

Female farmers in the Galapagos: An invisible force

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Abstract

Despite the crucial contributions of women to agriculture and food security, female farmers in the Galapagos Islands face persistent challenges that hinder the recognition and valuation of their work. Furthermore, the lack of gender-disaggregated data tailored to their local and contextual realities presents an ongoing challenge for evidence-based policy formulation, hampering the response to their specific needs and challenges. Taking a departure from the dominant quantitative approach in agricultural research, this scholarly article delves into the Galapagos Islands as a socio-ecological system, employing qualitative methods that integrate meaning and emotion. With the objective of exploring the role of women in Galapagos' agriculture, the study contributes to the gender discourses and advances knowledge on the gendered dimensions of agriculture in the Galapagos Islands. Employing semi-structured in-depth interviews, focus groups, and a thematic analysis guided by Ecofeminist Ethics of Care approaches, the research draws upon the lived experiences of 26 female farmers from six parishes in the highlands of Santa Cruz Island. Their narratives sheds light on the nuanced needs, responsibilities, challenges, and concerns that shape the experiences of these women. Our empirical findings reveal four key dimensions characterizing the role of female farmers: providing nutritious food to families and communities, transmitting knowledge and retaining skills, diversifying the agroecosystem, and conserving the environment. Moreover, our investigation highlights the ongoing marginalization experienced by these women across various domains. They encounter significant challenges that hinder their equitable and meaningful engagement in agriculture, including the double burden of childcare and household responsibilities, financial constraints, discriminatory practices, and tokenism. We arrive at the conclusion that, female farmers in the Galapagos exhibit a caregiving orientation within their farming practices. Recognising the significance of their role is imperative. To nurture these caregiving practices, addressing their challenges, such as improving living conditions and providing enhanced opportunities, is paramount. Consequently, we offer actionable recommendations for gender mainstreaming in the Galapagos' agricultural sector.

Keywords: care, challenges, gender roles, food security, sustainability

1 Introduction

In the aftermath of the COVID-19 pandemic, there is an increasing global concern about food security. The agricultural sectors face a pressing triple challenge of providing food security and nutrition, ensuring livelihoods, and using natural resources sustainably while mitigating climate change (CMS, 2019; Bruil *et al.*, 2020). Such reality becomes even more urgent in the Galapagos Islands, given their isolation and reliance on food imports from continental Ecuador. The outbreak of the COVID-19 pandemic and the

subsequent disruptions in the supply chain led to a severe food crisis on the islands, exposing its vulnerability to future crises. In response, initiatives have been implemented to stimulate local agri-food production to achieve food self-sufficiency in the long term while contributing to conservation and social welfare (Burke, 2021). However, these initiatives lack a crucial component, which is the inclusion of women who are uniquely positioned to contribute to food security (FAO, 2015).

Women play an essential role in agriculture and food production globally, with estimates indicating that they produce 60–80 % of the food in developing countries. In the Global South, women represent 43 % of the agricultural

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workforce and 66 % of livestock keepers (FAO, 2011), and in the Galapagos islands, 25 % of the existent agricultural productive units in the four populated areas are managed by women (Barrera *et al.*, 2019). In the context of the pandemic, their role has become even more important as the closing of borders and the limited mobility of people and goods has awakened increased interest in food security through localised food production and self-sufficiency (LEAD, 2021). Despite their pivotal role, women's contributions to agriculture remain invisible and they continue to face structural inequalities and socio-economic policies that limit the recognition and full valuation of their reproductive, productive, and community work. Furthermore, the lack of sufficient gender-disaggregated, locality- and context-specific data remains a continuous challenge for evidence-based policy development for the agricultural sectors, making it challenging to respond to the specific needs and constraints faced by women (Doss, 2014; Herring, 2015; Ignaciuk & Chit Tun, 2019). Consequently, it is crucial for decision-makers to consider the gendered aspects of agriculture in the Galapagos and work closely with local female farmers when tailoring policy measures for the agriculture sector (Ignaciuk & Chit Tun, 2019).

Conservation vs development in the Galapagos

The Galapagos Islands are globally renowned for their remarkable biodiversity and unique endemic species. Designated a Natural World Heritage site by UNESCO in 1976, the Galapagos have been regarded as a natural laboratory for the study of evolution for decades. This has become a pervasive narrative that continues to play a crucial role in the islands' socio-ecological development. Under this perspective, human activities are seen as sources of problems for conservation, and strong regulations limiting them are in place (Lu, 2013; Walsh & Mena, 2016; Laso, 2020). The prevalence of the natural laboratory narrative has generated a severe socio-ecological imbalance, with positivist, science-centred approaches and reductionist interpretations of environmental issues informing decision-making and policies. Consequently, too much emphasis is placed on environmental issues and too little attention is given to social problems, leading to conflicts between the local population and the conservation sector (Brown *et al.*, 2020). The dominant focus on conservation is evident in the disproportionate amount of environmentally related literature available on the Galapagos compared to social literature. Similarly, foreign capital often prioritises environmental initiatives at the expense of local and social programs (Brown *et al.*, 2020; Laso, 2020).

