources and power, and decision-making.

The six entry points comprise:

- 1 **GENDERED STRATEGIES FOR ACHIEVING FOOD AND NUTRITIONAL SECURITY;**
- 2 **GENDER RELATIONS AROUND WATER ACCESS, USE AND GOVERNANCE;**
- 3 **UNPAID CARE WORK, TIME POVERTY AND STRATEGIES FOR REDUCING WOMEN'S WORKLOAD;**
- 4 **CONTROL OVER RESOURCES, INCOMES AND FINANCE AS A KEY ELEMENT OF WOMEN'S ECONOMIC EMPOWERMENT;**
- 5 **PARTICIPATION, DECISION-MAKING AND LEADERSHIP, WHICH TIES IN WITH POLITICAL REPRESENTATION; AND**
- 6 **APPROACHES FOR TARGETING GENDER GROUPS MOST AT RISK.**

The rationale for selecting these six entry points is as follows.

The first two entry points have a specific focus on food security, production, and water resources, which are at the core of all CCAF projects. Strategies for improving food security and water access are closely tied to the role and responsibilities of women, therefore they deserved particular attention.

The third entry point, the gender dimension of domestic work or ‘unpaid care work’, has become a central theme in the practice and literature on gender and development. It relates to the notion of time poverty, which particularly affects rural women and deserves more attention in the context of climate change adaptation.



As a fourth theme, the level and type of control women and men have over land, assets, technology and equipment emerged from the field research as an important determinant of their respective adaptive capacities.

Further, promoting gender balance in participation in CCAF project activities was set out as a goal by most CCAF projects, and it is valuable to explore and compare methods and achievements around participation from a gender lens.

Finally, the sixth theme, ‘targeting gender groups most at risk’, stems from the recognition that customized approaches are needed to address the specific situations of gender groups based on differences in age, social status, household status, ethnicity or religion.

The following subsections further examine these six entry points, extracting key findings from the literature on how they relate to climate change adaptation and the context of the CCAF countries.



2.1. GENDER RELATIONS IN FOOD PRODUCTION IN THE CONTEXT OF CLIMATE CHANGE

In many countries, women are the primary producers of food in rural communities for local consumption (FAO 2010). They are stewards of agro-biodiversity, know local crops and have the skills necessary for sustainable food production, processing and preservation. All of these elements are essential to local food security (FAO 2005). The expansion of international food markets combined with the widespread adoption of cash crops have in many cases undermined women's role in food production and processing, their cropping practices and the social and ecological benefits they generate (Howard 2003).

A significant implication of climate change and declining agricultural production in many parts of the world is that women are playing an increasingly important role in provisioning food for the family, especially during periods of food shortage. This is often due to the absence of men who are forced to leave, either seasonally or permanently, in search of more reliable work and income. The rate of male migration from rural areas has increased in recent years in parts of Sudan, Haiti and Cambodia (ADB 2015). There is evidence that women are the main contributors of household food security and are in charge of all aspects of farming and household work (Ibnouf 2011), as seen in parts of Niger (Diarra 2010).

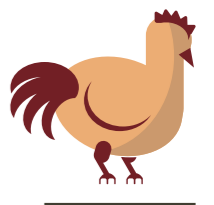
However, women's added responsibilities at the domestic level have not typically translated into increased access



to assets and increased decision-making power at the household or community level (Diarra 2010). Women's lack of access to productive resources, including land, has led to them developing diverse approaches to ensure household food security. The literature on gender, climate change and food security highlights gendered strategies for ensuring food and nutritional security and for managing biodiversity (Howard 2003). The seasonal and spatial complementarity of men and women's cropping systems is also documented (Rocheleau 1996: 11). For example, in Western Africa, women often have their own (small) plots of land, on which they maintain distinct food crops (e.g. cowpea, sesame, beans, groundnut) which complement the staple or cash crops grown by men on farmland. Improving tenure security increases women's incentives to invest in land, with important benefits in terms of agricultural productivity (Ayalew 2014).

The increasing frequency, intensity and length of droughts have eroded the resource base of dryland communities. This particularly affects women who have seen their limited asset base shrink even further (Forsythe et al. 2015). Women's social networks have been eroding as a result of climate change, creating new challenges for those who tend to rely on these networks during times of crisis, such as single mothers or widows. Reinforcing women's solidarity networks could be critical to increasing the resilience and adaptive capacity of women, in drylands in particular (Forsythe et al. 2015).

Recognizing the role of women in producing and provisioning food, especially during periods of food shortage, removing barriers to women's access to productive resources and supporting women's solidarity networks are three critical areas of engagement to ensure gender-equitable adaptation outcomes.



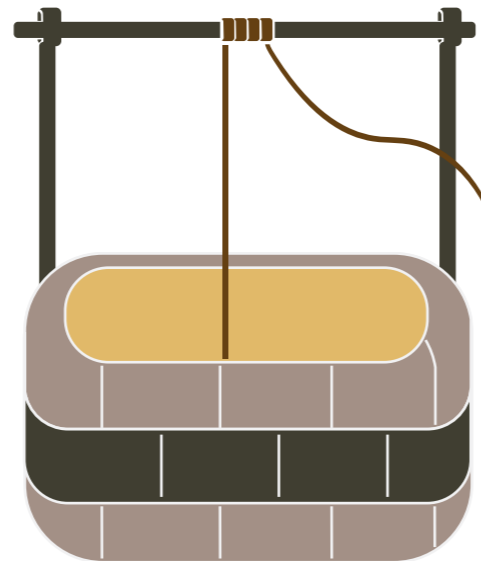


2.2. THE NATURE OF GENDER BARRIERS TO WATER ACCESS

One of the most pressing issues worldwide is inadequate access to water for domestic use, including safe drinking water. This challenge disproportionately affects women as they are often responsible for domestic tasks. Data from time-use studies show that the burden of water collection is especially heavy on women in countries facing water infrastructure shortage (such as the CCAAF countries). This only increases with climate change impacts and water scarcity (Box 3). Evidence from various country studies shows that the more time women and girls spend fetching water and collecting firewood, the less time they have to improve their lives through agricultural production, income-generating activities, education, civic participation, etc. (ICRW 2005; Ilahi 2001). Poor women are often burdened the most (see below for further details).

To reduce women's time burdens, countries must analyse their infrastructure needs and constraints according to gender, income group and geographical location. This includes taking women's perceptions and opinions into account when developing water-related infrastructure projects to make them effective and sustainable (ICRW 2005).

Ensuring affordability is also a key concern, as poor women bear the brunt of inadequate access to water. A study on gender and access to public utilities showed that local governments increasingly rely on user fees to cover



investment and operating costs, which in some cases have reduced poor women's and girls' access to those services (Vandemoortele 2001).

Due to competing uses for water, conflicts over use of water occur frequently both at household and community levels during periods of water scarcity. These conflicts often have a gender dimension and communities do not always have the social mechanisms in place to address these tensions and distribute water equitably.



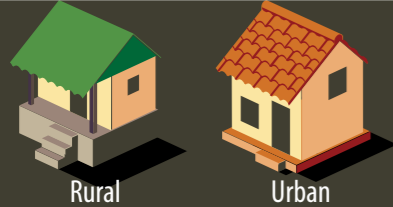
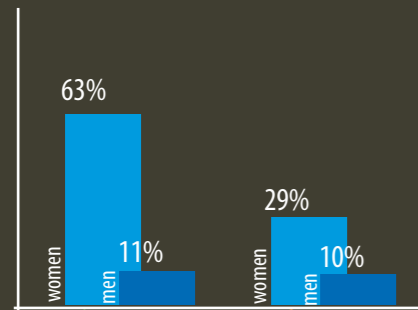
Girl filling water from a drinking water sources installed by the government of Cabo Verde; Photo: UNDP Cabo Verde

Exploring options for reducing women's time burden, making water access affordable to poorer women and managing contentious social issues around water, especially conflicts emerging in times of scarcity, are preconditions for achieving gender-transformative adaptation outcomes.



Box 3: Collecting water in sub-Saharan Africa: a heavy responsibility disproportionately shouldered by women and girls

A study conducted across 48 countries of sub-Saharan Africa provides insightful data on women's role in water collection.



On average, in 63 percent of rural households and 29 percent of urban households, adult women (over 15 years) are responsible for the task. In comparison, an adult man has this responsibility in 11 percent of rural households and 10 percent of urban households. Girls below 15 years are more likely than boys of the same age to be in charge of water collection.

Women in rural sub-Saharan Africa are the most burdened, as water sources from villages are further away than in other parts of the world. In Niger, one in three rural households get water from a source located more than one km from their home, and in some regions, like Tillabéry (a target region for the CCAF project), this proportion goes up to 50 percent of households. In 2000, 15 percent of households had to go beyond 5 km to get water and according to national sources, this figure has gone up in the last 15 years.⁵ So far, only a small number of countries have implemented time-use surveys.

Available data for sub-Saharan Africa show that the time needed for one trip (going to the source, getting water and returning) is on average 36 minutes in rural areas and 25 minutes in urban areas. In some countries, the time burden is much greater: one trip takes on average 1 hour and 22 minutes in rural areas in Somalia and 1 hour and 11 minutes in rural areas in Mauritania. It should be noted that more than one trip per day may be needed to cover all of the household needs.

⁵ FNUAP (UNFPA), 2000, *Analyse diagnostique de la situation de la femme au Niger, Niamey, Niger.*

Source: United Nations Statistics Divisions, 2015

2.3. UNDERSTANDING THE MAGNITUDE OF UNPAID CARE WORK AND TIME POVERTY

The issue of unpaid care work (defined in Box 4) has emerged in recent years as a means of exploring gendered differences in allocation of time and division of labour. In most parts of the world, societal norms tend to assign care work to women. This includes: looking after children, caring for the sick and the elderly, preparing food, cleaning and housework, and collection of fuel and water. This results in gender-inequitable patterns of care provisioning (Kes and Swaminathan 2006).

Global statistics on the gender distribution of work (i.e. time spent in market-based economic activities, in the subsistence sector, or in unpaid household or community activities), show that on average women's paid market activities represent only 33 percent of the total time spent working. This is compared to 75 percent in the case of men's work. In other words, men receive a larger share of income and recognition for their economic contributions than women; yet women shoulder a disproportionate share of unpaid care work, which remains unrecognized and undervalued (UNDP 2009). The time spent by women and girls on domestic chores also limits their opportunities to engage in economic activity or attend school. Time-use surveys also show that women have far less free/leisure time than men.

Time-use surveys conducted in sub-Saharan Africa show that women spend more time than men at work, as their

Box 4: Definition of unpaid care work

Unpaid care work refers to all unpaid services provided within a household for its members, including care of persons, housework and voluntary community work (Elson 2000). These activities are considered work, because theoretically one could pay a third person to perform them.

Unpaid = the individual performing this activity is not remunerated

Care = the activity provides what is necessary for the health, well-being, maintenance and protection of someone or something

Work = the activity involves mental or physical effort and is costly in terms of time resources

involvement in domestic and care activities is much greater than men's.⁶ Much of the literature on gender and climate change refers to the increasing number of hours women have to spend collecting water and fuelwood as a result of drought and water scarcity (Kes and Swaminathan 2006; Dankelman 2010). In countries facing severe wood deficits, like Haiti, it is mostly women who spend the additional time required to collect fuelwood for cooking, limiting time available for economic activities (Nankhuni 2004). Women also spend time transporting most of the harvested crops from the fields to the home.⁷

Many factors influence care-provisioning patterns at household levels, such as: age, economic status, size of household and social status, as seen in Cabo Verde (Box 5). Household chores also impose constraints on mobility. For instance, women with young children have limited scope for engaging in wage-earning activities outside the domestic sphere which leaves them vulnerable, as evidenced in a study in Mali (Diarra 2005). Resource degradation and drought (exacerbated by climate change) and the lack of adequate energy sources and infrastructure (such as feeder roads, water and sanitation systems) impose greater work burdens on women increasing the time spent on care activities (Kes and Swaminathan 2006).

These findings suggest that adaptation initiatives must explore options that reduce women's care work responsibilities. These must subsequently be based on context-specific evidence on what care work represents (number of hours involved) and entails (impact on health, trade-offs, heightened time poverty) for women and girls.

⁶ Women spend 4.7 times longer than men at work in Madagascar, nearly 4 times (3.79) in Mauritius, 3.04 times more in South Africa and 3.1 more in Benin (Charmes 2006).

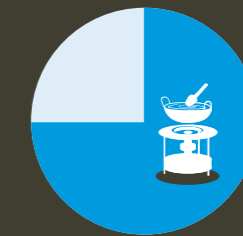
⁷ Field surveys in Burkina Faso, Uganda and Zambia showed that women carry about three to five times as much as men in a year (Barwell 1996). Women's burden of transporting goods on foot is staggering, and women's load-carrying burden was as high as moving a load of 20 kg over a distance of 6.8 km every day in the 1990s (Urasa 1990). More recent data is lacking and more research is needed to fill these gaps.

Box 5: When figures speak about gender inequality: findings from time-use surveys in Cabo Verde

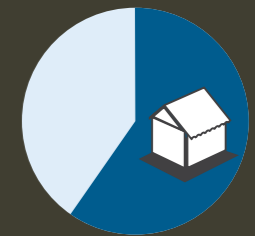
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In 2014, the Cabo Verdean National Statistics Institute, the Cabo Verde National Institute for Equality and Gender Equity (ICIEG) and UN Women collaborated to produce a document of statistics on women and men in Cabo Verde. Analysis from the time-use data shows that:

Women do about 60 hours of unpaid domestic work weekly, while men do 36.

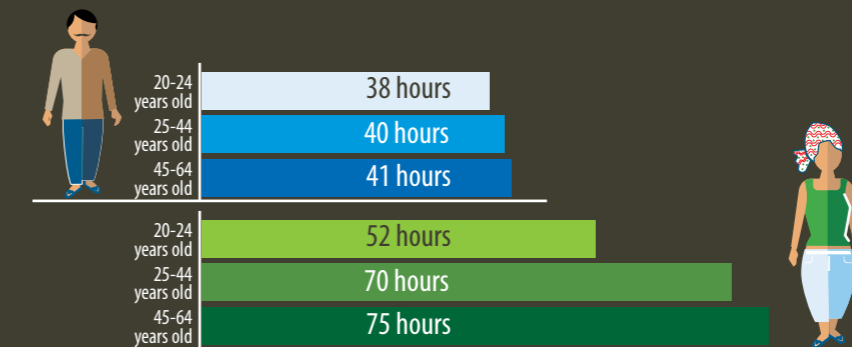


Women are in charge of **71.5** percent of tasks related to food preparation



and **65.6** percent of housework.

The gender gap in distribution of unpaid care work is higher in low-income families (women spend about 31 hours more than men weekly on domestic chores) than in higher-income families (where the gap is nearly 26 hours). This endorses findings indicating that distribution of unpaid care work is more unequal in poor households. This has far-reaching implications in terms of adaptation strategies and targeting of households (Chopra and Sweetman 2014).



Comparison of weekly hours of care work in the life cycles of men and women

Also, there are significant variations across women's life cycles: care work increases from 52 weekly hours (age group 20-24); to nearly 70 weekly hours for women between 25 and 44; and up to 75 for women in the 45-64 age group. Whereas men's contributions to unpaid care work remains stable throughout their life cycles (38, 40 and nearly 41 hours respectively).

These findings could be used to inform a 'new generation' of gender-responsive adaptation programmes in the country to address the gender gap in unpaid care work, giving women time to engage in other activities, increase their cash earnings or learn skills to enhance their adaptive capacity.

Source: INE/ICIEG/UN Women (2015), Mulheres e Homens Em Cabo Verde, Factos e Números 2015, INE, Praia, Cabo Verde.

2.4. CONTROL OVER RESOURCES INTERSECTING WITH ADAPTATION

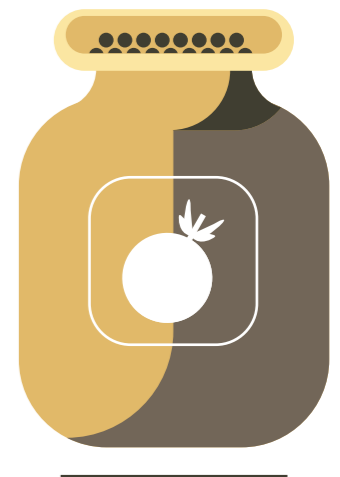
Women’s access to and control over resources and incomes remains an issue of concern in most parts of the world. It is an area where progress on gender equality has been slow. Social rules, customary practices and traditional beliefs, as well as gender-insensitive policies and interventions, can contribute to gender bias in access to resources, as discussed in the conceptual framework above.

Gender bias, emerging from existing policies, rules, practices and beliefs, can have a significant impact on how natural resources are managed. One example is gender bias in tenure and resource rights over forests, trees and non-timber forest products. In this case, men own trees and women only have access to tree products (as in the context of Niger). This bias has been shown to exacerbate deforestation and mismanagement of forest resources in many parts of the world, including Niger (Diarra 2010) and India (Agarwal 2010). Innovations in land tenure systems or joint forest management that give women more control over trees and forest products can be an important step towards combating deforestation (Agarwal 2010).



Resource tenure is highly context specific, and has complex gender dimensions that need to be understood by development actors. Gendered resource tenure encompasses both rights and responsibilities and can be divided into the following areas (Rocheleau et al. 1997):

- **Access to resources:** men are often associated with *de jure* rights (such as land titles) while women only hold *de facto* resources rights, which has implications for the strength and security of tenure by gender;
- **Control over resources:** overall, women’s rights are often tied to rights regulated by men and specific rights over resources usually allocated by men’s institutions (clans, lineages, cooperatives, political committees);
- **Gendered use of resources (as inputs, products, assets):** quite often, women have rights of renewable use (to plant crops on soil, to harvest leaves from trees, to gather dead wood), while men have rights of consumptive use (to harvest whole trees, to buy and sell land, to divert and consume irrigation water);
- **Gendered responsibilities for resources for family and community:** women are typically responsible for procuring products for home use (such as fuelwood, water, milk, medicinal herbs); and men often have greater responsibility to manage particular resources (such as protection of water sources, maintenance of community forests and soil conservation in rural areas).



In many cultural contexts, women hold a disproportionate share of responsibilities for resource procurement and environmental maintenance. Yet they have limited formal rights and political and economic means to determine the future of resource availability and environmental quality.

Agricultural markets are also shaped by gender inequalities. While men tend to control high-value, high-volume crops, women often sell second-choice produce or agricultural goods of lower value. Formal and informal groups of women, also referred to as women’s collective action, have proved to be effective in increasing women’s control over agricultural value chains in sub-Saharan Africa (Oxfam 2010).

A central concern for women’s economic empowerment has been women’s control over incomes. Evidence shows that even when women are successful in generating new sources of income and managing small businesses, they may still lack control over the income received (Forsythe et al. 2015). When women control incomes, they tend to invest their resources in better nutrition, education and health, compared to men who may have other priorities (World Bank 2011).

These findings suggest strategies such as innovations in land tenure systems that favour women’s access to land and ensuring that where women are responsible for procuring and/or managing resources, they also have matching rights in terms of access and control. Mechanisms for enhancing women’s control over agricultural and other incomes are also critical.

2.5. GENDER BARRIERS TO WOMEN’S PARTICIPATION AND LEADERSHIP

There is increasing documentary evidence that unequal power relations are key to understanding vulnerability, risk and coping (Bradshaw 2014). Studies have found that women are more likely to acknowledge ecological problems and risks, express higher levels of concern, and engage in activities that are beneficial to the environment because of the social roles they play (Goldsmith et al. 2013). Findings also show that when alternative sources of fuel are made available, or when women are empowered to make decisions about natural resources, they are keen to adopt new practices and preserve trees and forests (Agarwal 2015). These findings suggest that it is critical to involve women in decision-making and to ensure that their day-to-day knowledge of the immediate environment and their ways of coping and managing economic, social and ecological stresses are accounted for.

Many development actors have tended to use the ‘number of female beneficiaries’ as an indication of women’s participation. This is an issue of concern from a gender perspective as it blurs an important distinction: women may ‘benefit from’ a project intervention without necessarily ‘effectively participating’ in the project. By ‘effective participation’, we mean that not only are women taking part in project activities or benefiting from new knowledge, skills and income-generation possibilities, but they have also expressed their views and been heard, contributed to shaping the project, and influenced decision-making.



Barriers to women's participation include:

- **Structural barriers** such as time poverty, illiteracy, lack of financial resources, reduced mobility due to family responsibilities;
- **Institutional barriers**, such as representation and leadership in decision-making groups. This plays a big role in limiting women's participation, and tends to be reproduced at the project level. In Niger for example, the quota for gender equality in political representation is extremely low (10 percent for elected positions, and 25 percent for nominated positions). Further, this interpretation of 'gender quotas' has been replicated in all sectors, so that any group or assembly being formed tends to apply the 10 percent mark for women's participation⁸;
- **Social and cultural norms**, including informal rules and biases on acceptable roles for women and men. Often, these norms dissuade women from taking up leadership positions. Many sentences 'encapsulate' these rules and norms, maintaining the status quo: "A woman cannot speak up in front of her husband" (Sudan), "Why doesn't she mind her own business instead of trying to get elected?" (Cabo Verde), "Women have too much to do at home to attend meetings" (Cabo Verde).

Achieving gender-equitable outcomes in adaptation projects would therefore require developing a shared understanding of key barriers to women's participation in a given cultural and geographical context, setting clear targets in terms of women's participation, and putting in place locally adapted strategies and mechanisms to progressively remove these barriers.

⁸ As Alou Fati, the UNDP-Niger gender specialist describes it, "The threshold has become the ceiling." This means that when the 10 percent female participation 'target' is reached in a group or committee, most people – including women – tend to think it's enough.

2.6. UNDERSTANDING TARGETING AND ITS RELATIONSHIP TO ADAPTATION

Valuable learning about targeting emerges from the development literature, especially on social protection. A gender review in different countries found that social protection programmes 'should not just target women'. They need to understand the gendered nature of the risks women and men face and how gender dynamics shape responses, political support and implementation practices (Holmes and Jones 2010). Instead of reinforcing women's traditional roles and responsibilities related to food, care work or community work, they should harness the potential for the transformation of gender relations in both economic (e.g. opportunities for work) and social (e.g. voice and agency in the household and community) spheres. An additional finding is that programmes should be integrated with or linked to complementary measures which address intra-household dynamics and women's strategic needs (access to microcredit, rights awareness, skills training) (Holmes and Jones 2010).

