Gender integration and intersectionality in food systems research for development:
A guidance note

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How was this resource created?

The ideas in this resource were generated originally for teams in the CGIAR Fish Agri-Food Systems Research Program (FISH). Its early ideas and principles were first articulated in brief in the FISH Gender Research Strategy. From there, the approach and its features, including the 'Reach-Benefit-Empower-Transform typology (Section 5.1), core building blocks of gender and intersectional integration (Section 4), and the principles (Section 6) were developed through the course of FISH and frequent learning of the FISH team members and partners.

Central to this development was the partnership of the Royal Tropical Institute (KIT) and WorldFish in evolving a full project cycle and Theory of Change (ToC) based approach to gender integration. This was piloted and tested through gender capacity strengthening with four country/region teams and projects: (1) the Empowering Women Fish Retailers in Egypt (EWFIRE) project, funded by the European Commission, (2) the Pathways project in the Pacific, funded by the Australian Centre for International Agricultural Research (ACIAR), (3) the Inland component of the Myanmar Sustainable Aquaculture Programme (INLAND MYSAP), funded by the German Ministry of Economic Cooperation and Development, and (4) the Assam Agribusiness and Rural Transformation (APART) project in India, funded by the Government of Assam through the Government of India and the WorldBank.

The ideas in this Guidance Note also build on KIT's earlier experience working with agricultural researchers on gender integration in the International Maize and Wheat Improvement Center's (CIMMYT) Gender Capacity Strengthening Program (2017–2018) and the African Women in Agricultural Research and Development's (AWARD) on their conceptual and technical framework for gender-responsive agricultural research and development (GRARD) in 2018. These were further refined through FISH gender team workshops and a tailored gender-responsive Monitoring, Evaluating and Learning (MEL) workshop for FISH. This Guidance Note is also based on a full-length internal resource of the FISH Gender Integration Guidelines, which were developed by Julie Newton, Froukje Kruijssen and Cynthia McDougall for and with the WorldFish gender team in 2019–2020.
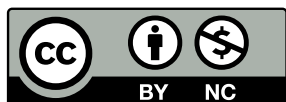
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1. About this Guidance Note

What is this Guidance Note about?

This Guidance Note highlights key points for gender integration in the research for development (R4D) project cycle. It uses an intersectional lens to recognize how aspects of social identity such as age or life stage, class, caste, ethnicity, ability, sexual orientation and so forth crosscut and shape gender and power. It provides an overall introduction, guide and set of signposts to help point you in the right direction.

Who is this Guidance Note for?

This Guidance Note has been designed for use by R4D teams and researchers working in food systems. You do not have to be a gender specialist or social scientist to use it; it is written in nontechnical language for that reason. However, teams using the resource are strongly encouraged to have a gender and social equity scientist in their team to help adapt and apply the guidance.

The content was originally created for teams working in aquatic food systems, particularly small-scale fisheries and aquaculture. However, it is now framed broadly in this Guidance Note so that it can be useful to those working in any area of food systems R4D.

Which team members should use this Guidance Note?

Having the whole project team engage with the Guidance Note can help align all team members with a shared commitment, base understanding, and common frameworks and language that will contribute to success. At the same time, for adaptation and nuance, as noted above, it is important to have social science expertise on your team, particularly in gender and social equity. This will help your team adapt and use the information in this Guidance Note within your context and project.

How to use this Guidance Note?

We suggest reading through the Guidance Note in the following order:

- First, internalize the "Why" (Section 2).

- After this, absorb the basics in terms of "What," "When" and "Which approaches" (Section 3).

- Next, dive into the building blocks of what is involved in applying an intersectional gender lens in dimensions of analysis and scale (Section 4).

- Then, move into the "How" in relation to each phase of the project cycle (Section 5).

- Wrap up with six key principles as reminders to take away with you (Section 6).

If you wish to see the whole at a glance, you may want to start by looking at Figure 7. A printable poster version of this figure is also available in Annex 1.

When to use it?

We recommend that project leaders, team members and partners use this Guidance Note in the early stages of proposal development and project design, then continue to regularly check it as the project progresses through each phase. This can help set up for success and ensure the project stays on track.

Watch for these icons to help guide you:

⚠ Pitfalls and hazards to avoid

↪ Try this instead

2. Why does effectively engaging with gender and intersectionality matter in food systems R4D?

As embodied by Sustainable Development Goal (SDG) 5, gender equality and women's empowerment are recognized globally as important goals in their own right. They are also recognized as catalysts for achieving progress on key development outcomes in agriculture, health, environmental sustainability, resilience, and poverty reduction (FISH 2017). For example, mounting evidence underscores positive associations between gender equality and women's empowerment with climate change adaptation (Resurrection 2019; Tandan 2020), food and nutrition security (FAO 2011; Njuki et al 2021) and economic growth (Wodon et al. 2017).

And yet, despite this importance and gender equality being a fundamental human right, progress has been slow toward SDG 5, and inequities and gaps persist. For example, while 39% of employed women around the world work in agriculture, forestry, and fisheries (UN Women 2020), which are critical to global food security, women within these sectors are predominantly in low return positions and informal work with little voice in sector governance. Similarly, women still represent only 14% of global agricultural landholders (UN Women 2020), underscoring that efforts to improve asset ownership for women are too slow moving. Moreover, due to underlying barriers that have not yet been effectively addressed, the impacts of the COVID-19 pandemic have been felt hardest by women and girls, especially those who are poor and from marginalized groups. This includes high and intensified gender-based violence, increased burdens of unpaid care work and the loss of paid work and income in feminized value chains, including fish processing and trade (Briceno-Lagos and Monfort 2020; Atkins et al. 2021; United Nations 2021).

When R4D is gender-blind or claims to be gender-neutral, and thus fails to take gender inequities into account, it reinforces the existing uneven playing field and risks worsening gender gaps. This includes when innovation processes assume

While both women and men contribute significantly to and rely on food systems, women globally face far more constraints. These manifest as gender imbalances, with women bearing the brunt of unpaid care work and being marginalized in many areas, including: (a) access to and control over land and aquatic resources, as well as information, digital resources, and extension; (b) distribution of benefits from those resources, such as income and nutrition; and (c) decision-making at all scales.

diverse men and women have the same needs or risk-vulnerabilities, or when they fall back on male-biased sampling, or gender-blind data interpretation. This manifests in so-called "neutral" research, innovations and recommendations that may, in fact, worsen gender or social gaps. These meet the needs and amplify the voices of dominant groups more than already marginalized ones, including delivering more for men than for women (Criado-Perez 2019). This is also the case in policy and programming: gender-blind data creates weaker policies and programs that tend to meet the needs of men and dominant social groups, but do not recognize or meet the needs of women and marginalized peoples (Criado-Perez 2019). Gender-blind data and research are part of a "cycle of invisibility" that starts with gender-blind, under-capacitated institutions, as illustrated in Figure 1 using an example from fisheries (FAO 2017; Kleiber et al. in press). Moreover, R4D evaluation has flagged that R4D needs to be more proactive in recognizing that effective gender integration is fundamental to the quality of science (CGIAR-IEA 2017).

In response to these insights, there is a rising demand among researchers, investors and partners in food systems to more effectively engage with intersectional gender integration in R4D. With explicit and informed engagement with gender and intersectionlity throughout the full project cycle, R4D may better generate more effective, inclusive and equitable innovations, insights and influence on policy and practice.

Entrenched gender blindness

Gender blind data design
Statistics and research plans do not sufficiently include gender or sex-disaggregated data

Women missing in data
Women are missing or underrepresented in official statistics and information; gendered barriers are not surfaced

Women's labor undervalued or invisible
Beliefs of what counts as labor excludes or undervalues women's contributions and legitimacy as sector actors

Harmful gender norms

Gender blind policy
Policy development not inclusive, responsive, or accountable to women and other already marginalized actors

Gender blind institutions
Gender expertise missing or under-resourced in fisheries organizations

Implementation gap
Policy implementation overlooks, underserves, or is inappropriate for, women and other already marginalized fisheries actors

Source: adapted from Kleiber et al. (In press); drawing on Biswas (2017).

Figure 1. Gender blind-data and policy, and the cycle of invisibility: An example from the fisheries sector.

3. Intersectional gender integration basics: What, when and which approaches

In this section, we will:

- explain the "what" of intersectional gender integration by introducing gender and intersectionality as concepts (Section 3.1);

- unpack "when" to integrate gender and intersectionality analysis using the project cycle approach (Section 3.2);

- explore "which" gender approaches are useful for food systems R4D (Section 3.3).

Note: If you are keen to understand more about "how," you may want to flip ahead and scan the building blocks of an intersectional gender lens (Section 4) and guidance on integration in each project phase (Section 5).

3.1. Consider what? Key ideas at the heart of gender and intersectional integration

Gender is not homogeneous or binary

Most R4D actors are familiar with the concept of gender as a reference to the socially-constructed identities, roles and relations associated with being a man or a woman. This is related to, but not the same as, biological categories of sex (female or male or intersex). And yet, this general concept is often misunderstood in two important ways:

1. A key pitfall is assuming that women and men are homogeneous groups. This assumption hides the diversity and power differences *within* gender categories of women and men. Missing this crosscutting social axis undermines effective, inclusive and equitable research for policy and practice. The intersectional gender lens suggested here aims to systematically avoid and address these pitfalls and assumptions.

2. Gender is frequently misunderstood as binary, meaning someone is either a man or woman. In fact, gender encompasses a multiplicity or continuums of identities

Gender continues globally to be a primary axis of inequality (Criado-Perez 2019). However, it is important to recognize that gender inequities and inequalities are shaped by multiple aspects of social identity. And they are worst for people facing multiple forms of marginalization, such as women who are poor and from minority groups.

and expressions. These may or may not correspond to a person's sex assigned at birth. As such, in this guide we refer to people of all genders or to women, men and people of non-binary genders.[1]

Moreover, several common misinterpretations occur and pitfalls exist when the concept of gender is translated into practice in R4D. These include conflating gender integration with only: targeting women; adding women to activities; sex-disaggregation of data (and nothing more); or an assessment of roles played by women and men.

With these in mind, when we talk about using a gender and intersectional lens, what do we mean?

Gender is a social relation of power

The foundation of the lens in this Guidance Note is that we anchor on a central feature of gender: that *gender is constituted through social relations of power* between different people or groups (Koczberski 1996; Kabeer 1999 and 2005; Mukhopadhyay et al. 2013). This elucidates that, through embedded power relations at all scales (Box 1), gender shapes the relative expectations, opportunities and life chances for individuals or groups to engage in, influence, benefit from or bear costs of R4D and associated development processes. This lens thus underscores that gender in R4D is not only about women, but rather about relations between people of all genders, at all scales, and the effects these have on diverse people, on wellbeing and on development as a whole.

Box 1. Understanding power: Four types and manifestations.

Gender inequalities and inequities are underpinned by unequal power relations. These either disadvantage and exclude or privilege and include people of different genders in in different ways. In other words, power can be either enabling and constraining, or a combination of both.

Here we share four expressions or types of power:

1. **Power within** is the sense of own self-worth, confidence, self-esteem and consciousness of one's own potential, and where a person sees they have the capacity and right to act.

2. **Power to** is the ability to make decisions and act on them.

3. **Power with** is collaborative power gained from solidarity and mutual support. It is derived from working together through collective action, social mobilization and building alliances. It requires that people become aware of their shared interests.

4. **Power over** in R4D has often been framed in a material sense, as power over resources or assets. Yet it is critical to recognize that power over also describes human relationships. In this sense, it refers to control over other people, which relates to power at the expense of others, such as through domination or subordination, and relations of dependency.

It is useful to be aware that power may be visible, hidden or invisible:

• **Visible power** is expressed in observable decision-making processes, from within households, to communities, and in the creation of laws, polices and regulations.

• **Hidden power** is manifest in how vested interests of more powerful actors set agendas and shape decision-making in arenas so that issues never come up, or some actors are excluded from decision-making.

• **Invisible power** is how ideologies, values and norms shape choices and voices in the minds and consciousness of people. It refers to power that is taken for granted, such that inequalities seem part of the natural order and the dominance of those in power remains unquestioned. Invisible power may be internalized even by marginalized actors themselves, such that views and choices comply with subordination.

Sources: Rowlands 1997; VeneKlasen and Miller 2002; Hillenbrand et al. 2015; Eerdwijk et al. 2017; McDougall and Ohja In press. See also https://www.powercube.net/other-forms-of-power/expressions-of-power/

Multiple aspects of social identity "intersect" to shape power

Gender is a critical entry point to engaging with issues of equity and inequity because of the ubiquity of unequal gender relations being reproduced in food systems and societies at all scales through patriarchy (van Eerdewijk et al. 2017).[2] This is also why when applying a gender lens to the situation of different individuals and groups, R4D (as well as this Guidance Note), draws attention to gender inequality's disproportionately negative effect on women.

At the same time, a gender lens alone is not sufficient. It is also critical in R4D to understand how other dimensions of social identity shape power, equity and equality, in interaction with gender (Box 2). These dimensions may include age or life stage, class, ethnicity, caste, ability, religion, marital status, sexual orientation, geography, migration and legal status and more. Attention to this "intersectionality" is needed for more inclusive and rigorous R4D that recognizes and responds to the lived realities of diverse people of all genders, which is the foundation for more equitable outcomes from R4D (Section 6, Principle 1).

Box 2. Complexities in navigating intersectionality.

The term intersectionality was introduced by Crenshaw to highlight how different forms of oppression are "greater than the sum of sexism and racism" (Crenshaw 1989, 140). The concept has since been used to draw attention to how other aspects of social identity intersect with gender to produce inequalities and marginalization (Crenshaw 1989; CRIAW-ICREF 2006; Colfer et al. 2018). For example, an individual is never only a fish processer, a poor person, farmer, a member of an ethnic minority, or a mother. Rather, individuals have many identities, and these influence each other in complex ways and manifest differently in different contexts.

However, there is also some concern among scholars that the emphasis on intersecting identities— in efforts to move away from homogenization—also brings risks. Namely, it could detract focus from power relations or from power relations or from gender as a central axis of structural inequality (McCall 2014; Farhall and Rickhards 2021). As such, careful and informed reflection is required in R4D to identify and balance attention to gender and intersecting identities in context appropriate ways while staying embedded in a lens of power relations.

Putting these together: An intersectional gender lens

Putting these concepts together, *applying an "intersectional gender lens" involves looking at how multiple key aspects of identity interact with gender to produce disadvantage and marginalization, as well as advantage and privilege*. What is central to this perspective is understanding "how different oppressions work to exacerbate or alter the experience of one another" (Farhall and Rickards 2021, 4).[3] These interactions influence the differing needs of diverse women, men and people of non-binary genders and their ability to engage meaningfully in research, as well as their experience of benefits and risks.

Using an intersectional gender approach requires balancing social and gender aspects. As noted in Box 2, an intersectional lens should be synergistic with, rather than at the expense of, recognizing gender as one of the primary structural axes of social relations of power (Colfer et al. 2018; Farhall and Rickards 2021). Because of the ubiquity of gender inequality in shaping current food systems and development (Farhall and Rickards 2021), and because of the potential for gender as a lens to open the door for engagement with other forms of discrimination, in this Guidance Note we use gender as a central focus of and a key entry point to assessing equity and inequity. This is intended to open the door for R4D to increasingly recognize, analyze and address racism in its many forms, as well as classism, ableism and other biases. These are drivers of inequalities and discrimination in food systems, and in development more broadly.

To help remind you of these ideas, It may be useful to imagine what the FISH gender team called putting on their "gender lens" and "intersectional shoes" at all stages of the research cycle.

The image of these is a reminder to pro-actively investigate issues such as the following:

- In this context and scale, how do gender, together with other aspects of social identity, interact to produce advantage and disadvantage? What are the most significant axes of marginalization or power?

- Thinking in terms of these overlapping, intersecting gender and social identities, what are the most significant equity-related concerns, barriers and opportunities?

- Who is most affected by a specific R4D problem? Whose needs and interests is the research addressing? Whose are not? Why not and what are the implications?

- What are the differences and commonalities between people of different identities in perspectives in terms of needs, interests, influence, access to and control over resources and the benefits from them?

- Who is or will bear any burdens or risks from policies, programs or innovations? Who will lose out? Why and what can be done?

We recognize that this approach and the balance will both need to be adapted to context and is a work in progress, which will evolve over time.

