Agenda setting brief - 1

A HUMAN-CENTERED AGENDA

For Multifunctional Landscapes Research

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CGIAR GENDER EQUALITY AND INCLUSION

CGIAR MULTIFUNCTIONAL LANDSCAPES

1. INTRODUCTION

Gender and other overlapping social identities shape the way people interact with the environment, as well as their perceptions of and responses to environmental change.

Research on multifunctional landscapes (MFL) should, therefore, focus on humans to understand how their identities and behaviors interact with landscapes to shape resilience and sustainability. This understanding will ensure that outcomes are equitably delivered, and enjoyed. Gender equality and social inclusion (GESI) have intrinsic value. GESI foster lasting achievements in terms of environmental sustainability and human well-being. Agroecological solutions must move beyond mere technical and development objectives, to adopt a human-centered approach. This focusses on local landscape actors, prioritizing their needs, and concerns in agri-food systems. Special attention is paid to women, youth and indigenous peoples, who often face multiple, intersecting forms of marginalization.

MFLs comprise a mosaic of land uses that fulfill diverse needs beyond farming. These spaces enshrine diverse environmental, social, spiritual, economic and cultural values. To be considered sustainable and desirable places to live and work, MFLs must respond to the interests of multiple actors (Sunderland et al., 2014).

This brief proposes a participatory action research agenda to place social inclusion, justice, and gender equality at the heart of landscape research. It supports ecological and social movements (e.g., agroecology, food sovereignty, women's and youth's movements) and other approaches that value nature and human development, recognizing the complexity and interdependence of human-ecological systems at a landscape level.

The CGIAR Science Program on Multifunctional Landscapes (SP-MFL) recognizes that power dynamics are gendered, and takes a feminist approach based on the principle of gender equality. In patriarchal societies, men are awarded greater control over resources (Elias et al. 2021a; Resurrección and Elmhirst 2008). Feminist frameworks assess power dynamics as impediments to equality, and tradeoffs in society (Elias et al. 2021b). Other social identities, such as ethnicity, age, able-bodiedness, or formal education, intersect with each other (Collins et al. 2019). These intersecting identities influence people's knowledge, aspirations, and priorities regarding agriculture, agroforestry, and restoration, as well as the ability to voice these and to take part in decision-making at multiple levels (individual, household, community, national) (Rietveld et al., 2023).

When women are recognized and included as participants, outcomes tend to be more sustainable (Arora-Jonsson et al. 2019). Research methods are improving, but questions remain about what interventions work to promote gender transformation, address tradeoffs and facilitate inclusive governance and decision-making.

Working at the landscape scale with multiple actors presents challenges regarding the complexity of livelihood strategies. However, working at this scale is also an opportunity to innovate methods, and to understand and address the interrelated challenges of climate change, biodiversity loss, land degradation, water scarcity and food insecurity. Women, youth and marginalized communities are more vulnerable to these challenges, and less likely to have their voices heard in decision-making. The skewed distribution of costs and benefits of landscape use threaten livelihoods, food and nutrition security, climate adaptation, and environmental health.

Securing the rights of women and marginalized communities to resources and authority is critical to facilitate inclusive governance of MFLs and to respond to the pressing environmental challenges of our time. An intersectional lens is imperative for designing research and interventions, and for monitoring their impacts in MFLs to balance environmental and social goals. Engaging all the landscape actors with gender transformative approaches (GTAs) will help to identify shared goals and minimize backlash from interventions.

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2. KEY ESTABLISHED RESEARCH METHODOLOGIES WITH SCALING POTENTIAL

Several methodologies will inform the redressing of gender inequalities and social exclusion in MFLs. These approaches are grouped into four themes: i) **understanding landscapes as a system**, ii) **rights and governance**, iii) **tradeoffs and synergies of alternative development pathways**, and iv) **monitoring and evaluation (M&E) of change at a landscape level**.