Disaggregating households by individuals is a central notion for good targeting, which applies to all sectors including climate change adaptation (Combaz 2013). Tackling unequal household gender relations in food security (e.g. women eating less than men in a given household) and agricultural productivity (e.g. women having access to less fertile land than their husbands) is a priority for gender-responsive adaptation.



Supporting the participation of youth, especially young women, people with disabilities, and groups whose mobility is constrained by social norms or a physical condition (e.g. pregnant women, young unmarried girls) through skills training and empowerment interventions has proved successful (Combaz 2013).

Evidence of the gendered impact of climate change shows that women and girls are often at risk of sexual abuse in the aftermath of natural disasters like floods or cyclones and slow-onset climatic events like drought (Dankelman 2010). It is therefore essential that gendered responses to climate change address and minimize this risk and increase awareness about women's rights, including women's sexual and reproductive health rights.

It is evident that these different themes are interlinked. For instance, water access is gendered because women and men do not have the same needs and opportunities for accessing water, but also because water collection is socially assigned to women (thus adding to women's unpaid domestic work). Likewise, control over resources and participation are closely related; when women control assets, they are more likely to be active in local groups (such as water management committees) or to have a say in decisions made at household or community levels. Some of these linkages will be discussed in greater detail in Part II, which presents key findings emerging from across the six CCAF countries for each of these entry points.

Lessons from the literature in the context of gender-transformative targeting point to the need to address intra-household dynamics, to support youth groups and individuals whose mobility is restricted (including pregnant women), and to pay special attention to women exposed to the risk of sexual abuse in the aftermath of a flood or in drought-prone areas.



Photo: UNDP Sudan



PART II TOWARDS GENDER- RESPONSIVE ADAPTATION TO CLIMATE CHANGE: FINDINGS FROM THE CCAF

The CCAF adaptation projects provide valuable insights on which resources, decisions and approaches are necessary to achieve gender-equitable outcomes in adaptation. Drawing on findings from the six CCAF countries, this section provides analyses and lessons for adaptation practitioners in the six entry points outlined under the conceptual framework.

A significant dimension of the CCAF is that while all national projects build on existing LDCF-funded projects, they also considerably enrich the framework of NAPA by bringing gender equity into focus. CCAF projects have had to adapt to varied gender contexts at national and local levels.

Photo: UNDP Niger

Despite regional similarities, no two countries of the six CCAF countries have the same gender situation. Project teams had to work with multiple local realities, ethnic make-up and religious diversity, which sometimes led to important gender differences across selected regions.

Country contexts have directly or indirectly informed and shaped CCAF projects. The design and implementation of adaptation activities followed an iterative process, evolving over time, and in some cases using 'trial and error' to arrive at optimal solutions both in technical domains (e.g. optimal size of water tanks) and social areas (e.g. forming mixed vs. women-only groups). Bottom-up participatory approaches used by project teams and regional coordinators played an important role in capturing knowledge of the local situation – including context-specific constraints and opportunities influencing gender relations.

With regard to understanding the gender-related context, it is necessary to reflect on a number of critical variables when designing or implementing an adaptation project: **land ownership by women⁹, the percentage of women-headed households, the rate of female literacy and the percentage of women represented in the political arena.** As shown in Table 2, there are significant variations in gender parameters across countries. All of these factors greatly

Bottom-up participatory approaches used by project teams and regional coordinators played an important role in capturing knowledge of the local situation – including context-specific constraints and opportunities influencing gender relations.

⁹ For a discussion of the levels and relative inequalities in land ownership between women and men in African countries, and the difference between ownership and control of land, see Doss et al. (2013).

contribute to shaping gender relations at a national scale, but detailed analysis of trends at regional and local levels is also essential. In Sudan, for instance, there are important differences in educational levels and in the proportion of women-headed households across the four selected states. The CCAF project teams developed customized strategies to work in the four regions, with realistic targets and differentiated approaches for increasing women's participation in decision-making.

It is also useful for project teams to know which mechanisms or instruments already exist at the national level to measure progress on gender equality, and how adaptation projects can build on them. Relevant mechanisms include: time-use surveys, indicators to measure women's empowerment (e.g. the Women's Empowerment in Agriculture Index), practices established under a gender and climate change policy, and gender-responsive budgeting at the national or organizational level.

The following sections explore key drivers of the various adaptation approaches followed under CCAF. It engages in cross-country and cross-sectoral analysis to identify successful factors for gender-responsive adaptation under each of the six entry points.



Table 2. Overview of gender profile of the six CCAF countries [GO BACK TO PAGE 14](#)

Country	% of land owned by women individually ^a	Percentage of women-headed households	Rate of adult literacy (female vs. male) ^b	% of women elected in national assemblies (2016) ^c
Cabo Verde	50.5	45	FEMALE 83 MALE 92	23.6
Cambodia	15 ^d	26.9	70.5 84.5	20
Haiti	Data not available	43	57.3 64.3	0
Mali	3.1	9.3	29 48	8.8
Niger	9	15.9	11 27	14.6
Sudan	Data not available	28	68.6 83	30.5

^a Source: <http://www.fao.org/gender/landrights/home/en/>
^b Source: https://en.wikipedia.org/wiki/List_of_countries_by_literacy_rate

^c Source: <http://www.ipu.org/wmn-e/classif.htm>
^d Land owned by women-headed households in Cambodia



Woman farmer in Sudan; Photo: UNDP Sudan



FOOD AND NUTRITIONAL SECURITY

The CCAF projects support innovative strategies for enhancing local adaptive capacity through agricultural activities and contribute to diversifying livelihoods and creating new sources of climate-resilient, locally available food. This section draws on these experiences to address some of the following questions:



Has the approach for improving food security developed and strengthened women's **strategies for food production and provisioning**, especially in times of crises?



Has it adequately recognized the importance of gendered strategies, particularly women's strategies, for **diversifying sources of food and incomes** and thus overcoming seasonal food shortages?

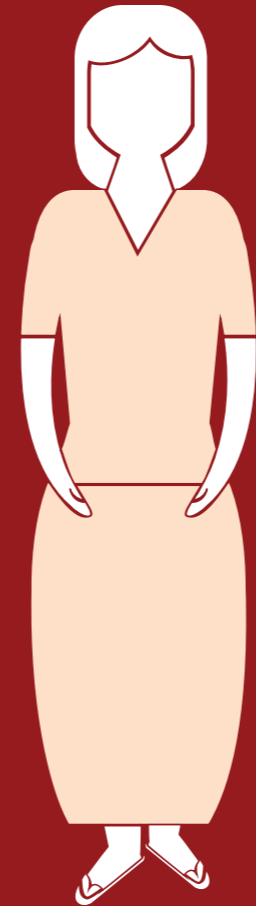


Has the project led to more recognition of evolving gender roles in food provisioning, thereby **transforming social norms** (e.g. the assumption that the main breadwinner in a household is a man)?

Photo: UNDP Cambodia



The questions will be examined by looking at three components of food security



Strategies for increasing food production and provisioning



Diversifying livelihood options



Transforming social norms in food production



1.1 Strategies for increasing food production and provisioning: focus on vegetable gardens

CCAF projects have contributed to increased agricultural production, primarily through the rehabilitation of water harvesting systems (e.g. earth bunds, check dams, terraces, ponds, soil conservation) and the introduction of new agricultural practices (e.g. seed nurseries, drip-irrigation, transplanting or deep ploughing techniques). Women have played a significant role in these activities. For example, in Mali and Niger, women provide most of the (paid) labour for soil and water conservation activities.

Yields of principle staple crops have also been boosted through the introduction of relevant crop varieties, and increased availability of other inputs. The projects introduced improved rice varieties in Cambodia; short-duration, drought-tolerant varieties of maize and sesame, and cowpea and groundnut (traditionally found in women's fields) in Mali; and improved varieties of sorghum, cucumber, ladies' fingers and fodder crops in Sudan. Research was also undertaken on drought-tolerant crops in Cabo Verde; and in Haiti, wood and fruit tree species were introduced in seedling nurseries.

In Niger, over 25,000 farming families in seven regions have had access to improved varieties of millet and sorghum (grown by men) and cowpea (women's domain) which, combined with more intensive use of chemical inputs, has led to significant increases in yield and revenues. More

All projects within the CCAF portfolio contribute to diversifying livelihoods and creating new sources of climate-resilient, locally available food.

research is needed to explore the long-term ecological sustainability of this intervention and its gendered impact.¹⁰

Another approach for improved agricultural production taken in several CCAF countries is the emphasis on strengthening both individual and collective vegetable gardens. This type of intervention provides opportunities to address underlying issues of gender inequality. Given that tending home gardens is largely a female practice, particularly in Cambodia, Sudan, Mali and Niger, building on it supports women in expanding their role in food production by growing food that improves family nutrition and/or generates profit they can control. These gardens have altered seasonal patterns of food insecurity and reinforced women's food provisioning roles. The literature on home gardens emphasizes the important role women play in maintaining and managing an impressive range of plant and animal species (Howard 2003).

In Sudan, two main types of approaches were developed across the four target states. In the River Nile State, targeted households received technical input and support to improve their individual home gardens. In North Kordofan and Gedarif, where water access is a cause for concern, the focus was on providing water access to collective land for vegetable cultivation. These collective plots, traditionally referred to as Jubraka, which means 'home garden', are managed by groups typically made up of ten to twelve women, and one man. The Jubraka have greatly contributed

Given that tending home gardens is largely a female practice, particularly in Cambodia, Sudan, Mali and Niger, building on it supports women in expanding their role in food production by growing food that improves family nutrition and/or generates profit they can control.

¹⁰ Preliminary findings from Niger suggest that women farmers are keen to retain the local varieties of millet and sorghum as a source of food. This could indicate discrepancies between women's and men's preferences, which agricultural research scientists and plant breeders have typically overlooked (with some exceptions). See Weltzien et al. (2010) for a discussion of the value of local crop diversity for dryland farmers in West-Africa.

to diversifying food crops, particularly in the dry season. In addition, women received technical assistance to increase goat milk production, plant trees on the edge of cultivated land, and grow seedlings for different crops.

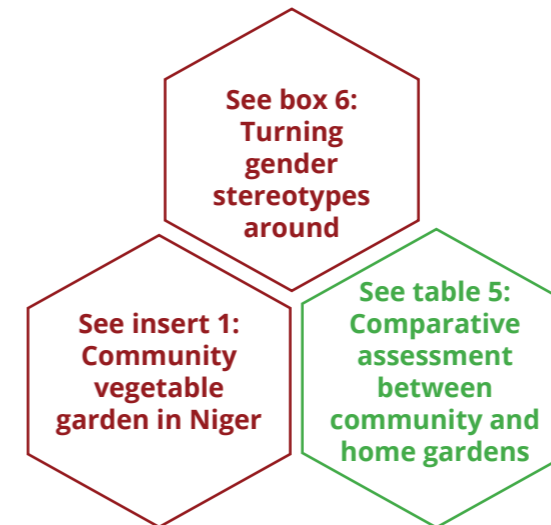
In Cambodia, the home garden, a traditional practice prevailing through many parts of South-East Asia, also became an important aspect of the strategy adopted for enhancing climate-resilient food production (Box 6). A significant feature developed in Cambodia under the CCAF project is the 12-month cropping calendar, as water is available throughout most of the year through newly

The Jubraka or 'home garden', have greatly contributed to diversifying food crops, particularly in the dry season.



Women farmers tending their community garden in Sudan; Photo: UNDP Sudan

introduced water tanks. This provides food items and revenues over the entire year. Agricultural officers advise¹¹ on the best crops to grow in each season, and how to sequence plantings in order to optimize the productive capacity of the small homesteads. Where periods of food shortages remain, these are shorter and less severe (e.g. in Kratie Province, Cambodia, food shortages reduced from 3-4 months to 1-2 months). There are also reports of positive impacts on health linked to pesticide-free cultivation of vegetables. Findings from the project suggest that farmers are earning, on average, an additional US\$500 per year through the sale of produce from home gardens.¹²



¹¹ One of the significant gender achievements of the NAPA-FU project is that in Phase II (2013-2015), 52 percent of targeted households were from vulnerable groups, 60 percent of which are women-headed in Cambodia. Thus home gardens have greatly benefited single women and widows in charge of family members.

¹² A few farmers – women and men – with access to large landholdings manage to earn up to US\$2000 per year from the sale of their home garden produce, but on average, the figure is around US\$500 per year, which is still very significant. Source: NAPA-FU Completion Workshop, Phnom Penh, 16-17 November 2015.



Box 6: Home gardens in Kratie Province, Cambodia, a source of nutrition, gifts and income

Crops grown in home gardens vary from one village to another. In Serey Pheap, women grow a combination of cucumber, beans, gourd, wax gourd, eggplant, water convolvulus and green onion. In Koh Chreng, most women grow the ‘five mints’, five aromatic plants that are central to Cambodian cooking.¹³ They also plant ginger, galangal, turmeric, green onion, dragon beans, eggplant, pumpkin, wax gourd and watermelon – all grown without any chemicals and primarily for home consumption.

“We also give some away as gifts,” mentions an older woman, showing that these exchanges of food with neighbours and family are important for her.

Animals are an integral element of home gardens: chickens, and sometimes pigs. Cattle are raised by members of revolving fund groups who can access small capital through their group. Water is essential to cattle health, especially in the hot season.

As a male farmer from Thmey describes it: “Now that we have access to water at home, even the buffaloes have changed their habits: they come and drink in the middle of the afternoon!”

¹³ The ‘five mints’ are: basil (*chi neang vorng*) *Ocimum basilicum*; Japanese peppermint (*chi angkam*) *Mentha arvensis*; cilantro (*chi vansuy*) *Eryngium foetidum*; coleus (*chi slek trocheak chrouk*) *Coleus amboinicus*; Asian coriander (*chi bonla*), *Polygonum odoratum*.

Source: Focus-group discussions with mixed groups in Kratie Province, Cambodia, November 2015.



Photo: UNDP Cambodia

“We are the ones who cook so it makes sense for us to manage the home garden,” she adds. “But men are involved as well: we discuss what to grow, and when to grow it, and then we do it together.”

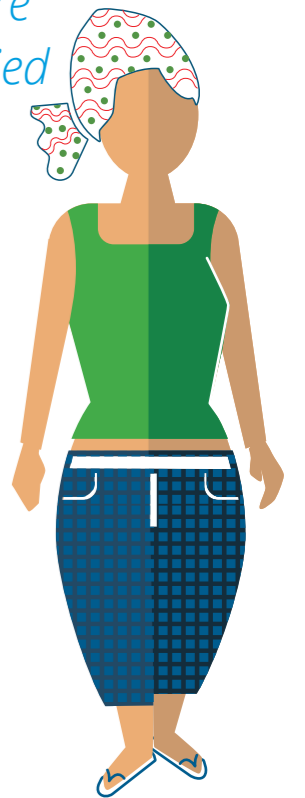
In Cabo Verde, a Food Security Survey was conducted at the start of the project in order to identify areas of high, medium and low food security in the two targeted islands of Santiago and Santo Antão. The project used this study to select target sites most affected by chronic food insecurity.

In the selected sites, most farmers employ drip-irrigation, which improves productivity but is expensive to install, to increase food production and agricultural incomes. Crops produced on drip-irrigated terraced fields include banana, papaya, sweet potato, cassava, sugar cane, carrot, cabbage, mango, coconut and avocado, which are consumed at the household level and sold in the local market. Through the project, access to drip-irrigation was expanded in several target communities. A woman from Santa Cruz Municipality, who received drip-irrigation, explains its impacts, “Instead of rice, rice, rice, we now eat more diversified food.” There is also evidence that the additional food and revenues obtained from drip-irrigated fields improve social relations and ‘family harmony’. Women from Santa Cruz Municipality mention the importance of ‘food gifts’ in their community, and reduced tensions in their homes as there is more money to go around and less concern about the future. “A well-fed household is a household with tranquillity,” says another woman from Santa Cruz.

In the Niger CCAF project, the chosen approach consisted of securing access to collective plots of land for groups of women and men to grow vegetables. This strategy had

A woman from Santa Cruz Municipality, who received drip-irrigation, explains its impacts,

“Instead of rice, rice, rice, we now eat more diversified food.”



tangible outcomes, not only in terms of food production, but also in terms of reducing seasonal vulnerability and opening up new areas for women's food provisioning roles (see further information in Insert 1).

In terms of improving food security, the CCAF countries integrated gender-responsive approaches in their projects. They recognize that merely enhancing crop productivity does not necessarily generate gender-balanced outcomes: when more rice or millet is produced on a farm, the additional volume may be sold by men in the household (as men tend to have control over commercial crops grown for the market), with limited benefits to women or to household food security. By exploring options for women to grow food of their choice (as groups or individuals) and to generate additional revenues from selling part of the harvest, the CCAF projects secure higher levels of control for women. This proved to be a valuable strategy as it led to better household nutrition and increased long-term food security across all CCAF countries.



Proud Farmer from Alehaimerat, Sudan showing off harvest; Photo: Jennifer Baumwoll

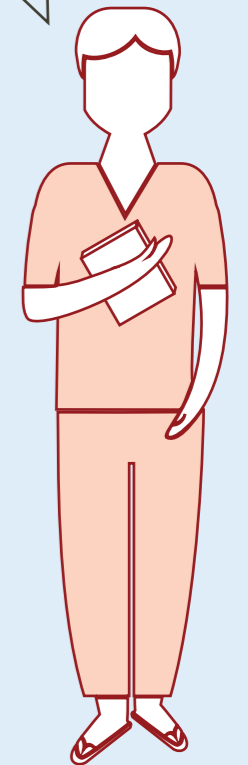
Insert 1: Supporting women to overcome drought and chronic food shortages in Niger: vegetable production in Tondikiwindi

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"When I arrived in the village of Mondolo Tchizama Koirra, Tondikiwindi Commune," recalls Douma Soumana, the UN Volunteer who has coordinated CCAF activities in this commune of Tillabéry Region, Niger, since 2011, "I ran into a group of women who had been walking all day in search of wild edible plants. This is what they told me: 'Our husbands left in search of jobs, leaving us with the kids and the elderly. We have exhausted our grain stocks, the lean period is lasting longer this year. Even the wild edible plants we used to collect not far from the village have become scarce.'"

Tillabéry has been facing chronic food insecurity for over a decade now. The impact of drought is so severe that people have lost all their animals. These animals are a primary asset for women, sometimes referred to as 'women's banks', since they tend to sell them when the husband finds himself unable to provide food for the family (his social responsibility). To address these immediate needs, a series of national and international cash-for-work and food-for-work programmes have been conducted (e.g. UN World Food Programme). However, the CCAF project, implemented by the Government's National Environmental Council for Sustainable Development (CNEDD), is one of the first consolidated, long-term adaptation projects in the country which seeks to increase adaptive capacity and resilience of rural households.

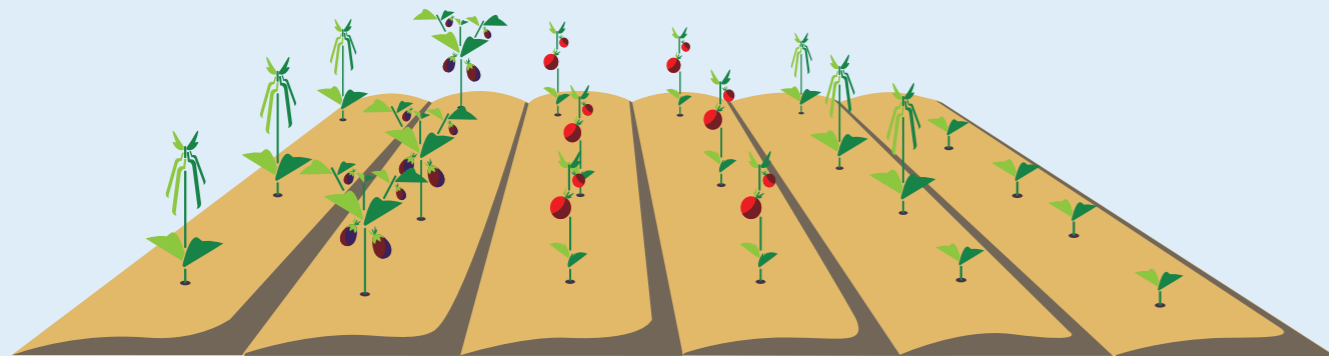


The CCAF project successfully took into account gendered seasonal patterns of vulnerability and food security to define the interventions and address food security issues in a gender-responsive way. Barriers were overcome through targeted consultations, to create a space for women to express their concerns and design appropriate strategies.

Gendered seasonal patterns of vulnerabilities and food insecurity

Designing adaptation strategies requires an intricate understanding of local patterns of seasonality, crop and livestock production, migration and food shortages, as well as gender relations that cut through all of them. The following graph (Graph 1) shows how these different parameters of vulnerability, which were considered to identify entry points for supporting gender-responsive adaptation by the CCAF project, interlink in Tillabéry Region. As seen in Graph 1, given that men migrate during the lean season, it was critical to focus on women's role in off-season vegetable production in order to address food security.

Once off-season vegetable production was identified as an entry point, an intervention was designed that took into account the gender-specific dynamics and the needs of women. A key component of the CCAF project is, thus, the establishment of collective vegetable production sites for groups of women and men. There are 12 functioning vegetable production sites in Tondikiwindi and surrounding villages: five sites of one ha, five sites of two ha and three sites of three ha.



Graph 1. Seasonal calendar of agricultural activities, food shortages, coping mechanisms and adaptive strategy for Tondikiwindi, Niger

July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June
Rainy season			Cold dry season						Hot dry season		
Millet cultivation (60 days)	Harvest of millet, sorghum, cowpea		Millet stocks end			Lean season (food shortages)			Millet sown (up to 3 times)		
						Men migrate in search of work					
						Women do paid labour, borrow food and money, collect wild foods, etc.					
						Off-season vegetable production (leased land) [facilitated by the CCAF project-CCAF's primary adaptive mechanism]			Land returned to owner		

According to the village chief of Tondikiwindi, several women from the group earn over 100,000 FCFA (approximately US\$160) in a season by growing vegetables. "Some of them have even been able to save enough to buy animals," he adds. Depending on group size and land area under cultivation (1 ha to 3 ha), each woman has between 20 and 40 gardening beds (1 x 2 m) to produce vegetables. Older women (over 45) tend to have more beds than younger women, who usually have other family responsibilities and less time to care for their garden.

