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Integrating Agriculture in National Adaptation Plans (NAP-Ag) Programme

Safeguarding livelihoods and promoting resilience through National Adaptation Plans

Gender mainstreaming and climate resilience in Zambia's cashew sector: insights for adaptation planners

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This case study documents insights on gender mainstreaming practices implemented in a large-scale agriculture development project with a climate change adaptation component in Western Province, Zambia. It describes the key gender issues in the project context, as well as the gender mainstreaming practices that are in place and have potential for scaling up. Recommendations for policymakers indicate a way forward to enhance the promotion of gender equality in the context of adaptation to climate change impacts on agriculture.

Highlights

- Zambia is in the process of developing a national adaptation plan for the agriculture sector (Agric NAP). In order to identify ways to ensure that key gender issues are addressed in the Agric NAP, a study was conducted on how a large-scale cashew sector development project in Western Province mainstreams gender.
- In cashew cultivation in Western Province, women and men play distinct roles and face different constraints related to land ownership and factors of production particularly to do with land clearing. Femaleheaded households, with fewer financial resources and information compared to male-headed households, are particularly challenged by unpredictable weather and increasing incidents of pests and diseases.

The Cashew Infrastructure Development Project (CIDP) aims to rejuvenate the cashew industry and promote economic development in ten districts of Western Province. It incorporates gender mainstreaming actions throughout all phases of the project cycle.

Numerous good practices of the CIDP could be enhanced and scaled up with policy actions; this includes collection of age- and sex-disaggregated data, support to the Ministry of Gender, gender-responsive budgeting and partnerships with cooperatives.



Case study objectives

Zambia is in the process of developing an agriculture sector National Adaptation Plan (Agric NAP)¹. The Agric NAP will assist policymakers to prioritize adaptation actions in agriculture to respond to impacts like rising temperature and changing rainfall patterns, increased incidences of droughts, floods, pests and diseases and forest fires as a result of drought (see Box 1). Possible adaptation actions include, among others: improving early warning systems to enable timely dissemination of weather information for enhanced planning and preparedness; enhancing farming systems that encourage crop diversification and drought tolerant crops; promoting appropriate irrigation technologies; promoting improved soil and land management technologies such as conservation agriculture (CA) and afforestation, addressing soil and land degradation; enhancing financial and technical support to agricultural sector research and development (R&D); enhancing support to extension services; providing insurance schemes or government support programmes and promoting alternative livelihood systems.

Box 1

Climate change and Zambia's agriculture sectors

- Agriculture accounts for about 8 percent of the country's GDP, employs about half of the population and is the main source of livelihoods for 60 percent of households.
- Weather variability and climate change-induced hazards include drought and prolonged dry spells, seasonal and flash floods, extreme temperatures and changes in season onset and cessation. Droughts and floods have negatively impacted food and water security, water quality, energy and livelihoods, especially in rural areas.
- Climate change adaptation goals relevant to agriculture are formalized in the 7th National Development Plan (2015), Intended Nationally Determined Contribution (2015), the National Climate Change Response Strategy (2010), the National Climate Change Policy (2016), the National Forestry Policy (2014), the National Wetlands Policy (2018) and the National Agriculture Policy (2017).

Source: CIAT-World Bank (2017)

From the outset, the Agric NAP process has considered the underlying social conditions in the agriculture sector. In particular, it has recognized the value of promoting gender equality as part of medium- and long-term adaptation in agriculture, which is in line with Zambia's existing gender- and climate-change commitments (see Box 2). The development of the Agric NAP is an opportunity to improve the implementation and enforcement of these plans and policies.

Defining what types of gender issues to address in the Agric NAP and what concrete gender mainstreaming actions to take must be based on what is currently working on the ground. With this in mind, the NAP-Ag project² coordinating team turned to an ongoing, large-scale agriculture development project in Western Province, Zambia with a climate change adaptation component – the Cashew Infrastructure Development Project (CIDP) – to gain insights on gender mainstreaming and climate change adaptation practices that could be amplified through the Agric NAP formulation process. The study team analysed the gender mainstreaming approach of the CIDP through document review and field work that included focus group discussions, key informant interviews and observation. The study aimed to answer the questions: which gender issues are most critical

¹ In this case study, the term *Agric NAP* is used to refer to the process of developing a national adaptation plan for the agriculture sector, as well as the resulting plan. The term *NAP-Ag* is used to refer to the project, Integrating Agriculture in National Adaptation Plans, which supports the *Agric NAP* process.

² The Agric NAP process is being supported by the Integrating Agriculture in National Adaptation Plans project (NAP-Ag). In the NAP-Ag project, the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Development Programme (UNDP) are working together with the Ministry of Agriculture to identify and integrate climate adaptation measures for agricultural sectors into relevant national planning and budgeting processes.

in agricultural development in the context of climate change in Zambia and what practices can be promoted in order to contribute to gender-responsive change in the cashew sector?