Since social and environmental issues have been treated separately from a sectoral point of view, and without considering the complex interactions between anthropogenic and natural systems, ecological degradation is still occurring at an accelerated rate (González, 2008; Lu, 2013; Walsh & Mena, 2016; Laso, 2020). To achieve meaningful changes toward a more sustainable and just management of natural resources in the Galapagos it is necessary to recognise the complex social and ecological interactions on the islands and work towards a more holistic approach to conservation, one that considers both environmental and social issues equally, as well as the importance of changes in people's attitudes and behaviour patterns (González *et al.*, 2008).

Agriculture in the Galapagos Islands

Since the creation of the Galapagos National Park (GNP) in 1976, conservation discourse and public policy documents have framed agriculture within the context of habitat fragmentation and the introduction of invasive species. This has led to calls to limit the environmental impact of agriculture to ensure ecological sustainability, and as a result, the recommendation has been to minimise agriculture and limit its expansion (Laso, 2020). As food needs of the local population must be supplied by other means, this reasoning categorically supported the increase of imports from mainland Ecuador over low-input alternatives produced locally, creating a feedback loop with severe social and environmental consequences. This has dramatically impacted the agricultural sector, which is marked by strict limitations, making it less appealing for younger generations and leading to massive land abandonment (Laso, 2020). Currently, the average age of farmers is 54 years, and around 1 out of 5 producers is older than 65 years (Barrera *et al.*, 2019). The agricultural system in the archipelago is rudimentary, lacking a trade union organisation, maintaining low levels of technification and lacks an articulated planning and management process, with the abandonment of plantations and very low yields in existing ones (SENPLADES, 2014). Despite having nearly 24,000 hectares for agricultural use, invasive species cover most of the agricultural land, and only 14,000 hectares are currently under effective production, producing around 600 tons of food per month; although about 1300 tons per month are needed to feed its 30,000 inhabitants (Ministerio de Agricultura, 2018). Nowadays, 75 % of the food is imported, and some models project an increase to 95 % by 2037 (Sampedro *et al.*, 2018). Local farmers cannot compete with the low prices of imported products, leading to low profitability and affected livelihoods (Toledo, 2014). This has also led to other critical social problems, such as high

rates of malnutrition and obesity due to the resulting unavailability and high prices of fresh food (Freire *et al.*, 2018).

The agricultural sector in the Galapagos is an example of treating social and environmental problems separately without considering the complex interactions between anthropogenic and natural systems (González, 2008). Practitioners and policies have failed to acknowledge that sustainability issues occur in a complex context, where multiple social, political, economic, and cultural aspects interact with each other and the natural environment (Thompson, 2010).

Shifting the paradigm: Socio-ecological systems

In response to the intricate patterns and dynamics observed in the Galapagos, a novel perspective rooted in complex systems theory has emerged. This perspective recognises the interconnected and unpredictable nature of social and ecological systems, characterised by nonlinearity, multiple feedback mechanisms, and cross-scale dynamics (Folke, 2006). Understanding the Galapagos as a complex coupled human-natural system, this approach acknowledges that achieving sustainability requires social transformation. Therefore, managing agriculture within this framework demands a paradigm shift, involving careful consideration and integration of both social and ecological components (Laso, 2020). To achieve this, the first step is to address the current socio-ecological imbalance by delving into emerging disciplines like political ecology, ecological economics, ecological anthropology, education for sustainability, and ethics (Gonzalez, 2008). Adopting a systems perspective prompts philosophical inquiry, where ethical principles and philosophical analysis must be introduced to understand the agricultural sector (Thompson, 2010; Veisi *et al.*, 2016). Viewing agriculture as a system and recognising the interactions between rural communities, farms, and the environment is crucial for environmental sustainability, as inadequate conditions for farmers jeopardise the sustainability of the entire system (Thompson, 2010).

Incorporating the human component as part of a socio-ecological systems approach implies fostering cooperation between farmers and authorities and replacing exclusionary tactics. It is imperative to revise the narrative and recognise agriculture as a powerful ally for conservation (Laso, 2020). Farmers in the Galapagos have already demonstrated their pivotal role in eradicating invasive species, investing considerable resources toward this cause (Toledo, 2014). True inclusion involves giving historically marginalised actors, especially women, a voice and decision-making power in the rural development process. To address these issues, transformative perspectives are essential, tackling the root

causes of gender inequality and challenging cultural norms and power imbalances within the community. The ecofeminist ethics of care (EoC) offers a valuable concept for understanding women's role in agriculture. The EoC emphasises the fundamental human value of care and relational capacity towards others (Engster, 2005). Expanding beyond personal relationships, this ethical approach embraces caring for other human beings and non-human entities, highlighting the critical link between care and environmental preservation (Whyte & Cuomo, 2017; Shisler & Sbicca, 2019). Numerous studies emphasise the central role of care in agriculture, with Ecuadorian, Mexican, and Guatemalan initiatives highlighting the need for nurturing relationships between people and their food and emphasising care for nature and others within agricultural knowledge (Estrella *et al.*, 2020; Sanic *et al.*, 2020; Trevilla & Azcona, 2020; Wilson *et al.*, 2020). Revalorising care becomes vital in making women visible in agriculture and ensuring equal opportunities for their fair and equal integration (Veisi *et al.*, 2016).