"I do lettuce on 20 beds and potatoes on the other 20 beds from October to February. I keep lettuce from two beds: one for my family, and one for relatives and friends. That leaves me with lettuce from 16 beds to sell. As soon as lettuce is ready, I sow more seeds, so I end up doing three rotations in five to six months on my 16 patches.

Twice a week, several of us go to the market to sell our lettuce from two beds. I earn about 6000 FCFA each time [12,000 FCFA, close to US\$20 weekly] and even more, earlier in the season, when no one else sells lettuce. With that money, I pay for my transport, I buy minor food items and I save the rest. After two to three months, I have saved enough to buy one or two bags of maize [cost: 19,000 FCFA or US\$33 each]."



A middle-aged woman managing 40 beds in the vegetable production site does the calculation.

This is how women have become vegetable producers and are earning from the sales of vegetables. This is replicated in the other eight regions of Niger which are supported by the CCAF project.

Implementing the approach, while keeping women at the centre

Implementation of this gender-responsive approach in the Tillabéry region started with two essential dimensions:

1. Securing access to and protection of land, for both men and women, to support vegetable production:

- Leasing of land from private landowners, sanctioned by local authorities, for exclusive seasonal use by groups of women and men to produce vegetables (80 percent of vegetable producers are women under the CCAF project);
- Installation of proper water sources on the production sites (open or drilled wells); and
- Wire fencing to enclose the area and protect it from animals.

2. Building social and human capital in a gender-sensitive manner:

- Creation and/or strengthening of groups to collectively manage the plot;
- Building capacity for small-scale organic vegetable production through trainings and regular visits by agricultural extension officers to help women establish the gardening beds, manage watering techniques, sequence production and select crops with good market potential; and
- Group visits to local and distant markets for women to get acquainted with market prices, market opportunities and potential buyers.

Overcoming barriers

With time, the sites expanded from 1 ha to 3 ha, and women could not manage to maintain their vegetable beds. Through a series of discussions, Douma found that time-intensive daily household chores restricted the women from actively participating. In response, the project introduced additional components, specifically designed to reduce women's workload:

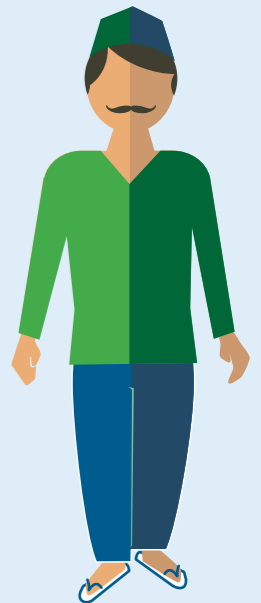
- Mills for processing grain to save time spent pounding grain by hand;
- Donkey carts for women to take their vegetables to the market, thus reducing the burden of transporting goods, and offering access to distant markets where prices for vegetable may be higher; and
- Literacy support to enhance women's skills and capacity to keep accounts of their revenues.

Most importantly, the participatory approach in Tondikiwindi provided a space for women to express their needs and concerns, and to devise their own solutions to the problems they identified as the project was being implemented.

Recognizing co-benefits

The Village Head of Tondikiwindi (a man) praises women for their work and determination. Reflecting on shifts brought about in the community as a result of the vegetable gardens, he stresses three significant co-benefits of the project:

- **Positive impact on health:** "We are healthier now. Hunger is the worst illness. Now that we eat properly, fewer people fall sick. And this is especially noticeable with children."
- **Peace in households:** According to the Village Head, this is the most significant impact of the CCAF project in his locality. "Earlier, I would constantly be called to solve conflicts in households. In most cases, it was linked to food shortages, or to



the fact that the husband was away, but had not sent money to the family. Now people are more at peace as the women are in charge of food now, they support their families, and some earn over 100,000 FCFA (US\$ 160).”

- **Less deforestation:** Normally women would cut branches from thorny bushes around their village, to enclose their small garden plots and protect them from animals. Through the CCAF project, wire fencing was provided. “As a result, women have stopped cutting down branches from trees in the area!” another ‘very significant change’, according to the Village Head.

Thus, in Tondikiwindi, where vegetable plots have been maintained by women’s groups under the project for over four years, women have managed to increase their families’ food security. Not only have they been able to supplement and diversify daily meals with new food items grown in the gardens, such as potatoes, cabbage, lettuce, tomatoes, green maize and cassava, but the revenues they earn from the sale of lettuce, tomatoes and cabbage also serve to buy significant volumes of staple cereals (maize, millet) and condiments for sauces.

Further improvements: building resilience over a 12-month period

The interventions resulted in substantial benefits to the women and their households. However, considering and supporting issues of land acquisition could have further strengthened the systems introduced under the project and provided greater opportunities for productivity and resilience.

Findings from this research in Niger¹⁴ revealed that if plots were owned by the groups (and not leased), women could keep



Niger; Photo: Carine Pionetti

growing vegetables for the entire year instead of returning the land to its owners for millet cultivation during the rainy season. Vegetable production in the hot dry season and rainy season would be very profitable (high potential revenues from sales of tomatoes and onions). The revenues would be large enough for women to purchase bags of staple cereals (millet, sorghum and maize) to cover food needs for an additional three to five months. A critical step to enable a 12-month crop rotation on a vegetable production site is to identify crops and varieties that are well adapted to the growing conditions, and in high demand in the local market.

¹⁴ Credit for these findings should go to Marthe Diarra, a Niger sociologist specializing in Gender and Natural Resource Management, who conducted the field research in Tillabéry with support from Boubacar Ai Boubé, gender specialist, CNEDD and Douma Soumana, UN Volunteer and project coordinator for Tillabéry region.



Early February, every day at 4 p.m., the vegetable production site in Tondikiwindi is a hive of activity, with dozens of women energetically pulling ropes to get water from the well, and coming and going with buckets to water their vegetable beds. “The well dries up at this time of the day, that’s why we need to hurry!” explains a young woman. Niger; Photo: Carine Pionetti

1.2 Gendered strategies for diversifying livelihood options











While each country's experience is unique, and emphasizes different ways of enhancing adaptive capacity in the local context, they all share a similar objective: increase incomes as a means of strengthening resilience and addressing long-term food security.

One common aim of CCAF projects is to strengthen resilience through diversifying livelihood options as a means of increasing income and long-term food security. Livelihood diversification options implemented in many countries are often linked to some form of revolving fund operated by women's groups. Findings suggest that many of these activities and innovations have an underlying gender dimension to them, and contribute, directly or indirectly, to building gender-responsive outcomes (Table 3). During the CCAF projects, adaptation options are identified and prioritized during participatory vulnerability assessment exercises. In most countries, discussions were held separately with groups of women, which allowed for reflective analysis, sharing and co-learning by women on the pros and cons of different livelihood options.














One common aim of CCAF projects is to strengthen resilience through diversifying livelihood options as a means of increasing income and long-term food security.

Table 3. Gender significance of livelihood diversification activities pursued in CCAF adaptation projects

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Country	Innovations/activities (linked to food security and/or income generation)	Significance from a gender perspective
 Cabo Verde	 Pig-raising  Rehabilitation of fish-processing units in coastal zones	<ul style="list-style-type: none"> Source of revenue and 'insurance' in case of crop failure. Intended as an alternative to revenues earned by women from sand extraction.¹⁵ Women's main livelihood is from processing and selling fish in coastal communities, and these processing units increase their revenue.
 Cambodia	 12-month cropping calendar for home gardens  Small livestock-raising  Rice seed purification	<ul style="list-style-type: none"> Ensuring food supply and revenues over a 12-month period significantly improves food security of women-headed households. Improves daily diet and constitutes an asset that women control and can sell for quick income. Manure is spread on home gardens to improve soil fertility. Improves rice productivity. Additional source of income for women seed producers. Scope for developing women's entrepreneurship skills (with adequate external support).
 Haiti	 Seedling production for reforestation and mangrove rehabilitation  Sale of fruit and processed foods	<ul style="list-style-type: none"> Women have introduced fruit tree species – in addition to wood-producing species – into the nurseries, as a means of diversifying food and income sources. Fresh fruit (citrus, mangoes, avocados), processed fruit (jam and jelly) and cereals (cassava powder) are important sources of income for women.

¹⁵ Sand extraction – practised illegally on Santiago Island in Cabo Verde, mostly by vulnerable women in search of incomes to feed their families – is an important environmental issue in three out of the ten islands. When sand is removed from beaches (for sale to private contractors due to its high profitability in the construction sector), salt water penetrates inland, causing salinization of ground water. This is being fought by government policy through different approaches: providing alternative sources of livelihood for women-headed families, and promoting alternative material for construction (e.g. making sand from volcanic stone).

Country	Innovations/activities (linked to food security and/or income generation)	Significance from a gender perspective
 Mali	<ul style="list-style-type: none"> Sewing workshops, soap and ointment production  Renting out ploughs and carts  Processing units (husker, huller, mills)  	<ul style="list-style-type: none"> Income generation for young women who don't have access to other resources/livelihoods. Source of revenue for women's groups. Enables individual women to do the work in their field more independently and in a timely way (normally, they have to wait for the husband to finish using tools on his land, which leads to delayed sowing and harvesting and low yields in women's fields). Reduces time spent to process food grains. Source of revenue for women's groups (if well managed). Acquisition of new skills (e.g. maintenance, financial management).
 Niger	<ul style="list-style-type: none"> Sheep-fattening  Small livestock-rearing  Adult literacy classes  Multiplication of improved millet, sorghum, cowpea seeds  	<ul style="list-style-type: none"> Provides women revenue they can control just before Tabaski (Aïd-El-Kebir), a festive season when spending increases. Restores a traditional female practice of raising small livestock for emergency spending (goats and sheep are 'women's banking systems'). Addresses the gender gap in literacy, increases women's capacity to manage and control revenues from mills and market sales of produce. Increases productivity. Sale of improved seed is revenue for women (mostly cowpea).
 Sudan	<ul style="list-style-type: none"> Production of seedlings  Poultry farms and goat-raising  Butane gas provision  	<ul style="list-style-type: none"> Increases women's capacity to manage tree resources and get new sources of fuelwood for cooking purposes. Diversification of food sources for the family, and source of income for women who sell goat milk. Reduces time spent collecting fuelwood for daily cooking. Positive impact on women's health and household relations.

These varied and context-specific strategies have been successful in supporting women to generate additional income and diversify livelihoods, a central strategy for enhancing adaptation. However, income-generating activities have been found to have limitations in terms of sustainability and size of revenues generated. CCAF project reports from Niger show that on average, women earn around 10,000 FCFA (equivalent to US\$17) monthly. A study conducted in the Maradi Region of Niger (UNDP/INS-Niger 2012) shows that while 73 percent of women in the region engage in some form of income-generating activity (trade, agriculture and livestock, food sales, processing), 70.1 percent of these women earn less than 20,000 FCFA (US\$33) monthly, and only 2.4 percent of them earn over 80,000 FCFA (US\$133) monthly.

These findings call for special caution in adaptation initiatives and for more attention to the barriers women face in accessing financial resources and markets – two critical factors in increasing incomes. In its brief on Women's Access to Land and Productive Resources for Climate-Resilient Agriculture, UN Women identified the removal of financing barriers for rural women as an important enabling factor for increasing their adaptive capacity (UN Women 2015). For women farmers, access to credit, development of financial intermediary services at the local level (e.g. microfinance, savings and loans groups, mobile phone services, weather insurance), and capacity development

UN Women identified the removal of financing barriers for rural women as an important enabling factor for increasing their adaptive capacity (2015).



on financial and business skills are integral elements of the strategy to remove these barriers. The CCAF projects have incorporated some of these elements, especially the savings and loans groups and mobile phone services. They have also supported dialogue with lending institutions to remove gender bias. However, a more systemic approach for removing financing barriers for rural women is required in order to support the agenda of livelihood diversification in a gender-responsive way.



Photo: UNDP Haiti

1.3 Transforming social norms in food production

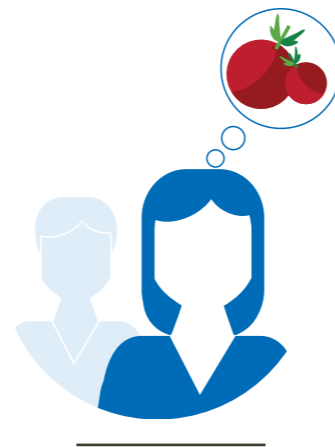
In one way or another, all CCAF projects have contributed to making women's roles in food production more visible and effective. Vegetable gardens have created conditions for women to produce healthy food that improves their household's nutritional status and generates additional livelihood options, thus broadening their earning capacity. The assumption that the main breadwinner in a household is a man, not a woman, has also been called into question, paving the way for transforming social norms around food and incomes.

- **Gender relations and household dynamics:** Findings clearly show that in all targeted communities, women are making significant contributions to food provisioning and income. As a result, they earn respect from their husbands and have more say in household decision-making, altering their status in the family. Domestic tensions have reduced and in some communities, women clearly express that domestic violence, intensified by food or water scarcity, is no longer an issue. In the Sahel region, there is evidence of men participating more in domestic chores although women are still primarily responsible for most domestic tasks (this issue is further explored in Section 3 on Unpaid care work and time poverty). However, research findings show that “men may

Changes brought about by the CCAF projects translate into direct and indirect impacts in terms of gender relations, solidarity networks and migration patterns.

feel threatened by women's strategies and while recognising that they help the household, yearn for the traditional roles and relations of the past" (Bradshaw 2014: 13). This is especially true in social contexts where men are seen as the main breadwinners of the family. There have been instances (in Sudan for example) of men responding less positively to project interventions, arguing that they exclusively focus on women's interest in small-scale food production.

- **Reinstating women's solidarity networks:** In all communities visited during the field study, women emphasize the 'giving and taking' of newly produced food supported by the project. This practice has been declining in many parts of the world due to severe resource scarcity. However, it positively reinforces social ties, interdependence and reciprocity – all of which are important coping mechanisms in rural societies. In Sudan, a number of people, both women and men, point to the importance of acting collectively to solve problems, another way of emphasizing renewed social ties. Findings also suggest that the CCAF projects have reinforced solidarity networks among women, which act as a safety net, especially for the poorest who rely on small loans of cereals or money during the lean season.



- **Income stability and migration patterns:** Increasing incomes from the sale of vegetables, fruit and chicken (in all six countries), goat milk and lamb meat (Sudan, Niger, Mali), and pigs (Cabo Verde) have had an impact on individual coping strategies in CCAF-supported communities. For example, men migrate for shorter periods or not at all in some communities of Niger. In Cambodia, women heads of vulnerable households have been able to focus their time and energy on home gardens instead of seeking low-paying jobs as daily labourers. The practice of collecting wild tubers, an 'extreme' coping mechanism poor women resort to in many countries, is reported to be 'something of the past' by women from beneficiary communities in Cambodia, Niger and Sudan.

Overall, CCAF-supported communities have seen significant changes in their food security status, as the projects had a strong emphasis on reinforcing, or reinstating, women's roles in food production and provisioning. This has also led to increased income as well as respect for the women. However, although women are now making a larger contribution to the household economy, these changes are seldom associated with shifts in gendered resource patterns and productive assets. Assets, especially land and large animals like bullocks, still tend to be controlled by men.

Overall, CCAF-supported communities have seen significant changes in their food security status, as the projects had a strong emphasis on reinforcing, or reinstating, women's roles in food production and provisioning.



Yet, there are cases of women’s associations earning and saving enough money to buy their own land. In Mali one of the women’s associations from the Sandaré Commune has been able to buy a one-ha piece of land with its cumulated savings (550,000 FCFA, equivalent to US\$950). The association built its earnings from the sale of food crops and the leasing of agricultural equipment provided through the project. In Niger, the long-term viability of a land acquisition strategy which focuses on leases rather than ownership (as discussed in Insert 1 above) is being reconsidered. Land ownership is proposed as a more viable option to achieve longer-term, gender-sensitive adaptation to climate change.

Although it was not the primary objective, the CCAF project in Mali has opened pathways for women to gain control over land. The Monitoring and Evaluation officer of the CCAF project states, “Women’s associations earning enough to acquire land collectively is clearly the trend we are seeing in Mali.” This is a significant gender-transformative outcome.

In Mali one of the women’s associations from the Sandaré Commune has been able to buy a one-ha piece of land with its cumulated savings (550,000 FCFA, equivalent to US\$950).

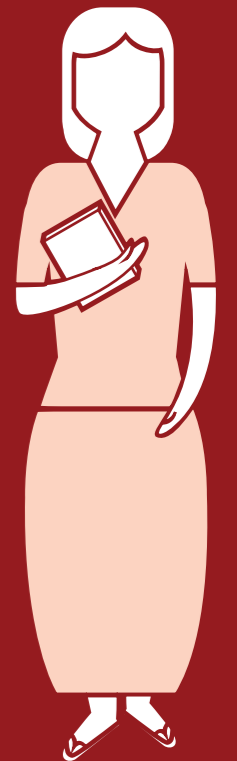


With this diverse set of experiences and analyses of trends on food and nutritional security, two sets of learning emerge. In order to address food security concerns through gender-responsive adaptation practices, interventions should build on:

- **Gendered strategies for ensuring food and nutritional security;**
- **Context-specific gender patterns underlying resource rights and responsibilities;**
- **Diversification of livelihood options, especially for landless women-headed households; and**
- **Women’s social networks, which tend to be informal but provide support for those in vulnerable situations.**



**FOOD AND
NUTRITIONAL
SECURITY:
LESSONS
LEARNED**



Enabling factors for supporting women’s roles in food provisioning include:

- Facilitating acquisition of land and other productive assets (e.g. equipment, technical inputs) through collective arrangements, especially when individual land tenure for women is constrained by social norms and customary practices;
- Investing more in education, given that women/girls with higher levels of education are more likely to access markets and earn better incomes (Forsythe 2015);
- Removing barriers for access to and management of finance and markets for rural women; and
- Investing in time-saving technology so that women of all age groups have more time to devote to productive activities.



FOOD AND
NUTRITIONAL
SECURITY:
ESTABLISHING
AN ENABLING
ENVIRONMENT

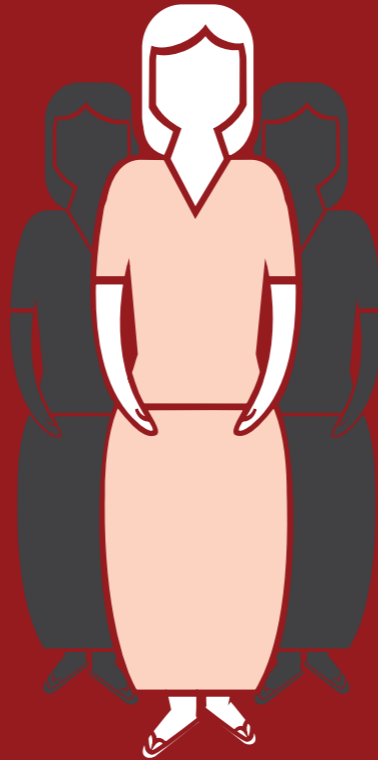


Photo: UNDP Niger



ACCESS TO WATER AND GOVERNANCE STRUCTURES FOR WATER DISTRIBUTION

Due to climate change, all six CCAF countries are faced with unpredictable water availability and in many cases scarcity. This section draws on CCAF experiences addressing this challenge in a gender-sensitive manner, by examining the following questions:



How have **gender differences in access to water** for both domestic use and irrigation been addressed in the CCAF projects?



Have measures been designed to **manage water-related conflicts** in gender-responsive ways?

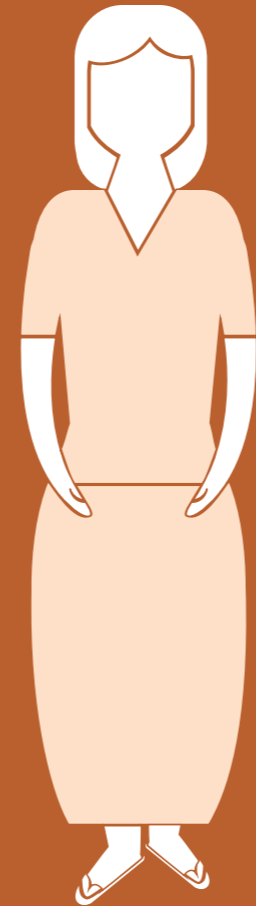


Have projects efficiently promoted the **participation and leadership of women** in managing water?