3.2. Integrate when? The project cycle approach

In meeting the demand for more inclusive, equitable and effective R4D, it is no longer acceptable in R4D for research proposals and designs to simply have a "gender paragraph". But what does this mean in terms of when to integrate gender and intersectionality?

For R4D to meet the needs of diverse people of all genders, not only those from more powerful gender and social groups, *an intersectional gender lens needs to be integrated at all phases of the research cycle* (Figure 2). This means from the point of problem identification, question setting, Theory of Change (ToC), and design, through to implementation, data gathering, analysis and interpretation, as well as in monitoring, evaluation and learning (MEL) and the generation of recommendations and outputs (Section 5).

When is the most important time to start on this? The earlier the better. In other words, as with other aspects of research quality and with partnerships and collaboration, and setting up for influence, Phase 1 is the time to start integrating gender and intersectionality into research. When done well, this sets up for success throughout the later stages. For this reason, it becomes one of six of the key principles for good gender integration (Section 6, Principle 2).

The take away message is this: Quality R4D needs an intersectional gender lens to be integrated

One of the most important lessons is that actions to address gender inequalities must be explicit throughout development planning and programming if consistent progress is to be made towards gender equality. Without explicit objectives, strategies, targets and actions to ensure women's equal participation and outcomes, the needs of women and girls continue to be overlooked. Identifying clear indicators to measure gender equality results is essential to measure and improve performance. (ADB 2013, 3).

throughout all phases of the research project cycle, from concept note through research questions, methods, activities, and MEL, supported by an adequate gender-responsive budget (e.g., USAID 2012; BMGF 2017; IDRC https://www.idrc.ca/en/research-in-action/integrating-gender-equality-sustainable-future).

3.3. Which gender approaches to take in food systems R4D?

Not all approaches to gender integration are the same. Rather, food systems R4D, as well as policies and programs, can be seen as occurring along a continuum of gender approaches. Drawing on the Interagency Gender Working Group's (IGWG 2017) gender integration continuum tool, Figure 3 illustrates that policies or programs including R4D can range from "gender blind" (ignoring gender considerations) to "gender aware" (examining and addressing a range of gender issues, relations, and dynamics). Within the gender aware area, the spectrum embodies the following:
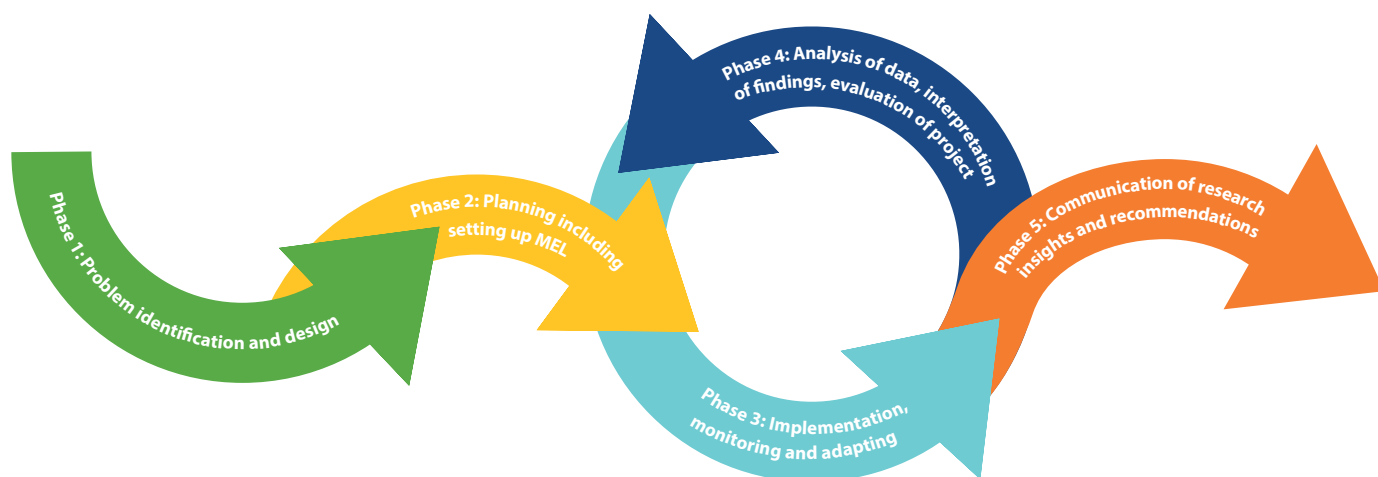
Note: While this is presented as a cycle of discrete phases, they do not necessarily follow on linearly.

Figure 2. The five phases of the research project cycle.

Gender blind
Ignores differences in roles, rights, risks and opportunities and power imbalances among people of different genders and/or assumes there is a level playing field

Gender aware
Recognizes that gender inequalities and barriers exist and aims to navigate or address them in some way

Exploitative
Exploits gender roles, stereotypes or inequalities for project or program aims

Accommodating
Works around existing gender barriers and constraints

Transformative
Recognizes, critically engages with, and seeks to change the underlying root causes of inequalities, including constraining gender norms

Reinforces unequal gender norms and dynamics

Includes women, possibly benefiting them and/or making (short term) contributions to empowerment

Addresses the underlying structural factors that create and re-create gender inequalities in food systems and societies

Sources: adapted from Kleiber et al. 2019a and FISH 2017, and draws on IGWG 2017.

Figure 3. Continuum of gender approaches (intervention focus).

- **Gender exploitative**: These reinforce or use unequal gender dynamics to achieve project goals. For example, a project might aim to raise its own visibility or achieve its target of increasing consumption of its priority foods by hosting a cooking event or course just targeting women. Yet this exploits and reinforces stereotypes of women as cooks and caregivers. These approaches should be avoided.

- **Gender accommodating**: These recognize—and work around—gender barriers and inequalities. A common example is that women are included in project strategies, but with a focus on the homestead sphere (e.g., in homestead ponds or women's subsistence agriculture plots near the home). These are accommodative in that they work

around norms constraining women's mobility and women's high domestic workloads. Accomodating approaches may contribute to involving and even benefitting women; they may, or may not, contribute at least in the short term to empowerment outcomes (Section 5.1). Yet, they also risk reinforcing unequal gender dynamics and growing evidence suggests that positive effects may not be sustained after the project (McDougall et al. 2021). When using accommodating approaches, be sure to assess and monitor, as well as address, limitations and negative outcomes.

- **Gender transformative**: These foster critical examination of underlying, root causes of gender inequalities and intentionally co-create shifts in constraining norms, system and policies

in order to enable equality (see FAO, WFP, IFAD 2020; McDougall et al. 2022). For example, projects may include processes over time that reflexively engage men and women together in jointly identifying constraining gender expectations and relations, unpacking how these affect individuals and households, and co-identifying more equitable norms and ways of interacting. In relation to nutrition, for example, this may involve joint household processes and strategies reflecting on nutrition and care work and catalyzing the sharing of responsibilities more equitably between both spouses. Gender-transformative approaches are considered the cutting edge of gender approaches currently, in that increasing evidence suggests that they may be able to create deeper and more lasting contributions to equality (e.g., CARE 2021).

The take away message is this: R4D at a minimum should be gender accommodating in approach, so that it recognizes and works around gender and social constraints on women and marginalized people (Section 6, Principle 3). Ideally, R4D organizations and teams should aspire to shift

"Gender transformative approaches complement and go beyond current "business-as-usual" approaches. The latter work around gender constraints and often focus on building women's individual or collective agency or assets. By contrast, gender transformative approaches seek to constructively, and in a context-driven way, transform structural barriers, in particular constraining norms, that underpin gender equality. In this way, they go deeper than common gender integration and mainstreaming and tackle the root causes of gender inequalities instead of addressing its symptoms (AAS 2012). As such, emergent gender transformative strategies embody the ambitious goal of addressing the very foundations of gender equality, seeking to reshape unequal power relations and structures toward more gender equal ones (McDougall et al. 2021, 326).

toward using and developing transformative approaches. Note that while these appear to have greater and more lasting outcomes, transformative approaches require thoughtful and informed design, more time and greater capacities, so they should not be taken on lightly.

Photo credit: Samiran Dani / WorldFish

Couple that made the transition from day labourers to owners of a successful fish hatchery business working together in Patuakhali District Bangladesh.

4. Core building blocks for applying a gender and intersectional lens

Food systems are never gender neutral; there are always some forms of inequality and barriers at play in complex socioecological systems such as these. This also means there is no such thing as a gender-neutral or socially-neutral approach in R4D of food systems. Whether it is recognized or unsaid, research is always filtered through someone's perspective, usually the researchers'. And it is oriented toward the needs and benefits of someone or some group. In other words, whether an R4D project recognizes it explicitly or not, R4D influences intersectional gender gaps by shaping who is counted, whose voice is heard, whose needs are addressed and whose are not.

Given this, how can R4D projects become effectively gender aware and enable representative perspectives and equitable outcomes? In this section, we share some necessary conceptual and analytical building blocks. First, we present four core dimensions of analysis that support R4D teams' common understanding of gender as a social relation of power (Section 4.1). Next, we flag essential issues relating to diverse needs, preferences, and risks (Section 4.2). Finally, we underscore a multiscale analysis as a core component (Section 4.3).

4.1. Four core dimensions for intersectional gender integration and analysis

In Figure 4, we present a framework showing four analytical dimensions that are critical to an intersectional gender approach in R4D:

- gender division of labor;
- access to resources and benefits;
- decision making and control;
- formal and informal structures.

These four concepts are important to understand in R4D because they shape how diverse people of different genders are included or excluded, benefit from or even bear risk of research, as well as shape how contexts and processes may influence R4D and vice versa. Ensuring that research tools and processes capture information on these core dimensions and how they interact is a critical foundation for understanding gender dynamics

and how they play out in R4D. They are also particularly valuable as pointers in terms of what to consider when applying an intersectional gender lens throughout all stages of the research cycle, especially in analyzing and interpreting the data.

A first step for R4D teams is understanding each dimension. But, looking at all of them in isolation is not sufficient: a key second step is understanding how they are interlinked and shape each other. Thirdly, these dimensions should be considered in relation to multiple scales, ranging from the individual, household, and community to markets and policy spheres. For more information on each dimension, see the Glossary (Annex 3). Finally, consider if and how it is useful and fits with project to integrate aspects of a human rights-based approach into this framing (see for example Pross et al. 2020 or ADPC 2022).
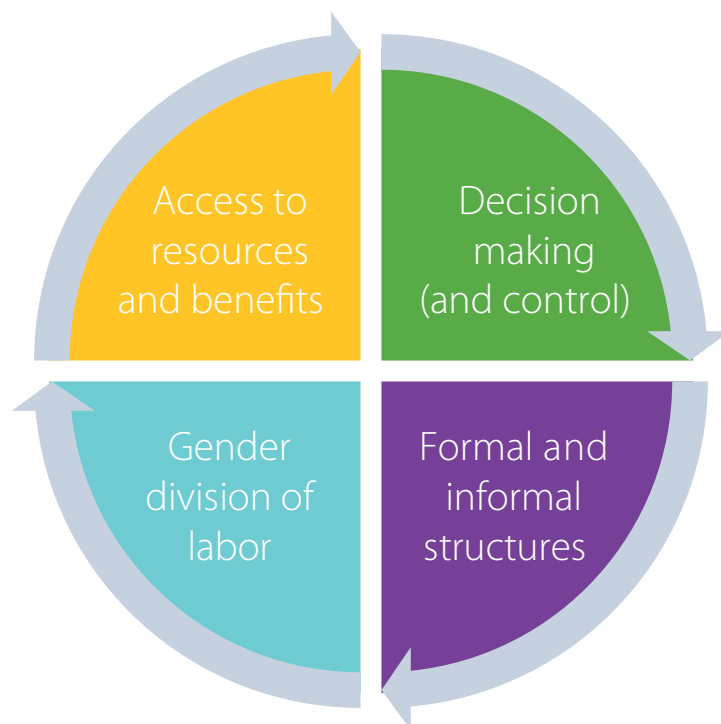
Source: Original figure, drawing on and adapted from Mukhopadhyay et al. 2013, Eerdewijk and Danielsen 2015;⁴ Rao 2015.

Figure 4. Four dimensions to consider in gender analysis and integration.

Let's take a look at each dimension in more detail in Table 1.

Dimension	What it is	Key points
Gender division of labor	The allocation of productive and reproductive tasks to a particular gender within the household and across value chains and beyond.	Distribution of labor is shaped by social expectations and informal rules (norms) in given contexts about what women and men "should do" (what is socially acceptable) within the household, the community, in markets or in other spheres. Division of labor patterns reinforce notions of fixed responsibilities, roles and division of tasks and skills along gender lines. These contribute to gender hierarchies about which roles (and whose work) are ascribed more value. For example, in many contexts, women are expected to carry the majority of unpaid work burdens, including care work and labor in family agriculture or fish production. This work is often less socially valued, and not counted in statistics, because it is concentrated around the homestead and so is less visible and not easily monetized. This is in comparison to paid and more public sphere work where men predominate, and that is counted regularly in statistics and is ascribed higher value, which in turn reinforces gender hierarchies.
Access to resources and distribution of benefits	Access is the opportunity to use a resource. Benefits result from the use.	People of different genders and different life stages, wealth, disability, ethnicity and so forth, have varying levels of access to resources, such as information, credit, technology, land, or fishing areas. Access as a concept is related to, but distinct from, control (see next dimension). Although women or marginalized people may have access to a resource, they may not be able to decide on how those resources are used, as this is influenced by gender and intersectional hierarchies. As a result, they lack control over resources and often do not benefit from them.
Decision-making and control	This refers to the relative ability (in the sense of power to) of people of different genders (and social groups) to make decisions and be able to act on the decisions.	In R4D, a key focus is decisions about—control over—resources and the associated distribution of benefits, risks and costs. Analysis of decision-making helps R4D teams understand who has control over key resources, in what spheres, and how much. For example, women in many contexts often access microfinance. However, decisions on how to use the financial resources from a loan may not be within women's control. This dimension also highlights the importance of issues around procedural equity and justice. In R4D this means assessing fairness in relation to the nature of the processes themselves (such as in co- or community-based resource management) in terms of inclusion and whose voice matters and how this in turn affects who is included and excluded. Decision-making is embedded in power relations. It reflects the nature of cooperation, conflict, competition or negotiation dynamics embedded within relationships between people in the home, community, and groups, markets and organizations.[5] Decision-making power is also an expression of agency, which is the ability to pursue goals, express voice and influence, and make decisions free from violence and retribution. As such, it is influenced both by internal resources (such as confidence and knowledge), as well as by formal and informal structures (see next dimension). These include norms about which gender or social identity is seen as a "real leader" and rules and systems about who makes decisions on behalf of whom and how.
Structures: Informal (norms), semi-formal (systems) and formal (policies)	Social structures are the underlying, built-in parts of societies, including economic and food systems, that create and re-create patterns of behavior and outcomes.	Social structures include informal structures (gender and social norms), as well as formal (policies), and semi-formal ones (such as data or extension systems). Although not immutable, these structures continuously produce and reproduce gender as unequal social categories.[6] Changes in these underlying structural barriers are the core of gender-transformative change as these are the root causes of inequalities. Gender norms are the informal social rules about what men and women should do, how they should behave and with what resources. They shape women's and men's labor, relations, constraints and opportunities in food systems. For example, in some contexts gender norms limit women from fish harvesting, while driving them into care roles; norms in the form of 'harmful masculinities' conversely limit men from engaging in caregiving, while bringing expectations to drink alcohol (Cole 2015; Choudhury et al. 2017). Norms shape the practice and acceptability of gender-based violence. They also affect the public sphere, such as limiting the acceptability of women speaking up in natural resource governance processes. Interconnected social norms include informal rules about how individuals of different social groups should behave. These include, for example, expectations about how youth should act in relation to older people and roles or behaviors based on caste hierarchies. In terms of formal and semi-formal structures, policies and systems have the potential to transform gender relations. However, in practice they often unintentionally reinforce constraining norms and stereotypes, and risk perpetuating inequalities and inequities. This occurs when policies and programs do not reflect and respond to gendered realities. A key factor in this is when data and findings from national data systems, and the R4D that informs policy, are not at a minimum disaggregated by sex or gender (and ideally, by other most relevant social stratifications, such as age, wealth, disability status and more). Ideally, policy and programs need to also be informed, contextualized and interpreted with gender data. Gender data includes, but goes beyond, disaggregation by sex to reflect gender issues, as well as data being collected in a way that is inclusive and takes into account factors that may induce bias (see Annex 3 Glossary).