This article aligns with the views of previous authors, such as González (2008) and Laso (2020), in supporting the notion that forging resilient food systems in Galapagos demands a comprehensive re-evaluation of existing dynamics, considering the complex ecological and socioeconomic issues of the archipelago and including all stakeholders, particularly those who have been traditionally excluded, such as women, in the planning and management of Galapagos' natural and human systems. Therefore, this article seeks to contribute to overcome the current socio-ecological imbalance, by advancing our understanding of the gendered dimensions of agriculture in the Galapagos Islands and promoting gender debate. Through the analysis of female farmers' narratives using an EoC framework, we illuminate the distinct needs, responsibilities, challenges, and concerns faced by female farmers in six parishes of Santa Cruz Island to offer a better understanding of their reality through their own voices, hoping to contribute to the development of evidence-based policies and programs that are inclusive and responsive to the specific needs of women in agriculture.

2 Materials and methods

This article draws upon a qualitative exploratory study conducted by the author in 2021, in collaboration with the Charles Darwin Foundation, as part of the Galapagos Verde 2050 program's Sustainable Agriculture component. The study aimed to explore the role of women in the agricultural sector of the Galapagos and was carried out in the highlands of Santa Cruz Island, where the agricultural land is located. It involved 26 women who self-identified as farmers and vol-

untarily participated in the research. To ensure the representation of women in research and data about agriculture in the Galapagos, a female-focused approach was used, and the participants were selected using a purposive sampling method or chain-referral sampling.

Semi-structured in-depth interviews and focus groups were conducted to provide participants with a comfortable and open platform for self-expression. Data analysis was carried out using reflexive thematic analysis, guided by the EoC (Braun & Clarke, 2006), which encompasses a deep consideration of emotional and ethical aspects. Interviews were held in private settings convenient for the participants to alleviate potential pressure and restrictions on participants' responses.

By incorporating the EoC, our methodology goes beyond identifying surface-level themes and patterns, and intentionally recognises the significance of emotions, relationships, and values in shaping the experiences of women in the unique socio-ecological context of the Galapagos. This approach adds depth and nuance to our understanding of the gendered dimensions of agriculture in this distinctive setting.

Although the study had limitations, such as a small sample size that may not be representative of the population and potential bias toward more vocal or opinionated participants, steps were taken to mitigate these limitations. A purposive sampling strategy was employed to ensure a diverse representation of female farmers, data triangulation was used to increase the credibility of the findings, and an initial guide of open-ended questions was created to facilitate the conversations. This guide was modified throughout the study to enable spontaneous access to life experiences. Despite these limitations, the study provides valuable insights into the experiences and perspectives of female farmers in the Galapagos, which can serve as a starting point for further research on this topic.

3 Findings

This section characterises the role of women in Galapagos agriculture and their challenges, we place the participants' narratives at the centre of the analysis using verbatim interviews translated into English. An important factor, which should be considered from the outset, is that female farmers are a diverse group whose realities are influenced by factors such as age, education level, marital status, and family size.

3.1 Characterizing women's role in agriculture

Walking through the bustling free fair in Puerto Ayora, the heart of Santa Cruz Island, one can't help but notice that

behind every stall is a woman. They are not just vendors, but also farmers who have grown and harvested their own produce to sell. Despite the common misconception that men are the primary farmers, these women perform a wide range of labour-intensive tasks including seedbed preparation, weeding, sowing, irrigation, tending, harvesting, and animal care, while men typically perform tasks that require greater physical strength, such as lifting fences, digging holes, cutting trees, moving rocks, loading heavy materials, and operating machinery. These women also manage tasks such as labour recruitment, input acquisition, and marketing and sales. In many cases, food production is shared, with men, women, and other family members participating in growing crops.

Their motivation to engage in agriculture responds to a diverse range of reasons. Family inheritance, such as the love for the land instilled to Olga, a 49-years-old farmer, by her parents and grandparents who were among the first settlers to inhabit the highlands on Santa Cruz Island in 1932, strongly influences these women's participation in agriculture. Economic support is another major driver, as many of the participants rely on agriculture as their primary source of income, cultivating a variety of vegetables and herbs on family-owned small-scale plantations. Paola (38-years-old), for example turned to farming after losing her job to meet household expenses and said, "*I was motivated by economic needs. I started with herbs, and it went well from the first day I took them to sell at the fair. And I've been doing it for five years now. I'm proud of what I've accomplished and the value I've added to myself.*" Agriculture also serves as a source of self-sustenance, supporting the family's economy and reducing reliance on store-bought food. Additionally, the COVID-19 pandemic prompted some of the women in this study, to return to the Galapagos highlands, seeking new opportunities in the agricultural sector amidst the crisis.

All women declared that working in agriculture provides a sense of autonomy and independence. They can generate their own income, gain financial freedom, and learn to manage their own money without relying on their partners' economic support. Lourdes, a 53-years-old farmer, sums it up well: "*Now that I've taught myself to work and manage my money, I know what I'm doing. That allows me to help others and sometimes buy myself a new pair of shoes. It's great for me!*". However, their view of agriculture as a source of economic support, is in tension with their notions about the low profitability offered by the agriculture sector. Almost all of them regarded the profit from agriculture insufficient to survive when not having another source of income. Since an alternative source of income is not an option available to all, the allusions to scarcity of resources are frequent.