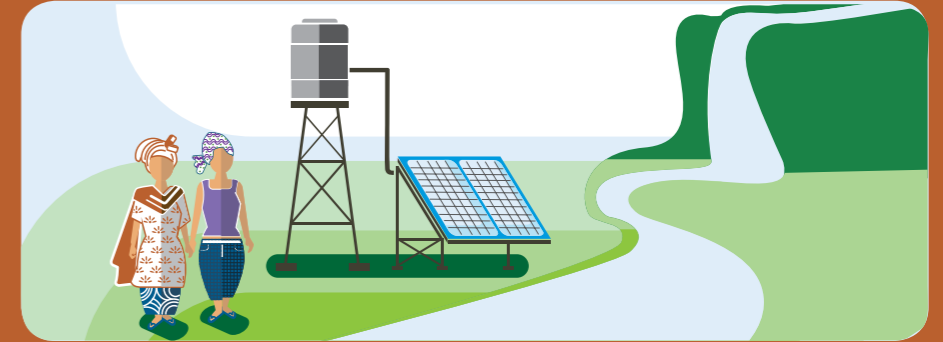
Mali; Photo: Imen Meliane



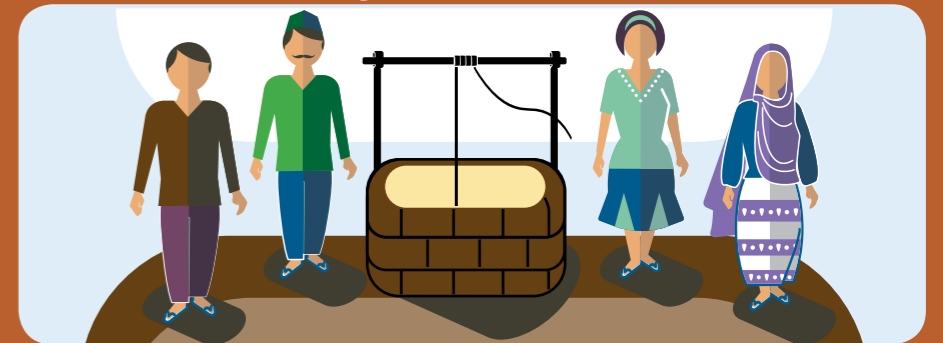
This section presents key findings related to these questions by examining three elements of water-related issues



Gender differences in access to water for domestic use and irrigation



Managing water-related conflicts during times of water stress



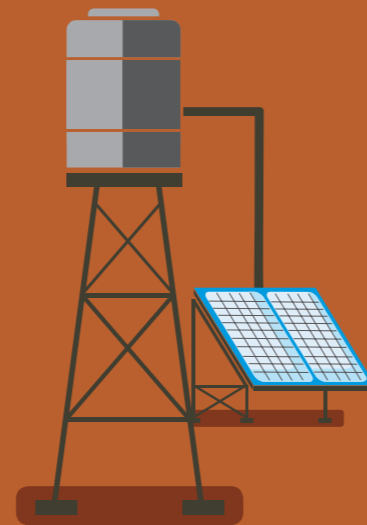
Promoting the participation and leadership of women in water management



Increased frequency of droughts caused by climate change is heightening the problem of water scarcity in all six CCAF countries. At the same time, in many countries flood patterns are changing, with flash floods occurring more often, even in arid zones. Altered rainfall patterns also contribute to uncertainty in agriculture, leading to declining yields, crop losses and increased animal mortality rates. Water access is therefore a very significant issue in climate change adaptation. Addressing it in a gender-sensitive manner is key to resolving water scarcity sustainably, given that women and men have different interests, priorities and concerns around water access.

Climate-resilient water management plays a central role in all CCAF projects. Context-specific strategies have been implemented to mobilize water resources for three main purposes:

- **Water for drinking and domestic use:** individual water storage tanks, installation of water networks connecting homes to water sources, solar-powered pumps, drilling of tube-wells, construction or rehabilitation of open wells and reservoirs;
- **Water sources for watering small-scale vegetable gardens:** including individual home gardens (Cambodia, Cabo Verde, Haiti) and collective gardening plots (Niger, Mali, Sudan);
- **Water for agriculture:** collective ponds for watering crops, rehabilitation of small-scale irrigation infrastructure (small dams, check dams, water reservoirs and channels), and installation of drip-irrigation systems.



2.1 Gender differences in access to water for domestic use and irrigation

Women and men have different roles and responsibilities in the area of water management. By and large, women and girls are heavily involved in managing water for domestic use, and men and boys are more concerned with water for irrigation.

There are, of course, variations and nuances across cultural and religious contexts, and many factors influence and shape patterns of water use at household and individual levels. Distance to water sources and the cost of water impacts women, men, girls and boys differently. When water is scarce, women, girls, and sometimes boys find themselves responsible for finding new, often more distant, sources of water. Men may also play a role in water collection with the help of animals (e.g. men use donkeys to carry water containers in Cabo Verde or Mali). When water has to be purchased, water-related expenses are more of a concern for low-income households with numerous children, and for women-headed households belonging to vulnerable groups.

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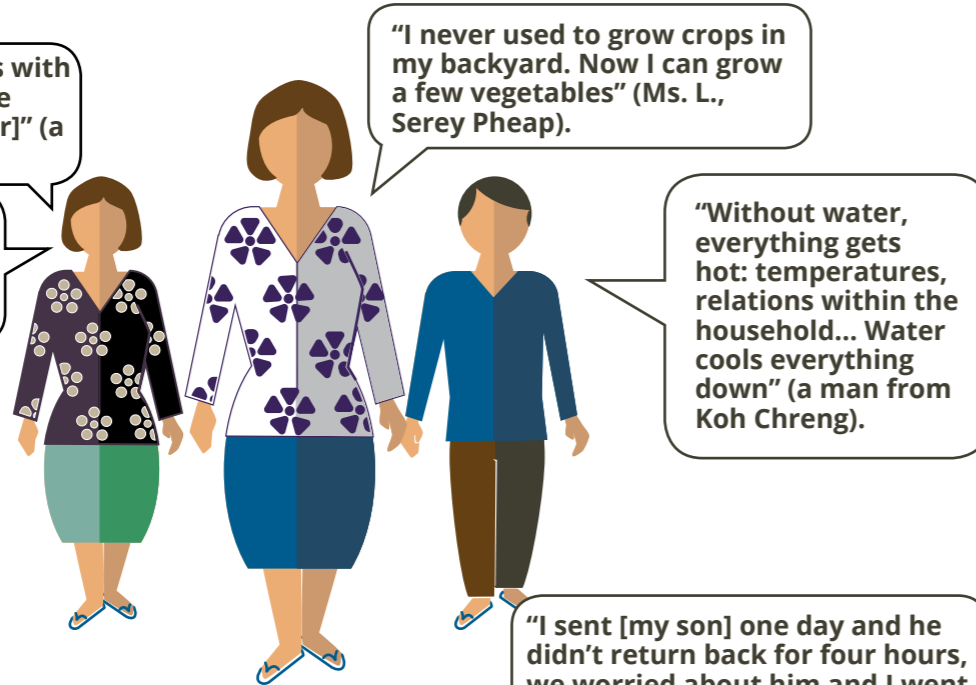
As described above, the CCAF projects have introduced a range of strategies and technologies to strengthen access to water for drinking and other domestic uses. This is one of the project's most critical contributions as illustrated by comments from direct beneficiaries of all ages and socio-economic groups who describe how having direct access to water in their homes has changed their lives in specific ways.

Cambodia:

"There are fewer accidents with kids now [kids falling in the river when collecting water]" (a woman from Svay Chek).

"Earlier, we had to go and collect water. Now water comes to us!" (Ms. K.S., Svay Chek)¹⁶

¹⁶ National statistics for Cambodia show that a higher percentage of girls than boys are not attending school because they must help with household chores (9.1% for girls, 6.6% for boys) or contribute to household income (31.4% for girls versus 26.9% for boys). Source: Asian Development Bank, 2015, *Promoting Women's Economic Empowerment in Cambodia*, Manila, Philippines, p. 36.

**Sudan:**

"Before the project, bringing water was a very difficult task: it took a lot of time and huge efforts to get water. Sometimes conflicts erupted between people around access to water. The skin on our hands would crack from constantly pulling up the rope to lift the water pail from the well. We spent so much time for collecting water whereas now, it's so easy for us to get water by using the pump and the water tube" (a woman from North Kordofan region).



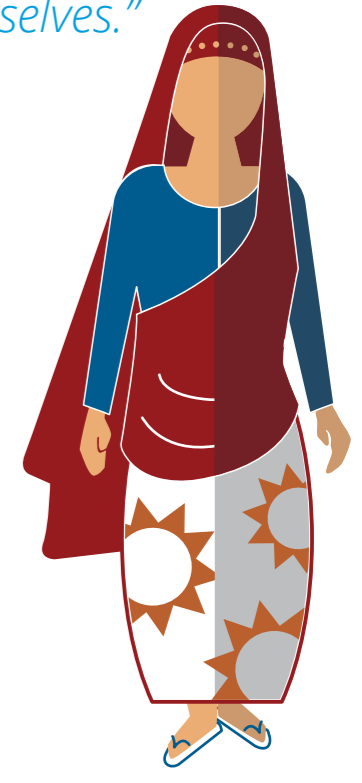
"I sent [my son] one day and he didn't return back for four hours, we worried about him and I went to the next village, and after two hours I found him still stuck in the water queue!" said the father of Badr Eldin, a nine-year-old boy from Siraj Alnour village in Gedarif.

Badr added: "I was late, my clothes became dirty from the rocks and the muddy road, I was totally exhausted and I skipped going to school that day, but now I am no longer skipping my classes because the water problem is now solved."

Across the six countries, perceived gendered benefits from access to water for drinking and other domestic uses can be summarized as follows:

- **Improved hygiene:** This is especially important for women and children, and has a positive impact on their health and well-being. Women emphasize cleanliness as a strong dimension of physical well-being (e.g. taking regular showers, bathing kids daily, washing the laundry more regularly in clean water) and self-esteem. As a woman in Niger put it: "Our husbands love us more when we are clean and take better care of ourselves."
- **Fewer diseases in the family:** Access to safe drinking water considerably reduces the incidence of water-borne diseases. This has positive impacts on women as they are the primary caregivers when a household member is sick.
- **Reduced workload, especially for women and girls:** Ensuring water access has a direct impact on women's and girls' time and workload. In sub-Saharan regions, women may save up to three hours of daily work when water is available near their homes in the dry season.
- **Improved safety and education of children:** In all countries, there are reports of children's

"Our husbands love us more when we are clean and take better care of ourselves."



school attendance increasing as a result of project interventions. However, there is no clear evidence of differences in improvements between girls and boys.

- **Reduced tensions at the household level:** The need to collect water is a significant source of stress and tension within households, especially in times of water scarcity. Secured access to water has a positive impact on gender relations and family well-being.
- **Fewer safety and health concerns for women:** Access to domestic water supplies in the community positively impacts women's health by sparing them the burden and risks associated with long walking hours. Pregnant women particularly suffer from health problems related to water collection. In flood-prone areas, accessing drinking water can be hazardous during the flood season. In Cambodia, for instance, rural women move to higher ground with the children and cattle, while men stay behind to take care of houses during the flood season. Trying to secure access to water in these temporary 'evacuation sites' away from home exposes women to risks (e.g. snake bites, falling in water, risk of harassment from strangers) and mental tensions (when they have to take young children along).

In sub-Saharan regions, women may save up to three hours of daily work when water is available near their homes in the dry season.



A common and significant aim of all CCAF projects was to consider gender sensitivity when addressing issues of water affordability. The baseline survey conducted in Cambodia showed that in many parts of the country, villagers have to buy water from private water sellers as there are no public water supply facilities. Spending money on water can be particularly challenging for vulnerable women-headed households. Thus, both in Cambodia and Cabo Verde, when project teams had to decide who would benefit from water access and individual water tanks, they prioritized these households (Box 7). This is a good example of gender-informed targeting in the context of access to water for domestic use.

See box 7
for strategy
on targeting
women-headed
households

See box 17 for
the experience in
Cabo Verde and
institutionalizing
gender in the
water sector



Mali; Photo: Imen Maliane

Box 7: Targeting vulnerable women-headed households in Cambodia and Cabo Verde

Cambodia

Ms. Kin S. is a member of the Water-User Group in Svay Chek, Sambour District. She is a single woman who takes care of four people (a child of her own, two orphans and her mother). She doesn't have any rice fields (the primary cash crop). However, after connecting to a water tank under the CCAF project, she has been able to grow cabbage, radish, onion, lemongrass, papaya and banana trees in her backyard. Also, her water bills have considerably decreased: she only has to pay 1000 Riels (US\$0.25) to fill up her two 1000 m³ jars now, as opposed to 10,000 Riels (US\$2.50) when she had to buy from local water sellers. Now she no longer needs to work as a daily agricultural labourer, thus making her life easier, as she can work in her garden while being present for the kids.



Ms. Kin only has to pay US\$0.25 to fill up her two 1000 m³ jars now, as opposed to US\$2.50 she bought from local water sellers.

Cabo Verde

Ms. Filomena F. is a widow in Órgãos Pequeno settlement on Santiago Island and heads a nine-member household (herself, her daughter, her son and six grandchildren). The CCAF project targets the most vulnerable households and the criteria include: large number of people, limited livelihood options and women-headed. Ms. Filomena fit the profile and an individual water tank was installed in front of her house. "I'm so happy with this. It's a clean way of storing water for daily use, and there are fewer mosquitoes than when water is stored in containers around the house," she says. She pays 570 Escudos (US\$6.50) for 5 m³.

When asked about the most significant change this water tank has made to her life, Ms. F. highlights two changes: i) not having to go down to the well in the middle of the night; and ii) no longer having to put up with social tensions around water in the dry season. She goes on to explain that the well is where villagers without a connection to the public network get water. It is located about 200 m down the hill.



Photo: Carine Pionetti

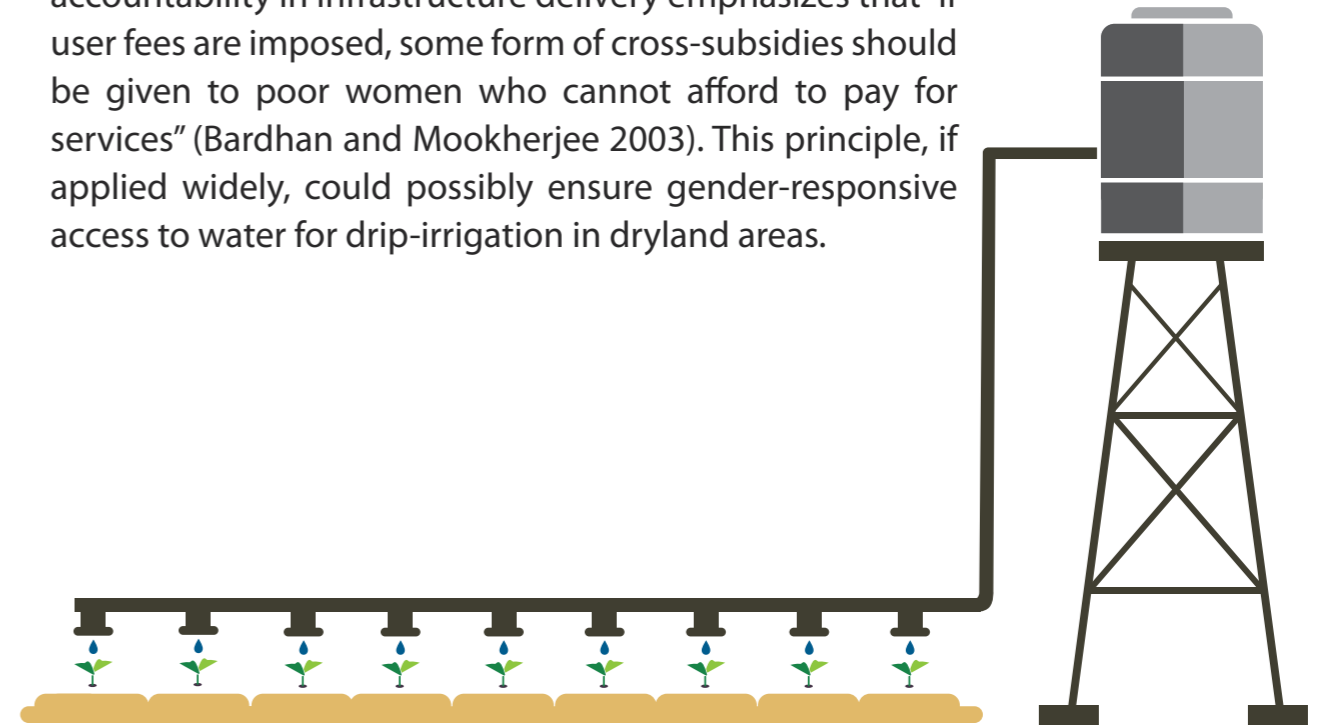
"During the dry season (May-June-July), it dries up towards the end of the day and recharges at night. Whoever gets there first gets the water, so I used to go there around midnight and sleep there, in order to be the first to draw water from the well."

Source: Individual interviews with Ms. Kin S. in Kratie Province, Cambodia (Nov. 2015) and with Ms. Filomena F., Santiago, Cabo Verde (Jan. 2016).

Access to water for drip-irrigation also raises gender concerns around affordability. In Cabo Verde, water supplies for drip-irrigation are fairly costly. On average, farmers pay between US\$50 and 70 monthly. In the Municipality of Tarrafal, a group of women, supported by the CCAF project, have been using drip-irrigation on a collective plot. However, some of them face difficulties in paying their bills and have incurred debts.

The fact that women from disadvantaged groups have accumulated water debts is an issue of concern, and may represent a 'missed opportunity' for ensuring gender-equitable outcomes. A study on decentralization and accountability in infrastructure delivery emphasizes that "if user fees are imposed, some form of cross-subsidies should be given to poor women who cannot afford to pay for services" (Bardhan and Mookherjee 2003). This principle, if applied widely, could possibly ensure gender-responsive access to water for drip-irrigation in dryland areas.

The fact that women from disadvantaged groups have accumulated water debts is an issue of concern, and may represent a 'missed opportunity' for ensuring gender-equitable outcomes.



2.2 Managing water-related conflicts in times of water stress

Managing tensions around access to scarce water resources is important, not only to ensure sustainability of new water sources (for both domestic and agricultural use), but also to mitigate the risk of reinforcing existing gender inequalities in access to water for irrigation.

Women farmers in Santa Cruz Municipality, Santiago Island recount that when water is scarce, women tend to prioritize water for domestic purposes and for watering food crops. Men, on the other hand, tend to prioritize irrigation of commercial crops (Box 8). This reflects differences in the ‘agendas’ of women and men for managing water and crop diversity, which is further substantiated in several gender studies in other countries.¹⁷

Under the CCAF project in Cabo Verde, impressive networks of water reservoirs and water canals have been developed or rehabilitated in order to increase the area under drip-irrigation. Gender equity in access to drip-irrigation however, had not been adequately factored in. Monitoring mechanisms need to be put in place to ensure that women (and women-headed households – 45 percent in Cabo Verde) have equal access to this new system (in terms of volume of water used and financial ability to pay for and maintain the fittings).

National statistics show that on Santiago Island, 70 percent of women farmers only cultivate rainfed land. The fact that women only have access to 34 percent of irrigated land on Santiago Island indicates a gender bias in access.¹⁸

¹⁷ Source: http://www.fao.org/gender-landrights-database/country-profiles/countries-list/land-tenure-and-related-institutions/en/?country_iso3=CPV

¹⁸ See for instance: Howard, P. (2003) *Women and Plants, Gender Relations in Biodiversity Management and Conservation*, Zed Books, London. Also, a study conducted in India found that “female panchayat (local governing councils) heads tend to emphasize safe drinking water while male heads tend to emphasize irrigation systems” (Chattopadhyay and Dufo 2004).

Measures could be introduced to facilitate the decision-making power of women in male-headed households, regarding which crops to grow on the irrigated land. Resolving gender equity concerns over access to water for irrigation is therefore an area that deserves additional attention.



Photo: UNDP Cambodia

Box 8: Competing agendas between women and men for prioritizing water use

Evidence from focus-group discussions held in Cabo Verde further suggests that conflicts around water use are frequent at household and community levels, especially in times of water stress.



A woman from Órgãos Pequeno, Santiago Island, explains: “In my village, June-July is when we face water scarcity; in that period, men go at night to take water for irrigation, so when women go out in the morning to get water for the house, there’s no more water in the reservoir. This creates a lot of tension!”¹⁹ These tensions at the household level are frequently voiced by women in meetings.

“When this starts happening (tension between men and women farmers, over water use), women farmers – like my own mother – usually retreat, as they don’t want to get into trouble.”

A young female representative from the Ministry of Rural Development²⁰ stresses how tensions also arise between women and men farmers within the community. She explains that when the water level in the dam decreases, farmers using dam water for irrigation begin to fight. In other words, when water resources become scarce, male farmers often have the upper hand. The local official emphasized that a mechanism ensuring gender-equitable distribution of water was needed, but had not been treated as a priority. Recent reforms in the water sector indicate, however, that gender mainstreaming could become more of a priority in coming years (see Box 17 in Part III, Institutional partnerships).



¹⁹ During a focus-group discussion with women from Santa Cruz Municipality.

²⁰ The Ministry of Rural Development is responsible for implementing the CCAF project along with Municipality authorities.

Source: Focus-group discussions with 12 women from Santa Cruz Municipality, Cabo Verde, Jan. 2016.

2.3 Promoting the participation and leadership of women in water management

As indicated above, the management of water resources is a critical issue, which requires specific mechanisms in order to reduce potential conflicts. At the same time, the role of women in these management systems has implications on gender equality and dynamics within the community, which affect adaptation.

The best example of applying a gender lens to water management was found in Cambodia. This project emphasized the formation of groups to manage water resources to regulate use and avert social conflicts. Two categories of groups were formed: Farmer Water-User Committees (FWUCs) to manage water for irrigation purposes, and Water-User Groups (WUGs) to manage domestic water supply. Provincial-level staff responsible for implementing the project invested a significant amount of time and resources to oversee the formation of these groups at the village level, to build their capacity, and to ensure the effective participation of women in both groups (for more details, see Box 13 in the section on participation, decision-making and leadership).

In addition to increasing local capacity for management and control over water resources, this approach also contributed to gender-responsive outcomes. Data collected from villages in Kratie Province suggest that the provision of water access

For more information on Cambodia’s user groups, see box 13 in the section on participation, decision-making and leadership

combined with the creation of management groups led to significant positive changes in gender dynamics at the household level. These changes included reduced tensions between women and men, as they co-manage the WUGs, leading to shared decision-making at the household level. Women have also gained skills in water management and can take part in decisions regarding water use.

As the evidence from Cambodia illustrates, these types of social mechanisms are essential for gender-responsive strategies. Where they are lacking, gender inequality in access to water is likely to be reproduced or further entrenched. Deeper analysis of gendered water rights and responsibilities at the household level in all local contexts prior to intervention would help in the design of customized gender-sensitive approaches. These notions are not generally part of the organizational culture of Government water resources departments, and thus require effective collaboration with social scientists (see Part III for a discussion of institutional partnerships for gender-responsive adaptation).

Provision of water access combined with the creation of management groups can lead to significant positive changes in gender dynamics at the household level.