UNDERSTANDING THE LANDSCAPE AS A SYSTEM

Systems approaches, such as soft systems and critical systems methodologies, and in particular the **socio-ecological systems (SES) framework** (Ostrom 2009), can shed light on the human/social and ecological dimensions of landscapes and their interactions. An SES framework maps the connections between humans and their environment to identify levers for change. Recent work has furthered understanding of landscape actors' behavior. The **Agency and behavior Change framework for Transforming agri-food systems (ACT framework)** draws attention to landscape actors' power, agency, and social context, and the influence of structural agri-food system elements. This enables an analysis of landscape actors' opportunity spaces, their capacity to innovate and their behavioral choices, at individual and group levels (Freed et al., 2025).

Feminist political ecology sees gendered human-environment relations through the lens of power and politics (e.g., Rocheleau et al. 2013; Elmhirst 2011; Harcourt and Nelson 2015). Feminist political ecology foregrounds the gendered negotiations, and values associated with human-and-environment interactions. It offers a lens for understanding social-environmental movements and social management of the environment, yet some of its theories are difficult to apply in practice.

Participatory approaches describe landscapes according to the knowledge and perspectives of different landscape actors. Tools such as **participatory landscape mapping** help to identify landscape boundaries and land uses, while **participatory stakeholder mapping**[1] can shed light on the actors – near and far – who shape and are affected by power relations and landscape management decisions. **Participatory seasonal calendars, crop calendars, extent and distribution analysis**, conducted with the **free, prior and informed consent** (FPIC) of knowledge holders (FAO 2016), can elicit gendered ecological knowledge that can guide sustainable landscape management, restoration, and conservation. Participatory tools are typically applied at the community level. Jumping to the landscape poses challenges, but is an opportunity to understand how community-level experiences can guide development at a larger scale.

1) https://www.researchtoaction.org/2015/09/stakeholder-mapping-resource-list/

Participatory approaches are not necessarily inclusive, however, and intentional efforts, such as **inclusive facilitation tactics and strategies** (e.g., Zaremba et al. 2021), are needed to foster gender responsiveness and inclusivity. Participatory research can challenge imbalanced power relations when facilitated in an inclusive way. **Working with gender groups separately** can allow women and other marginalized groups to speak more freely. Bringing women and men together to share their ideas after this separate work can **foster dialogue**, understanding, and the start of a common vision. This approach can be applied with different ethnic, caste, age, or other groupings, facilitated by a skilled broker according to inclusive principles. These **contact zones** created within an inclusive participatory research process can support social learning and help to equalize power relations (Hegde et al. 2017).

Other innovative methodologies, including **qualitative methods such as photovoice** (Nykiforuk et al. 2011), can highlight the knowledge and plural meanings that landscapes hold for diverse actors, including women and youth from indigenous and local communities. The **SenseMaker**[2] offers a way to understand aspirations of diverse actors and their values regarding landscapes and ecosystem services, including wellbeing and quality of life.

Other methodolgies include **equity in market-based approaches to conservation**, such as Payments for Ecosystem Services (PES) and Reducing Emissions from Deforestation and Forest Degradation (REDD+), as well as in the management of **protected areas, biodiversity, restoration, and agroecological systems** at a landscape scale. A growing body of work provides empirical evidence and guidance to enhance equality and inclusion through Nature-based Approaches (NbA) and Ecosystem-based Adaptation (EbA) that can deliver biodiversity, climate, and land restoration goals (e.g., Elias et al. 2021a). **Improving gender equality through markets and value chain development** for agricultural or natural products from forests, pastures, and fisheries is also an opportunity (e.g., FAO, 2018).

Surveys can quantify resource use by gender and other groups. Disaggregating data by age, ethnicity, and socio-economic status, in intersection with gender provides a more meaningful picture of the relationship different social groups have with their environment. **True cost accounting** provides a methodology for measuring the full environmental, social, and health costs of economic activities, such as agricultural production and trade (e.g., Benfica 2024; Hendriks et al. 2023). The social costs analyzed include poor working conditions, low wages and child labor, but gendered externalities are often ignored. The results show how these costs are distributed across vulnerable groups, to improve the equity of distribution. **Mixed methods research** brings several methodologies, together to provide holistic evidence that speaks to different decision-makers.

Transdisciplinary approaches that support dialogue among multiple actors, and between social and natural sciences, are needed to understand landscapes as socio-ecological in their complexity. These approaches should guide all the entire research process, from **co-creation and co-design to inclusive participatory monitoring, evaluation, and learning from interventions** (e.g., CARE 2014). Valuing everyone's ideas equally will guide knowledge creation and action (Lopez and Ludwig 2021; Hellin et al. 2022).