Table 1. Four core dimensions for intersectional gender integration and analysis elaborated.

4.2. Understanding needs, preferences and risks

In relation to R4D's work in developing and testing socio-technical, financial or other innovations, a second key analytical entry point relates to being responsive to diverse "clients" needs. Through an intersectional gender lens, this involves generating understanding of potentially similar, overlapping or divergent needs, preferences and risk tolerance of both women and men and people with non-binary gender identities, including those from marginalised groups. It also includes generating information about why these differences exist and also how innovations could positively or negatively affect different groups.

4.2.1. Needs and preferences

An understanding of the needs and preferences of potential clients (users of innovations) is essential good practice for any innovation and product development process (Morgan et al. 2015). It is the foundation for tailoring innovations so that they reflect the expert knowledge and meet the needs and of farmers, fishers, processors, traders, policy actors or other users of the R4D. This can lead to greater fit, uptake and benefit from, as well as more meaningful choice in, innovation processes (Polar et al. 2021).

Needs and preferences of potential users of innovations, including policy, are shaped by many factors, including but not limited to the following:

- the user's resources, such as internet access, quality of land, type of fishing area or pond;

- knowledge, skills, language and literacy;

- self-efficacy (self-judgment about or confidence in one's own ability to perform particular tasks);

- consciousness, such as of rights and of potential for nonconformative gender behaviors, such as women as business owners and leaders, men as caregivers;

- aspirations, both for oneself and for one's family.

These tend to be deeply shaped by gender in given contexts as well as by intersecting aspects of identity, such as livelihood, life stage, class, ability or disability, language and literacy, and more.

Two basic points for good practice here include the following:

a. **What are the needs and preferences**: Assessing clients' (users') needs and preferences is the foundation for successful R4D innovation. While it may be routine in the private sector, this is surprisingly less common in public sector innovation processes. Without being cumbersome in terms of time, R4D needs to generate sufficient and reliable information regarding what are different clients' needs and preferences.[7]

b. **Whose needs and preferences? Asking whom?** A critical failure in much R4D to date has been the assumption that one group of people (the dominant group) can represent or speak effectively for all people from different and less powerful groups (McDougall and Ohja 2021). In practical terms, this manifests as the too common practices (pitfalls) of R4D gathering data about needs only from so-called "heads of households" or those assumed to be the "real" business owners, or making erroneous assumptions about who is most knowledgeable or the future user of an innovation. These pitfalls lead to a focus on men as the key respondents due to common assumptions that men are the "real" farmers, fishers and entrepreneurs (Doss and Kieren 2014). Similarly, but moving up a scale, formal and traditional community leaders are often assumed to be able to represent the full community in negotiations with outside actors—yet they tend to be male and from more dominant social groups, thus missing critical insights from women and less powerful caste, ethnic, class, livelihood or other groups. This phenomenon is also seen more widely (globally) in research and innovation, from policy to medical research, leading to a lack of fit for women (Criado-Perez 2019).

⚠️ Avoid the term "household head" and the concept of "household headship" (male headed, female headed). This is an older conceptual shortcut. It is good to avoid it for two reasons. First, the framing reduces quality in R4D because it conflates household structures with gender and hides potentially important differences. Second, the framing is gender-reinforcing: it entrenches hierarchical power relations within households. I.e., it assumes and reinforces that households with two adults should be hierarchical and that the man should be the natural top of this hierarchy.

↪️ If you need to compare households, use a classification such as one based on the structure of the household and gender of the adults, adapted to the study needs. For example, use a classification based in the number of adults (multiple adult, dual adult, one adult, no adults) and their gender (only women adults, only nonbinary adults, combination of genders amongst adults, only male adults), and household composition (marriage type; how many generations), and so forth.

4.2.2. Risks

In a perfect world, R4D would always and only have positive effects. In reality, however, all R4D (and all development interventions) come with potential risks. These include risks or burdens related to time use, low returns on investments, and opportunity costs (such as trying new varieties or businesses or technologies and bearing the costs if they do not work). They also include gender-specific risks ranging from backlash, increasing women's workload, gender-based violence or making gender gaps worse (Scarborough et al. 2017). Because the landscapes R4D engages in are already uneven playing fields, these risks and negative consequences tend to fall on individuals who are already marginalized in some way. Pre-existing marginalizations and inequalities mean that poor rural women, and women from marginalized groups, in particular are at high risk of R4D processes that not only overlook their needs, but may potentially add time burdens or other negative effects.

Recognizing gender as a social relation of power helps us to understand who can readily engage in R4D processes and who can access and benefit from R4D innovations. It also helps identify and predict exclusions and potential harm, including trade-offs being borne by less powerful actors.

💡 *For people with multiple existing vulnerabilities, even small losses in food or income or access to resources could be devastating. For this reason, it is extremely important that gender and intersectional integration assesses risks, including the ability of marginalized or vulnerable gender and social groups to cope with potential losses (Figure 5). This includes both what the risks are, who is at risk in relation to specific R4D options and how to mitigate these.*
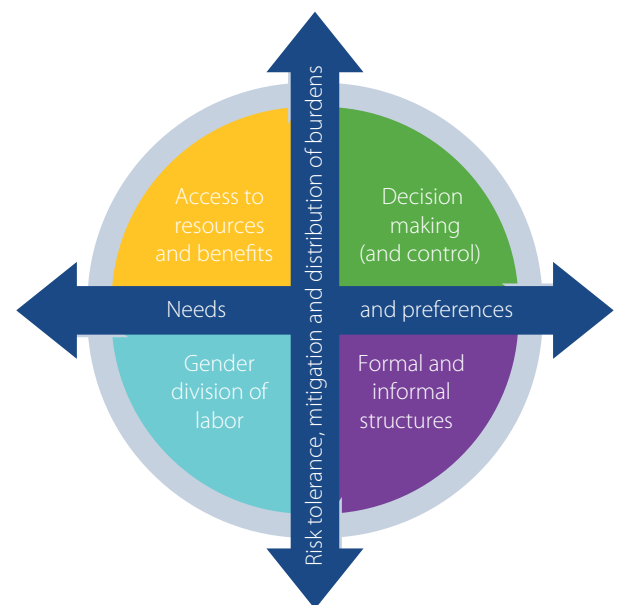

Figure 5. Including needs, preferences and risk dimensions in gender analysis and integration.

4.3. Putting it together at scale

It is widely recognized that gender and social inequities, relations and barriers exist and interact at and across multiple scales. R4D engagement and outcomes are mediated by these (Figure 6), and yet R4D often focuses on only one scale, often household or community. While there are many reasons for this, it poses a risk of limiting the value of research insights and outcomes, as it may focus on immediate problems without factoring in underlying, other-scale drivers or interactions. For example, R4D that focuses on understanding and transforming barriers constraining women in markets is critical, but barriers within the household may still prevent women from reaping the benefits of these changes. Conversely, if R4D targets and improves intra-household barriers, women may still face harassment, poorly-suited infrastructure and other barriers at the market scale.

It is important for R4D teams to recognize that they themselves are not external to social and gender relations in development and structures. R4D is also entrenched in these

In this Guidance Note, we encourage R4D processes to consider at and across multiple scales.

dynamics, usually with research organizations and professional researchers as powerholders relative to the food system actors who R4D is intended to benefit. For example, this is manifest in the still-used R4D term "beneficiary," in the predominant unidirectional flow of information from "respondents" to "researchers," and in the hierarchy of "expert" (scientific and especially quantitative) knowledge over local, qualitative and experiential knowledge. Similarly, in terms of who controls research, in many forms of R4D in food systems it is researchers, funding agencies or other more powerful actors who decide what and who matters, which questions, and how they will be assessed. It often goes unrecognized that these strategic decisions may be made based on powerful actors' own worldviews. Acknowledging these power dynamics and positions is a first step to leveling the playing field in terms of who controls and shapes, and ultimately gains from R4D innovations and the processes themselves.[8] We discuss this further in Section 6, Principle 6.
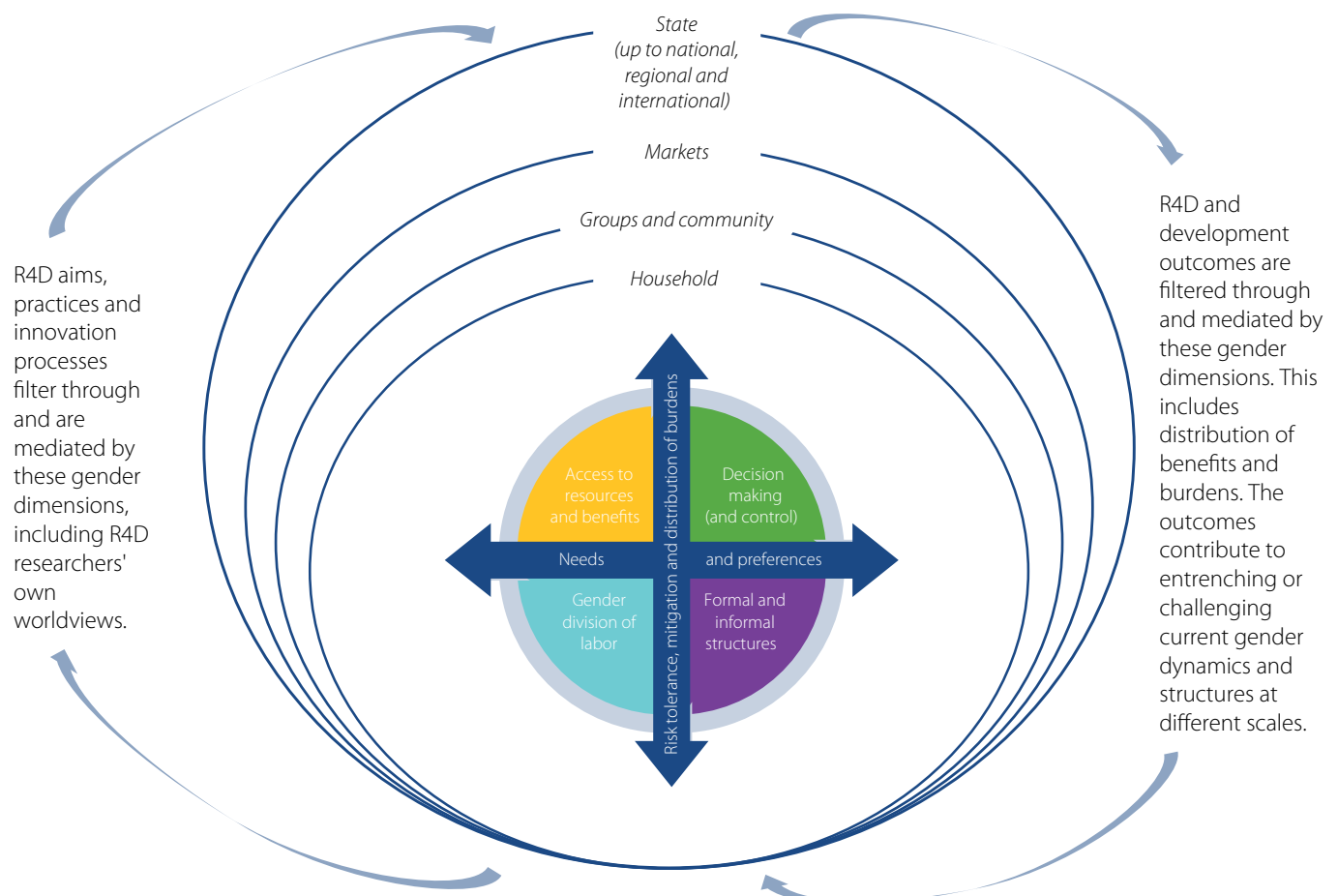
Figure 6. Factoring in scale in gender analysis and integration.

5. How to integrate: Key considerations at each project stage

We established in Section 3 that to be successful, intersectional gender integration needs to take place *at each stage* of the project cycle. In this section, we present entry points—or anchors—for integration stage by stage, broken down into key points (steps), along with strategies and tips.

Figure 7 presents the key points by phase. These are:

• Phase 1: Problem identification and design;

• Phase 2: Planning including setting up MEL;

• Phase 3: Implementation, monitoring and adapting;

• Phase 4: Analysis of data, interpretation of findings, evaluation of project;

• Phase 5: Communication of research insights and recommendations.

Also note that, phases 1 and 2, in particular, are key moments to ensure co-ownership and co-design of the research process among relevant actors, including people who are intended to use or benefit from the research, especially less powerful actors. Phases 3 and 4 offer space for co-researching processes so that knowledge is co-generated, which can be both empowering and contribute to adaptive capacity.

It is critical to avoid the trap of "gender evaporation," which is the too common phenomenon of gender being integrated in the proposal and first phase, but not in subsequent phases, of the research cycle. To avoid this, use these entry points—or anchors—for intersectional gender integration all along the whole cycle (Figure 7, Principle 2). Gender evaporation can hinder the quality of science and ultimately limit effectiveness through a slippery slope of inaccurate data and interpretation. At worse, it can create mistrust and decrease legitimacy, and even cause harm, such as increasing women's workloads or gender-based violence.

Local farmer stands in her vegetable garden in the Batorse Floodplain, Zambia.

Phase 2: Planning including setting up MEL

1. Develop a **gender strategy** with a gender-integrated research implementation plan.
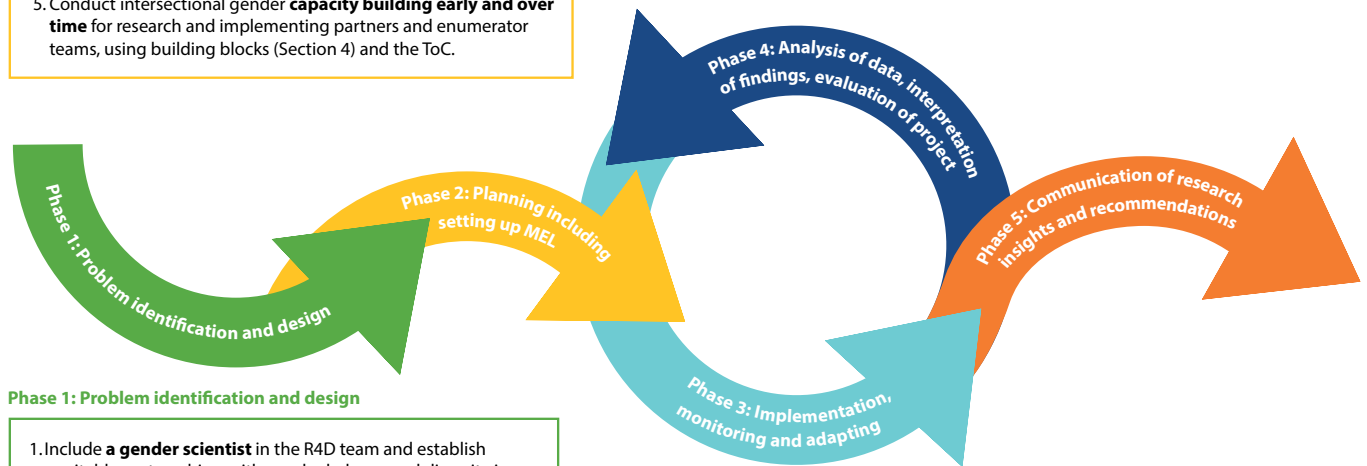
2. Use the **four pillars of gender-responsive MEL to design the MEL** plan (Section 5, Figure 9):
   i) indicators for baseline/endline and routine monitoring aligned with gender outcomes (RBET);
   ii) an intersectional lens;
   iii) mechanisms to track unintended consequences;
   iv) gathering explanatory information.

3. Develop or recalibrate the **budget so it has enough funding for expertise and activities for gender outcomes** (as per ToC).

4. Assess **gender and intersectional analysis capacities** of the team and develop a capacity building plan to address gaps. Include reflection on biases or blind spots and how to address them.

5. Conduct intersectional gender **capacity building early and over time** for research and implementing partners and enumerator teams, using building blocks (Section 4) and the ToC.

Phase 4: Analysis of data, interpretation of findings, evaluation of project

1. Start with **descriptive analysis of gender and intersectional disaggregated data** to identify differences and similarities between gender-social groups in relation to the research questions.

2. **Deepen analysis and generate insights by applying the intersectional gender analysis building blocks** (Section 4).