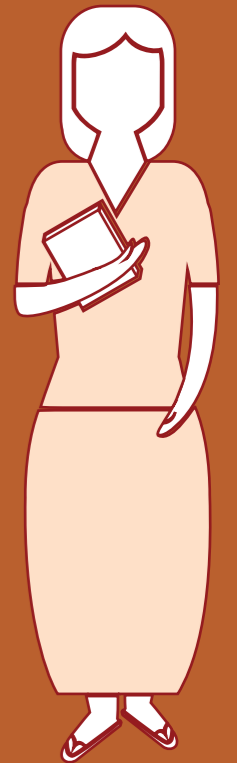


Based on the experiences supporting access and management of water resources across the CCAF countries, four key learnings emerge:

- **Enhancing water access does not, in and of itself, build gender equity or advance gender equality. Even if it reduces women’s workload, the provision of water needs to go hand in hand with careful consideration of gender power dynamics around access to water and other resources;**
- **Solutions for improving access to water must be designed with the objective of creating conditions for equitable access. This includes taking into account affordability, particularly for the most vulnerable;**
- **Adaptation projects should seek to address gender bias in access to irrigated land, where it exists, through affirmative action (e.g. quotas or special measures); and**
- **Strengthening access to water also involves gender-equitable sharing of household responsibilities and community decisions around water. This includes investing in social mechanisms for equitable management of and rights over water.**



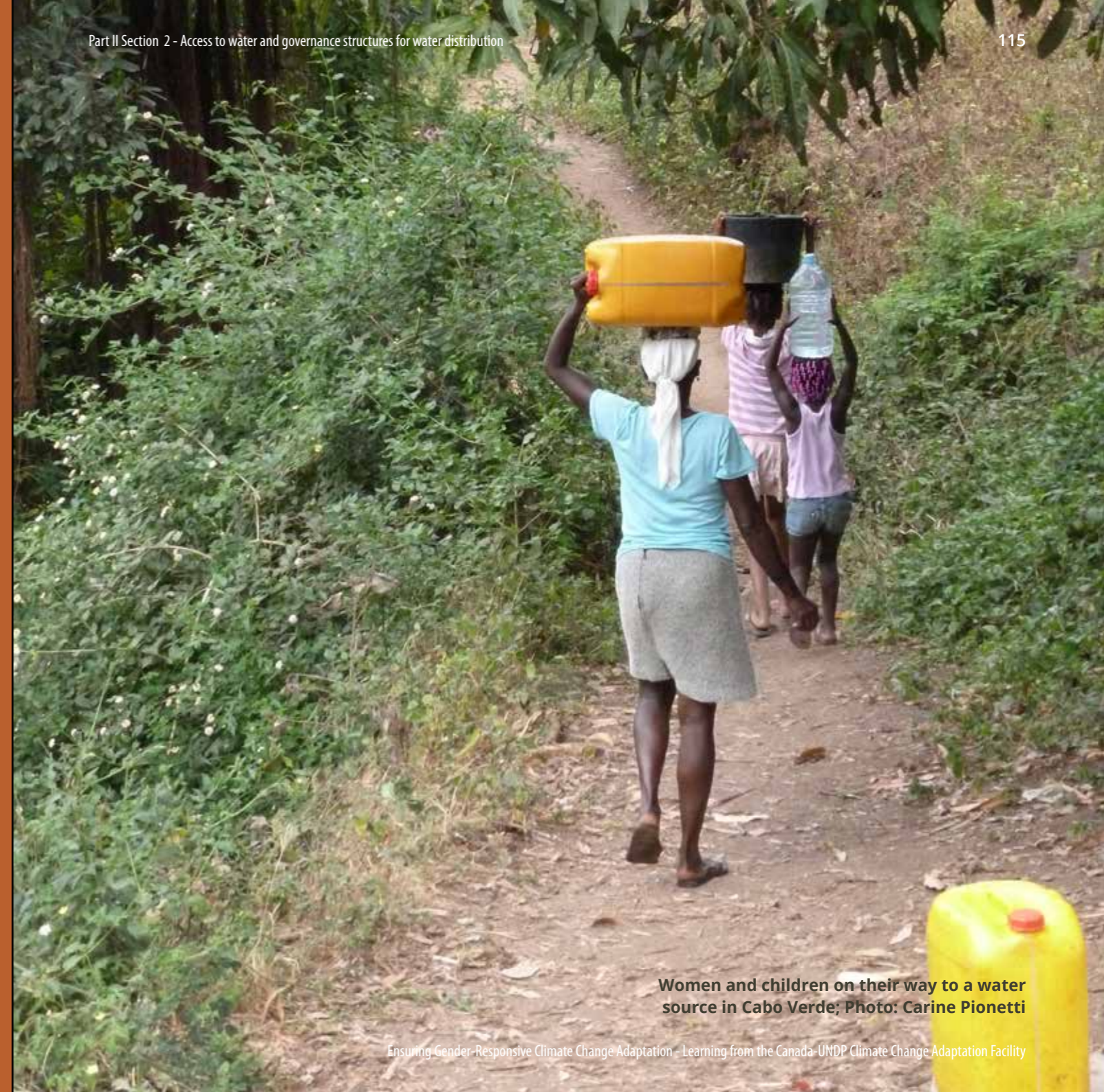
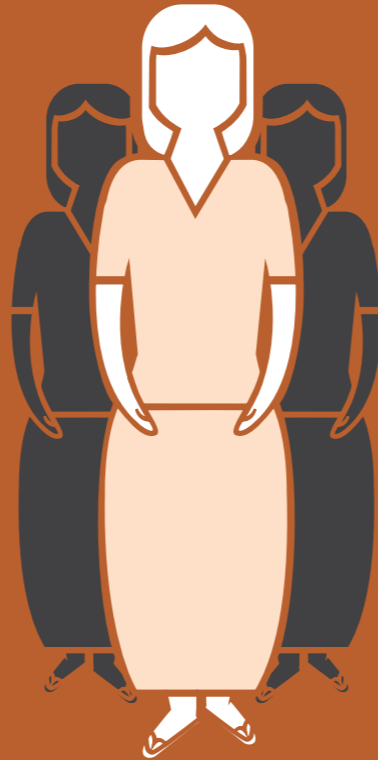
**ACCESS TO WATER
AND GOVERNANCE
STRUCTURES
FOR WATER
DISTRIBUTION:
LESSONS
LEARNED**



- **Build strong collaboration with Government water resources departments to ensure that assessments for installing water infrastructure and/or facilities are conducted in gender-sensitive ways, especially taking poor women into consideration;**
- **Increase the capacity of local representatives from Government water resources departments to take a gender approach to social mobilization, in order to ensure the effective participation and leadership of women in water management mechanisms;**
- **Support communities in upholding principles of gender equity when they establish WUGs, with special attention to the participation of women who are household heads;**
- **Support local municipal authorities and communities to develop and maintain social mechanisms for gender-equitable distribution of water resources, such as water-sharing arrangements; and**
- **Ensure that when partnerships with the private sector are established (e.g. the installation of solar-powered pumps), commitment to gender equality is maintained and women receive equal access to technical or management training, peer-to-peer learning and other resources.**



ACCESS TO WATER AND GOVERNANCE STRUCTURES FOR WATER DISTRIBUTION: ESTABLISHING AN ENABLING ENVIRONMENT



Women and children on their way to a water source in Cabo Verde; Photo: Carine Pionetti

TIME POVERTY AND UNPAID CARE WORK

The following section highlights the dimensions of unpaid care work and time poverty in the context of the CCAF projects with the aim of answering the following questions:



Have projects made a concerted effort to **address women's time poverty** especially in the context of water and fuelwood collection?



What types of innovations have been introduced to **reduce women's workload** associated with daily domestic chores?



Is there any evidence of changes in gendered responsibilities around care work as a result of project interventions? What would a **gender-transformative agenda** to care work look like?

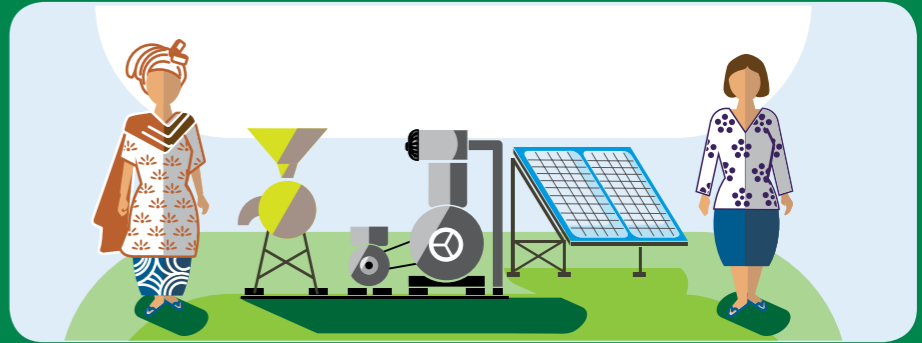
Mali; Photo: Imen Meliane

Strategies for addressing women's time poverty

This section analyses key findings from various CCAF countries to address three components



Reducing women's workload through access to gender-responsive energy services



Elements of a gender-transformative agenda on care



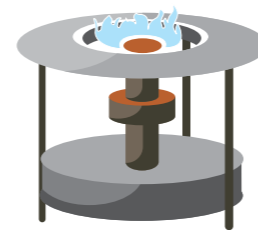
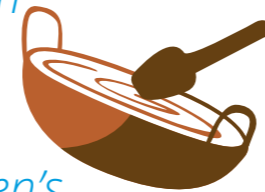
3.1 Strategies for addressing women's time poverty

With regard to women's traditional domestic responsibilities, accessing water and collecting fuelwood, in particular, have become increasingly time-consuming in the context of climate change. Adaptation initiatives therefore need to minimize these activities in order to address rural women's time poverty.

As we have seen in the previous section, the provision of water access services in many CCAF countries led to reduced workloads for women, men and children. It has lowered the physical and mental strain of fetching water for daily household needs, and for women it has brought about improvements in health and hygiene, and increased revenues from other livelihoods. This corroborates findings from the scientific literature that improved access to water and energy sources ease the constraints on women's time and increase female employment and incomes (Ilahi and Grimard 2000; Dinkelman 2011).

The CCAF project in Sudan sought to alleviate the burden of water and fuelwood collection by increasing access to water, through well rehabilitation and construction, and provision of butane gas stoves. Women from North Kordofan State consider butane gas to be 'the most essential service' provided by the project. The introduction of clean fuel eases the burden of fuelwood collection, reduces cooking time, and has broader positive impacts on gender relations and women's empowerment (Box 9).

The introduction of clean fuel eases the burden of fuelwood collection, reduces cooking time, and has broader positive impacts on gender relations and women's empowerment.



Box 9: When butane gas sparks changes in gender relations, Sudanese women speak out

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A group of women from North Kordofan reflected on how butane gas has changed their daily life:

"We now have more time, as it's quicker to prepare food with butane gas. And we can prepare tea for our kids early in the morning before going to school! Previously, they used to go to school without drinking anything."

"Having butane gas helps us keep our houses clean, without smoke. And we no longer smell of wood all the time, we too are cleaner!"

Butane gas has helped to reduce tensions at home. There is also evidence of changes in gender roles: men who would never step in to prepare food or drinks have started to take on new roles. "If I'm away, my husband now makes his own tea. He never used to do that when we had to cook with wood," says a woman.

Women also report having more time to engage in community projects (e.g. taking part in the village development committee or water committee) and organize collective activities. "We came together as women to create a Sandug (revolving fund)."

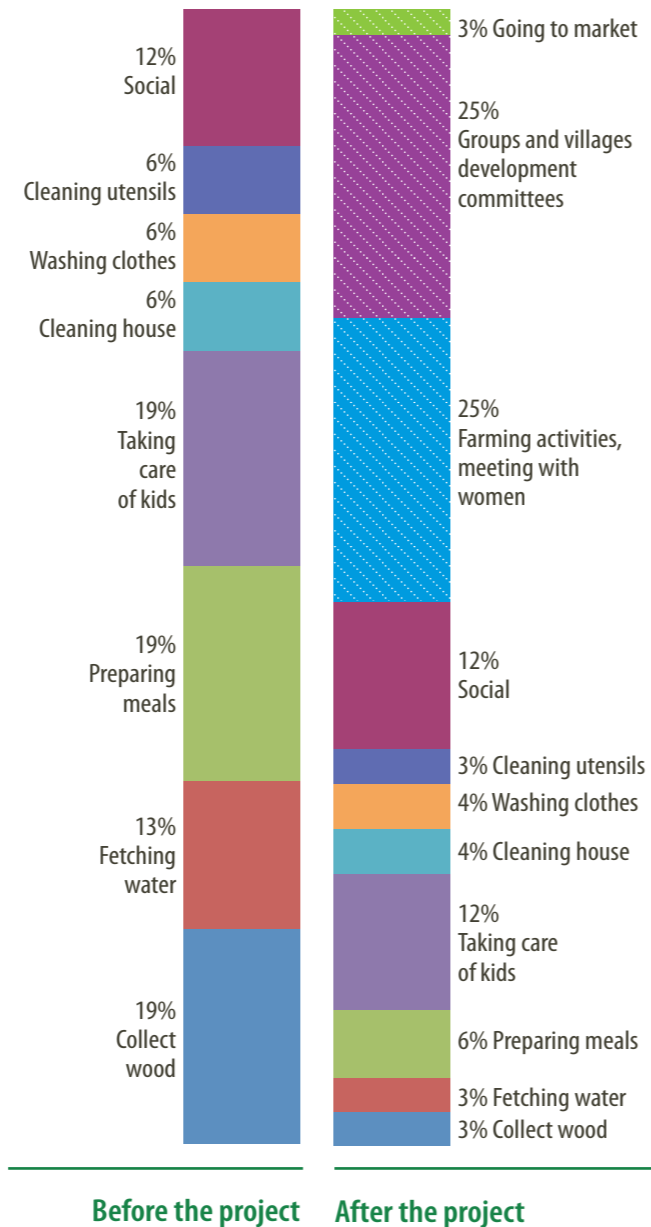
Source: Focus-group discussions with 12 women from North Kordofan State, Feb. 2016.



The following graphs show changes in the daily activities of women from North Kordofan. They clearly indicate that time spent on fuelwood collection before has now been reallocated to a range of productive activities. Graph 2 shows the breakdown of daily activities before the introduction of butane gas and after, respectively. The diagrams reflect a significant shift in women's time use.

Interestingly, not all men are enthusiastic about this project component, and some of them even believe that access to water and butane gas "has made women lazy." One possible interpretation of this finding is that men expected 'big interventions' (such as irrigation schemes or solar pumps) under the project, and found the introduction of butane gas comparably less compelling for adaptation. This points to gender differences in perceptions of what adaptation means and what adaptation interventions involve.

Graph 2: Division and comparison of women's daily activities in Abu Gaida, North Kordofan - before and after project interventions



3.2 Reducing women's workload through access to gender-responsive energy services

Water and fuelwood collection are important dimensions of gender-inequitable patterns of care provisioning, and these have a strong connection to climatic variability. Yet there are other daily household chores that weigh heavily on women's time and mobility.

Processing grain for daily meals involves several time-consuming steps. In many countries, women spend up to two hours daily winnowing, threshing and pounding grain by hand.

Thus, increasing women's adaptive capacity entails reducing the heavy workload constraining women's time and energy. In Mali, Niger and Sudan, the CCAAF projects have designed concrete approaches for addressing these challenges. The project in Sudan demonstrates how women gained control over their time for activities other than domestic chores, through the introduction of butane gas stoves.

The Mali project builds on the national experience of multifunctional platforms to provide access to energy for rural people and promote gender equity. Multifunctional platforms are diesel- or solar-powered mini-grid platforms that provide energy for multiple tasks such as running a

Increasing women's adaptive capacity entails reducing the heavy workload constraining women's time and energy.

See box 9 for how butane gas stoves have sparked a change in gender relations in Sudan

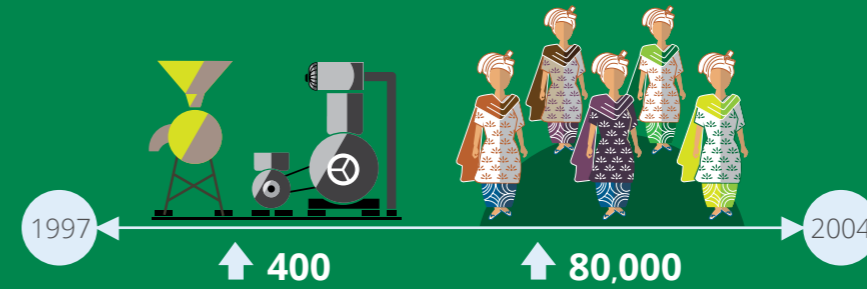
mill, a husker, an oil-press, a welding rig, or for charging batteries. Under the CCAF project, four villages were equipped with solar multifunctional platforms maintained and managed by women's associations who manage the milling and husking activities and earn revenues from the services provided. A large number of women from the village use the services of the platforms, saving time and energy. Findings from a 2005 UNDP study conducted in Mali highlight the multiple benefits associated with multifunctional platforms from the perspective of gender equity (Box 10).

See box 10 on positive impacts that multifunctional platforms have had on time poverty, income, education and health



Women using a multifunctional platform in Mali; Photo: UNDP Mali

Box 10: Gender-responsive access to energy services in rural areas: multifunctional platforms in Mali



The Government of Mali and UNDP initiated a programme on multifunctional platforms in 1997. By 2004, over 400 platforms were running in Mali, mostly in Sikasso, Ségou and Mopti regions, involving a total of 80,000 women.



About 2.5 hours saved



Increased revenues by US\$68 per year

A 2005 UNDP study on the impact of these multifunctional platforms on time, incomes, education and health in Mali shows that women save between 1 and 3.3 hours per day for pounding cereals. If the time spent on rice husking is also considered, then results show that women save, on average, 2.5 hours of work per day. In addition, the multifunctional platforms have increased revenues by US\$68 on average per year per family for women who regularly use the platform services.

Increase in girl to boy ratio of students attending primary school between 2000 and 2005



In seven out of the eight study villages, the girl to boy ratio of students attending primary school went from 56 percent in 2000 to 74 percent in 2005. The yearly increase in this ratio was found to be almost three times higher in villages with access to multifunctional platforms compared to villages without access. The number of both boys and girls dropping out of school also decreased significantly in villages equipped with multifunctional platforms, and in five villages, the number of children entering secondary school increased.

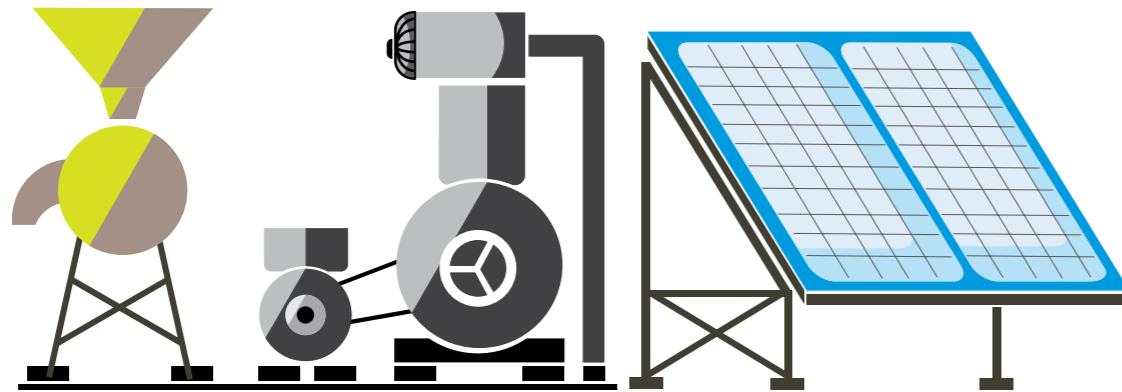


In terms of health, the study documented an increase in the number of women visiting local health clinics for prenatal care. Access to health care is improved when women and children, especially girls, have more time and money to take care of themselves.

Processing units composed of mills and huskers were also installed in several communities in Niger, with cascading positive effects on women's time and earning capacity. As the Village Head of Tondikiwindi observes, "Thanks to the mill, young women who had found it difficult to engage in vegetable production because of multiple tasks weighing on them at home started getting involved."

In all CCAF countries where the burden of unpaid care work has been at least partly addressed, women report spending more time on productive activities (e.g. baking bread and cookies as a source of earning in Sudan, growing crops to sell in Niger and Mali). By reallocating time to productive activities, women increase their earning opportunities, and thus become more resilient to shocks or climate-related risks.

"Thanks to the mill, young women who had found it difficult to engage in vegetable production because of multiple tasks weighing on them at home started getting involved."



Reducing the load of unpaid care work also has important health and well-being benefits for women. The physical burden of fuel or water collection (which is most problematic for pregnant women) significantly decreases, and the mental strain associated with these activities, especially in times of scarcity, diminishes.



Mali; Photo: Imen Meliane

3.3 A transformative agenda on care: recognize, reduce and redistribute unpaid care work

According to the 'Triple R's framework', transforming gendered patterns around care work incorporates three elements (Elson 2008):

1. Changing the way care is delegated at household, community and state levels by recognizing the role of women and girls in the provision of unpaid care, as well as its social and economic value;
2. Reducing the drudgery and time burden of unpaid care, especially for women living in poverty; and
3. Redistributing unpaid care work from women to men, and from the family to communities and the state.

Examples of practices supported by CCAF projects are mapped on to this framework and presented in Table 4.

Oxfam has produced a participatory methodology for understanding care work and identifying solutions based on the three R's at the community level.²¹ A UNDP Policy Brief synthesizes possible core actions under each of the three R's (Table 4).

As suggested by the triple R's framework, another entry point for addressing unpaid care work is through

²¹ This methodology, titled *Rapid Care Analysis*, which is both practical and low-cost, can be used to inform programme design in virtually any development area, including climate change adaptation. It can be downloaded from the following page: <http://policy-practice.oxfam.org.uk/publications/participatory-methodology-rapid-care-analysis-302415>



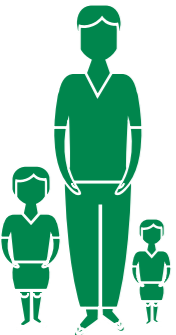
redistribution, i.e. reallocation of care-related activities within the household or community (e.g. through childcare services). While addressing issues within a household can be a daunting task for development organizations, CARE International has developed an approach for challenging stereotypes on gender norms and engaging with men in communities. This has proved to be successful at 'enrolling men' in the promotion of gender equity within households in Niger (Box 11).