Landscapes are socio-ecological. Understanding this and integrating different people's knowledge, are also important for **processes of agricultural innovation and scaling**. Stakeholders driving agricultural innovation and scaling need to be aware of factors that may affect the capacity to innovate of various social actors to innovate, and to benefit from new ideas. This will optimize inclusivity and avoid unintended consequences of innovation. Methods such as GenderUp for responsible scaling, provide support for this (McGuire et al. 2024).

2) https://thecynefin.co/about-sensemaker/

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RIGHTS AND GOVERNANCE

Rights to resources, particularly land, and governance of landscapes and their resources is at the crux of justice and equality. **Group-based approaches** have shown some success for supporting women's voices in governance, and for securing access to land, markets, and other resources (financial, information, training, inputs) (FAO 2023). Such approaches also support **collective action, including in common property resource management**. Although group approaches can support **women's collective agency** (Meinzen-Dick et al. 2023), those groups are not always perfectly inclusive (e.g., Arora-Jonsson 2009). Inclusive governance needs to go beyond gender, addressing its intersection with other identities (Agarwal 1997), and with power dynamics.

Affirmative action and reserved seats for women and excluded groups can increase their representation in governance structures and amplify their voice in decision-making. For example, having a **critical mass** of women in the executive committees of forest user groups strengthens women's influence and generates positive outcomes (Agarwal 2015). Not all participation is created equal, however (Agarwal 2001). **Strengthening women's leadership, technical capacities and access to resources** is required to support women's voices and full participation in resource-user groups.

Dialogue approaches that bring different groups of landscape actors together in discussion forums enhance the influence of women and excluded groups in landscape governance and/or in the governance of common property resources. Examples of these approaches include **Adaptive Collaborative Management**, which brings diverse forest users together in cycles of discussions, collective decision-making, action, and reflection to pursue joint management strategies (Mukasa et al. 2016). In **multistakeholder forums or platforms** diverse actors can table their needs and priorities towards a shared landscape agenda (Ratner et al. 2022). **Gender Transformative Approaches** bring different gender groups together at household, and community levels to reflect on (and redress) discriminatory gender norms that hinder their natural resource use and livelihood strategies (FAO et al. 2020; McDougall et al. 2021).

Rights-based approaches support the ability of landscape rightsholders to strengthen their claims, and of duty bearers to meet their obligations, including towards land tenure and inclusive governance. Although gender equality and women's empowerment are implicitly embedded within these rights, further efforts are needed to place these at the center of rights-based approaches, to ensure that women's rights within collective rights are respected and fulfilled.

Experiential games increase understanding about natural resources, such as groundwater, and their link with farming, such as crop choice (EIDidi et al., 2024). Experiential games promote learning while improving governance of natural resources. For example, games in India led communities to adopt water registers and rules to govern groundwater use (Meinzen-Dick et al., 2017). There are gender differences in the resource extraction decisions made during experimental games, in the lessons learned from playing them, and in the solutions proposed to better manage resources (EIDidi et al. 2024). This emphasizes the need for a gender-responsive approach to resource management (EIDidi et al. 2024).

TRADEOFFS AND SYNERGIES OF ALTERNATIVE DEVELOPMENT PATHWAYS

Working at a landscape scale involves interactions between food, land and water systems, collaboration across sectors and with diverse actors, each with their own perspectives, values and interests. These complexities are revealed through the approaches described above. Decision makers must then grapple with these diverse interests as they consider alternative development pathways, the tradeoffs between them, and the people that are involved. Understanding these tradeoffs and synergies is essential to make informed choices that provide the greatest perceived benefits for the landscape actors. Since certain landscape actors may be marginalized, their perspectives, values and interests should be elevated, to avoid exacerbating inequalities. Analysis of tradeoffs should always include an assessment of how the costs and benefits of alternative development pathways are distributed.

