



**WOW** // Work and Opportunities for Women

# From Risks to Rewards

Overcoming the impacts of climate change on women in agricultural supply chains





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# Foreword by Primark, Waitrose and the Ethical Tea Partnership

**Like many companies that rely on natural resources, we face multiple, interlinked social and environmental changes and challenges deep in our supply chains – from raising living incomes and wages, to addressing the impacts of deforestation and drought. Many of us have ambitious Net-Zero targets and Sustainable Development Goals commitments that urgently need to be met if we are to avoid a world warmed beyond 1.5 degrees in a way that ‘leaves no one behind’.**

We are grateful that the WOW programme has enabled us to take a closer look at the impacts of climate change on women in our supply chains, the essential women who pick the tea, vegetables, flowers and cotton relied upon by consumers.

This report clearly indicates two scenarios. One scenario is full of risk. Women farmers are quite literally ‘risking everything’ as they face the disproportionate impacts of climate change. Increasingly unpredictable incomes are causing stress within families and putting women at risk of gender-based violence. Women’s health is at risk due to working in extreme temperatures and due to malnutrition from unpredictable food supplies. Ever greater amounts of time are being spent on unpaid care and domestic tasks as women walk further to collect depleted forests and water supplies. All these factors also limit the time and money women have available to adopt climate mitigation and adaptation strategies. A negative reinforcing cycle of risk reduces women’s incomes, stalls empowerment and decreases soil health and yields. This scenario also puts supply chains at risk and decreases the chances of effective decarbonisation plans. A second scenario finds opportunities in the challenges we face, where women farmers and the planet are rewarded.

The adoption of exciting developments such as payment for ecosystem services, can, if done well, diversify incomes, protect trees and soils and encourage more sustainable agroforestry approaches. Increasing women’s access and control over finance, tools and markets can enable them to be better rewarded for the climate-smart leadership they so often show in their communities. Engaging with men and governments to help redistribute and rebalance the unpaid care and domestic work – so often disproportionately borne by women – could enable women’s increased participation in climate-smart agriculture. This scenario is a positive reinforcing cycle – whereby women’s economic empowerment accelerates the adoption of climate-smart and regenerative agriculture, increasing incomes, leading to more sustainable production and more resilient supply chains.

This report provides powerful testimony from women farmers of the daily struggles they face due to climate change, and sets out emerging responses and recommendations for action. Achieving a gender-just approach to climate change in supply chains will require concerted action by multiple stakeholders. There is no time to wait.

## **Lynne Walker**

Director of Primark Cares, Primark

## **Sam Ludlow Taylor**

Senior Manager, Human Rights Programmes, John Lewis Partnership. (John Lewis and Waitrose)

## **Jenny Costelloe**

CEO, Ethical Tea Partnership



## Purpose of this report

**In the run up to the UK hosting COP26, the WOW programme began to look more closely at the intersection between climate change and gender, producing a series of desk-based studies and a toolkit for business on women and the Net-Zero economy.<sup>1</sup>**

This and the momentum around Net-Zero led to significant interest from companies that wanted to better understand the impacts and potential actions that could be taken in their respective supply chains.

As a result, in 2022 WOW has been able to support three bespoke, action orientated research partnerships in sectors that rely

significantly on women's labour; with Primark in Pakistan, Waitrose in Kenya and the Ethical Tea Partnership in Kenya and Malawi.

An additional desk-based study was undertaken with Waitrose to assess the potential impacts on women workers of decarbonisation in the Kenyan horticulture sector. These studies collectively gathered the views of over 400 workers, through focus group discussions and interviews.

This report aims to consolidate the findings from the three studies and help inform future programme activities that companies with agricultural supply chains might be exploring in partnership with other stakeholders.

# Introduction

**According to the latest UN climate report, 40% of the world's population is already highly vulnerable to climate change and if climate emissions are not drastically reduced, an additional 130 million people will be pushed into poverty over the next ten years.<sup>2,3</sup>**

The effects of climate change are already being felt around the globe with more frequent extreme weather events, land degradation, loss of biodiversity, rising sea levels, and collapsing ecosystems.<sup>4</sup> This has proven to have negative effects on people's health, income, food security and living conditions.

Women are disproportionately negatively affected by climate change due to intersections between gender, power dynamics, socio-economic structures, and societal norms and expectations.<sup>5,6</sup> As the research in this report shows, women in agricultural supply chains face a number of challenges including a gender gap in access to and control of economic assets including land, tools, credit, and digital technologies.<sup>7,8</sup> These gaps exist in large part due to prevailing social norms that

determine women's role in society. For example, women undertake an unequal amount of unpaid care and domestic responsibilities. The associated 'time poverty' experienced by women limits their ability to participate in climate-smart income generating activities, additional training or education.<sup>9</sup>

The agricultural sector accounts for one-third of the anthropogenic greenhouse gas emissions driving climate change and therefore has a big role to play in tackling the climate crisis.<sup>10</sup> Forty companies in the food and staples retail sector have already signed up to the Science-Based Targets Initiative (SBTi),<sup>11</sup> with a commitment to reaching Net-Zero emissions, not only in their own direct operations, but throughout their global supply chains. These indirect emissions (known as Scope 3) are largely produced through extracting, growing or processing raw materials and in consumer use and disposal of products. They can account for up to 65-95% of total emissions.<sup>12</sup> Mars, for example, estimate that 95% of their entire carbon footprint is in scope 3.<sup>13</sup>



Photo: CARE Netherland © Makmende Media, March 2019



In the case of horticulture in Kenya, the largest emissions sources come from transportation (air freight), processing and packing and farming practices, including heavy use of pesticides (the production of which generates emissions) and the destruction of carbon sinks such as forests and soils.

It is not, as yet, uncommon for there to be little or no assessment of the human impacts of Net-Zero goals that include Scope 3 emissions.<sup>14</sup> What might happen to women workers, for example, if a company decides to reduce transportation emissions through 'near shoring', or being geographically closer to the end user? Alternatively can emissions be reduced by in-setting projects or diversifying women's roles and incomes? The study WOW undertook on decarbonising the Kenyan horticulture sector, found that more women farmers are employed in agriculture than in other parts of the supply chain like transport and processing. Accelerating the uptake of climate-smart agriculture by women farmers therefore offers a clear path to decarbonisation in the short-term. In the medium to longer term more attention needs to be paid to upskilling women to take on more leadership and technological roles traditionally perceived to be the preserve of men. Otherwise women will miss out on the opportunities afforded by the green transition.