See box 11: turning gender stereotypes around, an example in Niger



Mali; Photo: Imen Meliane

Table 4. A transformative gender agenda for recognizing, reducing and redistributing unpaid care work

Objective	Core actions	Examples from the CCAF countries
 <p>Recognition</p>	<ul style="list-style-type: none"> • Measure time use through time-budget surveys and time-use data collection and analysis • Capture unpaid care work in gender-responsive budget initiatives • Undertake country-level studies to understand the nature, characteristics and trends in unpaid care work • Value unpaid care work: assess the development costs of spending time on unpaid care work and the time savings made by infrastructure investments • Assist caregivers through public policy interventions, including caregivers' allowance, paid and unpaid parental leave, social security, and pension credits and tax allowances 	<ul style="list-style-type: none"> • A time-use survey was undertaken in Cabo Verde under the project, in partnership with the National Statistics Institute, ICIEG, and UN Women
 <p>Reduction</p>	<ul style="list-style-type: none"> • Invest in time- and labour-saving technologies that raise the productivity of unpaid care work • Support improvements to rural water and irrigation systems, domestic energy and rural transportation infrastructure investments • Maintain/expand core public services 	<ul style="list-style-type: none"> • Multifunctional platforms introduced in Mali and Niger • Access to drinking water was enhanced in all CCAF countries • Access to butane gas for cooking was increased in Sudan
 <p>Redistribution</p>	<ul style="list-style-type: none"> • Encourage the adoption of policy measures and programme interventions that enable women and men to more effectively balance family and work responsibilities (flexible working arrangements, parental leave, affordable child and elder care ...) • Expand access to health-care services • Engage with men to enable them to participate more fully in family burden sharing and challenge the gender stereotypes that prevent men from contributing to unpaid care work 	<ul style="list-style-type: none"> • Isolated examples of redistribution of household chores was seen in Cambodia and Niger (but no concerted effort to achieve this under the CCAF projects)

Box 11: Turning gender stereotypes around: CARE International's experience of working with men in Niger GO BACK TO PAGE 127

Gender norms and assumptions about women's and men's roles can efficiently produce and reproduce stereotypes and prejudice.

In Niger, a married woman who is not 'effectively contributing to household income' by earning money gets called a 'mange-mil' ('millet-eater') by her mother-in-law.



A man is also expected to take a second wife the moment his economic situation enables him.

Bringing food to one's wife as she works in the field – something all women do for their husbands – is next to unthinkable for a man, as that would make him look like a 'mijhajia', a submissive man.

Men in the targeted communities have come a long way and now find that helping their wives with daily chores is not necessarily demeaning for them.



CARE International worked on what is termed 'positive masculinity' with men in positions of authority at the community level, in order to pave the way for change in gender relations. The idea is to turn around gender stereotypes and dominant norms of masculinity to start creating positive male role models. The strategy is well developed, and requires a lot of effort through regular meetings with men and serious engagement on critical gender issues. After two years, the project coordinator says that she is seeing results. Men in the targeted communities have come a long way and now find that helping their wives with daily chores is not necessarily demeaning for them. They realize that when their wives are less exhausted, the quality of their relationship improves. They also appreciate the fact that their wives are now finding time 'to take care of themselves'. One of the most significant changes reported by men is that their sexual life has improved.

It is clear that reducing unpaid care work has a direct impact on women's empowerment. This is seen through the following benefits:

- Increases women's earning capacity and financial autonomy;
- Leads to reduced domestic violence;
- Enables more self-care activities and increases self-esteem;
- Frees considerable amounts of women's time and energy, enabling them to contribute to social and human capital, develop new skills, and invest in their children's education and well-being; and
- Creates conditions for women to get more involved in the public sphere and increase their civic participation (i.e. more time to attend meetings, take part in local committees, develop leadership skills).

All of these elements of empowerment contribute to enhancing the adaptive capacities not only of women, but also of the broader community. This is because women's engagement and leadership in adaptation is beneficial for everyone, given that they are largely responsible for sustaining livelihoods, maintaining resources, and imparting knowledge and skills to future generations.



TIME POVERTY AND UNPAID CARE WORK: LESSONS LEARNED



To consider and address barriers to adaptation related to time poverty, there are several **enabling factors** for reducing domestic workload in adaptation initiatives. These include:

- Making use of bottom-up, gender-sensitive participatory approaches to explore unequal gender patterns of care provisioning, and their implications on women's time, health, earning capacity and ability to engage in the public sphere;
- Applying methodologies, like Rapid Care Analysis, to collect baseline data on how much time women, men, girls and boys spend on household chores. They can also be used to identify the 'most problematic activities'. This is an effective way to start exploring options for reducing women's workloads, redistributing household chores, and subsequently allocating a budget for the provision of services or infrastructure that play a role in creating free time for women and girls (e.g. water access, time-saving technologies, clean energy); and
- Encouraging continuous debating and questioning of gender rules and norms that adversely affect women's and girls' time and opportunities. This includes openly discussing options for strengthening gender equity with community members (including both men and women) and project staff.



TIME POVERTY AND UNPAID CARE WORK: ESTABLISHING AN ENABLING ENVIRONMENT





CONTROL OVER PRODUCTIVE RESOURCES, NATURAL RESOURCES AND INCOMES

This section explores challenges of access and control over resources within the CCAF projects. It provides insights on the following questions:



Have mechanisms been developed for **women to secure control**, individually or collectively, of resources such as land, irrigation, improved seeds, livestock or credit?



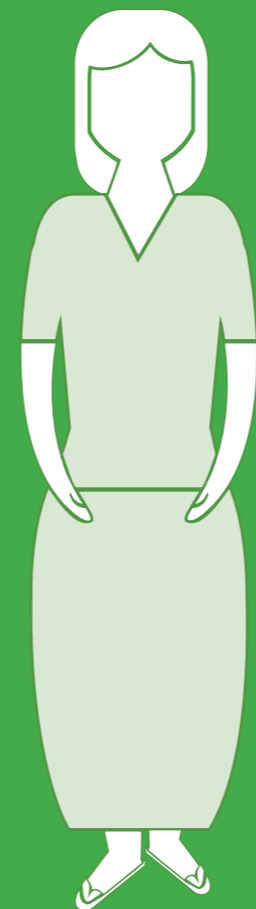
Have women's knowledge, skills and priorities in the area of **natural resource management** been adequately factored in?



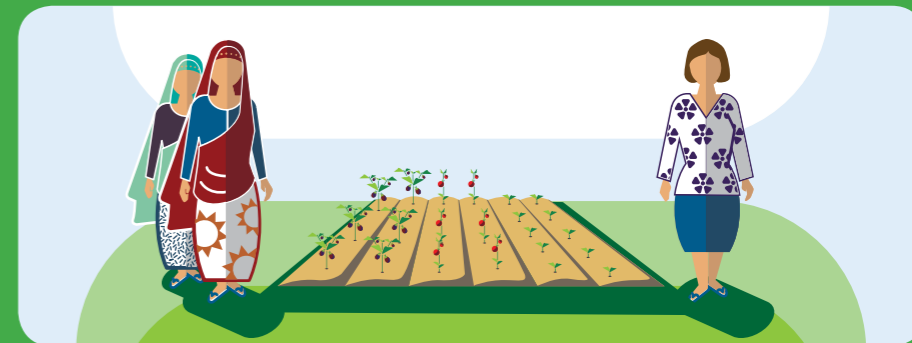
Have measures been designed to ensure that **women control revenues generated** through project activities (e.g. home gardens, livestock-rearing, other income-generating activities)?

Mali; Photo: Imen Meliane

These questions will be addressed by looking at three components



Options for securing women's control over land and livestock



Gender-responsive management of natural resources



Women's control over incomes and budgets



Effective control over productive resources and incomes is a precondition for women to build their adaptive capacity in dynamic ways, without depending on resources owned and controlled by their fathers, husbands or sons. This is particularly necessary in countries where women-headed households are increasingly common, like Cabo Verde, Haiti and Sudan. In these countries, it is essential that women heads of households have the opportunity to drive adaptation to climate change and sustainable management of natural resources.

See table 5 for a comparison of two options CCAF projects used to enhance land access for women



Gedarif State, Sudan; Photo: Jennifer Baumwoll

4.1 Options for securing women's control over land and livestock

The CCAF projects have taken several different approaches to addressing the challenge of women's access to resources. In the context of adaptation for food security, several projects focused on access to agricultural land for production.



In Mali and Niger, building on positive global experience, the projects focused on collective access to land for women. This circumvents the constraints individual women face in securing access to productive land (i.e. inheritance laws, customary practices, insufficient financial resources to buy land and other barriers). In fact, in countries where women's associations and groups don't exist or have not been sufficiently supported, as in Cabo Verde, the adaptation outcomes seem to be less gender responsive. Following a different route, the Cambodia project invested in the development of home gardens, which are traditionally under women's domains.

These approaches have produced different results, and they both have strengths and weaknesses that are worth exploring from a gender perspective (Table 5).

Collective access to land for women circumvents the constraints individual women face in securing access to productive land.

See insert 1 for information on vegetable production in Niger

Table 5. Comparative assessment of two options implemented under CCAF to enhance access to land for women for food production

Objective	Strengths	Drawbacks/challenges
 <p>Collectively managed vegetable plots (Niger, Mali)</p>	<ul style="list-style-type: none"> Land tenure is secured through a 10-year lease from private landowners, with facilitation by local authorities Each member of the women's collective group has her own individual area to tend, but decisions about inputs and management practices (e.g. water, fencing) are made collectively Social innovations are pursued within groups based on the strengths and skills of different members (e.g. in some groups, women who have experience in markets specialize in selling produce for the entire group) Revenues from vegetable production sites are entirely controlled by women 	<ul style="list-style-type: none"> Land is leased, not owned, by the group, which discourages long-term investments (such as underground water networks to ease the work of watering) Plots are only leased during the dry season and returned to owners in the rainy season for millet cultivation, limiting the scope for growing crops year-round
 <p>Individual home gardens (Cambodia)</p>	<ul style="list-style-type: none"> Secured access to land around homesteads and to water through water tanks Easy and socially accepted access for women to home gardens Landless households, mostly women-headed, have scope to grow crops for self-consumption Year-round vegetable gardening provides food and income on a 12-month basis Scope for poultry- or pig-raising in the home garden Revenues from home gardens controlled by women 	<ul style="list-style-type: none"> Area under cultivation is quite limited and there is little scope to increase productive area over time As home gardens are managed individually, there is less sharing of skills at the community level, and less scope for collective innovations (in marketing for instance)

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[GO BACK TO PAGE 134](#)

An interesting finding from the CCAF projects is that community authorities play an important role in securing access to land for women. In Sudan, Niger and Mali, we see Village Heads making special efforts to secure land for groups of women in their community. In some cases, the land where women grow crops was loaned by the Village Head himself. Negotiating with local authorities to create enabling conditions for women to gain access to land appears to be a critical element of the CCAF project approach.

In most CCAF countries, the projects facilitate women's access to farm tools and equipment, as well as technical knowledge for cultivation under evolving agro-climatic conditions. In Mali, for instance, women's associations received ploughs and donkey carts (for transportation of goods), dramatically increasing their ability to produce and sell crops. The sale of these crops has provided significant monetary returns and led to better nutritional security for their households.



Niger; Photo: UNDP Niger

Control over livestock presents a mixed picture. On the one hand, virtually all CCAF projects have created conditions for women to be able to raise small animals (poultry, goats, pigs, sheep) and this has had positive impacts on household food security and women's control over cash flows. On the other hand, however, opportunities for women to buy large animals, which are traditionally managed and controlled by men, have remained limited. In Niger, there is evidence that a few women managed to buy a couple of bulls; yet, bulls remain "the dream of women" as a Niger sociologist puts it, because of their prohibitive cost.

For rural women targeted by the project, gaining access to land means that they can produce and earn, thus increasing their capacity to cope with climate change and to overcome food insecurity. Additionally, evidence suggests that by gaining access to productive resources, women earn respect. In Niger, a group of women from Niamey I, a rural community located on the outskirts of the capital, stated: "Now that we produce and sell vegetables, our husbands consult us before making decisions, and even the Village Head comes to take our opinion. Earlier, we were just here, full of dust, but now, we count." Sudanese women from North Kordofan and Cambodian women from Kratie Province report similar experiences.

For rural women targeted by the project, gaining access to land means that they can produce and earn, thus increasing their capacity to cope with climate change and to overcome food insecurity.



Direct access to productive resources for women that are not mediated through a husband or son translates into increased participation in decision-making at household and community levels. As feminist economists have shown (Agarwal 1997), more control over resources for women increases their 'fallback options'. This not only translates into more bargaining power at the household level but is also critical from an adaptation perspective.



Photo: UNDP Niger

4.2 Gender-responsive management of natural resources

Preserving and developing natural resources is essential to building the adaptive capacity of rural communities. Cultivated land, forests, mangroves, wetlands and coastal zones, for example, are all critical sources of livelihood for rural and coastal areas. Women's and men's differing knowledge systems, needs and priorities are reflected in their approaches to managing natural resources.

Taking these differences into account can make adaptation interventions more sustainable and cost-effective. When both women and men are consulted in the process of establishing rules for managing or preserving natural resources, they are more likely to abide by them. As a result, less energy and resources need to be spent on rule enforcement, e.g. prohibition to cut wood in a forest, or to fish during reproduction periods. The CCAF project in Haiti provides insights on the scope for incorporating gender concerns into watershed management and reforestation efforts (Box 12).

Findings from Haiti show that determining gender-differentiated preferences for tree species, and designing the reforestation and tree nursery programmes around them, have enhanced the long-term sustainability of the

Finding ways to strengthen women's voices in community-level environmental management is essential from an adaptation perspective.

project activities. Finding ways to strengthen women's voices in community-level environmental management is essential from an adaptation perspective, as women and men have complementary interests and knowledge systems around natural resource management. The long-term adaptive capacities of communities hinge on sustainable management of natural resources (i.e. water, forests, biodiversity, wetlands) which requires the participation of all stakeholders, both women and men.

See box 12 for experiences on gender-responsive reforestation efforts in Haiti



Beneficiaries of the reforestation project in Haiti; Photo: UNDP Haiti

Box 12: Gender-responsive reforestation efforts in Haiti: tree nurseries mirroring gender differences

Reforestation and watershed management in coastal areas is one of the main activities of the CCAF project in Haiti. The project activities were initiated through focus-group discussions held at the local level, to identify which trees to reforest and where. Men proposed reforesting with tree species that can be used to produce charcoal and wood for construction.

“That’s when we realized that women were not pleased with this selection,” says Ked Neptune, the regional project coordinator from the Ministry of Environment’s local department in the Southern Region. “So we held separate focus-group discussions with women, and they expressed that they were keen to grow seedlings for vegetable crops to plant in their home gardens. Unfortunately, this was not planned under the project, so we found a compromise: the women would produce saplings of fruit trees whose produce has a good commercial value and can be consumed at home.”



Alongside the saplings of forest trees that produce charcoal and wood, four main types of fruit tree saplings are now produced in the nurseries: citrus fruit, including oranges and lemons (widely consumed and good for processing and storage), mangoes (which have high commercial value), avocados and cashew nuts. These tree nurseries are co-managed by men and women. The saplings are then distributed to beneficiaries who plant them on their small landholdings to help with reforestation and watershed management. Revenue from the sale of fruit is especially important to women and women-headed households, which account for 40 percent of all households in Haiti.

Haiti faces a situation of extreme deforestation, and it is vital that both women and men adhere to the reforestation initiative.

The involvement of women in reforestation and mangrove regeneration is also critical to successful adaptation for another reason. According to the national coordinator, Dorine Jean-Paul:

“Women are more committed. Their level of commitment and capacity to manage groups is higher than those of men. And you can see it in the groups. Women are more reliable, and when you are a group leader, that counts a lot.”

Source: Interview with Ked Neptune, Regional Project Coordinator (South Department), CCAF Project, Haiti (Mar. 2016).

4.3 Multiple rationales for promoting women’s control over incomes and budgets

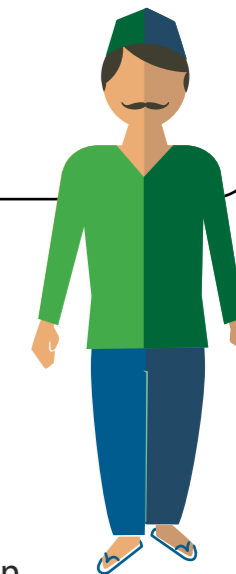
In adaptation projects, it is important to create conditions for women’s groups to have control over the resources they generate through collective action. This could include revenues from processing units, user fees for water access, or rent for lending out equipment.

A gender specialist from Cabo Verde suggests that women invest more in family nutrition than men do, a point strongly supported by academic literature on women’s incomes and household food security. When they control money, women can make independent decisions about what to buy without necessarily consulting their husband.

“When women don’t control money earned from agriculture, no one buys fish for the family,” asserts a gender specialist from Cabo Verde.



“When a woman earns, that money goes to support family well-being, but when a man earns money, he brings in a second wife.”



This common saying from Niger indicates that men and women often have competing priorities for spending money (World Bank 2011).

The lower literacy rate of women compared to men can be an obstacle, and CCAF projects in Niger and Mali have attempted to address this by initiating adult literacy classes. Investing in women's literacy and girls' education increases opportunities for women to exert control over household finances, as well as budgets of local associations or groups (Forsythe et al. 2015). The propensity of some men to take advantage of women's illiteracy, sidelining them from profitable activities, should not be underestimated. It is essential to implement specific measures to promote women's financial management skills and gender-responsive budgeting at all levels.

Ensuring that women control resources, capital, incomes and budgets is a central tenet of gender-responsive adaptation. As women take on new responsibilities, they need to manage the resources they produce, and develop the skills that will enable them to sustain their families' livelihoods in harsh environments. Given their role in society and their areas of expertise, women have the capacity to restore degraded ecosystems and rebuild the local economy; yet that can only happen if they have control over these resources. Across the six countries, the CCAF projects demonstrate that it is possible to secure access to productive resources for women, to develop gender-responsive management of water and forest resources, and to design measures promoting women's control over incomes.

Given their role in society and their areas of expertise, women have the capacity to restore degraded ecosystems and rebuild the local economy; yet that can only happen if they have control over these resources.

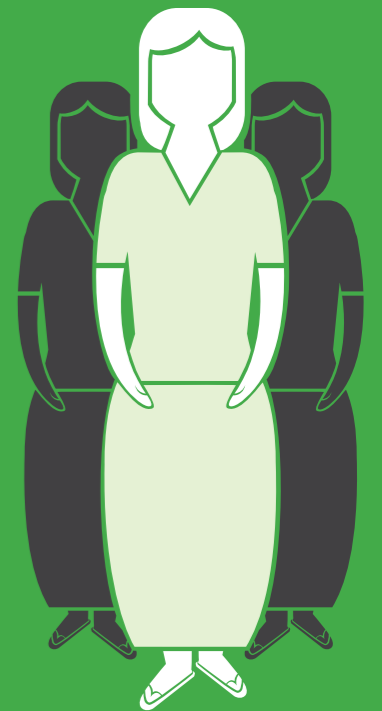
See table 3
for gender
significance of
women's control
on livelihood
and food
security

Enabling conditions for achieving more gender equity in control over resources include:

- Understanding and recognizing how existing gender relations reproduce gender inequalities and keep women from controlling resources that are essential for their family's survival, and identifying ways of addressing these. This could include examining mechanisms, social norms and institutional arrangements that affect gender biases;
- Getting endorsement from local authorities and working with them to find solutions, especially for women's access to land;
- Being creative about arrangements for women's land ownership. This is especially critical when traditional arrangements are fraught with gender inequity. It could include supporting women's collectives or associations, as these appear to be very effective at overcoming barriers faced by women individually;
- Investing in women's literacy and girls' education, as a precondition for increasing women's control over household finances, as well as project or community budgets.



CONTROL
OVER PRODUCTIVE
RESOURCES, NATURAL
RESOURCES AND
INCOMES:
ESTABLISHING
AN ENABLING
ENVIRONMENT





PARTICIPATION, DECISION-MAKING AND LEADERSHIP

Growing evidence worldwide shows that women's participation in development and adaptation projects matters and affects project impacts. A study of community water and sanitation projects in 88 communities across 15 countries finds strong evidence that projects designed and implemented with the full participation of women are more sustainable and effective than those that are not (Gross, van Wijk and Mukherjee 2001). Through examples from the CCAF projects, this section explores the following questions:



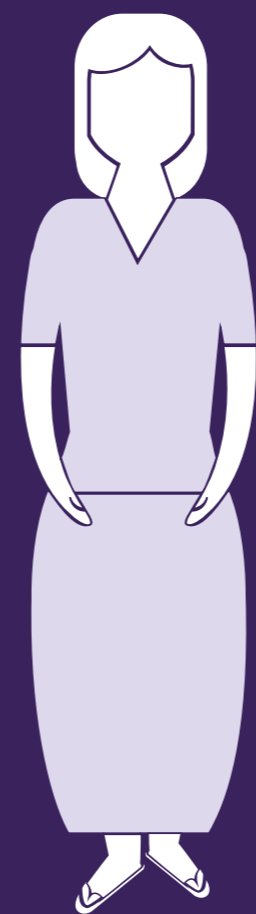
Have interventions sought to improve the **gender balance in participation and leadership**? Does gender balance in decision-making and leadership contribute to better adaptation outcomes and more efficient use of resources?



Are **women's collective action groups** useful in strengthening women's decision-making power at household, community and institutional levels?

Photo: UNDP Cambodia

These questions will be explored by examining two important components



Measures for promoting women's participation and leadership in mixed groups



Women's empowerment through participation in collective action groups



5.1 Promoting women's participation and leadership in mixed groups

“We do need to have more women acting as leaders. In Banan District of Battambang Province, we have a Deputy Governor who is a woman. She has concrete ideas about how to promote gender equality. For instance, she selected a few families to act as role models, families that send their children to school and in which there is no issue of domestic violence. She made a concrete suggestion for allocating a commune-level social equity budget: she said it could help pregnant women pay for transport to visit the Health Centre. She makes gender an everyday issue. Men in leadership positions can also deal with gender equity. It's heart and mind, you just need to think of social equity.”

Chinneth Cheng, Ministry of Women's Affairs, Cambodia.

In the context of adaptation, the CCAF projects show that it is possible to remove barriers to women's participation and leadership. The Cambodia (Box 13) and Niger projects have succeeded through a series of proactive strategies.