Ultimately, providing healthy high-quality products for their communities and families is a shared driving force. They take pride in the important role they play, since their hard work is crucial for the survival of the population on an isolated island like Santa Cruz. Ivon, a 44-years-old pig farmer, sums it up best: *"We [farmers] provide staple products for the population to subsist because we are on an isolated island; if we do not produce, we do not survive."*

***"Healthy food for us and the community."* Women's role in nutrition and food security**

Preserving health strongly mediates the farming choices of the female farmers in this study. Since there is an intrinsic connection between the farm and the family, ensuring their inner circle's health is a priority. Consequently, some prefer to use alternative homemade organic options to fertilise the soil and control pests and diseases. For example, Marcela (55-years-old) cleans weeds by hand, instead of using chemicals because she feeds her grandson vegetables from the farm. This concern extends to their neighbours and the community. Patricia (63-years-old) emphasised that *"the food we produce must be as healthy as possible, not only for us, for our families, but also for their customers"*. However, despite the desire to grow clean food, opting for organic production can result in decreased productivity and lower yields, making it difficult to compete with other producers. Consequently, some women expressed they find it impossible to completely avoid the use of certain chemicals, but they try to reduce their use whenever possible. This was explicitly expressed by Paola (38-years-old), *"My pineapples are small; they are not so pretty (...) I cannot compete with other producers because my pineapple is organic. But whenever someone comes to my stand, I tell them: yes, my pineapple is small, but it is organic; you get a natural product, 100% natural."*

Their concern for the community's well-being was clearly demonstrated through their response to the food crisis generated by the COVID-19 pandemic, which exacerbated the challenges faced by female farmers. Nevertheless, they continued to play a central role in food production, supply, and marketing, ensuring that their families were fed and providing food for the community. Laura (44-years-old) is one such example, with her family she assembled baskets of fruits to deliver to those in need. She proudly recalled, *"we farmers never stopped during the pandemic, we continued to work every day, often giving our products to those who needed them the most."*

***"A little bit of everything."* Women's role in diversification**

As a result of their priorities, women in this study exhibit an inclination towards diversification to better meet the needs of their families and as a commercial strategy. Rather than relying solely on monoculture, women demonstrated a preference for cultivating a mix of crops. The experiences of Monica, a 60-years-old farmer, is a prime example. Her husband intended to cultivate several hectares of passion fruit, despite the uncertain local market conditions. However, drawing upon her knowledge of the market she decided to plant a variety of commercial vegetables alongside passion fruit, recognising the value of a diversified approach to meet the needs of her family and enhance their economic prospects.

Also, their creativity, innovation and entrepreneurial spirit are on full display as they lead diverse activities such as rural agritourism, organic farming, agri-food products, and other education and community-based initiatives. These projects produce diversified farm income and represent new alternatives to the traditional rural economy. For instance, Ana (39-years-old) developed an agricultural internship program that *"generated a very interesting income"* and served a higher purpose beyond economic gain, as it was meant to promote the *"value of farm work."* Guadalupe (64-years-old), extracts passion fruit pulp *"to sell it when fresh passion fruit is scarce,"* and produces pulp and jams. Patricia (63-years-old) and other female farmers created an association to deliver weekly non-conventional agricultural products during the pandemic. Their involvement in production decisions has a profound impact, leading to a greater share of household land being allocated to various farm products and providing alternative sources of income while reducing the risk of total crop failure.

***"The Galapagos [turtles] were here first."* Women's role in environmental protection**

Female farmers in this study emphasised their emotional connection to the land, describing it as central to their lives and a source of peace, tranquillity, and freedom. As Inés, a 55-years-old coffee farmer, puts it, *"it fills my soul, it truly fills my soul. I mean, when you walk around here, you breathe peace; there is this connection of your soul, of your being with the earth."* This connection is reflected in their conscious efforts to protect the soil, plants, animals, and insects. Many women opt for organic methods, such as organic fertilisers, crop rotation, and reduced or avoided use of chemicals, because they understand the interconnectedness of their environment and conceive a reciprocal relationship with the land. Even if that means enduring more strenuous work as Laura (44-years-old) explains, *"our daily*

work to grow the pineapple, to grow our vegetables, is so, so hard because we have to work every day with our hands, since we never fumigate the soil. When we fumigate our land, we are killing the nutrients, we are killing ourselves as human beings, we are killing the vegetation." Their farming choices demonstrate a concern that extends beyond their own well-being and embraces a global and forward-looking vision. Ximena, a 69-years-old part-time farmer, explained, *"We must conserve our environment for ourselves, and in the long term, for our children, our grandchildren, for everyone."* By planting endemic trees such as *Scalesia* (*Scalesia* spp.) and *Manzanillo* (*Hippomane mancinella*), establishing corridors for the passage of tortoises, or planting more of certain crops favoured by the finches, to avoid harming them, they protect the endemic flora and fauna. While many female farmers declared having autonomy in deciding what and how much to grow, some face challenges in exercising this autonomy. Juana's experience (70-years-old) is an example; her partner imposed the use of pesticides and fumigated their crops frequently, despite her refusal. When the relationship ended, she switched to organic production.