Box 2

Zambia's gender and climate-change commitments

- National policy on environment has strong language on gender equality, including a strategy to enhance women's participation in environmental management activities at all levels.
- Environmental management act provides for public participation and social safeguards.
- National climate change response strategy highlights gender issues and includes specific gender mainstreaming interventions through assessment, participation, access to credit and other benefits
- Intended nationally determined contribution (INDC) includes a few references to women as a group that would benefit from actions put in place through the INDC.
- Climate change gender action plan (ccGAP) an action plan of the Ministry of Gender to support enhanced cooperation and action across actors on gender and climate change.

Source: IUCN (2018)

- National agriculture investment plan gender is a cross-cutting issue and gendersensitive technologies and practices are mentioned in multiple sub-sectors (GRZ, 2013).
- National gender policy details six measures to address the adverse impacts of climate change, including developing strategies for mainstreaming gender into all climate change programmes (GRZ, 2014).

The context

Western Province

The agriculture sector is the main livelihoods source for 60 percent of households in Zambia, with women providing 70 percent of agricultural labour (CIAT-World Bank, 2017). Smallholder crop production makes up a substantial portion of the farming population; 71.5 percent of smallholder farmers work on two hectares or less of land and farming tends to be rainfed (*Ibid*.).

In Western Province, 80 percent of the population of 902 974 people is regarded as poor, compared to the national figure of 60 percent, and 32 percent of the Province's households are female-headed (CSO, 2012). The majority of the people who are employed formally (87.6 percent) work in the agriculture sector; this encompasses primarily mixed smallholder farming and livestock-keeping, while there is little activity to add value to the commodities produced³ (Concern Worldwide, 2008). The central geographic feature of Western Province is the Barotse Floodplain, which is usually flooded from November to June, and covers 550 000 square kilometres (Rajaratnam, *et al.*, 2015). The province has a substantial forest reserve with high economic potential although non-indigenous companies dominate timber harvesting and partial value addition which entails cutting tree trunks into timber planks for further processing at carpentry shops and factories (Svitalek, 2017).

The Lozi are the major ethnic group in the province and are traditionally cattle-keepers. They are a collection of 24 subgroups, with a well-established system of traditional rulers headed by the Litunga (Kwashimbisa and Kushika, 2014). The Litunga is the head of the Barotse Royal

³ The main crops include tobacco, rice, and vegetables for sale and maize, sorghum and cassava for domestic consumption. Livestock includes chickens, pigs and cattle. Cattle are an indicator of prestige and wealth, are owned by men and are used for paying bride prices or dowries (Concern Worldwide, 2008).

Establishment (BRE) and is assisted by sub-chiefs in Sesheke, Senanga and Kalabo districts. The seasonal migration of the Litunga and his court from the dry-season capital of Lealui, on the Zambezi flood-plain, to Limulunga, is an important cultural and now tourist event called the Kuomboka. The BRE governs and administers traditional land, waterways and natural resources in the province in collaboration with the central government (Rajaratnam, et al., 2015).

Cashew cultivation

Introduced in Zambia in the 1940s by Portuguese traders, cashew cultivation was promoted in the Western Province by the Government of Zambia in the 1980s to diversify the economic base of poor households (AfDB, 2015). Cashew production increased between 1985 and 1992 but declined by the mid-1990s due to numerous factors, including the loss of financial backing that supported processing and marketing facilities (*Ibid*.). Despite facing various challenges including lack of marketing and processing facilities, lack of improved planting materials, poor management practices, and pests and diseases (*NewsAfrica*, 2018), local farmers have maintained some cashew trees and cottage processors manage plantations to support processing at a small scale.

The cashew tree, *Anacardium occidentale* L., belongs to the Anacardiaceae family. Cashew is an important nut crop that provides food, employment, and economic opportunities for smallholder farmers. The plant produces not only the nut, but also a pseudo fruit known as the cashew "apple," which is used for industrial and medicinal purposes. The cashew tree is also used for reforestation, in preventing soil erosion, desertification, and as a roadside buffer tree. The tree can adapt to constant dry conditions (Planvivo), thrives in areas with annual rainfall from 600 mm up to 4500 mm, copes with salt intrusion and tolerates high temperatures (USAID, 2014). While it takes about three to five years for a cashew tree to start fruiting, they are considered a worthwhile investment as they can be intercropped with other crops and can provide a stable source of income, allowing farmers to derive food benefits and reduce incidences of deforestation while contributing to reduction in greenhouse gas emissions and climate change adaptation (GIZ, 2010). The aspect of intercropping allows for diversified production systems that enable farmers' choice of crops to grow alongside the cashew as a strategy for managing climate change risks and optimizing returns.

The potential benefits of cashew are enormous, and the government recognizes this fact and has identified the sub-sector as an avenue for economic diversification with the aim of catapulting cashew as one of the country's main foreign exchange earners.