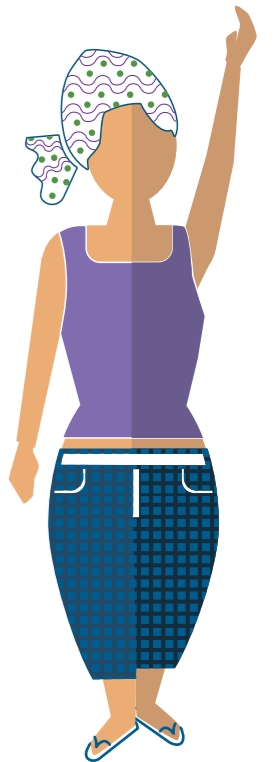
In Niger, the low level of female literacy (11 percent) was identified as a key factor hindering women's participation and leadership in mixed groups. As a response, literacy classes, including financial literacy, for adult women were started under the CCAF project. According to the finance

See box 13 on removing barriers to women's participation and leadership in Cambodia

manager of the CCAF project at CNEDD in Niger, “Knowing how to do basic bookkeeping and record earnings and expenditures is very important for women in the project.” In 2015, one third of the members in local management committees (e.g. committees managing agricultural input banks at commune levels) were women.

The only way for women to exert influence over decision-making and to contribute substantially to adaptation action is through participating actively in the groups formed at local or regional levels. Supporting women's participation in groups is a long-term investment. Over the years, as women learn to play an active role in village committees or WUGs, they are more likely to take up new roles in the political arena. There are examples of women, after participating actively in adaptation activities and acquiring self-confidence and leadership skills over time, getting elected in the Commune Councils in Niger and Mali.

Supporting women's participation in groups is a long-term investment. Over the years, as women learn to play an active role in village committees or WUGs, they are more likely to take up new roles in the political arena.



Box 13: Increasing women's participation and leadership in WUGs in Cambodia

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Women's participation in local water management committees was found to be lacking in the first phase of the CCAF project. Hence, during the second phase (2013-2015), the Ministry of Women's Affairs (MOWA) provided support to improve gender-sensitive targeting for project activities, and to increase women's participation and leadership in WUGs. Steps were taken to:

- Increase women's membership in FWUCs and WUGs: the target of 40 percent women membership was met in the 2015 FWUC election;
- Support the election of women to formal positions in these groups (including group leaders): in 2014, 55 percent of villages had at least two (sometimes three) out of three group leaders who were women;
- Encourage the active participation of women in trainings, farmer exchange visits and technical support on agriculture; and
- Develop livelihood activities (e.g. animal-rearing) to meet the needs of vulnerable households (mostly women-headed).



Ms. Net Soksan (middle), a member of Vattanak Commune Council, and villagers discuss farming activities now expanded with the new irrigation; Photo: UNDP Cambodia

5.2 Women's participation in collective action groups leads to empowerment

Evidence from all the CCAF projects suggests that by playing an active role in WUGs, watershed development committees or revolving fund groups, women of all ages and backgrounds benefit in many ways.

- Learning new skills, expanding their knowledge, trying new things, and ultimately, gaining confidence to develop new sources of livelihood;
- Acquiring the capacity to act on their own, developing agency and having more say in decision-making. Influencing the group by sharing their own experience, concerns and priorities;
- Progressively moving out of the domestic sphere into the public sphere; and
- Joining a collective effort to improve local living conditions. In Sudan, women say, "As we work together, we realize that we can change things, we are no longer alone facing difficulties individually."

And in some cases the impacts go even further. There are instances of groups of women, supported by the CCAF projects, challenging unjust procedures, questioning wrongdoings of the local elite, and even approaching a higher authority to solve a problem or claim their rights (Box 14).

See box 14, women empowered by the project, fight for their right to land in Niger

In virtually all countries, people involved in CCAF projects through technical committees or local governments report that when women are more active in groups, or when they act as group leaders, there is a stronger sense of commitment, less corruption and more transparent decision-making.

However, the example given here is an uncommon one. For most women, this is not the case. In many instances, women have been to local officials countless times to get their local water reservoir fixed with no success. Nonetheless, having the ability to get local authorities to take responsibility can be viewed as a central element of adaptation and should be invested in further through access to information, legal advice, knowledge about human rights, negotiation skills and other means.

Box 14: Village women fighting for their right to land in Niger

In Tillabéry region, a group of women collectively cultivating a 2-ha vegetable plot had to stand up to the landowner who wanted to take his land back. They went to see a district official who listened to their story and advised them to go to the Préfet (a higher authority). They did. They told the whole story, and said that if they had to return the land to the owner he would have to pay back all the investments they had made. Faced by such a determined group of women, the landowner backed down on his demand and allowed the women to keep the land.



Source: Interview with Ai Boubé and Douma Soumana, CNEDD, Niamey, Niger, Feb. 2016.



Gedarif State, Sudan; Photo: Jennifer Baumwoll

Having the ability to get local authorities to take responsibility can be viewed as a central element of adaptation and should be invested in further through access to information, legal advice, knowledge about human rights, negotiation skills and other means.

For adaptation to be gender responsive, and for projects to benefit from increased participation and leadership of women, they need to:

- Recognize the existence of barriers to women's participation and leadership;
- Understand and assess the nature of these barriers (e.g. time poverty, illiteracy, restrictions on mobility, social norms against women taking up responsibility in the public sphere);
- Work with gender specialists and sociologists to identify the barriers preventing participation across different categories of women (e.g. women in male-headed households, women in female-headed households, women of different age groups); and
- Take these identified barriers into consideration when designing projects and think creatively about options to overcome obstacles to women's participation and leadership.



PARTICIPATION, DECISION-MAKING AND LEADERSHIP: ESTABLISHING AN ENABLING ENVIRONMENT



A women's group meeting in Sudan; Photo: UNDP Sudan



TARGETING OF GENDER GROUPS MOST AT RISK

Effective targeting is critical to development in general, and to climate change adaptation in particular. Examples of effective targeting for gender-responsive adaptation are few and far between, and this is an area that deserves more attention. Likewise, while many studies look at poverty and/or gender to some extent, further analysis of exclusions resulting from age, migration, health and ability is needed to derive lessons for effective targeting (Combaz 2013). This section explores findings on targeting from the CCAF projects to address the following questions:



Have women benefited from cash-earning opportunities generated through the project? Has the project adequately taken into consideration the constraints faced by **women-headed households** and their unique opportunities?



Have **most vulnerable categories of women** including single mothers, adolescent girls and widows, been identified and their exposure to risks reduced through specific measures?

Photo: UNDP Haiti

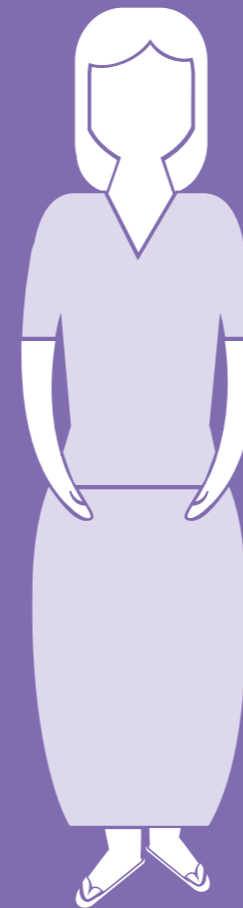


Targeting women-headed households



This will be addressed by exploring two components

Addressing the risk of sexual harassment for girls and young women



6.1 Targeting women-headed households

The focus on women-headed households across countries can be an important element of gender targeting.

Women-headed households may consist of households where the female head is divorced, separated or widowed. It could also include households in which the man is largely absent due to temporary or permanent migration for economic reasons, and a woman has become the *de facto* head.

Some women-headed households may be better off than others, depending on the number of dependants, age of children, and whether or not the household receives financial support from the husband or other relatives. However, commonly, these households are particularly exposed to economic hardships and they are severely affected by impacts of climate change.

At the same time, women in women-headed households may find it easier to take part in meetings or join organizations and committees than women in male-headed households, who may be discouraged by their husbands. There are examples from various projects; nonetheless, in all six CCAF

Box 15: Targeting women for labour-demanding activities

Across all projects, labour-demanding activities have been initiated to increase community resilience. These activities include development of small-scale infrastructure, such as the construction of check dams, terraces, bunds for soil and water conservation; the rehabilitation of water channels and reservoirs; and the construction of buildings as training centres, mills or fish processing units. These are all supported by labour provided by the community and paid for by the project. In several regions of Niger and Mali, women are given priority for these labour-intensive tasks, as a means of increasing their earning opportunities.

These initiatives may bring in useful cash for women in the short run; however, they do not build an understanding of the local gender power relations, nor do they aim to bring transformational change. Yet project staff often view the targeting of women as primary beneficiaries for labour-intensive work as evidence that the project 'builds on gender equality', overlooking the importance of tackling the root causes of this inequality.

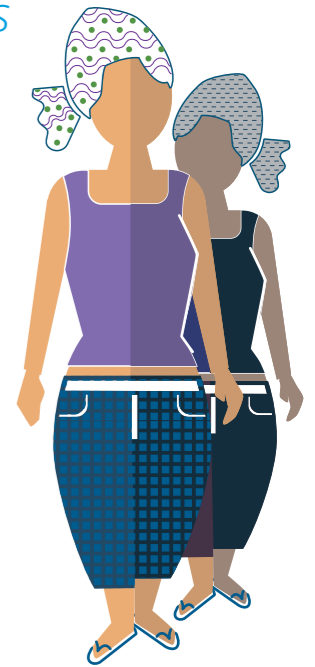
countries, women-headed households' limited access to land and productive resources is often a key barrier to adaptation.

As discussed in the section on participation and leadership, the CCAF project in Cambodia succeeded in targeting vulnerable households, 60 percent of which are women-headed, through a partnership with MOWA. The approach combined social mobilization, a good understanding of migration patterns and how they affect women, and analysis of single mothers' time poverty and limited mobility. It also addressed factors affecting access to land, financial resources and technical skills.

In addition, specific efforts were made during the beneficiary selection process in Cambodia to ensure effective targeting. These include:

- Setting a higher goal percentage for targeting women-headed households;
- Sensitizing national and local governments and authorities so that they can endorse effective gender targeting; and
- Conducting robust and intensive selection processes, including home visits to validate the selected households' situations and realities.

The project in Cabo Verde experienced that women household heads had more say in community decision-making around the use of water for drip-irrigation because they are recognized as 'farmers in their own right'.



In Sudan, a similar focus was placed on women-headed households, which constitute up to 50 percent of households in some parts of the country. This decision was informed by an analysis of men's migration patterns and seasonal vulnerabilities. In North Kordofan, strong ties with two local women's associations also helped to identify critical dimensions of gender-based vulnerability, and to target women-headed households most in need of support. The strategy for improving these households' economic resilience involved recognizing women's productive and strategic needs, improving their opportunities through training and increasing their access to financial resources.

The approach of targeting women-headed households is a key element of the CCAF projects. This reflects the necessity for adaptation initiatives to take the trend of feminization of poverty into account, which is apparent in all six countries and has structural and socio-economic roots.

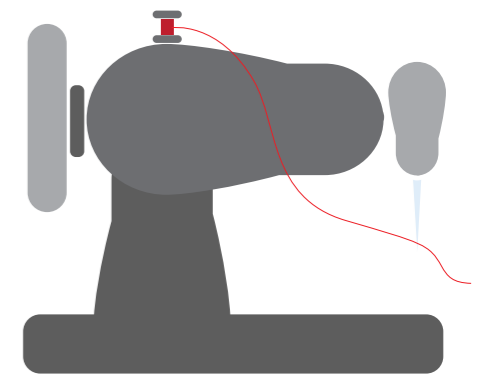


Photo: UNDP Niger

6.2 Addressing the risk of sexual harassment for girls and young women

Perhaps the most eloquent and compelling example of effective targeting across CCAF projects is an initiative to start a sewing workshop for young, unmarried women in Tondikiwindi, Niger. The process of arriving at this intervention is particularly interesting, and illustrates the need for direct engagement with groups at risk at all stages of a project cycle.

As an outcome of discussions with young village girls and women, the project coordinator learned that a number of them were giving sexual favours to men on a regular basis in return for small amounts of cash in times of need. Some had become pregnant, and had little prospect of earning a livelihood or entering into a viable arrangement with the father of their child. This confirms evidence from the literature on climate change that girls and women from resource-poor families lack fallback options during times of stress; thus, as climate change impacts further limit their options and earning opportunities, they face a higher risk of sexual harassment than other groups.



The idea of a sewing workshop emerged from the discussions. A number of sewing machines were brought in by the project, a workshop was constructed, and training provided to young women from nearby villages. A growing number of young women are joining these groups, and some have started their own small businesses, in several cases with the help of a brother or an uncle who provided seed money to buy a sewing machine. Young women involved in this activity have started earning, regaining dignity and self-esteem, and gaining financial independence. Targeting women and girls who were vulnerable to sexual harassment due to climate change led to this group becoming empowered and resilient.



Photo: UNDP Niger

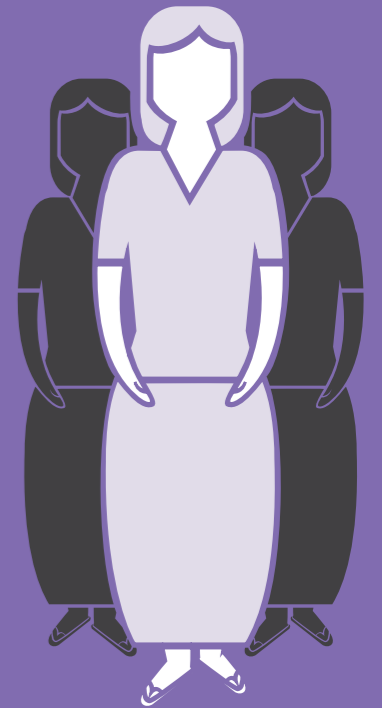
Lessons from the CCAF projects and from the wider literature suggest the following conditions for effective targeting:

- Sound knowledge of the local situation, which includes: forces at play, people at risk, factors that make particular groups vulnerable to particular risks;
- Bottom-up approaches, participatory methodologies and creative thinking;
- Sound analysis of community dynamics;
- Involvement of multidisciplinary teams who can explore various dimensions of women's lives, including sexual practices in the context of poverty and seasonal vulnerabilities; and
- A concerted attempt to invest in non-traditional roles for women and to look beyond material needs or a strict sectoral focus (e.g. agriculture or water) in order to strengthen women's self-esteem and dignity.

A precondition for well-designed gender-responsive targeting is rigorous gender analysis conducted by gender specialists in the targeted regions and localities. It is best to undertake gender analysis from the onset, but it is also possible to start the process at a later point and use findings to redesign activities. The CCAF project in Haiti started with little expertise on gender, and progressively built up knowledge and capacity. The process of conducting gender analysis led to valuable findings that strengthened gender dimensions in the adaptation activities (Box 16).



TARGETING OF GENDER GROUPS MOST AT RISK : ESTABLISHING AN ENABLING ENVIRONMENT



Box 16: Gender analysis influencing adaptation activities: the example of Haiti

- The legal policy framework on gender and climate change at the national, subnational and municipal levels in the two regions targeted by the CCAF project (South and South-East Departments);
- The socio-economic context, including the main sources of livelihood (analysed by gender); gender differences in access to land and productive resources; specific gender concerns around water, energy and forests; and the prevailing gender dynamics in community-based organizations (CBOs) and market institutions (e.g. constraints faced by women in participating in CBOs or in entering high-value segments in fruit or fish value chains);
- The specific situation of women-headed households, which constitute over 50 percent of households in the country (e.g. constraints related to illiteracy, housing concerns, concentration of women heads of households in the informal employment sector); and
- The specific constraints faced by women – especially poor women – in accessing information about climate change, participating in meetings, and influencing decision-making about adaptation in local committees.

In 2015, the CCAF Haiti project hired a gender consultant to develop a gender strategy for the project and increase the gender-responsiveness of adaptation actions. Gender-based research conducted over a three-month period generated valuable information.



This gender analysis formed the basis for developing a gender strategy for the project which included targeted activities, gender-based indicators and adequate budget allocations, with a focus on:

- Increasing women's engagement in watershed management and drinking water committees beyond the 30-percent target and improving the quality of their participation (through capacity-building and training on leadership);
- Building the capacity of local partners and authorities on gender issues in adaptation; and
- Supporting women heads of households with innovative farming techniques on their farms.

Source: Interviews with project team members and gender consultant, Haiti, Mar. 2016.



Photo: UNDP Cambodia



PART III INSTITUTIONAL PARTNERSHIPS FOR PROMOTING GENDER RESPONSIVE ADAPTATION

The types of institutional partnerships, formal and informal collaborations, and learning opportunities developed during the lifetime of the CCAF projects provide valuable insights into the creation of an enabling environment for gender-sensitive adaptation. This section takes a close look at both achievements and challenges. It analyses factors that promote or, on the contrary, discourage or limit a gendered approach in adaptation initiatives. It also highlights enabling factors for establishing partnerships that effectively promote gender equity in adaptation.



Bringing gender to the centre in climate change adaptation projects requires multiple levels of engagement, commitment, knowledge, competencies and skills. It also requires that concerned stakeholders at all levels are willing to engage in new forms of learning, take on additional agendas and explore new pathways for adaptation. A capacity to see adaptation as a process of change in which empowerment plays an important role is also critical.



Sharing experiences between Sudan and Niger; Photo: Jennifer Baumwoll

1 Opportunities and limitations of institutional partnerships

One successful mechanism for integrating gender into CCAF projects has been formal institutional partnerships.

This is illustrated in both Cambodia and Cabo Verde, where gender institutions at the national level have become full-fledged partners in the project and are working hand in hand with other implementing partners. The project in Cambodia offers a good example of tripartite involvement with three ministries as implementing partners: the Ministry of Agriculture, Forests and Fisheries (MAFF), the Ministry of Water Resources and Meteorology (MoWRM) and the Ministry of Women's Affairs (MOWA).

Nonetheless, mechanisms for addressing gender in the context of adaptation in many of the CCAF projects have often been *ad hoc*, relying on internal capacity-building, gender-sensitive tools and assessments, and external reviews and advice from the CCAF global platform. Table 6 presents an overview of the different mechanisms developed across countries for incorporating a gender perspective into adaptation projects. It also outlines key strengths and weaknesses of the various approaches, which are further explored in the subsequent sections.





The global component of the CCAF played a significant role in sharing experience and knowledge on how to integrate gender into adaptation processes. Drawing on resources developed by UNDP at the global and regional level, awareness of gender-related approaches and existing guidance and tools was raised, which several countries found beneficial. South-South dialogue between countries on their experiences was also helpful in strengthening the gender-responsive adaptation element of projects and with providing implementation models. The global component supported the development of knowledge and communications products on successful gender-responsive strategies, and also helped advocate for this approach. These efforts contributed to strengthening gendered approaches in several countries.



See Insert 2 for the case study of Cambodia, the only country where the Ministry of Women's Affairs played a direct role in implementing project activities





Sharing experiences in Niger;
Photo: Jennifer Baumwoll

Table 6. Overview of mechanisms for integrating gender into CCAF projects GO BACK TO PAGE 23

Country	Mechanism(s) for integrating gender into CCAF project	Analysis of strengths and weaknesses
 <p>Cabo Verde</p>	<ul style="list-style-type: none"> Involvement of the National Institute for Equality and Gender Equity (ICIEG) Gender specialist at the National Agency for Water and Sanitation (ANAS) 	<p>Strengths:</p> <ul style="list-style-type: none"> ICIEG is involved in gender mainstreaming in several key ministries Robust experience in applying gender-sensitive tools and methodologies at ICIEG, but limited expertise on gender, agriculture, water and climate change The UNDP Oversight Team had technical capacity on gender <p>Weaknesses:</p> <ul style="list-style-type: none"> Limited financial and human resources: ICIEG received US\$7000 yearly from the Ministry of Rural Development to work on the CCAF project, and only one person working (part-time) on the 17 CCAF project sites High turnover of project coordinators leading to inconsistent commitment to gender through the years (adversely affecting impact) Limited involvement of the ANAS gender specialist in the project
 <p>Cambodia</p>	<ul style="list-style-type: none"> Strong involvement of MOWA Strong commitment to gender equality within the project coordinating unit <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>See Insert 2 for the case study of Cambodia, the only country where the Ministry of Women's Affairs played a direct role in implementing project activities</p> </div>	<p>Strengths:</p> <ul style="list-style-type: none"> Important steering role played by the project coordinating unit on gender Ministry of Women's Affairs played a direct role in implementation, including undertaking Rapid Gender Assessments (RGA) (as part of Vulnerability Risk Assessments [VRA]), enhancing targeting of vulnerable, women-headed households, and training of provincial staff on agriculture and water resources in the two target provinces <p>Weaknesses:</p> <ul style="list-style-type: none"> Insufficient human resources at subregional levels (only one gender focal point per district) Limited financial resources: MOWA was only allocated US\$5000 per year to influence project outcomes on gender

Country	Mechanism(s) for integrating gender into CCAF project	Analysis of strengths and weaknesses
 <p>Haiti</p>	<ul style="list-style-type: none"> Gender specialist hired (in year 3) to develop a gender strategy for the project 	<p>Strengths:</p> <ul style="list-style-type: none"> Reasonable levels of female participation achieved in local committees (despite the lack of a proper gender strategy in the beginning) Successfully completed a detailed gender analysis, developed a strategy, and conducted gender trainings with key stakeholders at local and regional levels. Gender-focused activities are under development <p>Weaknesses:</p> <ul style="list-style-type: none"> The integration of gender into adaptation activities was a late addition to the project (due to lack of clear guidance in project document) but will still be important for the project and provide a model for future adaptation policies and initiatives
 <p>Mali</p>	<ul style="list-style-type: none"> Strong commitment to gender within the project coordinating unit 	<p>Strengths:</p> <ul style="list-style-type: none"> Robust experience within the project team with regard to the implementation of gender-responsive adaptation Strong legacy from previous projects managed by UNDP (e.g. multifunctional platforms and gender-responsive access to energy services) <p>Weaknesses:</p> <ul style="list-style-type: none"> No institutional partnership with specialized gender agencies at the national level

Country	Mechanism(s) for integrating gender into CCAF project	Analysis of strengths and weaknesses
 <p data-bbox="183 533 259 564">Niger</p>	<ul data-bbox="367 236 639 501" style="list-style-type: none"> The CCAF project has an in-house gender specialist Legacy of gender-responsive action with CNEDD (implementing partner) 	<p data-bbox="721 236 841 268">Strengths:</p> <ul data-bbox="721 284 1458 533" style="list-style-type: none"> The eight UN Volunteers (acting as regional coordinators) received gender training and supported the design of bottom-up gendered strategies Gender is integrated in most national policies on environment, energy and climate change, creating a favourable environment for work on gender <p data-bbox="721 549 866 580">Weaknesses:</p> <ul data-bbox="721 596 1458 804" style="list-style-type: none"> Gender equality is a strong principle in programme design (at CNEDD level) but capacity for doing gender analysis among programme teams is inconsistent No institutional partnership with specialized gender agencies at the national level
 <p data-bbox="183 1161 259 1193">Sudan</p>	<ul data-bbox="367 858 639 986" style="list-style-type: none"> High commitment to gender issues on the part of state-level technical committees 	<p data-bbox="721 858 841 890">Strengths:</p> <ul data-bbox="721 906 1458 1107" style="list-style-type: none"> Technical committees explored gender dimensions by holding a series of gender discussions at the local level and convening women and gender specialists at meetings Strong mobilization of women-headed households and women's associations/CBOs to engage in adaptation measures <p data-bbox="721 1123 866 1155">Weaknesses:</p> <ul data-bbox="721 1171 1458 1283" style="list-style-type: none"> In some states, prevailing social and cultural gender norms initially created obstacles to women's effective participation in project activities. With time, these were largely overcome

Insert 2: Cross-sector engagement leading to gender-responsive action in Cambodia

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The Cambodian Ministry of Women's Affairs (MOWA) is a fairly large institution composed of 400 staff in total. In 2014, MOWA launched the Neary Rattanak IV, a five-year strategic plan (2014-2018) for Gender Equality and the Empowerment of Women. MOWA also has a small portfolio of projects on climate change.