Overall, female farmer's narratives show how women's roles, perspectives, and practices can contribute to protecting the environment and the well-being of future generations.

***"I teach my children to love the land."* Women's role in knowledge transfer and preservation**

Female farmers in this study serve as role models, inspiring future generations to continue the legacy of working and maintaining a connection to the land. Olga (49-years-old) emphasises this sentiment by stating, *"We must leave our children that legacy of continuing to work the land and producing (...)"* - a sentiment shared by many other participants who recognise the importance of rural life in educating their children under a different lifestyle and instilling values based on hard work, respect for the earth, and a sense of responsibility and connection to the land. They also identify a lack of appreciation for farmers by the community and government, which they attribute to a significant disconnection between urban areas and the countryside. As a result, initiatives focused on education and customer-centric work are frequently cited as goals, such as Laura's idea of starting a program of farm visits to bridge the gap between city and country and increase appreciation for the work of farmers. In her words, *"I want people to know that we are here, that we are not invisible (...) we farmers are hard workers; we are superheroes!"*

Their narratives reveal that connection and community are central to their experience, allowing for the sharing of knowledge and experiences while providing a support sys-

tem. Ines (54-years-old) values the opportunity to work with other farmers and share stories, as she believes there is always something to learn and a desire to teach. Meanwhile, Lourdes (54-years-old) appreciates having other women who understand her struggles and lift her up, as they have helped her become more independent and given her the impetus to continue. *"Thanks to them [female farmer colleagues] I learned how to market and sell my products, I felt that I was a woman who can succeed, a fighter (...)."*

3.2 Challenges constraining female farmers' roles

***"We do twice as much work as a man, and it is not even recognised."* The double-burden of unpaid reproductive work**

All female farmers in this study articulated the challenge of balancing their demanding roles as farmers and caretakers. In addition to their productive work, they are also heavily responsible for domestic labour and childcare. This double burden takes a toll on them, requiring women to exert immense energy to fulfil their tasks, often leaving them feeling overwhelmed and tired. While most conceive their extra work as part of their role and try to balance these contested roles by making an extra effort, waking up earlier, working overtime, or prioritising one activity over the other, this can generate conflicting feelings, like in Lorena's (35-years-old) case, who said, *"I feel very sad because my son is alone in the house (...) that has been very hard for me since my son is honestly abandoned when I come to the farm."* Moreover, only a few participants alluded to the differences in responsibilities between men and women. Lourdes (54-years-old) addressed the issue by saying, *"(...) imagine working in the fields and then going home to take care of the children, to cook, to wash, to iron, to clean, to take care of the house and to take care of the husband; it is double [work]... while sometimes men come home from work and relax, but not us."*

In general, the lack of access to childcare remains a significant hurdle to advancing their farm business. In some cases, women also assume the responsibility of caring for sick family members, further complicating their workload. That is the case of Sara, a 56-years-old farmer whose son has a disability. She gets emotional recalling the difficulties of balancing her time to provide the special care his son needs and generating enough income from agriculture to cover the expenses of his medical care. Even with admirable organisational skills, these women yearn for the time to focus on personal and business development and to get involved in policy and community participation. For instance, Priscila (33-years-old) wishes to continue her education and obtain a university degree but finds it impossible due to her busy schedule. Additionally, most female farmers expressed

having limited free time for leisure activities and self-care. Sara (54-years-old) stated, *"We don't have free time, no, all our time is taken up... Work is over at 22:00, then I take a shower and rest. But by 5:00, or 6:00 at the latest, I'm out again."*

"Look, as with everything the main issue is money."

Financial restrictions

Since the agricultural sector in Galapagos currently does not offer adequate profitability (Toledo, 2014), for most women in this study, financial issues are the main challenges constraining their advancement in agriculture. While agriculture supports the household economy, it alone is not enough to sustain household needs. Low income, expensive workforce and materials, and climatic factors make it difficult for female farmers to support their farm activities, such as eliminating pests and invasive species. Hortencia (53-years-old) said, *"If I do not have money, I cannot pay a person to help me work; if I do not have money, I cannot buy a machete, seeds, or something for the farm. So, the main factor is money."* Low income also affects the ability to satisfy basic needs at home, especially for female farmers whose livelihoods depend exclusively on agriculture. Lorena's (35-years-old) case exemplifies the struggle of many participants. Low sales, high costs of living in Galapagos, and the loss of production due to climatic factors strongly affect her household's economy. *"Sometimes we cannot make ends meet; we cannot afford anything. I still only get 40 or 50 dollars at the fair on a good day, but often I must return with the product, and sometimes it gets damaged,"* she said. Moreover, not having a steady income can be a challenge when trying to access loans, as Ana (39-years-old) pointed out. *"Some female farmers are not able to build a credit history. When you look at the credit history, women have a basic record."*