### Productivity can also increase when women are included in agricultural training

There is cause for optimism on the climate-smart agriculture front. Not only is it right to address the disproportionate risks and impacts of climate change that women smallholders and workers are facing, but there can also be rewards for women and businesses. There is growing consensus that climate adaptation and mitigation plans are more effective when they include women.<sup>15,16</sup>

In Liberia, a cocoa programme that partnered with a number of cooperatives to provide agricultural training found that households where male and female family members received training reported a 36% higher yield per acre than households where only men were trained.<sup>17</sup>

A similar outcome was found by the International Finance Corporation (IFC) in the coffee sector in Indonesia, where productivity increased 131 percent for groups which trained both men and women, whereas it increased 95 percent for men-only groups.<sup>18</sup>

Furthermore, it is possible to enable women to be economically empowered while simultaneously reducing emissions. As seen for example in the Primark Sustainable Cotton Programme in India, a three-year training programme covering sustainable farming techniques from seed selection, sowing, soil, water, pesticide and pest management. The programme resulted in female farmers using 40% less fertiliser and 44% less pesticide (both established contributors to carbon emissions) and 10% less water, when compared to a group of control farmers. They also experienced an increase in profit from cotton that was almost 200% greater than that of the control farmers.<sup>19</sup>

Given that women workers make up around 47% of the agricultural workforce globally, and often play crucial quality and value addition roles in supply chains, there is a huge scope for win-win solutions that economically empower women whilst simultaneously building climate resilience and decarbonising supply chains.<sup>20</sup>

# From risks to rewards

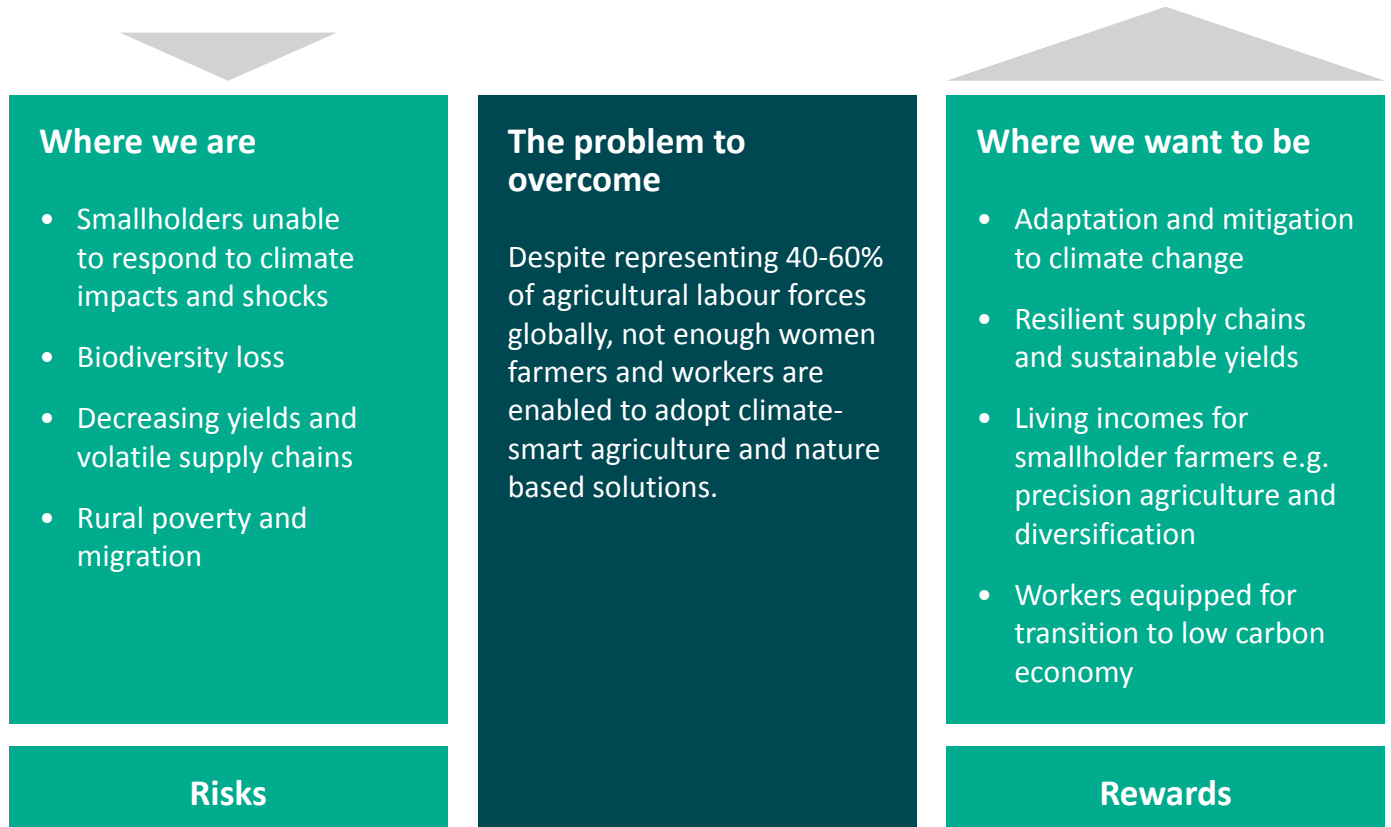
**Climate change and inequality are two of the most significant challenges facing the world today. While emissions rise, progress towards gender equality is reversing, partly due to shocks including COVID-19 as well as continued risks of climate change threatening women's lives, livelihoods and food security.<sup>21</sup>**

Traditionally, companies (and governments) have sought to address climate and inequality as separate, rather than inter-linking issues. Generally, environmental teams assess how a company can reduce its emissions, find circular solutions to waste and/or address water stewardship, whilst social impact staff seek to address challenges like gender equality, human rights and/or living incomes of smallholder farmers in supply chains.

The need to address scope 3 emissions in supply chains offers a chance to do things differently,

and address both environmental and social issues together. Doing so could mitigate key risks companies are facing, namely supply chains that are unable to cope with shocks, higher emissions and increased poverty amongst smallholder producers. However, by taking a gender-just climate approach, these can potentially be turned into both rewards for the business (resilient supply chains, decarbonisation, living incomes) and for women's economic empowerment. After all, women make up between 40-60% of the agricultural labour force in developing countries. If these women had the same access to productive resources as men, they could increase yields on their farms by 20-30% percent, raising total agricultural output in these countries by 2.5-4%.<sup>22</sup> Increasing women's economic empowerment therefore improves the likelihood of moving towards a scenario of rewards.