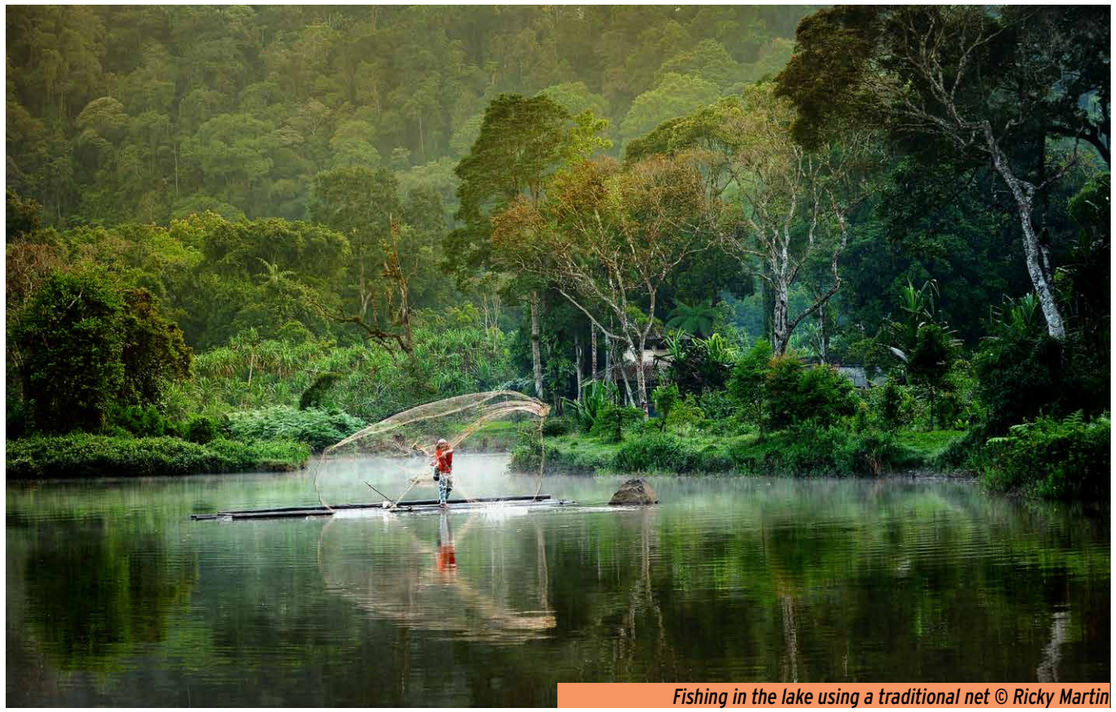
The approaches for assessing these tradeoffs and synergies include **modeling approaches** that integrate biophysical and economic aspects of the farm or landscape to the national or global levels (Antle and Valdivia 2021; Breure et al. 2024; Robinson et al. 2024; Stoorvogel et al. 2004). These modeling approaches are limited in that they seldom evaluate outcomes across multiple development goals, and that the goals are not defined by the stakeholders themselves. Existing **multi-objective optimization models** that may allow for genuine stakeholder participation such as farmDESIGN, do not currently operate on landscape scale (Groot et al. 2012; Timler et al. 2020).

Modeling of tradeoffs can be improved by integrating **participatory approaches to scenario development, visioning exercises, and participatory foresight methods** that identify alternative development pathways. These approaches can help identify priorities of different stakeholders and the tradeoffs they are willing to make, but they are not always gender-responsive, socially-inclusive, or sensitive to power imbalances (Marty et al. 2024).

MONITORING AND EVALUATION AT THE LANDSCAPE LEVEL–MEASURING CHANGE IN SYSTEMS

Interventions on a landscape scale are likely to lead to multiple changes in the natural and the social environment. Capturing these changes is essential to monitor progress towards shared goals, and to ensure that no harm is done, particularly to vulnerable groups. Established M&E methods include **quantitative impact assessment, including experimental and quasi-experimental methods** (Fougère and Jacquemet 2019), **and qualitative methods, such as outcome harvesting** (Wilson-Grau 2018). **Mixed-methods approaches** provide important information about causal links between interventions and outcomes, allowing decision-makers to scale up successes or change course when problems arise. There are many tools for measuring changes in women's empowerment in agriculture and natural resource management (Elias et al. 2021c). Tools such as the **project-level Women's Empowerment in Agriculture Index (pro-WEAI)** allow researchers to capture changes in women's empowerment that occur as result of an intervention (Malapit et al. 2019).