Overall, financial instability and the fact that most female farmers consider agriculture an arduous and highly sacrificial endeavour put their continuity in agriculture at risk. As Hortencia (53-years-old) expressed, *"The thing is, I am a woman, and I am a farmer, and I am proud to be one. But I do not have a fixed monthly income, so what is the point of continuing to farm if I do not have an income?"*

"The hardest thing is that once you have production, people don't buy it." **The lack of community support**

Female farmers in this study often expressed frustration with the injustice inherent in their relationship with customers who prefer imported products and constantly complain about the prices. The moral aggravation of having their products criticised and belittled and having to negotiate their

price below production costs is compounded by the fact that they often must go home with unsold produce and *"feed it to the animals so that it does not go completely to waste,"* as Marcela (56-years-old) shared. Considering the numerous challenges in performing agriculture in the Galapagos due to factors such as strict regulations, adverse climatic conditions, water scarcity, pests, physical fatigue, long workdays, and high costs of inputs and workforce, female farmers demand recognition for their contributions to society. Hortencia (53-years-old) aptly expressed this sentiment, stating that *"authorities and the people, the consumer, need to understand that production in Galapagos costs twice as much money and effort than on the mainland."*

In addition to the challenges they face with customers, female farmers expressed frustration with local authorities who seem to favour the import of products over the interests of local producers. The lack of regulations promoting the consumption of local products among the community and at the level of tourist companies, and the increase in requirements for the production and commercialisation of their produce, threaten their livelihood. Ines' (54-years-old) testimony reflects this problem well: *"(...) the most challenging thing is that once you have production, people do not buy it. That is the hardest thing because you have invested so much, you have invested your time, your effort (...) They force farmers to do things we do not want for the Galapagos."* She had to work hard to obtain the Designation of Origin, and bird-friendly and organic certifications for her coffee production, but still faces criticism from customers who demand perfection or have unrealistic expectations. This condition makes it difficult for female farmers to make a living, and they feel that their hard work and contributions are not recognised or appreciated.

"People think farmers are ignorant, undereducated people." **Prejudices and discrimination**

Despite expressing great pride in their role as farmers, some women in this study recall feelings of shame. The elements that support this feeling are linked, from their perspective to prejudices commonly associated with people involved in agriculture and living in rural areas: farmers are poor, uneducated, ignorant, and do not know how to behave or express themselves. The emotional weight of these attributes is understandable if one considers the social importance attributed to formal education and the imaginary of cities and their inhabitants as a model of progress and development. In some cases, these judgments do not affect the sense of pride of some of the participants in this study, but instead result in a reaffirmation of their motives. However, some see themselves and believe they are seen as subjects of lower

status and at disadvantage. As indicated by Hortensias' (53-years-old) experience, who recalls her arguments have been dismissed in public instances because she is a farmer, and that is automatically linked with being ignorant and unable to express adequately. She even recalls feeling belittled because of her appearance. Understandably, this translates into a lower desire to participate in community and leadership processes.

Thus, added to their lack of time for social participation is the lack of confidence derived from the underestimation of a society in which strong factors of exclusion persist, associated, among other aspects, with schooling, occupation, and appearance.

“They don’t see me as the boss... they think I am the secretary.” Tokenism and patriarchal structures

Female farmers in this study expressed challenges navigating the male-dominated world of agriculture, where their contributions are often unrecognised, and they are perceived as “farmwives” instead of as farmers. Many of the interviewed female farmers feel the need to correct people who view them in this way, but they also face resistance from workers who do not adapt to having a woman in charge. As a result, they must be more assertive and dominant, disrupting male power dynamics. However, the fear of being seen as problematic or receiving an aggressive response, together with low confidence, prevents many of them from taking a more active role and challenging unfair societal norms. Laura (44-years-old), whose leadership skill is evident, recalled facing backlash and even insults when raising her voice to demand farmers’ rights. This situation also occurs within the family circle, as evidenced by Olga’s experience (49-years-old), where her partner did not respect her on-farm decisions.

Although the participants recognise there has been some progress in gaining more visibility and leadership positions in the community, the increased female presence does not necessarily mean that the cultural changes necessary for true inclusion have taken place. Many women still feel ignored or dismissed when they speak up, as Ines (55-years-old) noted when she said, “*There may be more female presence than there used to be, but they do not say much.*” Ana (39-years-old), who manages a group of coffee growers, confirms that male members often do not listen to their female colleagues, leading to conflict and even verbal abuse. This type of behaviour makes some women hesitant to speak up, fearing mistreatment.

4 Discussion

Based on the analysis of female farmers’ narratives, we contend their daily work of growing food and feeding is an expression of caring practices directed towards family, community, and the environment. Care is a fundamental human value that extends beyond personal and intimate relationships to include other human and non-human entities (Engster, 2005; Shisler & Sbicca, 2019). Our starting point of reflection is the importance that caring for other humans has as motivating factor for women’s agricultural work, which is rooted in a framework of personal relationships. This view is supported by Shisler’s (2016) and Jarosz’s (2011) studies of female farmers in the United States, which highlight that providing healthy food to customers was women’s primary motivation. Moreover, during the pandemic-generated food shortage on the islands, many women continued to produce and deliver food from house to house to meet the population’s nutritional needs in times of crisis, demonstrating their care-driven orientation. This coincides with a 2020 survey from Root Capital, reporting numerous examples of women lifting their communities during the pandemic. For instance, women of CECAFE cooperative in Peru, mobilised to address food insecurity stemming from lockdown measures by establishing food gardens and fishponds to ensure access to fresh food for their families and neighbours (Root Capital, 2020).