Project description

The Cashew Infrastructure Development Project (CIDP), one of the Government of Zambia's priority projects, is a stand-alone investment project funded with a loan from the African Development Bank (AfDB). It aims to rejuvenate the cashew industry and enhance economic development in ten



districts of Western Province (AfDB, 2015). It seeks to contribute to poverty reduction and improved household incomes through improved cashew production, processing and marketing.

With a total budget of USD 55.42 million⁴, the Ministry of Agriculture (MoA) is implementing the project over five years, aiming to benefit 60 000 smallholder farmers, including 30 000 women and 7 000 youths, each planting one hectare (100 cashew trees). The ten districts (see Box 3) were selected not only because of their high potential for cashew production and high rates of poverty, food insecurity and malnutrition, but also because they are at risk due to environmental degradation and climate change. To promote inclusive and green growth, CIDP aims to facilitate equitable allocation of resources to participating rural men, women and youths by creating about 6 000 full time jobs (3 000 women, and 1 000 youths) along the cashew value chain from production through processing to marketing.

Box 3

Map of Western Province, Zambia showing ten districts targeted by CIDP



According to the CIDP log frame (AfDB, 2015), the main outputs and activities through which the project will achieve its goals are:

- 1. Support to cashew value chain (75 percent of budget)
 - 1.1 Irrigation systems for cashew nurseries and gardens
 - 1.2 Cashew plantation rejuvenation and establishment
 - 1.3 Infrastructure for cashew processing and marketing
- 2. Capacity building (13 percent of budget)
 - 2.1 Training
 - 2.2 Technical support

2.3 Matching fund (to promote ownership by small-scale entrepreneurs of cashew tree nurseries and cashew processing facilities)

Project management (12 percent of budget)
 3.1 Project coordination
 2.2 Manitoring and evaluation

3.2 Monitoring and evaluation

The CIDP is an example of the types of gender-responsive projects needed to meet the twin goals of agricultural development and climate change resilience in Zambia, while also closing gender gaps and promoting gender equality. All phases of project design and implementation incorporate gender mainstreaming actions and plans for the later phases of the project include attention to gender issues.

⁴ African Development Bank Loan of USD 45.00 million (81.2 percent); Government of Zambia contribution of USD 8.31 million (15 percent); and beneficiaries' contribution of USD 2.11 million (3.8 percent).

Cashew cultivation in Western Province: critical gender issues and linkages to climate change adaptation

There are numerous gender issues relevant to cashew cultivation in Western Province. The **division of labour in cashew production activities at household level is gendered**, with men engaging in land clearing, making kilns to convert some trees into charcoal, land preparation and soil collection while women clean up the fields, plant, weed, manage the crop, harvest and do post-harvest activities (Rajaratnam *et al*, 2015). In a typical small-scale agricultural household, women are generally responsible for more chores [weeding, harvesting, stooking (arranging cut stalks in bundles), and processing] than men (land preparation, ridging) and perform them over a longer period of time in the year. Women's **workloads** encompass both farming and household tasks; they usually bear the responsibility for cooking and collecting firewood (Rajaratnam *et al*, 2015; GIDD, 2007). The HIV/AIDS pandemic has brought an extra burden to many women as caring for sick relatives (husbands) is seen as a woman's task.

The division of labour in other points along the cashew value chain is also gendered. Women dominate nursery management and cashew processing. In one factory, the Zambia Cashew Company, men are responsible for most of the laborious tasks, while all the other tasks are performed by women including sorting, peeling, roasting, grading and packaging. Men may be responsible for transporting goods to market and selling them in contexts where women's mobility is limited by custom or by household responsibilities (FAO, 2018); in other settings, women may sell goods at the market if they are the head of the household or in situations where women are believed to be more prudent in managing finances (Rajaratnam *et al*, 2015; GIZ, 2010).

Access to and control over land in Western Province has a gender dimension, with landrelated issues appearing to define women's participation in the cashew sector more so than men's (field observation). There are two land tenure systems in Zambia: customary tenure under the traditional rulership which is the majority of land (94 percent), and state land managed by government, directly or through its agencies (6 percent). The common practice under traditional (customary) tenure is that one can be allowed to use land but will not be allowed to obtain the title for it; ultimate ownership remains with the traditional authority, the BRE, meaning for example that the land cannot be used as collateral to access financing from financial institutions. Married women who relocate to live with their husbands usually have user rights or access to land to which their husbands have the usufruct rights bestowed by the BRE, but neither women nor men tend to have real ownership rights. This may be a disincentive for women to invest in the land (IUCN, 2018), which poses a challenge considering that both cashew production and adaptation to climate change require a long-term perspective and commitments to adoption of specific farming practices. Additionally, there appears to be a gender-based difference in the average amount and quality of land accessed; the land of female-headed households in general in Zambia is six hectares smaller than men's (IUCN, 2018). According to respondents of the study, men tend to use the prime land for their preferred activities leaving marginal land -- which is often further away from the village -- for women's farming activities. Women may not be able to utilise such lands in areas where there is a culture of men being possessive of women and seeking to limit their exposure to danger.