However, these methods are usually applied at the household or individual level. Monitoring change and attributing it to specific drivers is more complex, especially at a landscape level,. However, measuring change at this larger scale is required to assess impacts on in gender relations, norms, and the structures that perpetuate inequalities, but it is rarely pursued as part of M&E. In this case, communities or organizations may become the unit of analysis. Selecting the best indicators to monitor such change is crucial. Innovative methods of data collection, such as **citizen science and transdisciplinary research** may also be required to capture changes that communities themselves perceive, and that reflect environmental and social change (Conrad and Hilchey 2011; Roux et al. 2017; van Noordwijk et al. 2021).



Fishing in the lake using a traditional net © Ricky Martin

3. A FUTURE AR4D AGENDA

The MLF-SP provides an opportunity to improve understanding of the interactions of gender equity and social inclusion in natural resource management at different scales.

I. OPPORTUNITIES AND EXPERIENCES IN LANDSCAPE SYSTEMS

We propose research to understand the landscape, especially the interaction between environmental systems (e.g., forests, irrigation, energy) and social systems (e.g., values, aspirations, agency, power). This research will inform approaches to achieve the linked objectives of effective landscape management and enhanced well-being, which hinge upon social transformation.

This research will provide the information needed for the MLF-SP activities to engage in their focal landscapes. Findings will inform opportunities to achieve MLF-SPs goals, decisions and policies, to mitigate harm and to avoid exploiting local partners and participants.

Theme A) Local (traditional) ecological knowledge and practices

1. How can we recognize and value diverse knowledge systems, ecosystem services, and nature's contributions to people during the planning and delivery of landscape interventions?
2. How can cultural and ancestral knowledge from indigenous communities guide approaches to natural resource management and conservation, food production and other relevant topics?
3. What are the landscape actors' emic perspectives and how do these relate to social and gender inequalities?
4. What are the perspectives of landscape actors on food sovereignty?

Theme B) Capturing heterogeneity, diversity and intersectionality at the landscape level

1. What intersectional gender and social norms impede social inclusion across scales, and how do they perpetuate gender and other inequalities within MFLs?
2. What constraints and opportunities do youth face in developing viable and resilient agricultural livelihoods in multifunctional landscapes?
3. How can multifunctional landscapes be optimized to support the economic empowerment and environmental stewardship of marginalized groups?

II. SYNERGIES AND TRADEOFFS ALONG DEVELOPMENT PATHWAYS

Using transdisciplinary approaches, development pathways should be co-designed with stakeholders across communities, organizations, and groups at the landscape level. This includes designing and adapting solutions and innovations, including farming practices, common pool resource management, and conservation policies, which respond to specific needs of the stakeholders. To balance benefits and investments and avoid unintended consequences, there is a need for multi-dimensional trade-off analysis of how marginalized communities are affected across scales.

Theme C) Modeling approaches

1. What are key requirements, approaches, and criteria for building a multi-objective, GESI-sensitive optimization model operating at the landscape scale which can guide the design of equitable development pathways?
2. How do we test and validate such a model?

Theme D) Achieving multiple goals synergistically

1. How can we synergistically achieve multiple objectives (equality, biodiversity conservation, climate adaptation, land restoration, food security) and manage trade-offs in MFLs?
2. How can women, youth and other marginalized groups benefit from climate mitigation measures (e.g., agroforestry, livestock management, shift to solar, biogas)?
3. How can feminist and other theoretical frameworks assess and improve the economic and social benefits to be derived from energy, food, land, and water systems?

III. PATHWAYS TO JUST LANDSCAPE MANAGEMENT

Inclusive and representative decision-making is critical to the sustainable management of landscapes. Building from past research, we need to understand and test-to-scale different models that promote sustainable natural resource management, while ensuring inclusive governance, co-creation of solutions, and collective action. This research can explore the role of different social movements in their ability to increase the participation of women, youth, indigenous peoples and other marginalized groups. In addition, security of rights to resources is critical to the practices of inclusive landscape management.