## Women's Economic Empowerment



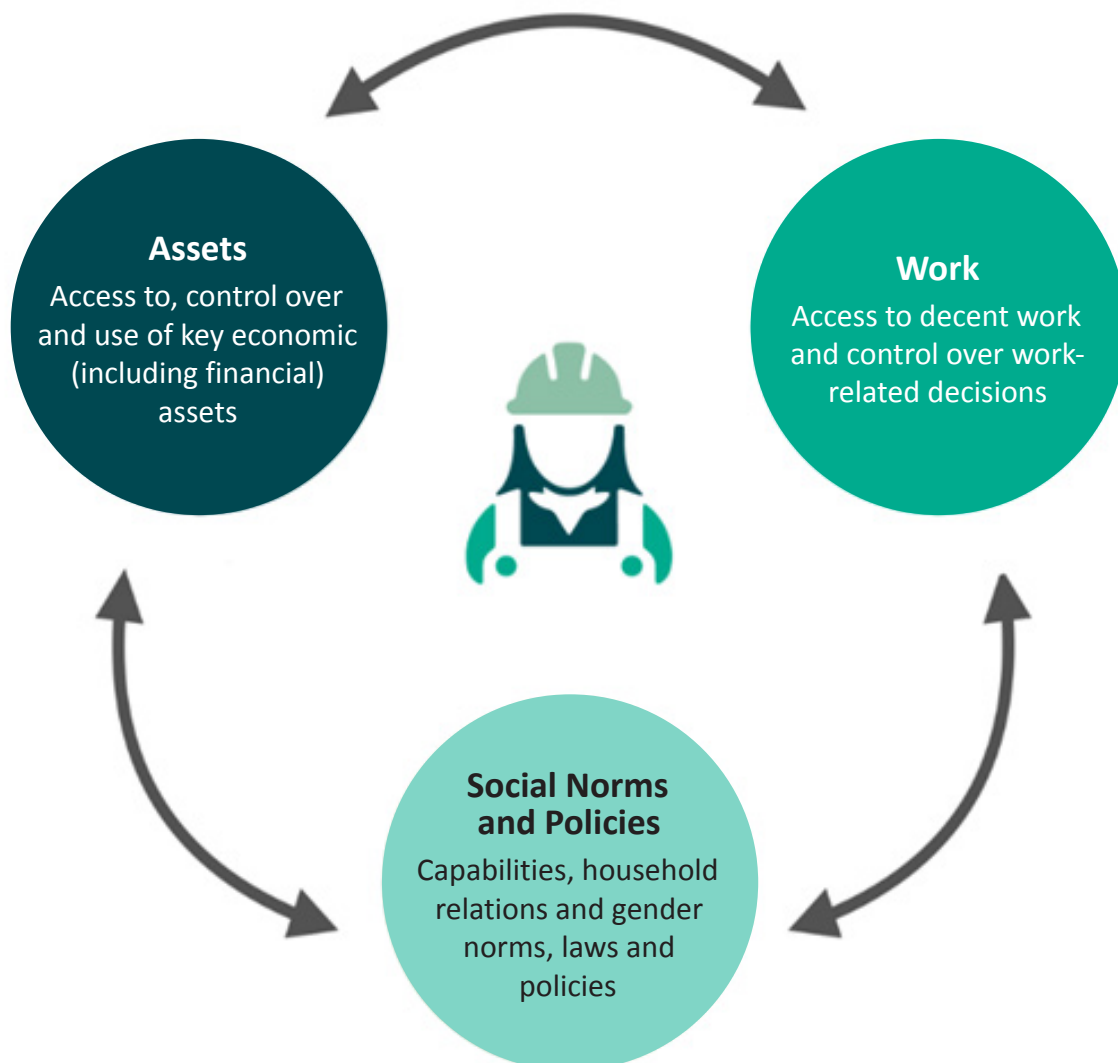
# The impacts of climate change on women's economic empowerment

Women's Economic Empowerment (WEE) can be defined as *"Women having the ability to succeed and advance economically, and the power to make and act on economic decisions to enhance their well-being and position in the society"*.<sup>23</sup>

The WEE Conceptual Framework (Figure 1) presents three overarching domains to WEE: Social Norms, Assets, and Work.

The WOW research in Kenya, Malawi and Pakistan found that whilst the physical impacts of climate change varied, (e.g. droughts in some cases, floods or pests and diseases for others), the disproportionate social impact on women was consistent across all three studies. Indeed, in each country study, women experienced negative impacts across all three domains of women's economic empowerment (Social Norms, Work and Assets).








Figure 1: WEE Conceptual Framework<sup>24</sup>





**Figure 2: How women's economic empowerment is impacted by climate change**

**A summary of the report findings**

<p><b>Time</b></p> 	<p>Unequal distribution of unpaid care work, agricultural labour and domestic chores exacerbated, e.g. more time spent collecting depleted supplies of water and wood.</p>
<p><b>Health</b></p> 	<p>Higher vulnerability to physical and mental health impacts, e.g. crop failure impacting income and food scarcity, causing malnutrition in women as they provide for men and children first.</p>
<p><b>Knowledge and education</b></p> 	<p>Less access to training and lower educational attainment, e.g. less time for climate-smart training due to more time spent on household responsibilities and restrictions on mobility. Male farmers often take priority for training opportunities as they are perceived to hold higher value/productive roles.</p>
<p><b>Leadership</b></p> 	<p>Ability to voice opinions and hold leadership positions, e.g. less ability to become community leaders in climate-smart agriculture due to men's dominance, e.g. interactions with extension officers or seed companies are perceived as 'male roles'.</p>
<p><b>Gender Based Violence (GBV)</b></p> 	<p>Risk of GBV such as sexual harassment increased, impacting work and productivity, e.g. increasing drought impacting food security, causing tensions which increase the risk of domestic violence.</p>
<p><b>Work and income</b></p> 	<p>Gender gap in access or control of income and work opportunities increased, e.g. women are overrepresented in lower-ranked jobs like tea picking, which are more affected by weather events when compared to management positions.</p>
<p><b>Assets and credit</b></p> 	<p>Limited access to credit and borrowing, often linked to income and (lack of) asset ownership, e.g. lack of land ownership preventing access to loans in times of climate shocks.</p>

## Social norms and policies



Climate change disproportionately affects women due to systemic gender inequality and the traditional gendered roles they play in a household and wider community.<sup>25</sup> In Africa, it is estimated that women are responsible for 75% of all unpaid care and domestic work, spending an average of 4.5 hours per day, as compared with just over two hours for men.<sup>26</sup>



**More extreme weather events and changing weather patterns**, including floods, droughts, destructive winds and changes in temperature have negative direct and indirect impacts on women workers. This includes **placing greater burdens on women's time** as it takes them longer to conduct their unpaid responsibilities.