Coping strategies in response to climate risks are gendered in the households involved in the cashew sector. In general, farmers targeted by the CIDP engage in livelihood diversification and income generating activities to cope with prolonged dry spells and droughts, flash floods, increased temperatures and late onset of rains. In times of stress, women depend on piece work, labouring in the fields of resource-rich people rather than their own. While this appears to meet their immediate needs, it locks their households in a hand-to-mouth cycle. Men commonly tend to pursue coping strategies that are natural resources based, in some cases contributing to environmental degradation, such as unsustainable fishing or wild fruit gathering as well as making non-timber forestry products and charcoal burning. Compared to male-headed households, it appears that female-headed households have fewer financial resources and information to cope with the plant diseases and pests resulting from unfavourable weather conditions.

Gender mainstreaming practices to promote gender-responsive adaptation

The main goal of this study was to identify gender mainstreaming approaches that could be further scaled up in policymaking in order to contribute to gender-responsive adaptation (see Box 4 for definitions of terms). The practices identified are summarized below, along with recommendations for multiplying these efforts via policymaking. See Box 5 for a summary of the gender mainstreaming practices observed at each phase of the project cycle. Annex 1 provides suggestions of resources related to each of the gender mainstreaming practices.

Box 4

Definitions of key gender terms

Recommendations

Based on years of experience, gender mainstreaming was formally recognized in 1995 as the global strategy for promoting gender equality. It is the process of assessing the implications for women and men of any planned action, and for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programs so that women and men benefit equally, and inequality is not perpetuated (United Nations, 2002).

Gender equality is equal participation of women and men in decision-making, equal ability to exercise their human rights, equal access to and control of resources and the benefits of development, and equal opportunities in employment and in all other aspects of their livelihoods (FAO, 2009).

Gender-responsive adaptation refers to adaptation practices, projects or plans that address gender gaps, overcome historical gender biases and contribute to gender equality by

(i) recognising the gender differences in adaptation needs, opportunities and capacities;

- (ii) ensuring the equitable participation and influence of women and men in adaptation decision-making processes; and
- (iii) ensuring gender equitable access to financial resources and other benefits resulting from adaptation investments.

(NAP Global Network, 2017).

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1. Preparations

Build team's skills/capacity for gender mainstreaming

For gender mainstreaming to be successful, all levels of project staff must possess or be trained in appropriate skills. The CIDP invested in the hiring of a full-time gender specialist (consultant) within the Project Coordination Unit (PCU) who will oversee gender mainstreaming, and made a commitment to strengthen the gender mainstreaming capacity of the PCU, agriculture camp staff and the MoA gender focal point (AfDB, 2015).

Recommendations for adaptation planners:

- One of the main reported gaps in addressing gender in climate change programing in southern Africa is inadequate gender capacity on the part of staff (Bryan et al., 2016). To address this, regular staff capacity strengthening, including training and peer mentoring, can be planned and budgeted for in the operating plans of projects (which can also target the skills of farmer leaders), the Ministry of Gender and the annual budgets of all ministries. This capacity strengthening process should be implemented with non-governmental organisations, universities and/or training institutes, and the application of gender mainstreaming skills can be incentivized through leadership by senior management.
- In Zambia, strengthening capacity on various skills for adaptation planning in the agriculture sector is a top priority (FAO & UNDP, 2018). Skills on gender mainstreaming can be addressed in stand-alone workshops, or integrated into trainings on climate change risk assessments, budgeting and prioritization of adaptation options. This would help build a foundation for gender mainstreaming in the Agric NAP process, and contribute to the achievement of the goal related to enhancing capacity for gender mainstreaming in the Seventh National Development Plan.

Budget for and appoint a gender specialist with clearly-defined terms of reference

A gender specialist should be viewed as a member of the core team of any project or planning process, as s/he can identify which gender mainstreaming actions should be carried out and oversee that they are implemented. In the case of the CIDP, the recruitment of the gender specialist foreseen in the project document was delayed until the project's midway point in May 2018. While multiple stakeholders appeared to have had a baseline sensitivity to gender issues despite the absence of the specialist, informants in the field observed that little work had been done since project inception to build upon the gender analysis conducted during the project design.

Recommendations for adaptation planners:

- Budgeted support to gender focal point networks within ministries and departments; and partnership with civil society organizations, which may help to fill in gaps in implementation of gender-sensitive actions in the case of project gender staff procurement delays, can be effective ways to enhance the application of gender expertise in projects and plans.
- Zambia's Ministry of Gender has prepared with IUCN a Climate Change Gender Action Plan (IUCN, 2018), with specific actions for the agriculture sector. Relevant experts from the Ministry should be consulted as part of the **Agric NAP process** and a gender focal point within the Ministry should be appointed to oversee and facilitate gender mainstreaming within the process. For additional support, external gender specialists may be hired with clearly-defined terms of reference.