3. **Sense-make, validate and share findings and their interpretation with participants**, including less powerful ones. Enable gender and socially-inclusive participation, with equitable access, ability to feedback or critique, and to use the information and co-generate implications for action if any.

4. **Sense-make, validate and identify implications for action with partners,** strategizing for scaling evidence and gender outcomes.

5. If there is a final evaluation or impact assessment, follow through in **applying the RBET framing**. Derive and share explanatory insights about how the project influenced gender outcomes.

Phase 1: Problem identification and design

1. Include **a gender scientist** in the R4D team and establish equitable partnerships, with gender balance and diversity in both.

2. Apply an **intersectional gender lens in identifying and framing the R4D problem**, engaging diverse actors as needed. Critically assess scales, surface how different genders and social groups perceive and are affected by the issue.

3. Identify key social and gender groups to prioritize and define project goals. **Identify specific gender outcomes using the Reach-Benefit-Empower-Transform (RBET) Framework.** Align these with larger development goals.

4. Compare more and less powerful gender-social groups and elucidate equity within **research questions,** with **inquiries such as** (i) **needs and preferences**, (ii) **mechanisms and factors that enable or constrain** gender outcomes and equity, and (iii) what are the **positive and negative effects** of innovations or policies and **how are they distributed**.

5. **Generate intersectional gender background information** through literature and/or scoping studies, and use this to refine problems, questions, goals and groups of interest as well as design. This may happen before the ToC or iteratively.

6. **Create/refine a gender-integrated ToC**, by: specifying realistic gender outcomes (using the RBET framework) within the ToC; unpacking with stakeholders the assumptions within the ToC regarding gender and challenging them with information from Step 5 and gender expertise; and refining the ToC with corrected assumptions and strengthened, gender-informed design (realistic pathways).

7. In identifying research methods, design **fit-for-purpose combinations to address gender dimensions of research questions** and **plan how the research processes can be inclusive and empowering.**

Phase 3: Implementation, monitoring and adapting

1. **Collect disaggregated data,** at relevant units of analysis, using (quantitative and qualitative) **sampling design and enough power** to allow the intended and effective intersectional gender analysis (Step 4).

2. Use **gender-responsive and inclusive data collection processes, designed to be empowering**, and invest in building trust between local participants/co-researchers and external researchers.

3. **Monitor (un)intended consequences (+/-) and risks** on an ongoing basis (as part of MEL) to inform adaptive programming and avoid harm.

4. As appropriate, **carry out participatory ongoing MEL processes,** including tracking locally-developed equity-related indicators, assessment of emerging outcomes both intended and unintended.

5. Engage team and partners in regular **interim MEL reflections, with gender and socially-balanced participation**; probe if gender assumptions still hold and gather explanatory information, and adapt project accordingly.

Phase 5: Communication of research insights and recommendations

1. **Check that participants and partners have, understand and can use the findings, and follow through** with bespoke communications products so that they can use and scale the findings to advance equity and equality.

2. In translating the findings and recommendations for use in the project reporting and wider outputs, **ensure the language around gender is consistent and accurate**. Draw on the building blocks for intersectional gender analysis (Section 4) and other concepts in this Guidance Note for support.

3. **Make explicit how findings and recommendations address externally identified gender challenges, needs and commitments, including up to national, regional or global scales**. Share with relevant bodies and networks and do so in the relevant languages.

4. In all steps, **ensure communications are gender-aware and follow best practices**, including avoiding language and images that reinforce gender stereotypes.

Figure 7. Intersectional gender integration in all phases of the R4D project cycle.

5.1. Phase 1: Problem identification and design

1. Include **a gender scientist** in the R4D team and establish equitable partnerships, with gender balance and diversity in both.

2. Apply an **intersectional gender lens in identifying and framing the R4D problem**, engaging diverse actors as needed. Critically assess scales, surface how different genders and social groups perceive and are affected by the issue.

3. Identify key social and gender groups to prioritize and define project goals. **Identify specific gender outcomes using the Reach-Benefit-Empower-Transform (RBET) Framework**. Align these with larger development goals.

4. Compare more and less powerful gender-social groups and elucidate equity within **research questions, with inquiries such as:** (i) **needs and preferences**; (ii) **mechanisms and factors that enable or constrain** gender outcomes and equity; and (iii) what are the **positive and negative effects** of innovations or policies and **how are they distributed**.

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7. In identifying research methods, design **fit-for-purpose combinations to address gender dimensions of research questions** and **plan how the research processes can be inclusive and empowering**.

Phase 1, from concept note through to inception work, is the most strategic entry point for intersectional gender integration. This is because it sets up for success through the following:

- building an interdisciplinary team with gender and social science expertise;

- establishing inclusive partnerships;

- ensuring the foundations of the project include the relevant, and potentially diverse perspectives on the problems;

- applying an intersectional gender lens in developing the research questions (see Research Questions subsection below) to ensure responsiveness of innovations and set up for equity;

- making sure that design taps into the needs, experiences and insights of identified and potentially diverse women, men and people of non-binary genders;

- identifying realistic gender outcomes (aims) that align to stakeholders' development and gender equality objectives as a part of an integrated Theory of Change (see Theory of Change subsection below);

- drawing on a dedicated scoping or literature study for context-specific intersectional gender knowledge to inform all these steps.

Create a foundation for inclusion through diversity in the team, by involving a socially diverse, mixed gender team of researchers and enumerators. This also allows for same-gender, social group or language pairings later in Phase 3's field work.

Waiting until later in the project to integrate gender and intersectionality or failing to integrate intersectional gender insights and analysis in this early design phase is a significant contributor to weak gender integration throughout the project and can compromise the quality of the research project and development interventions.

Start integration at the beginning of Phase 1. As well as using an intersectional gender lens in the other steps, prioritize carrying out gender scoping studies early and making time to use these findings to inform the design of the interventions and research.

Missing or unused scoping studies can lead to erroneous assumptions and misconceptions going unchallenged, which can result in weaker problem framing, questions, targeting, design and innovation strategies.

Try the following tips in scoping study design:

- Strike a balance between light touch, so that it is fast enough to use, but still sufficient to be accurate.

- Start early!

- Even if led by the gender scientist, the broader team should co-own or at least engage in the design and analysis and co-plan use before starting.

- Prioritize information needed for equity-oriented project design, such as: who has a stake in the issue at different scales and who should be involved and how; what are the gender and social power dynamics and how these affect the issue and outcomes; what risks the dynamics or R4D create; and, gendered needs, preferences and concerns of different groups.

- Anchor the analysis in the intersectional gender building blocks (Section 4), while aiming to generate actionable lessons for the project design.

- Apply the information to improve and refine the goals, framing of the problem, questions and design.

In this section, we highlight two key areas of Phase 1: research question development, as well as Theory of Change and gender objectives.

Research question development: Applying an intersectional gender lens

Integrating an intersectional gender lens well in research questions cannot be done prescriptively; it relies on social science and gender expertise and adaptation to the specific R4D issue. As a starting point, teams may want to consider how the research questions can:

1. Reflect the needs and preferences of different priority social-gender groups of people?

2. Surface potential risks or negatives and how they are distributed?

3. Make explicit which gender outcomes and aspects of equity will be investigated, such as in decision-making processes and in the distribution of benefits, negatives/costs or trade-offs between more and less powerful actors?

4. Ask 'why'(causes) and 'so what'(implications for well-being including nutrition and food security and sustainability)?

5. As appropriate, be explicit about asking questions consistently in relation to the most marginalized or vulnerable groups?

As relevant and possible, remember to consider multiple scales so that the work can surface and address drivers beyond the local scale.

Gender objectives and a well-integrated Theory of Change

Phase 1 is the key moment for identifying and prioritizing gender outcomes. It is also the time for the team to develop and refine its Theory of Change, which is the heart of setting up in an informed way and realistic way so that the gender and other outcomes can be achieved.

A gender outcome refers to the specific gender-related results the project is aiming for. In practice, however, these outcomes are often ambiguous or conflated within project planning, which leads to both over-promising and underdelivering. For thi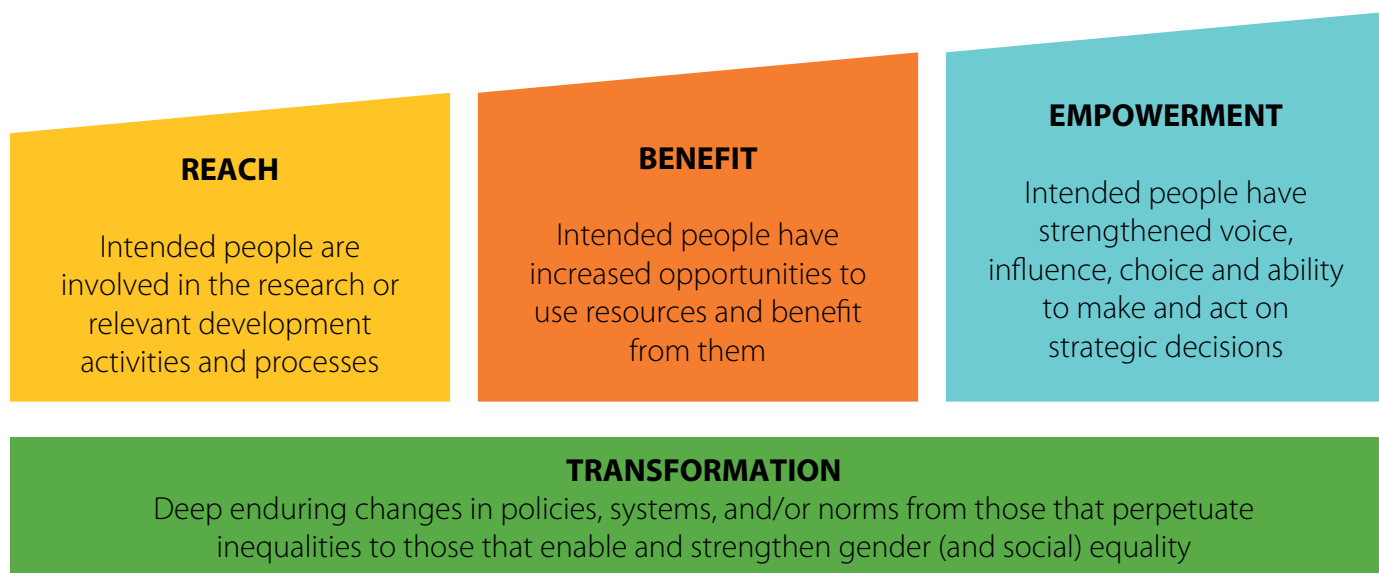s reason, being clear on realistic gender outcomes is a key principle (Section 6, Principle 5) in this Guidance Note: it helps researchers be clear from the start on desired gender outcomes and provides a reality check.

The Reach, Benefit, Empower and Transform (RBET) Typology[9] presented in Figure 8 is designed to enable teams avoid ambiguity or conflation, and instead have greater clarity on gender outcomes. It distinguishes between four outcomes:

- **Reach** refers to who is involved in project activities, including training, and in relevant development processes.

- **Benefit** relates to accessing or using and deriving benefits from resources or opportunities, such as an increase in nutrition.

- **Empowerment** refers to an individual's ability to make and act on strategic, versus practical, life decisions. It relates to the expansion of strategic freedoms, involves voice and choice, and includes self-efficacy, autonomy and degree to which they feel respected by others.

- **Transformation** refers to changes in the formal and informal structures, such as a shift in constraining norms, systems or policies.

It is essential to note that the gender outcomes are interrelated, but that projects often make the mistake of assuming that one outcome leads automatically to another (Danielsen et al. 2018). This linear relationship between outcomes does not hold true. For example, while women might be reached by a project, such as involved in a training, they will not automatically benefit. Similarly, if women benefit from an intervention, this does not necessarily translate into empowerment. For example, greater access to nutritious food (a benefit) does not translate automatically into the expansion of voice and choice in terms of "strategic freedoms" (i.e., empowerment). While there are interactions between empowerment (of individuals) and transformation (of food systems or society), none of these changes at the level of "women" guarantee deeper societal transformation in the underlying constraining norms, systems or policies.

Because of these limitations, it is important to integrate desired outcomes into the ToC and then carefully, and with gender expertise, assess critically what activities and strategies are required, and test and correct the underlying project team

REACH	BENEFIT	EMPOWERMENT
Intended people are involved in the research or relevant development activities and processes	Intended people have increased opportunities to use resources and benefit from them	Intended people have strengthened voice, influence, choice and ability to make and act on strategic decisions

TRANSFORMATION
Deep enduring changes in policies, systems, and/or norms from those that perpetuate inequalities to those that enable and strengthen gender (and social) equality

Note that the first three outcomes relate to changes at the scale of individuals, whereas the fourth relates to changes at the scale of society, specifically its norms, systems or policies.

Source: adapted from Kleiber et al. 2019a and draws on Theis and Meinzen-Dick 2016, Johnson et al. 2017 and Danielsen et al. 2018 and 2019.

Figure 8. Gender outcomes typology: Reach, Benefit, Empower and Transform (RBET).

and plan assumptions. In doing so, projects will be better informed and more realistic. This in turn will make projects much more likely to be successful in meeting their gender-related aims (Newton et al. 2019a). Box 3 summarizes a process in which gender can be integrated into the ToC. This step provides strong foundation to inform the design of interventions and identify the most relevant research methods to gather data on the identified gender outcomes.

Box 3. Theory of Change-based approach to gender integration.

The heart of gender integration is making sure gender and intersectionality are mainstreamed throughout the ToC and, conversely, that the ToC is robust when considered through a gender and intersectional lens.

To this end, FISH and the Royal Tropical Institute (KIT) adapted a ToC-based approach to integrating gender concepts. This involves taking an existing draft ToC for the project, or building one, and walking backward from the final intended outcomes to the activities while surfacing gender assumptions throughout. This is done through participatory consideration of the gender concepts (Section 4) at each part of the ToC, especially the ToC's arrows (what leads to what).

The process helps clarify the extent to which the desired gender impact is achievable, and whether the R4D can contribute toward the desired outcomes. It assists the team to be explicit about whose needs, preferences and/or constraints the R4D will address, and it clarifies what type of interventions are needed and for whom. This process provides a starting point to build consensus around what integrating gender and intersectionality means in practice for the project. It also serves to assist the team to understand what these concepts mean in the context of the project.

Source: Newton et al. 2019a.

5.2. Phase 2: Planning including setting up MEL

1. Develop a **gender strategy** with a gender-integrated research implementation plan.

2. Use the **four pillars of gender-responsive MEL to design the MEL** plan (Section 5, Figure 9):

   i) indicators for baseline/endline and routine monitoring aligned with gender outcomes (RBET);
   ii) an intersectional lens;
   iii) mechanisms to track unintended consequences;
   iv) gathering explanatory information.

3. (Develop) and recalibrate the **budget so it has enough funding for expertise and activities for gender outcomes** (as per ToC).

4. Assess **gender and intersectional analysis capacities** of the team and develop a capacity building plan to address gaps. Include reflection on biases or blind spots and how to address them.

5. Conduct intersectional gender **capacity building early and over time** for research and implementing partners and enumerator teams, using building blocks (Section 4) and the ToC.

Phase 2 brings the intersectional gender insights and foundations from Phase 1 and moves them into strategy, budget and capacities, as well as MEL.

Developing a gender strategy articulates the outcomes and plans from Phase 1 in more detail, providing a clear road map that is embedded within the overall research workplan, and laying out the gender-responsive budget development and/or recalibration and MEL plan. Moreover, it clarifies what is expected from different team members. By making it public, the strategy can also hold the team accountable to follow through on its intersectional gender integration commitments.

Phase 2 is a valuable opportunity to pause, check, refine and double-check. Often budgets are developed in Phase 1 too early to understand gender dimensions. This is why Phase 2 is

a key moment for budget recalibration. It ensures adequate resources are dedicated to operationalize the gender strategy and achieve the gender research outcomes.[10] It is also the moment to get external advice and check the feasibility of the research plan with experts, such as gender scientists and statistical advisors. It is often the stage where gender and intersectional capacities can be assessed and a regular capacity building process started as needed.

Too many projects fall short because they build in gender on paper but lack staffing and funding to match. Invest in gender and social science budget and staffing in a way that shows the project and team are serious about them. As a rule of thumb, the CGIAR evaluation of gender research flagged that, as a minimum, R4D programs should not drop below a 10 percent gender budget 'floor' (CGIAR-IEA 2017).