**“...Women spend more time looking for water. Sometimes we have to wake up at 4am to beat the long queues at the water holes and even then we will still have to wait for over an hour to get water...”**

Woman farmer, Kitale Kenya<sup>27</sup>



More extreme weather can impact the **health and safety** of women. This can affect **physical health**. For example, increased time spent on domestic responsibilities due to climate change impacts, which is in addition to agricultural labour roles, leaves women little time to take care of themselves. This is compounded by the types of work normally fulfilled by women, which often includes physical labour and long working hours in the field, with limited rest or shade. In Malawi, survey respondents were asked to list impacts of climate change. Responses included: increased incidence of disease and illness (malaria, body sores, COVID-19, blood pressure, sore throats, cholera outbreaks, headaches) and decreased air quality due to pollution.<sup>28</sup>

**“Our health has been affected due to climate change. We are at risk due to flooding where our relatives were washed away with water, our health has been affected and we are constantly in fear.”**

Woman farmers, Malawi<sup>29</sup>

## Social norms and policies



**Mental health concerns** of safety and security born from climate change induced vulnerabilities also emerged among respondents:<sup>30</sup>

**“As a parent with young children, I must take them to school because the bridges are not safe. During the rainy season, water covers the bridges, and it becomes unsafe for the children. This endangers my life and my children as well. Taking the children to school takes a lot of time and domestic chores, and tea picking or weeding is waiting for me. I don’t have time to socialise with other people because I am overwhelmed with work.”**

Young woman in Kisii, Kenya<sup>31</sup>



**Time spent on unpaid care and domestic work poses a barrier to education**, including learning new climate-smart practices to mitigate against climate change impacts. In other studies increased time spent on domestic chores due to climate change has also been associated with girls being taken out of school to help families, exacerbating gender inequalities in education levels.<sup>32</sup>

**“It gets so hot during the day, that now I have to get up earlier than usual to get my work at farm done and then come back to manage the household work. But even then, it is very difficult and so much work remains to be done, with none to support. I feel completely tired by day end.”**

Woman farmer, Sindh Pakistan<sup>33</sup>

**“As soon as we wake up, we start working. We prepare breakfast and ensure children are ready for school. We go to the farm or to pick tea, or work in the factory. We return back home to make lunch. Thereafter, we have to wash clothes and check on the old men and women to ensure that they have enough food and eaten and have bathed. Later in the evening, we tend to the vegetable gardens and some of us have to look for firewood or charcoal and start preparing supper. We don’t have time to learn new practices that can cushion us against the changing climate.”**

Young woman, Kericho Kenya<sup>34</sup>

This especially applies to women who have depended on traditional knowledge but need to learn about new climate-smart practices with the changing/unpredictable weather patterns as it is challenging for women farmers to anticipate onset of rains.



**“...Nowadays there are very unpredictable weather patterns...for example, initially whenever there was an occurrence of mist it meant the rains were close, but these days the mist appears but it never rains. Similarly, whenever there was morning dew we knew the rains are coming but now, we get morning dew but no rainfall...”**

Woman farmer, Kenya<sup>35</sup>

Gender norms around decision making and leadership On male-owned farms, female family members do much of the work, yet receive little of the income from crop sales and have little say in how that income is spent.<sup>36</sup> When asked about their role in agriculture, some women identified themselves as being supportive rather than being primary contributors.<sup>37</sup> This impacts on women’s power to be decision-makers and prevents them from being able to participate and promote climate-smart agriculture more actively.

**“I do not talk when my husband and other male members discuss about land or other things. Even if I say anything, they will ignore, and will rather rebuke me for talking between them as I am not expected to do so. So, it is better to keep shut.”**

Woman farmer, Sindh Pakistan



**Women are overrepresented in precarious lower paid jobs in agricultural supply chains which are often the most vulnerable to climate change.**<sup>38</sup> More extreme weather events including floods, droughts, destructive winds and changes in temperature have negative direct and indirect impacts on women workers.

Climate change can lead to women not being able to work due to weather conditions, lower levels of agricultural productivity due to changing temperatures and pests and diseases and being laid off from work e.g. due to floods, **meaning incomes are reduced**. This impacts women disproportionately in countries/regions where women are mostly employed in the agriculture sectors. This has caused some women to fall into debt and can prevent families from sending children to school.

**“Women in tea farming have been affected by climate change with regards to the picking schedule. It has been pointed out that we pick a lot of tea from December to January. But it is now February and yet we haven’t harvested enough leaves. This affects our income and hence we are unable to pay school fees or buy food. As a result, we fall into debts. We are having poor tea sprouts due to climate change.”**

Woman farmer, Thyolo, Malawi<sup>39</sup>



**Reduced food availability due to climate change combined with reduced income** from agricultural work **negatively impacts food security** and household food purchasing power.<sup>40</sup> Women can be disproportionately impacted by this – in certain areas, such as in the Ghotki district in Sindh, Pakistan, women reported eating less food so husbands and children can have a larger share, including during food shortages. This can lead to **increased instances of malnutrition, anaemia, and other health risks** for women.<sup>41</sup>

Increased natural disaster events, such as drought and flooding, can also **exacerbate pressures for child marriages**. This can be in response to events such as agricultural shocks, where families look for a more food secure or safer household for daughters,<sup>42</sup> and/or as a means to secure funds or assets.<sup>43</sup>

Reduced **incomes of (women) agricultural workers has been linked to domestic violence**.

**“Drought and frost are leading to decrease in amounts of tea picked and is affecting us in a severe way. The reduced volume translates to reduced earnings causing tension between us and our husbands... During and after drought and frosts events, our husbands are usually in foul moods and easily pick emotional and physical fights with us.”**

Woman farmer, Murang'a, Kenya<sup>44</sup>

**“Drought can wipe out an entire crop season and if you have nothing to fall back on, your family will be hungry and thus affecting their health. In some cases, husbands become angry and resort to domestic violence...”**

Woman farmer, Nyeri, Kenya<sup>45</sup>

Reduced incomes and food security issues, exacerbated by changing weather patterns, has seen **women turn to do more piecework and Income Generating Activities (IGAs)** in other sectors to provide for their families; data from WOW's Ethical Tea Partnership Malawi study suggests that women may be turning to sex work for both income and to increase their chances of getting or maintaining employment within the tea sector.<sup>46</sup>

Other anecdotal evidence suggests that this problem is not isolated to Malawi. Gender specific constraints, such as **lower levels of financial literacy, limited access to credit and reduced ability to travel**<sup>47</sup> (due to household roles and increased risk of harassment when travelling longer distances), further **limits women seeking new or additional employment opportunities** following events such as crop failure.



**Women are not just disproportionately affected by climate change, but also in their ability to respond through climate mitigation and adaptation strategies.** A gender gap in access to and control of assets, including land, machinery, credit and digital technologies, is contributing to this.