Develop baselines using participatory stakeholder consultation

The views, strengths and weaknesses of all actors affected by a project should be captured during consultations in the initial phases of a project to shape priorities. While the CIDP project document does make reference to the different roles, needs and resources of women and men, it is unclear to what extent these stakeholders were consulted. During interviews and focus group discussions, some District Commissioners (DCs), stated they were not aware of any baseline study prior to the implementation of the CIDP. Further, government personnel (Provincial Agriculture

Coordinators, and District Agriculture Coordinators), as well as male and female community members said they were only involved when the project started implementation of activities.

Recommendations for adaptation planners:

- Baselines, developed through participatory stakeholder consultation processes and welldocumented and disseminated to relevant stakeholders, should form the basis of future gender and climate change adaptation initiatives in order to allow for measuring impact on local livelihoods and to draw lessons on what works and does not work. According to a GCF Gender Assessment and Plan for the project Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia, stakeholder engagement is useful for capturing the differences between women and men in terms of responding to the increased risk of drought and issues they face in diversifying climate-resilient agri-based value chains (GCF, 2018).
- The **Agric NAP process** in Zambia is expected to involve a participatory stakeholder consultation. This consultation is more likely to bring out the views of different stakeholders if the facilitator is skilled at encouraging active participation by all contributors, and mediating different points of view to a point of consensus. While the Ministry of Gender should be involved in national stakeholder meetings, representatives of rural women from non-governmental organizations or research organizations who are familiar with rural women's roles and priorities should be also present.

2. Identification

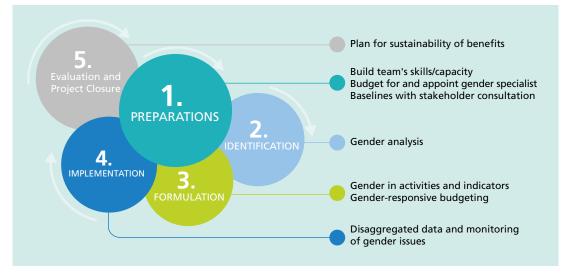
Conduct a gender analysis

An analysis of gender issues goes beyond counting numbers of women and men in an affected population; it sheds light on how inequitable social structures (institutions) and unequal power relations can give rise to discrimination, subordination and exclusion in society. In the example of the CIDP, the gender analysis woven into the project document explored:

- gendered division of labour (e.g. women are involved in some aspects of the cashew value chain, mainly cleaning of the fields, planting, weeding and crop management
 50 percent production and harvesting and mechanical crushing of the cashew nuts –
- 90 percent processing, while men are responsible for all other tasks);
- access to inputs, credit services and markets (differentiated by age, sex);
- incentives to participate in cashew growing, given the lack of market and other challenges;
- risks of social exclusion;
- existing skills and capacities.

Box 5

Gender mainstreaming entry points in the project cycle



Based on UNIDO (2015), IFAD (2018)

The findings of the analysis informed the design of the project. For example, the gendered differences in land ownership were considered. The DCs, CIDP Project Coordinator, the farmers and DACOs all informed the mission team that CIDP and the MoA had engaged the BRE on issues of allowing women to have land ownership rights as they engage in cashew production and in some instances, this was yielding positive results. This was corroborated by an Induna (traditional leader) in Siwelewele community of Shangombo District during a community meeting; in his area, he had allocated land to those who had approached him for land to grow cashew and other agricultural activities. The direct engagement by the CIDP with the local traditional institution that has the power to shift discriminatory practices is an example of a gender-responsive action that can lead to behavioural shifts and transformative change.

- Effort should be taken to conduct a thorough gender analysis that explores not only what women and men have, do and know, but also how social structures may reinforce cycles of discrimination and the implications for men and women. This could include an analysis of who controls the finances, as women may not control income that they themselves earn. A nuanced analysis can then be used to design a range of gender-responsive activities and partnerships with local organizations can help in addressing sensitive issues, such as building up women's leadership skills while sensitizing men to the value of changes in power dynamics. For example, an adaptation project in Myanmar, BRACED, conducted a gender analysis to identify to what extent vulnerability is gendered. The project hypothesized that unequal power dynamics at the community level reinforced men as the primary decision-makers, undermining women's resilience by barring them from the information and resources needed to adapt. Activities were then designed with NGOs and community organizations to shift community-level power dynamics and integrate women into decision-making structures; a crucial step in this was targeted efforts to change attitudes and beliefs among men and youth (Hilton, et al., 2016).
- Gender analysis is particularly relevant to the **Agric NAP process** in Zambia within the activities to identify and prioritize adaptation options. A gender expert can integrate gender analysis into vulnerability assessments so that the gender dimensions of vulnerability are clarified, and identify gender-responsive criteria for prioritizing specific adaptation options. Adaptation options that contribute to closing the gender gap, would in turn contribute to achieving gender-responsive sustainable development as aspired to in Zambia's Vision 2030 (GRZ, 2006).