⚠ A common pitfall is that teams may assume the gender scientist is solely responsible for all intersectional gender integration. Or, it is not clear who is responsible for gender integration and the consequence is that gender falls off the radar.

➤ Everyone on the team is responsible for effective integration. While gender expertise is needed in sufficient amounts and at the right level, integration will rely on everyone's commitment and collaboration. To avoid gender evaporation later on, it is helpful if all research partners, including the interdisciplinary team and implementing partners, are involved at the inception phase when gender and social outcomes and their value are identified. This is also an opportunity to identify gender bias and stereotypes held by project staff and implementing partners. Appropriate strategies can be put in place in the long term to address this (see examples in McDougall et al. 2022).

> Another pitfall is the assumption that if some time is budgeted for a gender specialist, then gender integration will be guaranteed. Yet often the budget and/or level of expertise is far too small to enable effective integration and successful outcomes.

> Token funding or the time of part of (an often junior) gender specialist are insufficient to ensure gender-integrated research. First, the amount of time and the level of expertise are essential to fund sufficiently. This may require full-time and more senior gender researchers as well as more junior field staff. Moreover, a detailed research implementation plan will indicate strategic moments for gender expertise. Lessons learned suggest that when resources are limited, a gender scientist's "time" tends to be allocated to targeted gender capacity development rather than strategic follow-through that connects dots between analysis of findings to inform intervention and support MEL processes. Seek guidance from the gender team for where to plan gender support at strategic moments of the research project cycle.

Phase 2 is the project stage in which MEL is designed and thus it is the time to ensure the MEL design is gender responsive. In our framing, effective gender-responsive MEL involves four pillars as illustrated in Figure 9.

The first two pillars have already been introduced above: (1) clear gender outcomes based in the RBET typology (Section 5, Phase 1; Principle 3) and using an intersectional lens (Section 3, Principle 1). In terms of the former, gender outcomes using the RBET typology can be revisited in this phase to systematically inform the formulation of indicators to measure those gender outcomes (see Annex 2).

Here we introduce the third and fourth pillars of gender-responsive MEL: assessing unintended consequences and generating explanatory data.

Assessment of unintended consequences

Unintended negative consequences may include increases in gender-based violence, other household members taking over the use of technology from women, others controlling the benefits of technology, or increases in women's already high workloads. These are important to monitor throughout the project to avoid harm and to mitigate through adaptive programming. Positive unintended consequences can also arise. These include, for example, shifts in constraining attitudes toward women's involvement in nontraditional activities or work for women.

Generating explanatory information

This is information that looks at reasons why occurrences happen and captures reflections of research teams and partners. Involving a gender scientist at times of MEL reflection moments, such as for annual and mid-term reviews, is a useful opportunity to probe explanation for changes taking place and whether gender assumptions still hold.
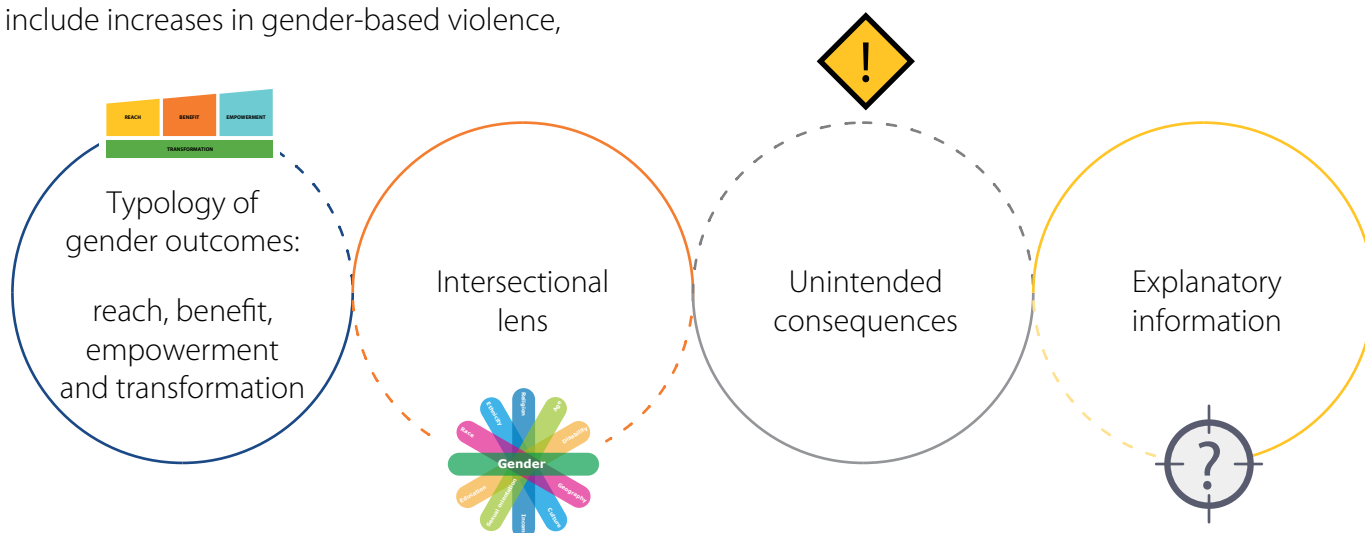

Figure 9. Four pillars of gender-responsive MEL.

5.3. Phase 3: Implementation, monitoring and adapting

1. **Collect disaggregated data,** at relevant units of analysis, using (quantitative and qualitative) **sampling design and enough power** to allow the intended and effective intersectional gender analysis (Step 4).

2. Use **gender-responsive and inclusive data collection processes, designed to be empowering**, and invest in building trust between local participants/co-researchers and external researchers.

3. **Monitor (un)intended consequences (+/-) and risks** on an ongoing basis (as part of MEL) to inform adaptive programming and avoid harm.

4. As appropriate, **carry out participatory ongoing MEL processes,** including tracking locally-developed equity-related indicators, assessment of emerging outcomes both intended and unintended.

5. Engage team and partners in regular **interim MEL reflections, with gender and socially-balanced participation**; probe if gender assumptions still hold and gather explanatory information, and adapt project accordingly.

Phase 3 relates to executing the research project itself. As such, it is all about following through and applying the plans and guidance outlined in the gender strategy.

Phase 3 also includes carrying out ongoing monitoring of gender outcomes during implementation and building in regular reflection moments. This supports learning and adaptive R4D. It entails collecting gender and intersectional data, including regarding intended and unintended consequences, through inclusive and gender-responsive processes that at a minimum are gender accommodating (Principle 3). It can check if social and gender barriers and opportunities are being effectively addressed at multiple scales and what effects the project is having on different actors, including marginalized actors or most vulnerable people. As such, the monitoring for adaptive programming that this phase offers is vital for the project to avoid causing harm (Principle 3). It is key for assessing evolving risks, continuously assessing how the research addresses different needs and preferences, and ensuring the long-term sustainability of the R4D outcomes.

This is also an opportunity to check on the power dynamics of the research. This involves assessing how the research processes themselves are empowering or disempowering, and continuing to gather feedback and improve on this (Newton et al. 2019b). It is an opportunity for researcher self-reflection about their own role in these dynamics (Principle 6).

Finally, ongoing monitoring allows the project to bring together different partners and stakeholders, including women and men participants, to check gender assumptions and the links between gender outcomes along pathways of the ToC. As such, it is an opportunity for everyone to get on the same page about emerging gender outcomes or challenges, capacity strengthening, and a perfect moment to realign and refine project strategies and practices, as well as trust building in relationships. As set up in Phase 2, careful MEL sampling, method and tool choices and facilitation can elicit diverse perspectives from people of all genders, including those of marginalized groups. Building reflection moments into the project design that proactively and (context appropriately) involve people of all genders across intersecting identities is thus more than an essential part of the adaptation process. It is also an opportunity for sharing, learning and building cohesion, if well facilitated.

In implementing R4D activities, remember that accommodating research should work around existing restrictions on women's mobility, which prevent women from participating equitably in training and other opportunities beyond the household. This requires attention to the timing and location of activities to ensure these work for women and marginalized participants, i.e., working around their responsibilities, mobility, and their safety and comfort in certain spaces. For example, training and data collection and MEL should be organized around domestic work timing and held close to homes. Remember to check that research does not reinforce or take advantage of gender stereotypes (i.e. slide back into gender exploitative or reinforcing).

> ⚠️ A common challenge is that unintended gender consequences, both positive and negative, are not picked up because MEL only focused on planned outcomes.

> ➡️ It is important to including in the MEL design that methods and tools elicit information about emerging and unplanned changes, both positive and especially negative. Using a mixed-methods approach, qualitative MEL processes and methods, in particular, can help identify unintended consequences and explanations of why they have emerged.

5.4. Phase 4: Analysis of data, interpretation of findings, evaluation of project

1. Start with **descriptive analysis of gender and intersectional disaggregated data** to identify differences and similarities between gender-social groups in relation to the research questions.

2. **Deepen analysis and generate insights by applying the intersectional gender analysis building blocks** (Section 4).

3. **Sense-make, validate and share findings and their interpretation with participants**, including less powerful ones. Enable gender and socially-inclusive participation, with equitable access, ability to feedback or critique, and to use the information and co-generate implications for action if any.

4. **Sense-make, validate and identify implications for action with partners,** strategizing for scaling evidence and gender outcomes.

5. If there is a final evaluation or impact assessment, follow through in **applying the RBET framing**. Derive and share explanatory insights about how the project influenced gender outcomes.

Phase 4 is especially important because it is where analysis and interpretation take place. As it involves applying an intersectional gender lens, this means it is where social and gender patterns are identified and the gender implications of the research are drawn. This takes place at different levels and in steps.

Descriptive analysis is the first step. This is important because it identifies patterns, though it is not sufficient on its own for a depth of understanding. It involves describing and comparing the differences and similarities (according to the research questions) by gender and by social groups, and their intersections (such as gender and life stage and class), as relevant and feasible.

The second step is to deepen the analysis by applying the intersectional gender analysis building blocks presented in Section 4. In other words, probe the patterns identified in the descriptive analysis in relation to the research questions by querying:

• the four dimensions of gender, including who controls and who benefits as well as who does not (Section 4.1);

• needs and preferences and emergence and distribution of risks or burdens (Section 4.2);

• at multiples scales, interactions between scales (Section 4.3).

While the above will surface intersectional gender dynamics and equity, it is important here to also investigate "how" and "why" questions, using explanatory information gathered in Phase 3. The purpose of this so that the findings identify the factors and mechanisms in R4D, policy and development interventions that enable or constrain gender and social equity and equality. This is the foundation for evidence-based policy and practice recommendations.

Phase 4 is also an opportunity to recheck, make sense of and validate findings with the participants, including less powerful ones. Ensure this involves gender and socially inclusive participation, with equitable access, ability to feedback or critique and to use the information. In terms of validation, this is particularly useful for digging into further intersectional differences that may play out differently for women, men and nonbinary people across marginalized groups. In terms of equitable

use and benefit from control over findings, work with or otherwise enable participants, especially marginalized ones, to generate implications for action, if any. This is a critical step for ethical reasons. But it is also necessary so that people who contributed to the research, whether as participants or co-researchers, can equitably understand, use and benefit from, and hopefully expand their agency through, direct access to the findings. It is not enough to rely on 'research to publication to policy' chains of influence and the agency of external actors. This step may happen repeatedly with the research team's analysis and validation with partners.

⚠️ Often, projects equate gender analysis with extracting stories about women, usually positive ones about empowerment. Sometimes they analyze gender, but other aspects of marginalization or identity are excluded or show up inconsistently. These are failures to take a systematic approach to intersectional integration. They also weaken the findings and even introduce bias.

➡️ Set up for rigorous findings in Phases 1 and 2, and with the data from Phase 3, following through in Phase 4 by systematically approaching the analysis. First, use consistent intersectional gender disaggregation in the descriptive analysis. Then, apply the building blocks of an intersectional gender lens (Section 4) as an informed base for deepening and creating meaningful insights.

⚠️ Staff responsible for analyzing data might not have adequate gender and intersectional analysis skills to make sense of it, and/or gender scientists are not provided sufficient resources to support analysis.

➡️ The research implementation plan (Phase 2) during the development of the gender strategy should specify when gender expertise is required and how much. In addition, the budget (Phases 1 and 2) needs to have sufficient resources set aside for their time and costs. Key moments include analysis of intersectional gender data from any scoping studies, baselines, interim MEL, specific studies within the project, endline, and evaluation, if any. It can be useful if the analysis and interpretation is led by a gender scientist and involves some form of sense-making workshop with the interdisciplinary team to collectively analyze the gender implications of the data.

5.5. Phase 5: Communication of research insights and recommendations

1. **Check that participants and partners have, understand and can use the findings, and follow through** with bespoke communications products so that they can use and scale the findings to advance equity and equality.

2. In translating the findings and recommendations for use in the project reporting and wider outputs, **ensure the language around gender is consistent and accurate**. Draw on the building blocks for intersectional gender analysis (Section 4) and other concepts in this Guidance Note for support.

3. **Make explicit how findings and recommendations address externally-identified gender challenges, needs and commitments, including up to national, regional or global scales**. Share with relevant bodies and networks and do so in the relevant languages.

4. In all steps, **ensure communications are gender-aware and follow best practices**, including avoiding language and images that reinforce gender stereotypes.[11]

Phase 5 concerns communicating findings and recommendations to different audiences. In particular, it is about making sure there is momentum for translating these into action that supports equity and equality to the project and to broader development targets. This may involve a range of actors, but it starts with participants and partners, including more marginalized people of all genders. It must ensure that they understand and have the intersectional gender data, findings and recommendations that they can use and apply.

Note that while the Figure 7 presents communicating findings at the end of the research cycle, setting the stage for using findings through partnership starts early in the cycle (Phases 1 and 2). And there are multiple points where insights can be exchanged including in Phase 3's ongoing monitoring. Here in Phase 5, we refer to the external communication toward the end of the R4D project. This can take shape through dissemination events and channels and different types of outputs, including visual, audio or video and written research papers, briefs and learning notes.

In communicating findings, increase relevance and set up for influence by making explicit the links to gender and social outcome goals beyond the project. These include the R4D and partners' organizational goals, national or regional policy commitments and any SDGs.

When communicating findings within the project and to funders, be sure to make explicit how the intersectional gender findings and outcomes feed into the project framework, TOC and other goals. More broadly, to enable policy and program influence, it is critical that the concepts and language are accurate and align with framing that goes beyond the project. Using the core intersectional gender concepts (Section 4) in the early phases is the foundation; in this phase, make sure to keep consistent with that language. Next, establish relevance, articulate how these findings and outcomes contribute to commitments or goals specific to gender and equity in development policies and programs, including subnational, national and global commitments, as well as SDGs 5 and 10. Complementing these links to gender-specific goals, communicate how the intersectional gender findings and outcomes inform and contribute to other goals, such as production, food and nutrition security or climate resilience. This balance is important to keep the intrinsic value of gender equality and social equity visible, while responding to the common demand for instrumental contributions of these to other development goals.

Communication products can do harm in terms of gender. They can reinforce harmful stereotypes, such images presenting women as cooks and caregivers, and men as income earners and leaders, or using language that frames women as inherently vulnerable. Gender-blind publications that do not separate findings can reinforce the erroneous notion that people are homogenous and that one-size-fits-all policies and programs will benefit everyone, when in fact they may worsen gaps. This is especially true if the sampling was biased, such as in some COVID-19 studies; the resulting use of data or recommendations may unintentionally worsen gaps.

Carry the intersectional gender analysis through into the insights and recommendations. Present the diversity of experiences and specify when experiences, needs and risks are different or unique. Create space in the communication products to (with permission) share the "voices" of marginalized women, men and people of other genders. Use gender-positive images, case studies and representations that challenge constraining gender stereotypes of what women and men can and should do. Ensure that research outputs communicate the diversity of different gender barriers and opportunities, preferences and needs across different groups.

6. Key takeaways: Six guiding principles

In this final section, we synthesize six key principles to take away with you and keep "front of mind" as you engage in your next R4D project.

Principle 1. Avoid being gender-blind and go beyond binary: apply an intersectional gender lens.

It is widely understood that when food systems R4D is gender-blind, it leads to weaker insights and can even worsen gender gaps. As such, there is great demand for effective gender integration.