Women's limited title to land property and inheritance can mean less access to finance and decision-making on land utilisation.<sup>48</sup> Over 60% of women in Kenya are involved in primary agriculture production, yet own less than 20% of arable lands.<sup>49,50</sup>

Across study areas in Kenya, it was reported that is easier for men to get loans from banks and financial cooperatives known as SACCOs<sup>51</sup> because they have resources they can use as collateral such as house, land, and cows.<sup>52</sup> In the cases where women do have access to and ownership over land, there is evidence that they are more able to secure loans and get access to credit.<sup>53</sup>

However, it remains true that only a small proportion of women own and even fewer have control over land. For example, the Kenya study reported that the Kenya Tea Development Agency demand that only land title deed owners can register to deliver tea to their factories and hence get paid.<sup>54</sup> A 2019 study showed that only 7% of women legally own land in Kenya demonstrating the difficulty for women to get access to income.<sup>55</sup>

**“After divorcing my husband, I returned home with four children. My father gave me three acres of land, on which I planted tea bushes, vegetables, and potatoes which I sell in the market. I also rear a dairy cow and goats. This has empowered me and am able to finally make decisions over land. I never thought I could own land after my divorce. The land is registered. It enables me to secure a loan from Equity Bank.”**

Woman farmer, Nyeri, Kenya<sup>56</sup>



Without access to credit, this can limit the use of climate-smart inputs (e.g. biochar, organic fertilisers), due to their associated costs. Where women lack rights to and use of land, they are **unable to use it as a resource for adaptation**. For example, 'in Kisii and Kericho [in Kenya], lack of land ownership and decision-making power implies that women are less likely or able to invest in adaptation and mitigation measures such as agroforestry practices as they will not reap the benefits.'<sup>57</sup>

A 'digital divide', in part due to girls having fewer years of education than boys, means women have less access to digital and other technologies than men. With digital assets and technology increasingly playing a role in climate change responses<sup>58</sup>, for instance weather information updates sent by SMS, **limited access and ability to use digital assets may limit women's ability to respond to climate change**.

**Lack of access to public and private infrastructure assets** compounds gender-related constraints. Notably time-poverty is affected, exacerbating the ability to expand knowledge, including **climate knowledge, digital and financial literacy**.

**'During the drought season, we must ration food within our household. People with disabilities and the elderly do not understand this and cause a lot of problems. When it rains and bridges are flooded, we must find ways to carry people with disabilities and the elderly to hospitals. The increased workload is too much. Sometimes we don't take care of ourselves, and we have no time to think about strategies for adapting to drought, dry spells, floods, intense sunshine, and rainfall'.**

Woman farmer, Murang'a, Kenya<sup>59</sup>

# Emerging responses and recommendations

This section explores the potential opportunities that exist to support women’s economic empowerment whilst simultaneously building more climate resilient and decarbonised agricultural supply chains. It builds on the momentum created by the Gender Smart Investment Summit in October 2022, where the Head of Investments at the Visa Foundation concluded:



Gender is not a sector, asset class, risk... gender cuts across all... so when we move capital with a gender lens there is room for specificity and there’s room for integration.”

**Najada Kumbuli**

This section begins with a summary of WOW’s desk-based assessment of the potential impacts on women of decarbonisation in the Kenyan horticultural sector. Whilst not an in-depth study, the assessment revealed two broad areas of opportunity – firstly the need for more opportunities to be afforded to women to participate in any new ‘green jobs’ that are created during the low carbon transition.

Secondly, the need to accelerate women’s opportunities to become climate-smart farmers. The latter would appear to be the most effective short-term activity for companies to invest in given that i) larger numbers of women are employed or depend on agricultural work than are currently employed in transportation or processing and packaging, and ii) in many cases, existing agricultural practices contribute to high emissions, e.g. the largest source of emissions for Kenya is agriculture and this is expected to remain so in 2030.<sup>60</sup>

This section then moves on to illustrate the types of activities required to enable women to become climate smart farmers – drawn largely from suggestions and findings gathered during the three WOW field-based research studies in Kenya, Malawi and Pakistan.



It concludes with some broad recommendations for action by companies.

### Decarbonising supply chains

Scope 3 emissions mapping and decarbonisation plans will be context specific depending on the company and the raw materials. In the case of Kenyan horticulture, WOW found that the highest source of emissions for Kenyan horticultural products sold to UK supermarkets come from transport. This is due to the requirement for products to be transported by air to maintain the high quality of the product (e.g. roses). Emissions from agricultural production contribute to the next highest source of emissions. This is driven by energy consumption associated with drip water irrigation systems, in-farm transport, fertiliser and pesticide use. Finally, there are small amounts of emissions from processing and packaging. This includes some emissions from the refrigeration of goods and electricity consumption in the packing houses. However, it is often minimal given Kenya's situation on the equator and reliance on solar.



Climate change is the most consequential threat multiplier for women and girls, with far-reaching impacts on new and existing forms of gender inequities... The cumulative and gendered consequences of climate change and environmental degradation breach all aspects of the rights of women and girls.”

**Reem Alsalem**, United Nations, July 2022



A snapshot of the potential impacts on women and the roles that they could play in transitioning to a lower carbon scenario in the Kenyan horticulture sector.

Emissions source	Decarbonisation action	Potential impacts and roles for women
1. Farming practices	Climate-smart agriculture: (e.g. precision farming, soil and water management, farmland carbon storage, inter-cropping, reforestation).	<p>New approaches or technologies could exclude women given that land ownership is often held by men, which in turn often confers decision making power with regard to farming practices. Alternatively, taking a WEE approach could enhance women’s roles as climate-smart farmers. This could be via improved access to inputs, credit, knowledge, and decision-making, coupled with reductions in unpaid care and domestic work. (See the following section on WEE and climate-smart agriculture).</p> <p>Enhanced precision farming and agroforestry techniques have potential to maintain manageable workloads without experiencing losses, or in a more ambitious scenario, increase net productivity and income.</p>
	<p>Decarbonisation of energy sources for farm activities: use of renewables for energy intensive activities e.g. water pumping and powering offices.</p> <p>Reduction in emissions for in-farm transport: elimination of the use of diesel and petrol for in-farm transports. Within the Kenyan context, alternatives such as biofuels and electric vehicles remain limited to date.</p>	<p>Gender norms determine that men are often responsible for tasks with greater physical demands and/or in technical roles, whilst women are over-represented in lower paid jobs e.g. sorting departments, due to their perceived efficiency. New roles and green jobs e.g. fixing solar panels or irrigation systems, or transporting goods in electric vehicles, offer opportunities for career advancement for women farmer or changes to the gender division of roles or changes to the gender division of roles.</p>

2. Inputs – pesticides and fertilisers	Improved fertiliser management: use of organic products as an alternative input for fertilisers (e.g. microbes, animal waste, plant waste or other natural resources); use of low-carbon synthetic fertilisers; use of natural pesticide measures.	Men are traditionally involved in chemical spraying due to perceived (and often real) impacts on reproductive health in women. Reduction in use of synthetic fertiliser on farms could offer new opportunities for women, e.g. income generating activities or jobs related to natural fertiliser collection, production and sale (see project example: ETP, World Toilet Board Coalition partnership in India tea estates). <sup>61</sup>
3. Processing and packaging	Decarbonisation of energy sources for processing and packing: use of renewables for refrigeration, cold storage, and air-conditioning.	Opportunities to upskill women workers as per point 1 above. Potential for new Net-Zero roles e.g. data collection, monitoring and reporting of carbon emissions and maintenance of new technologies. New roles and upskilling also offers opportunities to bridge gender gaps in digital access and knowledge.
Transport	<p>Alternatives to air freight e.g. sea freight. Also opportunities to collaborate, learn, and scale impact through partnerships (e.g. the Sustainable Air Freight Alliance).</p> <p>Increasing sales to the domestic market. Stakeholders interviewed in the study reported a growing middle class with an interest in ethical products and cited growth of the Fairtrade domestic market in Kenya.</p>	Any assessment of whether to shift sourcing countries in an effort to reduce transport related emissions must be done in conjunction with assessment of social implications. Most temporary workers in the sector are women who at higher risk of job losses. Buyers should close any sourcing relationships in a suitable way, e.g. working with suppliers to find new crops or domestic markets should such a transition be necessary.