3. Formulation

Integrate gender into project outcomes, activities and indicators

When used to define the specific outcomes, activities and indicators of a project, gender analysis results help in identifying capacity gaps and in targeting efforts for more successful results. Gender should be addressed in both the operational and technical aspects of a project. For example, the CIDP carried out sessions on gender for stakeholders to support more gender-responsive operations. In addition, a gender-sensitive market research and development study was envisioned for 2019, a sign that the gender issues in the cashew sector were likely to be integrated into technical work.

The degree to which gender is integrated into a project is tracked using indicators. Throughout the CIDP log frame, most output and outcome indicators targeted women to be at least 50 percent of beneficiaries. In addition, the goal of improved women's participation and decision-making skills in nursery management was to be measured by the percentage of women in nurseries and management structures. However, the overall impact indicator was to be measured based on improved household income, and verified by a household survey. While this would be useful for tracking outcomes for female- and male-headed households, care must be taken to collect data on different members of households. In this, insights can be gained on different outcomes for youth or women in male-headed households who may not benefit from increased income in terms of improved decision-making, access to resources, empowerment or food security.

While the project is implementing various approaches to foster the participation of women in activities, including demonstrations by successful cashew farmers to encourage uptake of practices, working through organizations to promote land rights for women, working through cooperatives to increase access to credit and lower social exclusion, the project appears to be based on an assumption that investing in women would automatically lead to positive outcomes for them and their families. Studies in the field of climate-smart agriculture have indicated that providing services and investing in women's crops can increase women's access to income, but without attention to the shifting dynamics in women's and men's bargaining power, there is a risk of a backlash, genderbased violence and of men taking over when crops become profitable (Ringler *et al.*, 2017).

- Incorporate a goal of gender equality in the vision, objectives and activities of any new or revised adaptation strategies or plans. Move beyond language that simplifies gender to being about women-targeted interventions or refers only to women as vulnerable, and instead describe gender-responsive adaptation goals including responding to gender-differentiated needs, ensuring equality in benefits from interventions and increasing the "voice" in decision-making and empowerment. For example, Uganda's NAP for the Agriculture sector includes a "gendered approach to climate change adaptation" as one of its eight priorities and acknowledges both "climate change related gender disparities that place exceptional burdens for women" and "women and youth in Uganda also contribute a lot to the family labour" (GRU, 2018). It budgets over USD 2 million to activities including conducting a gender-specific assessment of climate change impacts on agriculture, develop and applying a tool for gender-sensitive climate smart agriculture budgeting and planning and assessing and documenting gender sensitive technologies based on locations (lbid).
- In developing the implementation strategy during the Agric NAP process in Zambia, draw upon gender-responsive approaches that have worked well in the past. For example, the Gender-Oriented Participatory Extension Approach (GPEA), introduced in Zambia in 1993/4, is a method by which extension agents are trained to address gender issues as a joint learning process with household members. This non-confrontational approach led to changes in the relationships between men and women, their roles, access to and control over resources, decision-making, and division of labour, which were shown to have a positive impact on agricultural production of food crops, household food security and the well-being of the family (Beuchelt & Badstue, 2013). Also, the "walk away policy" an approach implemented by the Agricultural Support Programme (ASP) in which a facilitator walks away from a community meeting with low representation of women is a noted approach for holding households and communities accountable for gender objectives. These types of approaches may be effective in Agric NAP activities involving communities.

Ensure funds are dedicated to gender-mainstreaming efforts

A gender-responsive budget includes an allocation of funds to support gender mainstreaming, such as a budget line for a gender specialist, and provides sufficient funds and expertise to carry out gender-responsive activities, such as resources to support the engagement of women's groups during stakeholder consultations. The aggregate funds allocated for activities specific to women in the CIDP are about USD 15.76 million, that is, 28 percent of the overall budget.

Recommendations for adaptation planners:

- Different ministries have roles to play in promoting gender-responsive budgeting. The Ministry of Finance can establish criteria and requirements for ministerial budgets to incorporate gender-responsive budget practices into the planning and budgeting processes. The Ministry of Gender and ministerial Gender Focal Points should provide guidance on gender-budgeting to ensure that funds are not targeted only toward practical needs of women (e.g. provide farming equipment to 8,000 farmers, 50 percent of whom are women), but also toward strategic needs (e.g. conduct gender sensitivity trainings for women and men in 20 villages).
- The Agric NAP process in Zambia will be developing a resource mobilization strategy and in order to adhere to most funding guidelines, will need to demonstrate an allocation of resources to gender-responsive activities.