This Guidance Note underscores that gender integration, on its own, is necessary but not sufficient. Rather, current understandings of gender as a social relation of power mean moving beyond notions of women and men as homogenous groups and as the only gender identities. In other words, all women are not all the same, and all men are not all the same—and gender identities can be better understood as a multiplicity or spectrum rather than a binary of men-women. People of all genders experience multiple forms of privilege or discrimination based on intersecting facets of their identity, such as race, ethnicity, caste, religion, wealth, age or life stage and so forth. In practice, this implies that R4D, where possible, should apply intersectional gender lens that will aim to understand how gender interacts with other aspects of social identity to create overlapping experiences of privilege or discrimination in different contexts.

To help remind you to proactively investigate both gender and the intersection of social power, it may be helpful to recall the image putting on your gender lens and intersectional shoes at all stages of the research cycle. And remember to find a balance by including an intersectional lens, while still recognising gender as a central form of inequality at all scales.

Principle 2. Integrate gender and intersectionality from the earliest stage to the end of the project cycle with the involvement of the whole team.

Gender and intersectionality need to be integrated throughout the whole project cycle. It is not a paragraph, a one-off activity or a nice extra. At a high level, this includes committing to the following:

- Start early and systematize intersectional gender integration throughout: From team development, through problem definition and setting objectives, follow through all the way to analysis, interpretation, communication of findings and MEL, while watching out for gender evaporation.

- Check assumptions: Challenge and correct gender and social assumptions in the ToC to create a more robust and effective project.

- Systems thinking and interdisciplinarity: Engage with gender and intersectionality as core and integrated aspects of the whole project. Investigate them as central pieces of the development puzzle being solved, not add-ons.

- Adequate resourcing: Back up gender and social aims with resources, ensuring that the project builds in sufficient staff, at sufficient level of expertise and time, with adequate budget resources.

- Everyone owns it: While R4D projects require in-depth expertise, effective gender and intersectional integration requires the whole team's commitment and involvement—it does not rest on the shoulders of one individual.

Use the entry points outlined in this Guidance Note (Figure 7) to keep the project team on track at each phase of the project cycle.

Principle 3. Aim for transformative change, but at a minimum take a gender-accommodating approach.

Principle 3 recalls the gender approaches continuum as a reminder that not all gender approaches are created equal (Section 3). It flags which approaches to avoid and which to proactively target for more sustained progress toward equality.

Approaches that are aware of gender but exploit gender stereotypes to further project aims should be avoided as they reinforce unequal dynamics. At a minimum, R4D should be accommodating. That is, R4D should understand and navigate around existing gender and social barriers, including constraining norms.

Gender-transformative approaches seek to address underlying barriers, not only work around them. This means that, when done well and effectively, they have considerable potential for more systemic and more lasting gender outcomes. To be effective, transformative approaches require capacities, time and well-informed design, implementation and measurement beyond business-as-usual gender mainstreaming. We suggest that R4D investments orient toward gender-transformative approaches. But in doing so, they must proceed carefully, thoughtfully and from a base of evidence to build the requisite commitment and capacities.

Avoid and be wary of overpromising statements such as "all programming is gender transformative" as this is likely to lead to dilution of the approach and underperformance. Instead, invest in building the capacities and expertise needed to move steadily towards well-informed transformative approaches.

Principle 4. Expand the frame by assessing and addressing gender and social barriers and opportunities at multiple scales.

Gender and social relations operate at multiple, interacting scales. As such, there are both barriers and opportunities to enhance gender equality and social equity at multiple scales (Section 4). These are unlikely to be effectively and sustainably addressed by single-scale policy or development interventions.

Flowing from this, if R4D projects focus and operate at only the community or any one scale, they may not recognize the influence of powerful drivers at other scales, which could limit findings and recommendations.

As such, R4D that addresses the realities of gender and social relations at all and across scales is needed to bring about change. Understanding R4D systems and teams themselves as part of nested power dynamics in development and challenging these from within is a foundation for change.

Think about scale as part of integration in the whole project cycle. Considering scale at the outset in problem framing is particularly salient to setting up well. Draw on critical partners and literature as needed to expand the team's frame of reference.

Principle 5. Be clear about intended gender outcomes and for whom, distinguishing between Reach, Benefit or Empower people versus Transforming systemic barriers.

It is valuable that more and more projects are signaling their intention to contribute to gender-related outcomes. Use the RBET typology framework (Section 5) from the beginning and throughout the research cycle to assist being clear on: (i) which type of gender outcomes the project is trying to achieve; (ii) which types of gender outcomes need to be understood through the research; and (iii) what type of change needs to be tracked through the MEL. An essential part of this is being clear about which outcomes relate to whom. This means being specific about the gender and social (and socio-economic) identity of the people the R4D is meant to reach, benefit or empower and/or what barriers it is meant to transform, where and how.

When translating this to MEL, avoid common pitfalls about assuming when individuals are reached, that they are benefitting and being empowered.

Think carefully in terms of which of these four outcomes are desired and feasible in the given project. Testing assumptions about causal influences and challenging erroneous gender assumptions during TOC processes offer important learning and can help more realistically set up the project for later success.

Principle 6. Recognize the research process itself as empowering or disempowering and the researchers' own role in that.

It is important to recognize that power dynamics, and often inequalities, may exist between the research teams and participants. These shape the research process, who has how much influence in how problems, questions, methods, sampling and solutions are framed, and even who may benefit or bear costs (McDougall and Braun 2003). Moreover, researchers bring their own worldview and positionality (the perspective or orientation of the researcher, which is shaped by their socio-historical-political context) to R4D. These influence how gender and intersectionality are framed within research and which and how R4D challenges are addressed. Lack of awareness and intentionality about these can contribute to unintentional disempowerment of participants and therefore can enable and perpetuate pitfalls of the past. It can be uncomfortable to do, but recognizing these is an important step toward creating greater equity in R4D.

Similarly, research processes themselves, including methodological choices, can be potentially empowering or disempowering. R4D that is informed by the wealth of knowledge about people-centered approaches, including participatory action research, co-researching, and feminist research approaches may be more likely to contribute to empowerment. This includes strategies for recognizing and valuing plural forms of knowledge held by people of different genders and identities with different life experiences, particularly marginalized peoples (Podems 2010). Together, these strategies can help challenge inequities in whose voice is heard and counted in shaping development.[12]

Set up for effective and empowering R4D by encouraging individual and team self-awareness regarding the power dynamics in research, including between professional researchers and local people. As well as addressing these to enable meaningful collaboration, seek methodological options that recognize multiple forms of knowledge and are empowering through their processes.

Participatory photo research activity involving adult fishers, farmers and youth from Kyonkadun village, Myanmar.

Photo credit: Sanjiv de Silva/WorldFish

Closing note

This Guidance Note has outlined the "why" of integrating an intersectional gender lens (Section 2) and the basics in terms of "what," "when" and "which approaches" (Section 3). It then presented concepts and an analytical framework of "what" is involved in applying an intersectional gender lens in dimensions of analysis and scale (Section 4) and outlined key ideas for "how" to integrate in each phase of the project cycle (Section 5).

We hope this guide inspires you and offers some ideas for ways forward. Doing intersectional gender integration well is incredibly important. But it also is not easy and cannot be done alone. While best practices are ever-evolving, this Guidance Note provides some ingredients and, we hope, some food for thought. Now over to you and your team to jointly engage with, adapt and take these ideas to the next level. Together we can ensure research for development in food systems is more effectively, consistently and intersectionally gender-integrated. In doing so, we can level the playing field by engendering greater inclusion and equity in and through R4D. This is a critical foundation to food systems being transformed towards equality and empowerment, so that development more broadly can be shaped by, and equitably enrich and empower, all peoples.

"Alone you can go quickly, together you can go further…."
(African proverb)

Notes

1   Such as, but not limited to, genderqueer, gender nonconforming or gender neutral.

2   Patriarchy is a dominant social system in which men hold more power in leadership and authority, resulting in men having more privilege than women (van Eerdewijk et al. 2017).

3   See also McCall 2005.

4   These four dimensions build on core gender and development analytical concepts used in mainstream gender analysis across CGIAR. The definitions in this Guidance Note draw heavily on the work of Mukhopadhyay et al. 2013 as part of the Guide to Concepts for Gender Training: CIMMYT Gender Capacity Strengthening Program – Achieving Gender Integration at CIMMYT implemented with KIT Royal Tropical Institute, Amsterdam. They have been used in further iterations with other CGIAR partners, including WorldFish and International Livestock Research Institute (ILRI). Examples include Eerdewijk and Danielsen 2015 and Danielsen and Newton 2018.

5   See Hillenbrand et al. 2015 and Eerdewijk et al. 2017.

6   See for more on structures and how they create and re-create systems, Kabeer and Subrahmanian 1996, or McDougall and Ojha 2021.

7   See, for example, BOP and FISH 2018.

8   For an introduction to addressing power imbalances through decolonial methodologies in research, see for example, Daszkiewicz et al. 2022.

9   The RBET typology originates from the work of colleagues from the International Food Policy Research Institute (Theis and Meinzen-Dick 2016; Johnson et al. 2017), which identified a three-point typology (Reach-Benefit-Empower) stemming from research tracking empowerment outcomes in food security programing. This inspired work, led by KIT, linking different strategies for gender integration to gender outcomes across the Canadian International Food Security Research Fund (Danielsen et al. 2018). Within this work began the first efforts to develop indicators for each of the different categories of gender outcomes. Through the FISH and KIT collaboration, a fourth outcome type was added to create the current RBET framework. The Transform outcome was added to distinguish change in social structures (versus change in individuals) as a critical outcome area (FISH 2017; Kleiber et al. 2019a). This led to further FISH and KIT work to expand on a list of indicators for different sub-categories of gender outcomes across the four outcomes in the context of aquaculture value chains (Kruijssen et al. 2021).

10 For example: costs related to standalone studies to dive deeper into understanding needs and preferences; costs relating to implementing gender responsive research (e.g., separate focus groups for women and men); capacity building for staff and partners during key moments of the research; costs related to producing gender-focused research outputs and dissemination events. Where possible, integrate the time of a full-time gender scientist rather than part-time staff, and think through bringing in additional gender expertise for relevant tasks such as gender post-docs or external gender experts.

11 For examples of current good practices on gender-sensitive communications, see https://eige.europa.eu/publications/toolkit-gender-sensitive-communication or https://globalmarinecommodities.org/en/publications/https-globalmarinecommodities-org-wp-content-uploads-2020-04-gender-toolkit_gmc-project-pdf/

12 See Daszkiewicz et al. 2022.

References

[AAS] CGIAR Research Program on Aquatic Agricultural Systems. 2012. Building coalitions, creating change: An agenda for gender-transformative research in development. Penang, Malaysia: AAS.

[ADB] Asian Development Bank. 2013. Tool kit on gender equality results and indicators. Mandaluyong City, Philippines: ADB. https://www.oecd.org/derec/adb/tool-kit-gender-equality-results-indicators.pdf

[ADPC] Asian Disaster Preparedness Center. 2022. Integrating rights and equality in disaster risk reduction and climate resilience. Brief. Bangkok: ADPC. https://reliefweb.int/report/world/integrating-rights-and-equality-disaster-risk-reduction-and-climate-resilience

[APA] American Psychological Association. 2015. Guidelines for psychological practice with transgender and gender nonconforming people. *American Psychologist* 70(9):832–64. doi: 10.1037/a0039906

Atkins M, McDougall C and Cohen PJ. 2021. COVID-19 impacts on women fish processors and traders in sub-Saharan Africa: Insights and recommendations for building forward better. Penang, Malaysia: CGIAR Research Program on Fish Agri-Food Systems. Program Report: FISH-2021-12.

Biswas N. 2017. Towards gender-equitable small-scale fisheries governance and development: A handbook. In support of the implementation of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication. Rome: FAO.

[BMGF] Bill & Melinda Gates Foundation. 2017. What gets measured matters: A methods note for measuring women and girls' empowerment. Gender Equality Toolbox. Seattle: BMGF. BMGF_Methods-Note-Measuring-Empowerment-1.pdf (gatesgenderequalitytoolbox.org)

[BOP and FISH] BoP Innovation Center & CGIAR Research Program on Fish Agri-Food Systems. 2018. Tool navigator: Using market-based research methods for user-responsive innovation. Penang, Malaysia: WorldFish. Accessed November 1, 2021. https://www.slideshare.net/worldfishcenter/worldfish-tool-navigator-for-market-based-research-2018

Briceno-Lagos N and Monfort MC. 2020. Why use a gender lens to analyse the impacts of COVID-19 on the seafood industry? *SPC Women in Fisheries Bulletin* 32:4–6.

CARE. 2021. A win-win for gender and nutrition: Testing a gender-transformative approach from Asia in Africa. Impact Evaluation Report. CARE.

CGIAR Gender and Agriculture Research Network. 2015. Definitions of gender research for CRP gender budgets. Guidance Note. Rome: CGIAR.

CGIAR-IEA. 2017. Evaluation of Gender in CGIAR – Volume I, Evaluation of Gender in Research. Independent Evaluation Arrangement (IEA) of CGIAR. Rome: CGIAR.

Choudhury A, McDougall C, Rajaratnam S and Park CMY. 2017. Women's empowerment in aquaculture: Two case studies from Bangladesh. Rome: FAO; Penang, Malaysia: WorldFish.

Cole SM, Puskur R, Rajaratnam S and Zulu F. 2015. Exploring the intricate relationship between poverty, gender inequality and rural masculinity: A case study from an aquatic agricultural system in Zambia. *Culture, Society, and Masculinities* 7(2):154–170.
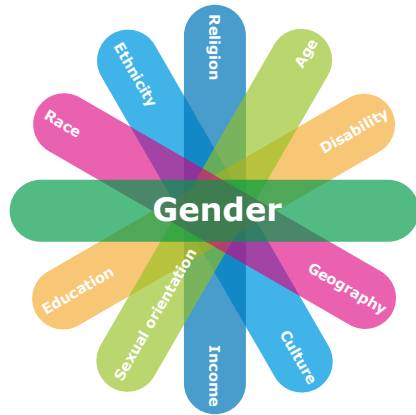
Colfer CJP, Basnett BS and Ihalainen M. 2018. Making sense of 'intersectionality': A manual for lovers of people and forests. Occasional Paper No. 184. Bogor, Indonesia: CIFOR. doi: 10.17528/cifor/006793

[CRIAW-ICREF] Canadian Research Institute for the Advancement of Women. 2006. Intersectional feminist frameworks: A primer. Ottawa, Canada: CRIAW-ICREF.

Crenshaw K. 1989. Demarginalizing the intersection of race and sex: A black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. *University of Chicago Legal Forum* 1(8):139.

Criado Perez C. 2019. *Invisible Women: Data Bias in A World Designed for Men*. New York: Abrams.

Danielsen K, Wong F, McLachlin D and Sarapura S. 2018. Typologies of change: gender integration in agriculture & food security research. Amsterdam: KIT. https://idl-bnc-idrc.dspacedirect.org/handle/10625/57120

Danielsen K and Newton J. 2018. Gender strategy: African Chicken Genetics Gains programme. Amsterdam: KIT. https://www.kit.nl/wp-content/uploads/2019/01/acgg_gender_strategy.pdf

Daszkiewicz C, Shawoo Z, Nazareth A, Coleoni C, Kwamboka E, Ghosh E, Han JY-C, Inga K, Tran M and Diaz-Chavez RA. 2022. Shifting power through climate research. SEI Brief. Stockholm: SEI. https://cdn.sei.org/wp-content/uploads/2022/01/shifting-power-through-climate-research.pdf

Doss C and Kieran C. 2014. Standards for collecting sex-disaggregated data for gender analysis: A guide for CGIAR researchers. Washington, DC: CGIAR Research Program on Policies, Institutions and Markets. https://hdl.handle.net/10568/76974

Eerdewijk A and Danielsen K. 2015. Gender matters in farmer power. Amsterdam: KIT. https://www.kit.nl/wp-content/uploads/2018/08/56fe4a6ced6cd_Gender-Matters-in-Farm-Power.pdf

Eerdewijk A, Wong F, Vaast C, Newton J, Tyszler M and Pennington A. 2017. White paper: A conceptual model of women and girls' empowerment. Amsterdam: KIT.

Farhall K and Rickards L. 2021. The "gender agenda" in agriculture for development and its (lack of) alignment with feminist scholarship. *Frontiers in Sustainable Food Systems* 5:1–15.