Photo: Imani Development

### How two different suppliers are seeking to integrate actions to address gender and climate change

Tambuzi is a small specialist rose supplier in Kenya that employs 300 workers on a full-time basis, indirectly benefiting 3000 people. Karen Roses comprises of six farms in Kenya supplying cut flowers to the UK, Europe and Middle East.

**Soil health:** Tambuzi is using traditional organic fertilisers, reducing the reliance on synthetic fertilisers, thereby improving soil health whilst reducing emissions, as well as applying biochar to increase the carbon storage of the soil and improve soil health. The impacts of such changes go far beyond the farm; better soil quality means improvements in agricultural productivity, with important consequences for livelihoods and food security.

**Carbon storage and reduction:** Tambuzi is protecting designated areas of farmland for natural vegetation to act as a carbon sink. It is also using new technologies such as the use of solar for farm irrigation, office lighting and cold stores.

**WEE:** Tambuzi is delivering awareness training on their new environmental policy and specific technical training sessions on new farming practices during working hours. Karen Roses is providing creche facilities on-site.

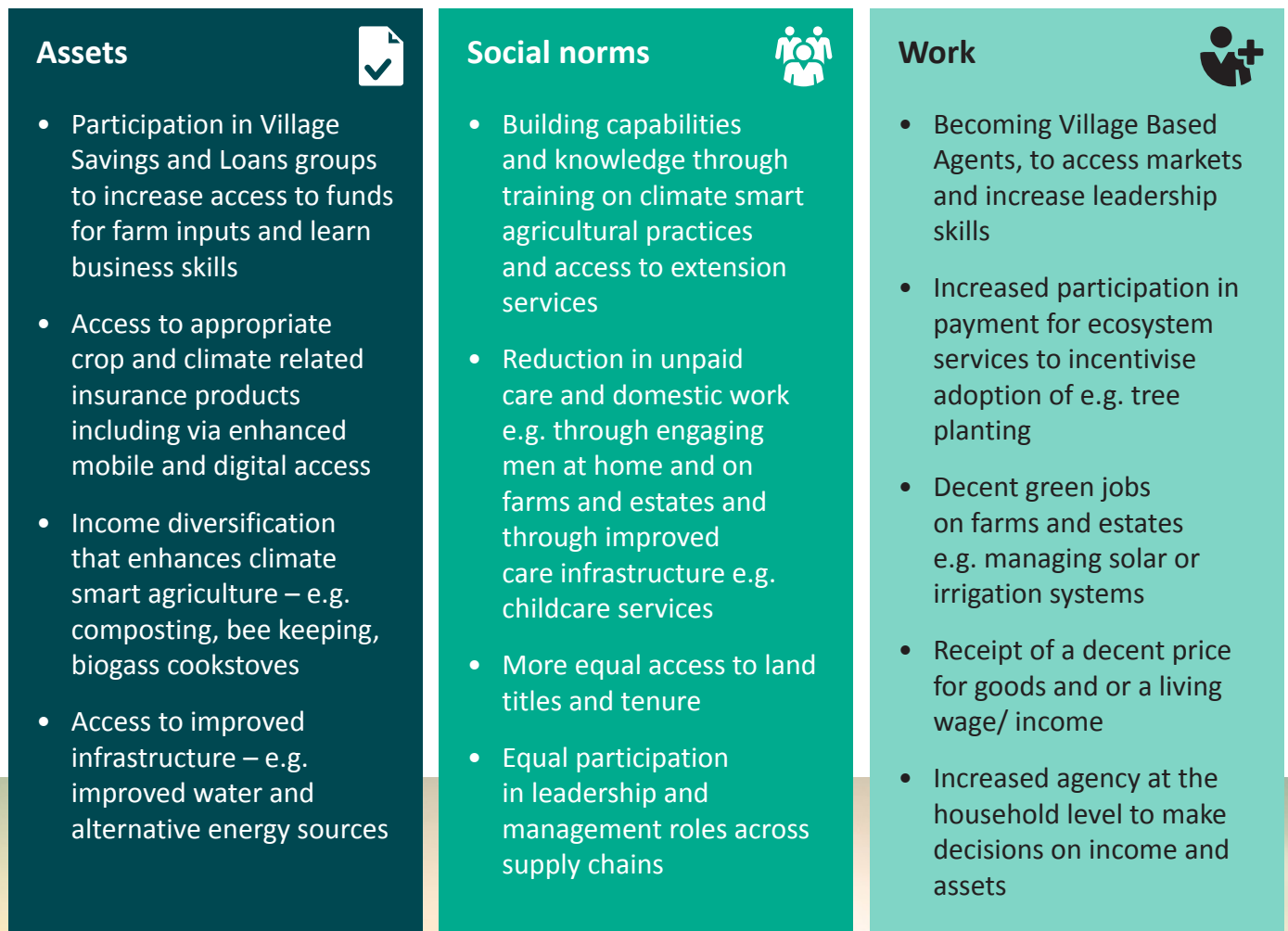
### Women's economic empowerment and climate-smart agriculture

Efforts to enhance women farmers uptake of climate smart approaches should seek to ensure that the interlinking domains of change required to achieve women's economic empowerment (assets, work and social norms) are tackled together where possible. Too often projects focus on enhancing women's capabilities (e.g. training and awareness) but this alone is not enough to shift the power relations that are an obstacle to women's economic empowerment.<sup>62</sup> For example, encouraging women to diversify their incomes and adopt climate-smart approaches should happen alongside reducing their unpaid care work. More green jobs that are created during the transition to a low carbon economy should be made available to women on farms and estates, but to be effective, this needs to happen along with enhanced upskilling and challenging gender stereotypes.

The suggested activities captured in Figure 3 are largely drawn from participants interviewed during the WOW research in Kenya, Malawi and Pakistan, as well as previous WOW desk research. They are not an exhaustive list of options but rather are illustrative of the types of interventions that can be adopted across the three domains of change for women's economic empowerment. This diagram is followed by some emerging examples of success.