4. Implementation

Track progress on gender issues using disaggregated data

Collecting and analyzing sex- and age-disaggregated data during project implementation indicates whether progress is being made toward gender-related goals. If needed, changes can be made to stay on track. For example, the CIDP monitored the project target, "50 percent of project participants are female" and reported that women's participation was on average above 35 percent throughout the various cashew value chain activities. The study team observed that, in response to the target not yet being met, MoA was taking measures in all districts to ensure that more women were involved by encouraging as many women to register as beneficiaries. For example, in Mongu the MoA encouraged 'individuals' as opposed to 'households' to register as beneficiaries. Further, women were given priority in cases where a household registered as beneficiary for one hectare.

- Support the collection and dissemination of sex- and age-disaggregated data that are crucial for measuring progress on gender-related goals, making a distinction between the needs, barriers and priorities of women in male-headed households and women who are heads of householsd. Use a blend of quantitative and qualitative indicators to measure progress on gender equality. For example, a project on climate adaptation in wetlands in Lao PDR adopted a mixture of quantitative and qualitative indicators to track gender-related outcomes (FAO, 2017):
 - ▶ 800 families have acquired at least one additional livelihood support option as a climate change fall-back option providing opportunities for equal benefits to men and women.
 - Men and women in wetland communities are empowered to participate equally in wetland management decision making-processes.
- One of the key activities of the **Agric NAP process** in Zambia is the coordination of efforts across different actors at different levels of planning. Involve traditional authorities in this process and raise awareness of the benefits of women's land ownership for sustainable land management practices and farming productivity. Civil society groups, like the Zambia Land Alliance, may also be a key stakeholder, both for liaising with local communities and for collecting information for tracking progress (FAO).

5. Evaluation and Closure

Plan for the sustainability of benefits

To avoid the risk that project benefits for women and men diminish when the project is no longer active, attention should be given to the mechanisms that can help sustain benefits. At the time of publication, the CIDP is midway in its five-year lifespan, however attention is already being given to how to sustain the benefits it provides to women and men farmers by:

- Working with the BRE to address women's access to land, giving them a longer-term vision and more security for their activities.
- Encouraging intercropping for immediate benefits from the intercropped crops considering that cashew takes 3-5 years to start producing fruits and as a way of enhancing their livelihoods and conserving soils.
- Using the approach of cooperatives as entry points to the communities and through these cooperatives promoting community bulking, processing, packaging and marketing of the cashew products under one label.
- Matching grant facility was in the process of being established to cater for entrepreneurship activities along the cashew value chain. This would provide a market for the cashew planted by farmers.

One challenge to be addressed before the conclusion of the project is that of work load, especially of women. Despite efforts to work with women, the study team confirmed that in all the districts visited, the women, especially single or widowed women, indicated facing a lot of challenges with tasks that were labor intensive such as land clearing and preparation of the planting stations for cashew, irrigation of the cashew seedlings that were delivered late. If cashew cultivation does not reduce women's work load or if it increases it, it seems possible that they will not continue with it, nor will they accrue the intended benefits. To counteract this challenge, the project was planning to help women intercrop cashew with other high value crops like groundnuts and Bambara nuts. This will help them get early returns and may pay for land preparation as they expand their fields. Community nurseries were planned to help ensure that women need not plant 1 hectare at once but can have access to seedlings near their home and be able to plant what they can manage at their pace and on the onset of the rains.

- Form alliances with local partners, including cooperatives, so they gain ownership and can continue to support changes in practices. Cooperatives may be a more effective means for farmers to access credit from micro-finance groups and encouraging the promotion of women to leadership positions in cooperatives can further encourage shifts in gender norms. In addition to cooperatives, efforts to build local service providers are needed to ensure services are provided along the value chain.
- The **Agric NAP process** ultimately aims to catalyze the uptake of adaptation options by farmers through a coordinated planning effort. Attention should be given to the potential barriers to uptake of adaptation options by women and men, such as the risk of 'male takeover' of practices that prove to be financially successful as well as men's advantaged starting point with regards to access to capital and capacity to take on the risks of adopting new practices (Farnworth, et al., 2011). Further, appropriate technology that eases the work burden of all should be promoted.

Conclusions

The example of the CIDP demonstrates that gender mainstreaming on a substantial scale is possible in a large-scale agriculture development and poverty reduction project. With careful analysis, collaboration between different governmental and non-governmental stakeholders, and attention to key gender issues and barriers during implementation, the involvement of women and men in the enhancement of a value chain with high potential to contribute to climate resilience and rural development is possible.

The CIDP has incorporated gender mainstreaming steps into all stages of the project cycle. In the earlier phases of the project, for which more information is available, a detailed gender analysis was used to shape the emphasis and activities of the project. The main emphasis of the project with regards to gender equality and women's empowerment is to target women farmers as half of the beneficiary population. The project does not just assume that women, if invited to participate, will do so. Instead, the project employs proactive methods to facilitate women's uptake of cashew cultivation by securing land ownership/rights, increasing women's knowledge through demonstrations and working through cooperatives to improve access to resources. While a transformation of gender norms and roles is beyond the lifetime of this project, by targeting women, the project is changing the opportunities women have to earn an income, thus influencing their bargaining power and family dynamics.