[FAO] Food and Agriculture Organization. 2011. Women in agriculture: Closing the gender gap for development. The State of Food and Agriculture 2011. Rome: FAO. https://www.fao.org/3/i2050e/i2050e.pdf

[FAO] Food and Agriculture Organization, [WFP] World Food Programme, and [IFAD] International Fund for Agricultural Development. 2020. Gender transformative approaches for food security, improved nutrition and sustainable agriculture – A compendium of fifteen good practices. Rome: FAO. https://doi.org/10.4060/cb1331en

[FISH] CGIAR Research Program on Fish Agri-Food Systems. 2017. CGIAR Research Program on Fish Agri-Food Systems (FISH): Gender strategy. Penang, Malaysia: FISH. Strategy: FISH-2017-13.

Hankivsky O. 2014. Intersectionality 101. Vancouver, Canada: The Institute for Intersectionality Research and Policy, Simon Fraser University.

Hillenbrand E, Karim N, Mohanraj P and Wu D. 2015. Measuring gender-transformative change. A review of literature and promising practices. CARE USA.

[IGWG] Interagency Gender Working Group. 2017. Programmatic guidance: Gender integration continuum. Accessed December 20, 2017. www.igwg.org/training/programmatic-guidance

[ILO] International Labour Office. 2000. ABC of women worker's rights and gender equality. Geneva: ILO.

Johnson NL, Balagamwala M, Pinkstaff C, Theis S, Meinzen-Dick RS and Quisumbing AR. 2017. How do agricultural development projects aim to empower women? Insights from an analysis of project strategies. Discussion Paper 1609. Washington, DC: International Food Policy Research Institute (IFPRI). http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/131074

Kabeer N. 1999. Resources, agency, achievements: Reflections on the measurement of women's empowerment. *Development and Change* 30(3):435–64.

Kabeer N. 2005. Gender equality and women's empowerment: A critical analysis of the third Millennium Development Goal. *Gender and Development* 3(1). https://www.amherst.edu/system/files/media/0589/Kabeer%25202005.pdf

Kabeer N and Subrahmanian R. 1996. Institutions, relations and outcomes: Framework and tools for gender-aware planning. Brighton, UK: Institute of Development Studies.

Kleiber D, Cohen P, Gomese C and McDougall C. 2019a. Gender-integrated research for development in Pacific coastal fisheries. Penang, Malaysia: FISH. Program Brief: FISH-2019-02. https://digitalarchive.worldfishcenter.org/bitstream/handle/20.500.12348/2826/FISH-2019-02.pdf

Kleiber D, Cohen P, Teioli H, Siota F, Delisle A, Lawless S, Steenbergen D, Gomese C, Tavue RB, Vachette A et al. 2019b. Gender-inclusive facilitation for community-based marine resource management. An addendum to "Community-based marine resource management in Solomon Islands: A facilitators guide" and other guides for CBRM. Penang, Malaysia: FISH. Program Brief: FISH-2019-08. https://hdl.handle.net/20.500.12348/3747

Kleiber D, Harper S, Appiah, S, Atkins M, Bradford, K, Choudhury A, Cohen P, de la Puente S, De la Torre Castro, M, Duffy-Tumasz A et al. In press. Gender and small-scale fisheries: Moving beyond sexist data structures. In FAO, Duke University and WorldFish. Illuminating hidden harvests: The contribution of small-scale fisheries to sustainable development. Rome: FAO.

Koczberski G. 1996. From Mexico to Beijing: 'Women in development' twenty five years on. *Australian Geographical Studies* (34):138–48. doi: 10.1111/j.1467-8470.1996.tb00111.x

Kruijssen F, Danielsen K, Newton J and Braaten Y. 2021. Gendered aquaculture value chain analysis and development: An analytical framework. Penang, Malaysia: CGIAR Research Program on Fish Agri-Food Systems. Manual: FISH-2021-27. https://hdl.handle.net/20.500.12348/5114

Kruijssen F, Adam R, Choudhury A, Danielsen K, McDougall C, Newton J, Smits E and Shelley CC. 2021. A gendered aquaculture value chain analysis in northwestern Bangladesh. Penang, Malaysia: WorldFish. Program Report: 2021-02. https://digitalarchive.worldfishcenter.org/bitstream/handle/20.500.12348/4584/69fbd5ebca2321e562a5df1420deab54.pdf?sequence=2&isAllowed=y

Lawless S, Cohen P, McDougall C, Orirana G, Siota F and Doyle, K. 2019. Gender norms and relations: Implications for agency in coastal livelihoods. *Maritime Studies* 18:347–58. https://link.springer.com/content/pdf/10.1007/s40152-019-00147-0.pdf

McCall L. 2005. The complexity of intersectionality. *Signs: Journal of Women in Culture and Society* 30(3):1771–1800.

McDougall C and Braun A. 2003. Navigating complexity and dynamism: Reflections on research for natural resource management. In Pound B, Snapp S, McDougall C and Braun A, eds. *Managing natural resources for sustainable livelihoods: Uniting science and participation*. London and Ottawa: Earthscan and IDRC. 20–47. http://www.idrc.ca/en/resources/publications/pages/idrcbookdetails.aspx?publicationid=202

McDougall C, Elias M, Zwanck D, Diop K, Simao J, Galiè A, Fischer G, Jumba H and Najjar D. Forthcoming in 2022. Gender transformative approaches for equality in food systems: A review of methods and strategies at multiple levels. CGIAR GENDER Platform Working Paper. Nairobi, Kenya: CGIAR GENDER Platform.

McDougall C and Ojha H. 2021. Transforming power imbalances through adaptive collaborative governance: A theory-based inquiry into the role of social learning. In Colfer CJ, Prabhu R and Larson A, eds. *Adaptive Collaborative Management Evolving: Theory and Practice*. London: Earthscan.

McDougall C and Ojha H. 2021. How does adaptive collaborative management leverage changes in power: Insights from social theory. In Colfer CJ, Prabhu R and A. Larson, eds. *Adaptive collaborative management evolving: Theory and practice*. London: Earthscan. https://www.routledge.com/Adaptive-Collaborative-Management-in-Forest-Landscapes-Villagers-Bureaucrats/Colfer-Prabhu-Larson/p/book/9781032053677

McDougall C, Badstue L, Mulema A, Fischer G, Najjar D, Pyburn R, Elias M, Joshi D and Vos A. 2021. Toward structural change: Gender transformative approaches. In Pyburn R and van Eerdewjk A, eds. *Advancing gender equality through agricultural and environmental research: Past, present and future*. Washington, DC: IFPRI. 365–401. https://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/134685/filename/134891.pdf

Morgan M, Choudhury A, Braun M, Beare D, Benedict J and Kantor P. 2015. Understanding the gender dimensions of adopting climate-smart smallholder aquaculture innovations. Working Paper AAS-2015-08. Penang, Malaysia: WorldFish.

Mukhopadhyay M, Hunter C, Quintero S and Milward K. 2013. Gender and rights resource guide. Amsterdam: KIT.

Njuki J, Eissler S, Malapit H, Meinzen-Dick RS, Bryan E and Quisumbing A. 2021. A review of evidence on gender equality, women's empowerment and food systems. United Nations Food Systems Summit, May 11, 2021. doi: 10.48565/scfss2021-1q69

[KIT] Royal Tropical Institute. CIMMYT gender capacity strengthening programme. Amsterdam, KIT. Accessed November 1, 2021. https://www.kit.nl/publication/integrating-gender-in-research-for-development/

Newton J, Kruijssen F and McDougall C. 2019a. Integrating gender in aquaculture and small scale fisheries agri-food systems research: Pitfalls, principles and practical ways forward. Amsterdam: KIT. Accessed November 1, 2021. https://www.slideshare.net/CGIAR/integrating-gender-in-aquaculture-and-small-scale-fisheries-agrifood-systems-research-pitfalls-principles-practical-ways-forward

Newton J, Eerdwijk A and Wong F. 2019b. What do participatory approaches have to offer the measurement of empowerment of women and girls. KIT working paper. Amsterdam: KIT. https://www.kit.nl/wp-content/uploads/2021/03/KIT_WP_Participatory_Approaches-to-Measurement-of-Empowerment-of-women-and-girls.pdf

Podems DR. 2010. Feminist evaluation and gender approaches: There's a difference? *Journal of MultiDisciplinary Evaluation* 6(14).

Polar V, Mulema A, Marimo P, Teekan B, McDougall C, Rohini RM and Yila J. 2021. Towards gender equality through interdisciplinary research: The case of breeding for agricultural development. In Pyburn R and van Eerdewijk A, eds. *How can agriculture and natural resource management contribute to gender equality? Lessons from the CGIAR*. Washington, DC: IFPRI. 77–112.

Pross C, Han JY-C, Kim D and Vigil S. 2020. Climate change, gender equality and human rights in Asia: regional review and promising practices. UN Women-Asia and the Pacific. https://asiapacific.unwomen.org/en/digital-library/publications/2021/01/climate-change-gender-equality-and-human-rights-in-asia

Rao A, Sandler J, Kelleher D and Miller C. 2015. *Gender at Work Theory and Practice for 21st Century Organizations*. London: Routledge. doi: 10.4324/9781315693637

Resurrection B. 2019. Why gender matters in climate adaptation. Stockholm: SEI. Accessed October 10, 2021. https://www.sei.org/perspectives/why-gender-matters-in-climate-adaptation/

Rowlands J. 1997. *Questioning empowerment: Working with women in Honduras*. Oxford: Oxfam UK and Ireland.

Scarborough WJ, Risman BJ and Meola C. 2017. Women's-group fishponds in Bangladesh: Using gender structure theory to examine changes in the gender asset gap. *Socius* 3. doi: 10.1177/2378023117700419

Sen A. 1985. Well-being, agency and freedom. *Journal of Philosophy* 82(4):169–221.

Tandan A. 2020. Tackling gender inequality is 'crucial' for climate adaptation. Carbon Brief. Accessed November 1, 2021. https://www.carbonbrief.org/tackling-gender-inequality-is-crucial-for-climate-adaptation

Theis S and Meinzen-Dick R. 2016. Reach, benefit or empower: Clarifying gender strategies of development projects. Washington, DC: IFPRI. Accessed December 19, 2018. https://www.ifpri.org/blog/reach-benefit-or-empower-clarifying-gender-strategies-development-projects

UNDESA. 2016. Integrating a Gender Perspective into Statistics. United Nations Department of Economic and Social Affairs (Statistics Division). Studies in Methods, Series F No 111. New York: UNDESA. https://unstats.un.org/unsd/demographic-social/Standards-and-Methods/files/Handbooks/gender/Integrating-a-Gender-Perspective-into-Statistics-E.pdf

UN Women. 2001. Gender mainstreaming: Strategy for promoting gender equality. UN Office of the Special Advisor on Gender Issues and Advancement of Women. http://www.un.org/womenwatch/osagi/pdf/factsheet1.pdf

UN Women. 2020. Gender equality: Women's rights in review 25 years after Beijing. New York: UN Women. https://digitallibrary.un.org/record/3855128/files/gender-equality-womens-rights-in-review-en.pdf

[UN] United Nations. 2021. Progress towards the sustainable development goals. Report of the Secretary-General. United Nations E/2021/58. https://undocs.org/en/E/2021/58

[USAID] United States Agency for International Development. 2012. USAID gender equality and female empowerment policy. Washington, DC: USAID. https://www.usaid.gov/sites/default/files/documents/1865/GenderEqualityPolicy_0.pdf

VeneKlasen L and Miller V. 2002. Power and empowerment. *PLA Notes* 43:39–41.

Wodon Q, Onagoruwa A, Malé C, Montenegro C, Nguyen H and de la Brière B. 2020. How large is the gender dividend? Measuring selected impacts and costs of gender inequality. The Cost of Gender Inequality Notes Serie. Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/33396

Annex 1. Printable figure: Principles and project cycle with gender integration by phase

Gender

Religion
Age
Ethnicity
Disability
Race
Geography
Education
Culture
Sexual orientation
Income

Phase 1: Problem identification and design
Phase 2: Planning including setting up MEL
Phase 3: Implementation, monitoring and adapting
Phase 4: Analysis of data, interpretation of findings, evaluation of project
Phase 5: Communication of research insights and recommendations
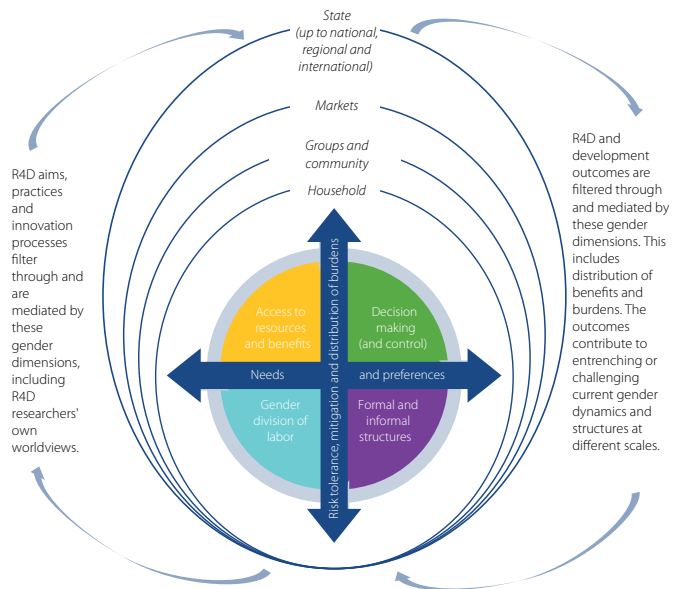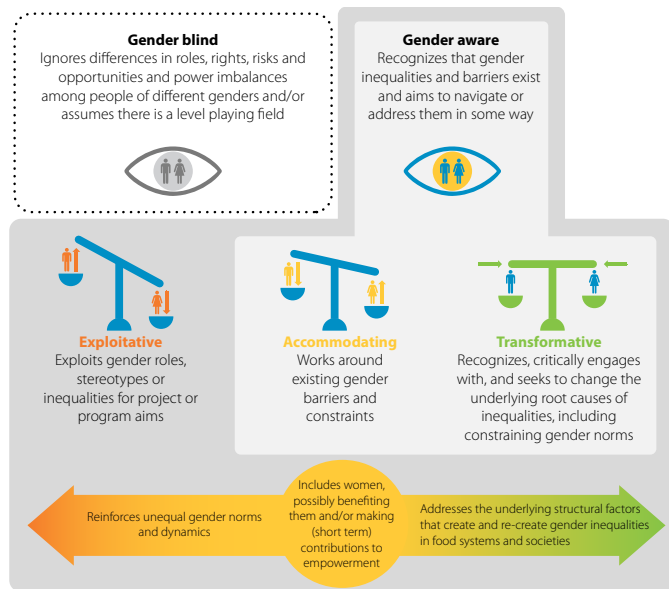
Principle 1
Avoid being gender-blind and go beyond binary: apply an intersectional gender lens

Principle 2
Integrate gender and intersectionality from the earliest stage to the end of the project cycle with the involvement of the whole team
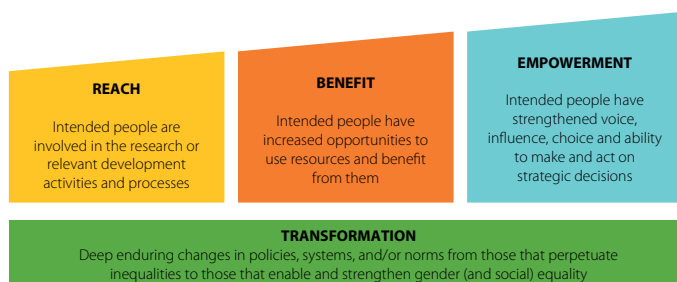
Gender blind
Ignores differences in roles, rights, risks and opportunities and power imbalances among people of different genders and/or assumes there is a level playing field

Gender aware
Recognizes that gender inequalities and barriers exist and aims to navigate or address them in some way

Exploitative
Exploits gender roles, stereotypes or inequalities for project or program aims

Accommodating
Works around existing gender barriers and constraints

Transformative
Recognizes, critically engages with, and seeks to change the underlying root causes of inequalities, including constraining gender norms

Reinforces unequal gender norms and dynamics

Includes women, possibly benefiting them and/or making (short term) contributions to empowerment

Addresses the underlying structural factors that create and re-create gender inequalities in food systems and societies

Principle 3
Aim for transformative change, but at a minimum take a gender-accommodating approach

State (up to national, regional and international)
Markets
Groups and community
Household

R4D aims, practices and innovation processes filter through and are mediated by these gender dimensions, including R4D researchers' own worldviews.