The MLF-SP will work with stakeholders within 'Living Landscapes,' where we identify landscape-level problems, co-design solutions, pilot or scale these, and take findings with partners to country and regional levels. This strategy opens opportunities and yet poses certain risks regarding GESI, linked to stakeholder interactions, the nature of the solutions and the desired outcomes.

Theme E) Rights, participation, voice and decision-making in landscape governance

1. How and under what conditions do women exercise agency within different governance levels across landscapes?
2. What opportunities are available to strengthen women's land, water, and resource rights?
3. What role do intersectional social norms play in shaping the participation and leadership of diverse groups within the institutions that govern MFL?
4. How can policies be designed to address gender disparities and promote equity in landscape management?

Theme F) Collective action and diverse social movements

1. How can a just agroecological transition sustain cultural heritage, advance food sovereignty, and enhance collective action?
2. How can agroecological approaches and nature-based solutions be used to enhance youth livelihoods, include youth in restoration and conservation efforts, and protect biodiversity?

Water towers project of East Africa © Patrick Sheperd/CIFOR-ICRAF

Sustainable Wildlife Management Programme © Barbara Fraser/CIFOR-ICRAF

IV. INCLUSIVE AND CO-DESIGNED MONITORING, EVALUATION AND LEARNING

Monitoring and evaluating systems change is an opportunity to learn from novel approaches that are responsive to locally-driven landscape visions. This work aims to develop locally-responsive indicators and support collaboration in research design, data collection, analysis and learning across landscapes. In addition, it will develop and improve models for monitoring systems change and the interaction between social and environmental changes within landscapes.

Theme G) Responsive, inclusive and participatory design of MEL

1. What role do community-led evaluations play in maintaining fair practices in multifunctional landscapes, and how can such evaluations be operationalized?
2. What kinds of indicators and monitoring systems (including participatory monitoring approaches) can be used to assess changes in gender equality and women's empowerment in landscape interventions?
3. What is the (possibly non-linear) relationship between social and ecological change across multiple social groups and ecosystems?

Theme H) Transdisciplinary research methods and critical reflection

1. What principles should underlie strategies to ensure the inclusion of marginalized actors in transdisciplinary research, multistakeholder engagements, and decision-making?
2. Under which conditions do inclusive and participatory processes improve outcomes such as environmental conservation, food and livelihood security and gender and social equality?
3. What are the best methods to link smaller units of analysis to the landscape level?
4. How can landscape interventions overcome the barriers that women and other marginalized groups face in contributing to and benefitting from these solutions?

Theme I) Changes to equity, inclusion and quality of life

1. How do gender relations, roles, and equality evolve across different scales as nature-based (agroecological or regenerative) interventions are implemented?
2. What are the impacts of interventions that transform the social and normative barriers that women face in ecological systems?
3. Who bears the true cost of food production and how does a shift towards agroecological, and regenerative agriculture shift these costs and benefits?
4. Which groups, if any, have improved their quality of life due to the adoption of inclusive and equitable landscape approaches?

Sita works in the rice fields with other women in the village of Nalma © Mokhamad Edliadi/CIFOR

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ABOUT THIS SERIES

This brief produced jointly by the CGIAR Gender Equality and Inclusion Accelerator and the CGIAR Science Programs, is one in a series of agenda-setting briefs that aim to further develop an agenda for strategic areas of gender and social inclusion research within the new portfolio of CGIAR Science and Accelerators, and inform the development of gender and inclusion strategies for these moving forward. The briefs are the culmination of a collaborative work that started during the CGIAR GENDER Science Exchange 2024 that convened 72 gender researchers from across the CGIAR to bring together experiences, ideas and insights from across centres, that can help in developing a gender strategy for the SP in the future.

About CGIAR Gender Equality and Inclusion (GENDER Accelerator)

CGIAR Gender Equality and Inclusion is CGIAR's Accelerator working to put equality and inclusion at the heart of food systems research and development. The Accelerator leads strategic and innovative research that advances gender equality, opportunities for youth, and social inclusion across CGIAR's Food, Land and Water Systems portfolio.

Cover: Akili Ni Mali members cleaning the fish ponds © Axel Fassio

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