Female farmer’s caring practices extend beyond human-human relationships to include non-human entities and the environment, leading them to adopt more sustainable agriculture practices such as crop diversification, integrated pest management, and farmland restoration, playing a supportive role in conservation. This coincides with Burke’s (2021) study on food security in Galapagos. He cited former Director of the San Cristobal Island GNPD, Carlos Ortega, who highlighted that farmers have been restoring native species, which provides a haven for birds and other native species from invasive predators. Studies in Ethiopia, Bangladesh, and the United States support women’s inclination towards crop diversification (Jacobs & Jacobs, 2018; De Pinto *et al.*, 2020; Hosain, 2020; Assefa *et al.*, 2022). However, when discussing women’s role and their inclination to environmental protection, it is essential to consider that no gender is intrinsically better at environmental agency. Besides their ability to feed people, women play an important role in educating younger generations and customers through day-to-day relationships or by developing on-farm experiences. This shows an orientation to care that reflects their commitment to their labour, the people who depend on it, and the continuity of the environment that enables their livelihoods (Vogt, 2010).

It is challenging to allocate production among household members, making it impossible to determine the share of food produced exclusively by women. According to Doss (2011), agriculture is usually a venture among household members and involves a range of resources and inputs that cannot be differentiated by gender. In general, female farmers in this study do the labour-intensive tasks, and men do those tasks that entail strength or involve heavy machinery. Farm systems in the Galapagos are typically smallholder mixed-production systems, incorporating cultivated crops alongside livestock such as poultry, pigs, and cattle. While women prefer to plant a variety of herbs and vegetables, men lean towards more lucrative cash crop productions such as sugar cane or yuca (Barrera *et al.*, 2019). However, their active involvement in agricultural production, distribution, and marketing systems plays a critical role in ensuring food security and nutritional intake for both the household and community in the Galapagos; and their work rooted in education has the potential to build a more resilient and sustainable food system, by the ongoing construction of relations and commitment.

To avoid essentialism, a pragmatic approach is necessary when analysing the transformative potential of care in agriculture. While care can provide greater opportunities for women, it can also reinforce traditional gender roles and expectations which place women under submissive roles, as seen when some participants mentioned having a "*husband to take care of*" (Tronto, 1993; Shisler & Sbicca, 2019; Brizioli, 2021.). Despite increased female participation in farming, care work remains unequally distributed due to cultural norms and the patriarchal structure prevalent in Ecuador. This overburdens female farmers with unpaid domestic work, reinforces gender bias, and limits their time for self-improvement, education, and business development (Green Climate Fund, 2022). Ignoring these barriers in sustainable agriculture projects and initiatives can unintentionally exacerbate gendered challenges, as expressed by female farmers in this study who reported being unable to embrace and adopt innovative sustainable practices taught by the Ministerio de Agricultura or other organisations in the islands. This coincides with a report from Root Capital (2022) on their Gender Equality Grants (GEG), where participants indicated that adopting climate resilience farming practices created extra work and required credit to implement over the long-term (Naeve & Moehler, 2022).

Despite female farmers' inclination towards caring, the challenges they face have significant implications for their caregiving behaviour. The tension between their view of the countryside as a viable means of livelihood and the prevailing notion of the countryside as a place of limited oppor-

tunities is apparent. Women in Galapagos face obstacles such as the low profitability of the agricultural sector, lack of support for local production, high cost of living, and difficulty in accessing credit for farming activities, which hinders their ability to lead a dignified life. These challenges were corroborated by the gender analysis for Galapagos published by Green Climate Fund (2022). Due to these issues, some female farmers prioritise the economy over conservation and the needs of the local population, which undermines their caring behaviour in agriculture, highlighting the challenge of promoting sustainability in an unsustainable system (Thompson, 2007).

For example, Ines, a 54-years-old farmer, explained that the pressure of delivering goods to tourism companies under a contract system forces farmers to adopt unsustainable practices, despite their desire to farm sustainably. Additionally, female farmers face discrimination and undervaluing of their work despite their love for the land and pride in being farmers. They feel their livelihoods threatened and their contribution to society undervalued, which constitutes a significant source of moral offense. Social prejudices and stereotypical representations of rural life can lead to behaviours of concealment or substantial identity reconfiguration, which can result in limited social and political participation and in the rejection of agricultural work altogether.

Consequently, a considerable number of female farmers are redirecting their focus from educating and inspiring younger generations about the significance of agricultural work. Instead, they are urging them to pursue more lucrative and less demanding job opportunities in urban centres. This shift signifies a missed opportunity to transfer essential knowledge, values, and skills from one generation to the next. The average age of female farmers in the Galapagos stands at 52 years. Meanwhile, in continental Ecuador, 81 % of individuals involved in agricultural work are over the age of 41 (INEC, 2021). This lack of generational replacement poses a significant risk to food security, as it undermines the continuity of agricultural practices and the sustainable production of food.