Whether the approach of CIDP will lead to lasting empowerment of women in Western Province is still to be seen and, on its own, even a large-scale project cannot bring about the shifts in gender disparities and norms that are needed to achieve gender equality in Zambia. Actions at policy level are needed to encourage further implementation of gender mainstreaming in projects, leading to gender-responsive results. There is still a need to deepen understanding of how and why the prevalent cultural or traditional values affect adoption of the recommended gender practices and norms so that changes are accepted by the targeted beneficiaries.

As Zambia progresses in planning for adaptation in the agriculture sector, the Agric NAP process can draw upon the gender mainstreaming practices employed in CIDP, including involving gender experts, ensuring participatory stakeholder consultation and conducting gender analysis in order to prioritize adaptation actions that are favored by both men and women. As CIDP demonstrates, rural communities are already coping with changing climate conditions, and the current coping strategies are gendered. Further, there is evidence of gender-based barriers to the uptake of new farming practices like cashew cultivation, and CIDP highlights possible approaches to overcoming them including collaborating with traditional authorities and supporting cooperatives. Lastly, tasks along the value chain are distinct for men and women, and there may be opportunities to improve livelihood opportunities, especially for women, by supporting nurseries and processing facilities along with on-farm adaptation practices.

Annex 1

Checklist of gender mainstreaming entry points in the project cycle and related resources

Project Phase	Gender mainstreaming action	Related resources (full citations in References)
Preparations	 Build team's skills/capacity Conduct sensitizations/trainings Appoint gender specialist Budget for an expert's time Collaborate with organizations working to promote gender equality Baselines with stakeholder consultation Consult male and female stakeholders and local institutions, including NGOs, CSOs, and CBOs. Use participatory methods 	 FAO, 2013; FAO, 2014; FAO, 2015 (e-learning courses) ADB, 2017. (example of gender specialist TORs) Nelson, G, 2015. (guidance on participatory stakeholder consultation)
Identification Define the problem and identify solutions Result of this phase: Project Proposal or Concept Note, may include a Gender Action Plan	 Gender analysis Use qualitative and quantitative information to define key gender issues that may constrain adaptive capacity or be sources of resilience, e.g. roles, access to and control over resources and information, social norms, power and voice in decision-making, and position and condition 	 IUCN GGO, 2017 (Climate Change Gender Action Plan for Zambia) FAO, 2018 (Gender profile for Zambia's agriculture sector) UNDP. 2016 (guidance on gender mainstreaming in projects) GCF. 2018a (example Gender Assessment and Plan) GCF. 2018b (example Gender Action Plan) Singh, et al. 2018 (guidance on social norms)
Formulation Define impact and outcomes, outputs and activities, including a log frame and budget Result of this phase: Project Document, including log frame and budget	 Ensure that gender issues captured in gender analysis are addressed in log frame (e.g. contribute to men and women's equitable access to resources, strive toward improvement in women's decision-making, target adaptation of women's crops) Include gender-sensitive indicators Allocate resources to develop/adapt training material and conduct trainings for project staff on gender Allocate resources to ensure women's groups and representatives are engaged in implementation 	IFAD, 2018 (guidance on gender mainstreaming in climate-smart agriculture projects) World Bank Group, FAO and IFAD. 2015. (guidance on indicators)

Project Phase	Gender mainstreaming action	Related resources (full citations in References)
Implementation Implement the project according to proposed work plan and budget Result of this phase: Baseline and Progress reports. Mid-Term review	 Build on/continue/instigate a baseline survey with a social and gender focus to monitor gender issues identified in gender analysis Develop the gender capacity and raise gender awareness among the project staff and relevant partners involved in the implementation Collect and analyze sex- and age-disaggregated data, use participatory monitoring involving both women and men ensure equality in benefits from interventions - increase the "voice" in decision-making and empowerment of women 	 Akamandisa and Laytham. 2017. (guidance on increasing opportunities for women through extension) World Bank Group, FAO and IFAD. 2015. (guidance on monitoring)
Evaluation Project Closure Result of this phase: Completion Report Document progress at the end of the project, results achieved and impact Result of this phase: Evaluation ReportResult	 Analyse and document: progress achieved at the end of the implementation phase the project's strengths and weaknesses the differential effects and potential long-term impacts of the project on women and men, including enhanced capacities to adapt and to adopt adaptation strategies Capture lessons learnt regarding the benefits of mainstreaming gender Disseminate findings to stakeholders, including women and men Plan for continued access/affordability of services for all project participants 	Nelson, G, 2015. (guidance on reporting)



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