**Figure 3: Suggested activities**

A climate smart and more economically empowered woman



## Examples of relevant responses that could support women and climate change: WORK



**Evolving ‘payment for ecosystem services’ (PES) models could, if designed appropriately, enable women to benefit from conservation and carbon markets.**

There has been a rapid expansion in the use of PES as a key conservation finance policy and as a way of accessing carbon markets. However, there is insufficient understanding of how gender can affect PES implementation and outcomes. Generally, whilst women often value, prioritise or use ecosystem services (such as energy, food, water and medicine) more than men, women are often excluded from meetings about PES or access them at lower rates than men, often as a result of discrimination or time constraints. A recent study that looked at a 10 year PES programme in Vietnam found that whilst women’s participation in the project was initially low it increased over time and the women reported more behaviour change than male-headed households, including higher self-reporting that they had prevented others from logging or had reduced their own fuelwood collection. The use of income from PES also showed differences between male and female-led households, with men more likely to spend funds on non-essential goods. Within households, although men initially decided how to spend PES money, decision making has become more equitable over time – suggesting that PES programmes take time to reap benefits for women.<sup>63</sup>



**Farms and estates can support women to participate in opportunities afforded by the green transition**

Miro Forestry is a sustainable forestry and timber business with plantations in Ghana and Sierra Leone. While the majority of jobs are currently on plantations, as the business expands, most new jobs will be in harvesting and processing. British International Investment (formerly CDC) supported Miro Forestry to perform a gender workforce diagnostic and adopt a gender action plan. The diagnostic revealed key opportunities for Miro, which led the company to set a target to increase the number of women in the workforce from 26% to 40% over the next two years. Miro has also introduced a series of specific initiatives to advance women’s employment and leadership, including mentorship and upskilling.<sup>64</sup>



Photo: Farm Africa

## Examples of relevant responses that could support women and climate change: ASSETS



**The Village Based Advisor Model is a self-financing approach that can enhance women farmers knowledge and link them to input and output markets**

Village Based Advisors are lead farmers, who are respected in their communities and can support the spread of knowledge about regenerative farming techniques to their peers and link them with seed and agricultural supplier companies. They play a critical role given the shortage of government extension officers in many rural areas.

One recent study in Mozambique found that the agricultural industry generally recognises women as being trustworthy, hard-working and good at dealing with clients, and that by investing in female agents, input distributors could more effectively target the last mile particularly female farmers who face restrictions on their mobility and time.<sup>65</sup>

For example, through becoming a Village Based Advisor, Kenyan farmer, Ann, has been working with private sector companies which include certified seed suppliers, fertilizer suppliers, and companies that sell agroforestry seeds and seedlings.

She gets the inputs from these companies at a wholesale price and supplies to the farmers at a retail price. She also earns a monthly commission from ACRE Africa from marketing insurance for maize and pulses crops. In addition, she has gained leadership skills and now has the confidence to address groups of people, which she lacked before the project.<sup>66</sup>



**Registering women as land owners improves access to finance and can generate more positive climate outcomes**

In the case of tea, registering both men and women as tea owners would empower women to be appreciated for their labour inputs into tea production as well as benefit from the tea income. This can also be implemented in other parts of the supply chain, for example factories registering the names of both men and women and making separate payments. By enabling women to have ownership of land and assets, there will be a greater level of access to finance as women will have collateral such as their land. Furthermore, a study by Ringler et al. showed that increasing women's control of assets helps them manage risks under the changing climate as well as increases women's greater bargaining power.

WOW – ETP Kenya Research



Photo: Farm Africa

## Examples of relevant responses that could support women and climate change: SOCIAL NORMS



### Engaging men across the coffee supply chain to redistribute unpaid care and domestic work and improve overall productivity

Whilst not a climate change programme, CARE's work in the coffee sector in Papua New Guinea, offers valuable lessons on how to work with men to ensure women have more time to engage in agricultural extension activities.

CARE helped to increase women's participation in coffee related extension services from less than 5% to 44% over five years. Engaging male leaders in coffee companies and husbands on family run coffee farms was crucial to this outcome as women's roles were not previously recognized or valued by them. CARE secured buy-in from the coffee exporting companies by showing that while women were major producers, social barriers, including time spent on caring responsibilities, meant they lacked the time to engage in extension services to produce higher quality coffee.

Overcoming this meant that men had to engage at home and work. CARE illustrated these issues with three of the major coffee companies in Papua New Guinea through Gender Equality and Diversity training, which included a specific focus on engaging men. Other barriers to improved quality and productivity included families lacking relevant business and financial management skills and families not working together effectively to maximize outputs.

CARE, therefore, ran Family Business Management Training for smallholder coffee farming families. The curriculum consists of five half day trainings that are contextualized to rural settings and require both men and women in the household to attend. CARE has also sought to increase women's access to finance by initiating community-led savings schemes in the form of Village Savings and Loans Associations.<sup>67</sup>



Photo: Imani Development



## Examples of relevant responses that could support women and climate change: SOCIAL NORMS



### Capabilities: Gender transformative climate-smart agriculture

The Pathways towards Women's Empowerment programme seeks to increase poor female farmers' productivity and support empowerment in more equitable agriculture systems at scale. Funded through the Bill & Melinda Gates Foundation, Pathways' work is implemented by CARE in Malawi, Ghana, India, Mali and the United Republic of Tanzania.

Through this programme, 47 000 women farmers have been able to increase their yields of food by more than half a million tonnes as compared with traditional practices. The December 2016 cost-benefit analysis carried out by the New Economics Foundation showed that for every USD 1 invested by the Pathways programme, communities get a USD 31 return on investment.

Climate-smart approaches adopted included the use of drought-tolerant or early maturing crops, and development of small-scale irrigation infrastructure. Participants in all the countries cited Village Savings and Loans (VSLAs) as the most impactful intervention, and usually considered that the access to credit provided the best outcome from the project. The programme also successfully challenged the false dichotomy between men as breadwinners versus women as care-givers. Communities say that the programme helped change their minds about how to better treat female farmers.<sup>68</sup>



Photo: Imani Development

## Overall recommendations for companies that want to start developing climate smart and gender-just approaches in their supply chains.

These recommendations consolidate findings from both the research that identified the impacts of climate change on women farmers and workers, as well as a desk-based review of the potential impacts of decarbonisation of Kenyan horticulture on women workers.

**1 Identify women in the agricultural supply chain:** As the testimony in this report shows, identifying the roles women play in specific supply chains and the specific climate related barriers they face can help build more effective and targeted responses. Companies should seek to commission or partner with other key stakeholders to improve data collection processes on women in supply chains and engage directly with women workers, representatives and communities.<sup>69,70</sup>

**2 Incorporate gender into Net-Zero planning:** Assess both social and environmental risks and opportunities of emissions reductions during scope 3 mappings and co-create these plans, where possible, with workers. Without a gender lens, women will continue to be disproportionately affected by the effects of climate change and more likely to miss out on the opportunities presented by the transition to a Net-Zero economy. Companies will also miss out given women's high representation in the agriculture sector and the role they can play in increasing productivity and reducing emissions.