From 2011 to 2015, MOWA contributed to the CCAF project by:

- **Building the gender capacity of staff** from the Provincial Department of Agriculture (PDA) and the Provincial Department of Water Resources and Meteorology (PDWRM) in the two target provinces;
- **Conducting RGAs in target areas**, which complemented the VRAs and served to inform project activities. During the course of the project, RGA and VRA tools were merged into one assessment methodology. In 2015 the gender-sensitive VRA tool was incorporated in the technical manual for mainstreaming climate change adaptation and disaster risk reduction into subnational planning processes;
- **Supporting improved targeting of vulnerable groups** during the second phase of the project, the majority of which are women-headed households. This resulted in increasing the percentage of targeted vulnerable households from 18 percent in phase 1 to 52 percent in phase 2, a key achievement from a gender equity perspective; and
- **Developing a policy on gender and climate change at the national level** (the Gender and Climate Change Strategic Plan 2013-2022).

According to members of the Project Supporting Unit (PSU) of MAFF and representatives from MOWA,²² the joint involvement of three ministries created an opportunity for staff at the provincial level to work together on the issue of climate change, stimulating learning

across sectors. It also served to establish a common understanding of gender equity concerns at the local level. For instance, during the course of the project, one of the water engineers from the PDWRM in Kratie Province started to recognize the value of delivering water to individual homes (even though this was not part of his core mandate), especially for women.²³ Another interesting element of change is that during implementation, agriculture and water resources management staff had to increase their capacity to work on social mobilization, with the help of provincial coordinators and gender specialists from MOWA. Forming, training and supporting local groups to manage the new water facilities – and ensuring that women played a significant role in these groups – were important areas of engagement for all partners.

In the course of the CCAF project, MOWA developed its internal capacity to work on climate change adaptation and offered dedicated trainings to the entire project team on gender concepts and approaches. This helped to develop knowledge and interest in the



team to pursue a gender equality agenda. Nonetheless, two critical factors limited the full potential of their action:

- **MOWA was only 'invited' to take part in the CCAF project in 2011, one year after the project began.** This limited MOWA's ability to influence project planning and budgets, as well as to implement a more comprehensive gender strategy in the project. For example, they were unable to secure additional resources to hire more gender specialists at the local level, or to promote women's participation in municipal councils;
- **The small amount of financial resources allocated to MOWA (US\$5000 yearly) limited its involvement** in the project to capacity-building of project staff, along with policy and advocacy work on gender and climate change. Additional funds could have been used to implement gender-specific activities (e.g. leadership skills training, financial literacy or business skills development for women).

Overall, MOWA's involvement in the CCAF project has been a critical factor of its success in terms of operationalizing gender equity at different levels and strengthening women's adaptive capacities. It is also important to note that without strong commitment from project staff at all levels, including coordination, these results could not have been achieved. MOWA also played an important leadership role through its participation in the Project Steering Committee.

²² Individual interviews with Dara Rat Moni Ung and Ratana Nong (UNDP), Chinneth Cheng (MOWA) and Mr. Chin Bunrith (Provincial Coordinator), Nov. 2015 and Jan. 2016.

²³ Interview with a senior water engineer from Kratie Province, Cambodia, Nov. 2015.



2 Closing the institutional gaps in gender mainstreaming

Gender mainstreaming²⁴ has become an important objective for state institutions across the globe. According to UNFCCC (2013), gender mainstreaming is a function of political will, organizational culture, accountability and responsibility, technical capacity and adequate resources.

A significant finding from the CCAF countries is that a gap between rhetoric and practice still exists in gender mainstreaming. The levels of commitment to gender at institutional levels vary greatly, and this is subsequently reflected in national-level adaptation projects. Institutions responsible for implementing adaptation plans and projects at the national level may present gender as a strategic priority without necessarily having the political will, internal resources and analytical capacity to implement gender equity in their policies or programmes. The low representation of women, for instance, in executive, high-responsibility, high-paid positions in most sectoral ministries suggests that these institutions have not sufficiently invested in strategic action to redress gender power relations internally.



²⁴ Gender mainstreaming is “the process of assessing the implications for women and men of any planned action, including legislation, policies and programmes, in all areas and at all levels” (UN Economic and Social Council).

Cabo Verde is a positive example as it has a strong National Gender Strategy, supporting gender mainstreaming in all ministries as well as gender audits for some sectors. Gender-responsive budgeting is also under way in some ministries to ensure that fiscal resources are generated and allocated in a way that affects women and men equitably. Gender-responsive budgeting entails identifying and supporting interventions to address gender gaps in sectoral and local government policies, plans and budgets.

In addition, the Parliament of Cabo Verde issued a requirement for all ministries to allocate 1 percent of their annual budget to gender-sensitive actions in 2015. Yet according to a senior gender expert from ICIEG, gender is not integrated systematically in political planning.²⁵ Nonetheless, there are efforts under way to create opportunities for future engagement on gender such as the institutionalization of gender in the water sector (Box 17). There are also good examples at the national level of institutional gender capacity and partnerships with specialized agencies, an important success factor for gender-sensitive adaptation (UNFCCC 2013). For instance, the National Institute of Statistics and UN Women established a partnership to implement a study on gendered time-use surveys (see Box 5).

²⁵ Individual interviews with Mrs. Adelsia Duarte and Mr. Mario Marques, ICIEG, Praia, Cabo Verde, Jan. 2016.

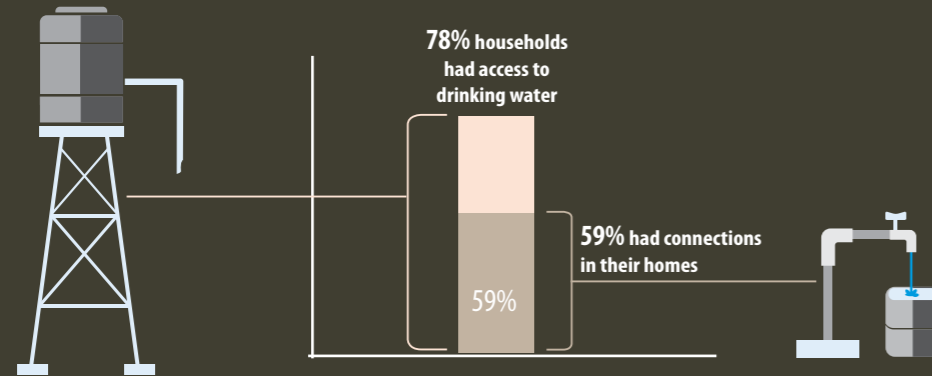
See box 5:
A study on
gendered time-
use surveys in
Cabo Verde

See insert 2 for
the case study of
Cambodia, the only
country where the
Ministry of Women’s
Affairs played a direct
role in implementing
project activities

Box 17: Institutionalizing gender in the water sector in Cabo Verde: an opportunity for the CCAF project

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The Government of Cabo Verde has made access to drinking water a priority.



By 2013, 78 percent of households had access to drinking water, 59 percent of which have home connections to the public network. This represents significant progress in terms of gender equality, considering the impact on women in terms of time, effort and costs of collecting water. Costs are higher when the source of water is not from connections to the public network, particularly affecting poor women and men.

The recently created National Agency for Water and Sanitation has a Social and Gender Unit, mandated to build capacity on gender within the organization. Planning around water and sanitation at the municipal level will now be increasingly informed by social and gender analyses. A grant mechanism is being designed to support improved access to water and sanitation for poor women-headed households. This is an opportunity for the CCAF project to build synergy on gender approaches in the water sector.

Source: Cabo Verde's Report: Beijing + 20. On the Implementation of the Beijing Declaration and Platform for Action, Republic of Cabo Verde and Cape Verdean Institute for Gender Equality and Equity (ICIEG).²⁶

²⁶ Report available at: http://www.uneca.org/sites/default/files/uploaded-documents/Beijing20/NationalReviews/cape_verde_beijing_review_report_english_version.pdf



Photo: UNDP Cabo Verde

In Niger, a model of incorporating 'Gender Cells' in all ministries offers another illustration of gaps between rhetoric and practice in gender mainstreaming. The Gender Cell is responsible for gender mainstreaming within a given ministry. Yet a number of Gender Cells are composed of staff from the ministry with no special expertise on gender. For example, the Gender Cell at the Energy and Petroleum Ministry has no specific resources, time or expertise to develop gender-sensitive energy projects or to generate evidence on the need for gender-sensitive policies.²⁷ In fact, this realization prompted the UNDP gender specialist for Niger to develop a plan for strengthening Gender Cells in key ministries.²⁸

²⁷ Interview with Mrs. Hamidou Kouloukoye, Energy and Petroleum Ministry, Niamey, Niger, Feb. 2016.

²⁸ Interview with Mrs. Alou Fati Sawani, UNDP gender specialist, Niamey, Niger, Feb. 2016. The key identified ministries include: Women and Population, Economy and Finance, Education (continuing education wing), Agriculture, Health, Energy and Petroleum.



Photo: UNDP Niger

3 Creating an enabling environment for gender-responsive adaptation

Institutional partnerships have the potential to create an enabling or a disabling environment for cross-sectoral learning on gender. Based on the analysis of institutional partnerships across CCAF countries, seven enabling factors have been identified for ensuring that institutions promote gender responsiveness in adaptation.

Highly committed individuals can bring gender perspectives into projects and promote gendered practices in institutions.

In most of the six countries, there are examples of regional project coordinators, water engineers and agricultural officers pursuing a gendered approach out of personal conviction and succeeding in promoting gender-sensitive methods that influence project outcomes.

Experience from the CCAF countries suggests that **individual commitment backed by organizational support is a key success factor for achieving gender-sensitive results in adaptation.**



The involvement of multiple stakeholders representing different disciplines and areas of interventions has proved to be effective in breaking down the vertical 'silo culture' of ministries.

For instance, the technical committees coordinating adaptation activities at the state level in Sudan are based on partnerships between state-level institutions responsible for agriculture, animal health and water resources, as well as universities and community leaders/members. Likewise, cross-sectoral engagement stimulated cross-disciplinary learning and expertise on gender in the Cambodia CCAF project. The vertical structure of ministries poses a challenge for adaptation, which needs to take complex local 'horizontal' realities into account, and to combine technical and social approaches.

Involving actors from different sectors – including gender – is a key factor for achieving gender-responsive adaptation outcomes.



Building institutional capacity at the local level has proved to be a meaningful strategy for addressing gender issues in adaptation.

In Cambodia, Commune Councils have been empowered to act in different sectors (e.g. food security, water management, health, collective action), and to work with groups of both women and men, thus raising accountability at commune levels. In Niger, Sudan and Mali, the engagement of local authorities has led to successful integration of gender issues into adaptation initiatives. There are instances of village heads facilitating processes of land acquisition for women, helping identify women-headed households as target groups, or acting as role models for transforming unequal gender patterns.

The proper allocation of funds to dedicated gender institutions and for gender-focused activities is an important factor of success.

Niger, a programme manager from UNDP asserted: “We should not forget that as project holders, we have power. I have the power to decide, for instance, that in the project which I’m overseeing 30 percent of the budget is going to be allocated to gender-specific activities.”²⁹

Allocating funds to promote gender equity is possible, and can be done through creative thinking and determination from people holding executive power.

²⁹ Interview with Mr. Salvator Nkurunziza, Programme Manager, UNDP-Niger, Niamey, Feb. 2016.



Research partnerships can promote gender equity in adaptation outcomes. In the CCAAF projects, most research partnerships have been established with agricultural research institutes (e.g. around the development of drought-resistant crop varieties) or with meteorological research institutes (e.g. on dissemination of climate information). Agricultural research based on gender-disaggregated data can usefully inform adaptation, as illustrated by Eva Weltzien’s work on gender and seed systems at ICRISAT³⁰ in Mali (Weltzien 2010).

Donor policies can play a role in supporting gender-responsive adaptation, even though their record in effective promotion of emerging funds and policies is still quite low (Otzelberger 2011). Donors can also create enabling environments for effective gender mainstreaming by institutionalizing the application of existing gender commitments to climate change portfolios, and providing relevant tools covering the entire programme cycle. They can also provide technical assistance on gender auditing and budgeting to policy makers in climate-relevant sectors.

Technical support and access to resources on gender-responsive adaptation strategies can help guide project teams. It cannot be expected that all stakeholders involved in designing and implementing projects are experts in gender. However, raising awareness on and providing access to existing resources (from guidance documents and relevant tools) can strengthen gender responsiveness in adaptation activities.



³⁰ ICRISAT: International Crops Research Institute for the Semi-Arid Tropics.



PART IV SUMMARY AND CONCLUSIONS

This section provides a summary and conclusions from the research findings, both at field and institutional levels, examined in Parts III and IV respectively. It draws on positive experiences and trends to inform future adaptation initiatives, highlighting key learnings and ways forward.

1 From vulnerability to empowerment

Women are becoming increasingly responsible for provisioning food, fuel, water and shelter for their families, especially during the most critical periods of the year. Recent trends show a significant increase in the number of women-headed households, particularly in regions most affected by climate change. Yet adaptation programmes continue to overemphasize women's vulnerabilities to climate change. This results in a tendency to undermine the roles played by women as instruments of change and decision makers in their communities. This portrayal of women as 'vulnerable' has favoured approaches that put women at the receiving end of adaptation responses, without sufficient consideration of the roles, preferences, needs, knowledge and capacities of women, men, girls and boys at all levels (Otzelberger 2011: ix). Gender inequalities underlying differences in women's and men's coping strategies have not been sufficiently addressed in existing programmes.

The CCAF projects depart from this limitation and venture into new grounds by testing approaches for gender-responsive adaptation. To say that rigorous and systematic gender analysis has strongly informed all CCAF projects would be an overstatement. All project teams did not start with a robust knowledge base on gender, and some had to build their capacity along the way. Each national team had to find locally adapted solutions to the equation of gender relations intersecting with climate-related risks, socially constructed gender inequalities, and sometimes gender-insensitive institutions or policies.

Commonalities between the six countries can be found in efforts developed to:

- Enhance the adaptive capacity of both women and men;
- Target and reach women from resource-poor groups;
- Secure livelihood options for women and men;
- Increase the participation of women in village-level groups or committees; and
- Minimize risk exposure for women and girls, especially during prolonged periods of drought, food and water scarcity.

The goal of gender equality is implicit in these efforts. Nonetheless, there is a challenge in moving from results of specific project interventions that address the different needs of women and men, to concretely changing power structures and the root causes of inequalities. There are some examples throughout the CCAF portfolio where interventions led to different measures of empowerment for women, and in some cases, to shifts in gender relations at the household level. For example, in Sudan and Niger, women gained more decision-making power in their homes as a result of their enhanced role as food providers. Likewise, women from disadvantaged groups in Cambodia and Mali saw their social status at the community level improve after they became more involved in remunerative activities.

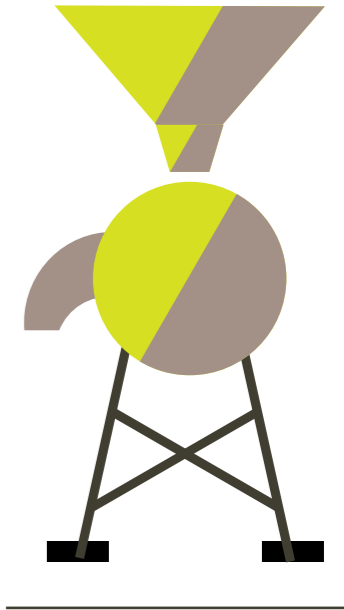
There are some examples throughout the CCAF portfolio where interventions led to different measures of empowerment for women, and in some cases, to shifts in gender relations at the household level.



In addition, some of the CCAF countries invested additional time, resources and capacity to specifically address some of the main causes of gender inequality at the local level. Efforts in this direction are particularly commendable from a women's rights perspective. Examples include:

- **Strategies to reduce women's workload and/or to reallocate domestic chores at the household level:** For example, the provision of butane gas to decrease dependency on fuelwood in Sudan, the provision of agricultural equipment and donkey carts for women's collectives in Mali, the establishment of platforms for threshing, dehusking or pounding grain in Mali and Niger;
- **Measures to support women's participation and leadership in mixed groups:** Water-user groups and farmer water-user committees in Cambodia, water-management committees in Sudan, and watershed management groups in Haiti benefited from these measures with significant increases in the percentage of women acting as members and/or leaders in these groups;

Some of the CCAF countries invested additional time, resources and capacity to specifically address some of the main causes of gender inequality at the local level.



- **Special arrangements for women to access land:** In Niger, collectively managed vegetable plots opened opportunities for women to grow and sell a large range of high-value vegetables. In the long run, further efforts are needed to ensure that the land is not leased by the groups of women, but where possible, purchased as a means of securing long-term control over it.

CCAF adaptation projects created an environment in which women could take on new roles, explore leadership and management positions, and challenge the gender status quo

Evidence suggests that the CCAF projects created an environment, in some countries or regions, in which women could take on new roles, explore leadership and management positions, and challenge the gender status quo. Women have become more assertive over the years of engagement in project activities, and some feel sufficiently empowered to claim rights over land, which was unlikely in the past, indicating that women's empowerment can indeed be achieved in the context of gender-responsive adaptation.



2 Key factors enabling gender-responsive adaptation in project cycles

Several prerequisites and enabling conditions are needed to ensure adaptation projects are effectively gender responsive. These include:

Gender analysis:

The objectives of gender analysis are to generate evidence about the complexities of gender relations at different levels, to identify concrete ways of integrating gender into all programmes and activities, and to identify barriers to gender equality that will require special attention. An example of gender analysis conducted to inform the CCAF project in Haiti is provided in Part III.



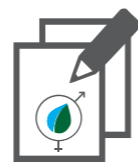
Participatory approaches:

These form an important pillar of gender-sensitive adaptation, and entail the mobilization and involvement of all stakeholders. Participatory approaches promote mutual learning and are combined with appropriate sensitizing and training on gender issues. They often favour women's active participation (UNFCCC 2013).



Gender strategies and plans:

These have also been identified as a critical factor of success for gender sensitivity in adaptation projects (Schalatek, Bibler and Little 2012). These strategies and plans outline key stakeholders' agreements and commitments on how to achieve gender-sensitive outcomes. They may include: gender assessments of the communities involved; gender guiding principles to shape activities; explicit references to gender in trainings, partnerships and project components (policy development, research projects, pilots projects and communication/outreach); and monitoring and evaluation using sex-disaggregated and gender-sensitive indicators.



Indicators and sex-disaggregated data:

Gender-responsive indicators are needed to monitor how gender considerations are integrated into adaptation plans and projects. Examples of qualitative indicators include: “the perceived level of empowerment women have to adapt to climate change, or convince their communities to implement adaptation measures; or the amount of change in relations between men and women or relative changes in the level of poverty or participation in a particular community” (LDC Expert Group 2015: 32). Indicators can also be used to ensure that donors and governments can establish accountability systems to track compliance with commitments to gender equality.



The design and use of specific practices for empowering women:

These have also proved to be successful in achieving gender-balanced outcomes in adaptation projects. Examples of practices that have worked include:



- (a) Developing women's leadership capacities through training and capacity development;
- (b) Facilitating women's physical presence at meetings and events (e.g. by choosing suitable meeting times and places);
- (c) Strengthening women's productive opportunities and capacities related to food security and income generation, which may involve affirmative action through quota systems to ensure that a certain percentage of women participate in workshops, consultations or demonstration farms;
- (d) Targeting communication to women, with information addressing their special needs, aspirations and capacities; and
- (e) Addressing women's workload, particularly in rural settings, where fuelwood and water collection activities are becoming increasingly time-consuming because of climate change impacts.

Adequate use of gender expertise:

Many of the good practices for gender-responsive planning and implementation of climate change adaptation are based on use of existing institutional gender capacity and partnerships with specialized agencies, such as national gender institutes or UN Women (UNFCCC 2013). Identifying existing skills and resources and 'tapping into' them can be an important step in developing capacity for gender-responsive adaptation.



Gender-responsive budgeting:

This is a valuable tool for ensuring that budgets reflect the resources required for gender-responsive actions. Only a few actors use this tool and more focus is needed on how budgeting can be used to secure funds for various gender-based activities, hiring gender consultants, or establishing working partnerships with national or local women's organizations.



Women have become more assertive over the years of engagement in project activities, and some feel sufficiently empowered to claim rights over land, which was unlikely in the past, indicating that women's empowerment can indeed be achieved in the context of gender-responsive adaptation.



Photo: Imen Meliane

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