Female farmers' reality largely reflects the severe socio-ecological imbalance in Galapagos described by Brown (2020) and other authors, and responds to the pervasive prevalence of the natural laboratory narrative, which means more importance being given to environmental problems and more budgetary resources and research efforts being used at the expense of the severe social problems of the local population. In addition, agricultural issues are approached from scientific-technical perspectives focused on technical and economical solutions that are not able to encompass the complexity of the relationships and interdependences

between the social, cultural, political and economic factors involved (Laso, 2020). Although attempts are being made to address the socio-ecological problems of the islands from a systemic perspective, still much attention is paid to conservation, with great danger to justice and equality (González, 2008; Brown *et al.*, 2020).

Since food systems are complex and interconnected, it is essential to consider the strong interrelationship between the human and natural world. Neglecting human needs threatens the collective socio-ecological well-being of the system, just as ecosystem degradation can ultimately impact human well-being (Giraud, 2021). Thus, re-examining the unequal gender-based relationships that continue to exist within and outside the agriculture sector, and valuing the importance of female farmers' care work in its broadest sense, is vital to achieving a sustainable food system in the Galapagos (Bruil *et al.*, 2020). Updating the narrative and adopting novel perspectives advised by meaning and emotion can make it possible to draw inspiration on women's lived experiences in agriculture to support the flourishing of a culture of care that transcends the individual and family sphere (Brîndușa, 2019).

5 Conclusions and recommendations

This paper highlights the crucial role female farmers play in the Galapagos agriculture sector and emphasises the transformative potential of their narratives and lived experiences in embracing and revaluing care practices. Indeed, revaluing care is essential to bridge the gap between the political and moral realms and transform the way we relate to food, nature, and each other (Tronto, 1993; Giraud, 2021). However, their valuable contributions remain invisible, and the challenges posed by Galapagos' agricultural sector generate a panorama of vulnerability that negatively impacts female farmers, affecting not only their contributions to sustainability and food security, but also generating oppression, suffering, and discrimination, as evidenced by the difficult living conditions of many women in the study. If their living conditions are not dignified, gender-aware policies are not developed, and better conditions for their advancement in the agriculture sector are not provided, we risk shifting their current caring behaviour focused on sustaining life and well-being to one focused on productive/commercial exploitation.

To empower female farmers and nurture their caring orientation, we need to implement various measures that promote gender equality in the agricultural sector. To start, it is crucial to make visible their contributions by publicly recognising the importance of women's role in agriculture. Next, policies and legal frameworks need to become gender

aware. This means passing laws that promote gender equality and women's rights, and support women's participation in decision-making and leadership roles. For example, we need to ensure that women have equal access to credit and other financial services, unlink credits from land tenure, and establish affirmative actions to award women who are working in restoration with special grants. Organisations, investors, businesses, etc., that support female farmers and promote gender equality should also be encouraged with affirmative actions. Likewise, we need to invest more in women by creating more inclusive financial models, particularly in female-owned agricultural enterprises. While women currently receive only 7% of global agricultural investment, a 10-year analysis of global data found that agricultural enterprises with greater levels of women's leadership and participation are more stable, more profitable, less likely to experience significant revenue dips, less likely to default, and more likely to secure new sources of financing (Root Capital, 2020). Therefore, investors should look to women in agriculture not only because they are key to fighting global poverty, food insecurity, and climate change, but also because they generate a higher return on investment.

Also, capacity building and training programs should be provided to female farmers on topics such as sustainable agricultural practices, business management, financial literacy, and how to access credit. Networking and mentoring initiatives should also be implemented to connect female farmers with other women in the agriculture sector that can share information and resources and providing mentoring and coaching to help them develop their skills and knowledge. Likewise, social protection and safety nets should be in place to provide support to female farmers and their families, such as cash transfers, food security programs, providing childcare services, access to health insurances and social security, and education services.

Furthermore, research and data collection efforts should be increased to collect and analyse gender-disaggregated data and research on the specific challenges and opportunities to adequately inform policies and programs. Asking women-specific questions about their needs and impacts can help tailor policy measures accordingly (Giliforte, 2019). This must be accompanied by advocacy and awareness-raising efforts to raise awareness about the challenges facing female farmers and advocate for policies and programs that support their empowerment and well-being. Finally, we need to incorporate a gender lens in all aspects of sustainable agriculture. This means considering the particular and differentiated roles, responsibilities, and needs of women and men when designing sustainable agriculture practices, plans, and policies to break patriarchal forms of oppression.

By taking these actions, we can empower female farmers in Galapagos to continue their vital work in feeding their families, communities, and protecting the environment. Supporting them is crucial for achieving sustainable food security, gender equality, and resilience in the face of future challenges. In other words, the Galapagos cannot achieve a resilient and sustainable food system without addressing the failings for women.

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Institutional review board statement

The study was conducted and approved by the Institutional Review Board of Charles Darwin Research Station.

Informed consent statement

Informed consent was obtained from all subjects involved in the study.

Conflict of interest

The author declares no conflict of interest.

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