**3 Pilot and scale gender-transformative climate-smart agriculture training and approaches:** These may include introducing new farming practices, extending schemes to support workers to access credit for climate-smart inputs alongside financial literacy training, facilitating new income-generating opportunities for women workers through, for example, sales of organic fertiliser and/or upskilling women workers in new Net-Zero related roles. Any climate-smart agriculture training programmes must pay close attention to all three domains of WEE together (assets, work and social norms). For example without reducing unpaid care work, women will not have time available to participate in climate-smart training. And without enhancing women's leadership, social norms will prevent women from implementing the skills that they learn.

# 4

**Find win-win solutions that address gender inequality, climate change and biodiversity loss:** Work with social and environmental colleagues internally and with expert stakeholders externally, to map out where potential opportunities might lie – e.g. reducing climate impacts or finding nature-based solutions, given that circularity, waste, addressing deforestation, could also create income generating opportunities for women in supply chains.

# 5

**Support suppliers to decarbonise with a gender lens:** Incorporate criteria on gender and other inequalities within sourcing policies and codes of conduct for suppliers both overall, and as part of new Net-Zero requirements for suppliers. Offer preferred supplier status to those advanced on their Net-Zero journey, who are implementing this in ways that demonstrate investment in women’s empowerment. These may be informed by existing tools such as the UN’s Women’s Empowerment Principles Gender Gap Analysis Tool.<sup>71</sup> Support suppliers by investing in new low-carbon technologies. This is particularly relevant for smallholder female farmers who do not have access to capital. Investments could include solar irrigation systems, low carbon farming machinery, solar energy technologies for cooling and refrigeration.

# 6

**Build effective partnerships to address gender and climate:** No single actor can create gender-just climate smart supply chains for women smallholders. It requires concerted action by multiple stakeholders from local and national governments to investors, corporate buyers, cooperatives, input suppliers and ultimately the prices that are set and expected by the end users – consumers. Innovative partnerships that tackle the issues across the full value chain from source to consumer are required.

# Conclusion

As this report illustrates, the risks of inaction on climate change and gender inequality are clear, whilst the potential rewards of accelerating change through the catalyst of women's economic empowerment makes moral and business sense. More companies and investors are asking the right questions and expecting to see action on gender and climate change.

Last year, the CEO of Aviva and Chair of the 'Women In Finance Climate Action Group' led a session at COP 26 urging for climate finance to have a gender lens.

Some of the world's largest International finance institutions, including the European Bank for Reconstruction and Development, the European Investment Bank and British Investment International have collaborated to produce detailed guidance to enable investors to identify and support gender and climate smart opportunities across multiple sectors from transport to forestry.<sup>72</sup> At the conclusion of the Gender Smart Investment Summit this year, there was a call to action to truly integrate gender – in all its complexities – across the value chain, leaving it transformed in the process.

There were also calls to change the paradigm and stop seeing women as victims but rather as solution drivers, because that is what capital follows.

WOW is pleased to be playing its part in supporting the development of pilot projects with companies on climate change and gender. To stay informed about their progress, please check the following website: <https://www.gov.uk/guidance/work-and-opportunities-for-women>



We can't solve the climate crisis without involving women. And we won't create equality for women unless we address the climate crisis. With so much at stake, it is negligent beyond belief to ignore the impact on half the world's population and the contribution women can make. That is why I've convened a group of female leaders in finance to consider what more can be done to improve gender equality when designing, delivering and accessing climate finance."

**Amanda Blanc, Aviva Group CEO, 2021<sup>73</sup>**

We have a long term vested interest in a resilient cocoa supply chain, and understand the potential of joining climate and gender. Women are key players in the cocoa communities, and by including them in our climate interventions, we know we can accelerate impacts. For example, in our agro afforestation work we have ensured that women are leading and owning the tree seedling nurseries for replanting."

**Cathy Pieters, Senior Director, Sustainable Ingredients and Cocoa Life, Mondelez International, 2021<sup>74</sup>**

Mars, like many companies, has long-standing commitments to support climate action (SDG 13) and gender equality (SDG 5). But we haven't always looked at the intersections between these two areas. As we progress our Net-Zero Commitment and our Cocoa for Generations plan, it is becoming clear that the two issues are inextricably linked. Women are central to climate mitigation and resilience – and they're disproportionately impacted by the risks of climate change. Climate action isn't just about protecting the planet – it's about empowering people."

**Lisa Manley, Vice President, Sustainability, Mars, 2022<sup>75</sup>**

# Acknowledgements

**We would like to extend our sincere thanks to the hundreds of women smallholders and workers who participated in the research. Their voices are central to the findings in this consolidated report.**

This report was authored by Alice Allan with support from Cristina Bortes, Emma Cox, Priyanka Kanani, Margot King, Alex Lockyer, Ben Shepherd (PWC), Hester Le Roux (CARE International UK), Olivia Jenkins (Social Development Direct) and Dimpy Sanganee (FCDO).

WOW would like to thank the following researchers and staff who contributed to the individual country studies:

**Primark Pakistan study:** Sheetal Nischal, (Primark); Muhammad Ayaz, Kinner Lakhani, Arif Makhdam, Shweta Verma (Cotton Connect)

**ETP Malawi study:** Rachel Cracknell (ETP); Eleanor MacPherson, Esnath Mandala, Jonathan Thorneycroft (Imani)

**ETP Kenya study:** Rachel Cracknell (ETP); Tabitha Muchaba, Mary Nyasimi (ICCASA)

**Waitrose Kenya study:** Amy Morris, Barney Smyth (John Lewis Partnership); Tom Cadogan, Mary Nyale, Diana Onyango, Joseph Wachira (Farm Africa).

**Waitrose Kenya study (desk-based):** Amy Morris, Barney Smyth (John Lewis Partnership); Enda Doherty, Alex Lockyer, Kathryn Oldfield (PwC); Eileen Gallagher (BSR).

**Overall project support from** Enda Doherty (PWC) and Alice Allan (WOW Team Leader).

The original WOW research reports are available on request. For more information, please email: [alexandra.lockyer@pwc.com](mailto:alexandra.lockyer@pwc.com)



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**The Work and Opportunities for Women (WOW) programme is a flagship programme funded by the UK’s Foreign, Commonwealth and Development Office (FCDO). The objective of WOW is that women have access to improved economic opportunities through business interventions in global value chains and economic development programmes. It will achieve this goal by supporting businesses, organisations and programmes that are ready and willing to act on women’s economic empowerment; enabling players across the value chain ecosystem to drive change; and influencing the UK and global agenda on women’s economic empowerment. WOW is delivered by a consortium of global experts at the cutting edge of women’s economic empowerment research, programme design, and delivery. The Consortium is led by PwC and includes CARE International, BSR and Social Development Direct.**

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