R4D and development outcomes are filtered through and mediated by these gender dimensions. This includes distribution of benefits and burdens. The outcomes contribute to entrenching or challenging current gender dynamics and structures at different scales.

Access to resources and benefits
Decision making (and control)
Needs
and preferences
Gender division of labor
Formal and informal structures
Risk tolerance, mitigation and distribution of burdens

Principle 4
Expand the frame by assessing and addressing gender and social barriers and opportunities at multiple scales

REACH
Intended people are involved in the research or relevant development activities and processes

BENEFIT
Intended people have increased opportunities to use resources and benefit from them

EMPOWERMENT
Intended people have strengthened voice, influence, choice and ability to make and act on strategic decisions

TRANSFORMATION
Deep enduring changes in policies, systems, and/or norms from those that perpetuate inequalities to those that enable and strengthen gender (and social) equality

Principle 5
Be clear about intended gender outcomes and for whom, distinguishing between Reach, Benefit or Empower versus Transforming systemic barriers
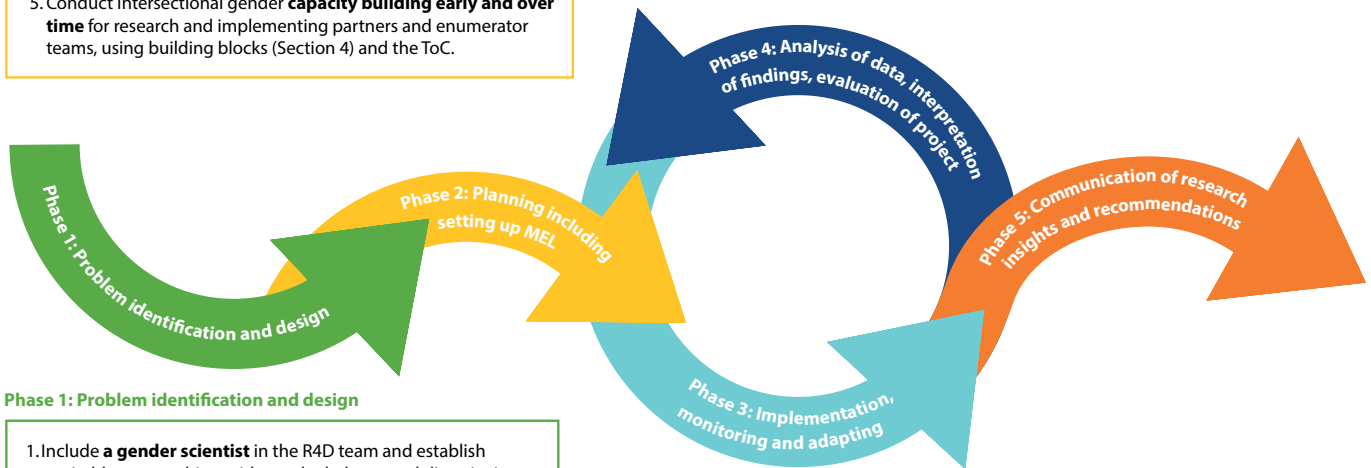
Principle 6
Recognize the research process itself as empowering or disempowering and the researchers' own role in that

Phase 2: Planning including setting up MEL

1. Develop a **gender strategy** with a gender-integrated research implementation plan.

2. Use the **four pillars of gender-responsive MEL to design the MEL** plan (Section 5, Figure 9):
   i) indicators for baseline/endline and routine monitoring aligned with gender outcomes (RBET);
   ii) an intersectional lens;
   iii) mechanisms to track unintended consequences;
   iv) gathering explanatory information.

3. Develop or recalibrate the **budget so it has enough funding for expertise and activities for gender outcomes** (as per ToC).

4. Assess **gender and intersectional analysis capacities** of the team and develop a capacity building plan to address gaps. Include reflection on biases or blind spots and how to address them.

5. Conduct intersectional gender **capacity building early and over time** for research and implementing partners and enumerator teams, using building blocks (Section 4) and the ToC.

Phase 4: Analysis of data, interpretation of findings, evaluation of project

1. Start with **descriptive analysis of gender and intersectional disaggregated data** to identify differences and similarities between gender-social groups in relation to the research questions.

2. **Deepen analysis and generate insights by applying the intersectional gender analysis building blocks** (Section 4).

3. **Sense-make, validate and share findings and their interpretation with participants**, including less powerful ones. Enable gender and socially-inclusive participation, with equitable access, ability to feedback or critique, and to use the information and co-generate implications for action if any.

4. **Sense-make, validate and identify implications for action with partners**, strategizing for scaling evidence and gender outcomes.

5. If there is a final evaluation or impact assessment, follow through in **applying the RBET framing**. Derive and share explanatory insights about how the project influenced gender outcomes.

Phase 1: Problem identification and design

1. Include **a gender scientist** in the R4D team and establish equitable partnerships, with gender balance and diversity in both.

2. Apply an **intersectional gender lens in identifying and framing the R4D problem**, engaging diverse actors as needed. Critically assess scales, surface how different genders and social groups perceive and are affected by the issue.

3. Identify key social and gender groups to prioritize and define project goals. **Identify specific gender outcomes using the Reach-Benefit-Empower-Transform (RBET) Framework**. Align these with larger development goals.

4. Compare more and less powerful gender-social groups and elucidate equity within **research questions,** with **inquiries such as** (i) **needs and preferences**, (ii) **mechanisms and factors that enable or constrain** gender outcomes and equity, and (iii) what are the **positive and negative effects** of innovations or policies and **how are they distributed**.

5. **Generate intersectional gender background information** through literature and/or scoping studies, and use this to refine problems, questions, goals and groups of interest as well as design. This may happen before the ToC or iteratively.

6. **Create/refine a gender-integrated ToC**, by: specifying realistic gender outcomes (using the RBET framework) within the ToC; unpacking with stakeholders the assumptions within the ToC regarding gender and challenging them with information from Step 5 and gender expertise; and refining the ToC with corrected assumptions and strengthened, gender-informed design (realistic pathways).

7. In identifying research methods, design **fit-for-purpose combinations to address gender dimensions of research questions** and **plan how the research processes can be inclusive and empowering.**

Phase 3: Implementation, monitoring and adapting

1. **Collect disaggregated data,** at relevant units of analysis, using (quantitative and qualitative) **sampling design and enough power** to allow the intended and effective intersectional gender analysis (Step 4).

2. Use **gender-responsive and inclusive data collection processes, designed to be empowering**, and invest in building trust between local participants/co-researchers and external researchers.

3. **Monitor (un)intended consequences (+/-) and risks** on an ongoing basis (as part of MEL) to inform adaptive programming and avoid harm.

4. As appropriate, **carry out participatory ongoing MEL processes,** including tracking locally-developed equity-related indicators, assessment of emerging outcomes both intended and unintended.

5. Engage team and partners in regular **interim MEL reflections, with gender and socially-balanced participation**; probe if gender assumptions still hold and gather explanatory information, and adapt project accordingly.

Phase 5: Communication of research insights and recommendations

1. **Check that participants and partners have, understand and can use the findings, and follow through** with bespoke communications products so that they can use and scale the findings to advance equity and equality.

2. In translating the findings and recommendations for use in the project reporting and wider outputs, **ensure the language around gender is consistent and accurate**. Draw on the building blocks for intersectional gender analysis (Section 4) and other concepts in this Guidance Note for support.

3. **Make explicit how findings and recommendations address externally identified gender challenges, needs and commitments, including up to national, regional or global scales**. Share with relevant bodies and networks and do so in the relevant languages.

4. In all steps, **ensure communications are gender-aware and follow best practices**, including avoiding language and images that reinforce gender stereotypes.

Annex 2. Subcategories of gender outcomes

In developing MEL using the Reach-Benefit-Empower-Transform gender outcomes typology (Section 5, Figure 8), a useful first step toward indicators is to unpack each outcome into subcategories. The following table provides an example of sub-categories of gender outcomes using this framework. This example is from a value chains project, hence uses a value chain orientation and language. Other projects would need to adapt these to fit their own focal area, sector, and context. We have found that consideration of these can help generate common understanding of gender outcomes among team members and inspire the design of MEL frameworks in terms of what indicators to track.

1. Reach	2. Benefit	3. Empower	4. Transform
1.1 Participation in value chain development activities • value chain actors, such as aquaculture farmers, processors, traders, retailers (self-employed/ entrepreneurs) • value chain employees (in different positions and nodes) • value chain input and service providers • consumers.	**ACCESSING RESOURCES:** **2.1 Increased access to knowledge and skills** • production practices, technical knowledge, fish health • Product quality and processing practices • Financial literacy and business skills • Knowledge on nutrition and health **2.2 Increased group membership or social networks** **2.3 Increased access to productive resources** • Production inputs (seed, feed, chemicals, fertilizer) • Processing and marketing inputs (packaging, ice, ingredients) • credit **2.4 Increased adoption and use of new technology** • aquaculture technologies and equipment • improved fish and fish-based products • marketing innovations **REALIZING BENEFITS:** **2.5 More efficient/higher production of lower value products** **2.6 Higher value-added products** **2.7 Reduced drudgery** **2.8 Increased consumption of nutritious food** **2.9 Increased income /profit/wages** **2.10 Improved working conditions/decent employment**	**3.1 Increased bargaining power and decision-making control over resources and benefits** • intrahousehold & community • In value chain nodes • In the whole chain **3.2 Increased choice of options for economic and social value chain upgrading** **3.3 Increased voice and leadership** **3.4 Increased agency and collective action** **3.5 Enhanced status** • as knowledge-holder • as (aquaculture) farmer • as entrepreneur • of care work **3.6 Increased confidence and self-efficacy**	**4.1 Supportive policies and legislation that reinforce equal recognition and rewards to all value chain** **4.2 Changes in social and gender norms and behavior** leading to • more equitable gender division of labor at the household level • more equitable representation in value chain functions/market roles • decreased restrictions to women's mobility (household, community, market) • greater freedoms for women **4.3 Increased support by men of women's rights** • equal pay (market prices and wages) • property rights • women workers rights

Note: This iteration of subcategories of outcomes draws on WorldFish and KIT collaboration of gendered aquaculture value chain analysis in northwestern Bangladesh (Kruijssen et al. 2021). Initial draft developed by Katrine Danielsen.

Source: Kruijssen et al. 2021.

Annex Table 1. Subcategories of gender outcomes using the RBET typology: Value chains example.

Annex 3. Glossary

Access and control over resources: Access refers to the opportunity to use a resource; control refers to the ability (power) to decide on its use (Mukhopadhyay et al. 2013).

Agency: Agency refers to a person being "free to do and achieve in pursuit of whatever goals or values he or she regards as important" (Sen 1985, 203). As such it relates to the ability to pursue goals, and to influence and make decisions free from violence and retribution (Eerdewijk et al. 2017). Often framed as exercising choice, agency is influenced by individuals' internal assets, as well as by social (societal) relations and structures. These internal assets include critical consciousness, confidence and self-efficacy, aspirations, knowledge, skills and capabilities. The degree to which women have and exercise choice is strongly correlated with gender equalities or inequalities (Lawless et al. 2019).

Benefits: These are the result of accessing and using resources (see below). Benefits may include, for example, increased income, improved nutrition, reduced workload or improved status resulting from accessing and using a resource, including through R4D opportunities.

Decision-making: Decision-making is a core expression of agency (see above). Decision-making is often at the heart of most empowerment measures as it relates to the act of taking control over one's life and future. Key decision areas of interest to food systems R4D at the household and community level include decisions around what to produce and for what purpose, which livelihood strategies to pursue, how to divide income, distribute food, and choices about people's own time, mobility and labor and body. At higher scales, decision areas of interest include land, water and resource rights, natural resource management policies, processes and investments. Increasingly, these also include decision-making in climate and disaster planning and recovery and well as rights, justice and voice in national, regional and global climate and food systems processes.

Gender data: Gender data complements and goes beyond sex-disaggregated data. According to the United Nations Statistics Division (UNDESA 2016), gender data or statistics refers to data that: is collected and presented by sex as a primary and overall classification (i.e., sex-disaggregated); reflects gender issues; is based on concepts and definitions that adequately reflect the diversity of women and men and capture all aspects of their lives; and is developed through collection methods that take into account stereotypes and social and cultural factors that may induce gender bias in the data. Data2x recognize this definition and flag the need for data systems to "evolve further to adequately and appropriately represent individuals of all gender identities." (https://data2x.org/what-is-gender-data/).

Gender division of labor: The socially-constructed allocation of (productive and reproductive) tasks to a particular gender within the household, in communities, value chains and beyond.

Gender equality: The enjoyment of equal rights, opportunities and treatment by men and women and by boys and girls in all spheres of life. UN Women (2001) defines gender equality as: "The equal rights, responsibilities and opportunities of women and men and girls and boys. Equality does not mean that women and men will become the same but that women's and men's rights, responsibilities and opportunities will not depend on whether they are born male or female." Building on this definition, gender equality implies that the interests, needs and priorities of both women and men—and people of all genders—are taken into consideration, recognizing the diversity of and within different gender groups. Gender equality is not a women's issue, but should concern and fully engage men as well as women and people of all genders. Gender equality is both a human right and a precondition for, and indicator of, sustainable people-centered development.

Gender equity: The just treatment of women and men and people of all genders. Equity refers to the concept of fairness, usually according to people's respective needs. This "may include equal treatment or treatment that is different but which is considered equivalent in terms of rights, benefits, obligations and opportunities" (ILO 2000, 92). Investments in equity is an essential step to reach gender and social equality. An example of a well-known strategy to address equity would be quotas to increase representation of women in decision-making bodies.

Gender identity: "A person's deeply felt, inherent sense of being a boy, a man, or male; a girl, a woman, or female; or an alternative gender (e.g., genderqueer, gender nonconforming, gender neutral) that may or may not correspond to a person's sex assigned at birth or to a person's primary or secondary sex characteristics. Since gender identity is internal, a person's gender identity is not necessarily visible to others" (APA 2015, 862).

Gender-integrated research: Gender is significant to the research, as it is an important and deliberate objective, though not the principle reason for the study. Research considers gender throughout the technical study research project cycle. It is defined by CGIAR as research that integrates consideration of gender into technical research of the principal topic of study, such as plant breeding, aquaculture, postharvest technology development or systems intensification (CGIAR Gender and Agriculture Research Network 2015).

Gender-strategic research: Research in which the primary focus (topic) is gender. Gender is the main objective, and subject of the research, and is fundamental to its design and expected results.

Gender norms: The informal social rules and assumptions about what men and women should do, how they should behave and with what resources, and the status of individuals and their relative value in society. Gender norms refer to the beliefs and expectations to which gender identity conforms (how women and men should act) in a specific setting at different life-cycle stages (Eerdewijk et al. 2017).

Intersectionality: "The influences of multiple identities in a person as these interact with marginalizing and empowering structures, norms and narratives" (Colfer et al. 2018, 2). An intersectional lens "conceptualizes social categories as interacting with and co-constituting one another to create unique social locations that vary according to time and place. These intersections and their effects are what matter in an intersectional analysis" (Hankivsky 2014, 9).

Resources: There are different types of resources and all are important to and influenced by power relations. These include: human resources (labor, health, skills); tangible resources (financial assets such as income and credit, natural resources including land and fishing areas, productive assets such as agricultural or fishing equipment, seeds and feed); and intangible resources (including social bonds such as relationships, networks and groups, as well as political influence, information, feelings of confidence and efficacy).

Women's empowerment: "Expansion of people's ability to make strategic life choices in a context where this ability was previously denied to them" (Kabeer 1999, 437). This includes the ability to "transform those choices into desired actions and outcomes"(Alsop et al. 2006, 10). Women's empowerment can thus be understood as being about the improvement in women's ability to gain power and control over their own lives (UN Women 2001).

About FISH

The CGIAR Research Program on Fish Agri-Food Systems (FISH) is a multidisciplinary research program. Designed in collaboration with research partners, beneficiaries and stakeholders, FISH develops and implements research innovations that optimize the individual and joint contributions of aquaculture and small-scale fisheries to reducing poverty, improving food and nutrition security and sustaining the underlying natural resources and ecosystems services upon which both depend. The program is led by WorldFish, a member of the CGIAR Consortium. CGIAR is a global research partnership for a food secure future.

For more information, please visit fish.cgiar.org