



# Understanding Gendered Innovation Processes in Forest-based Landscapes

GENNOVATE Report  
to the CGIAR Research  
Program on  
Forests, Trees and  
Agroforestry



**GENNOVATE**  
ENABLING GENDER EQUALITY  
IN AGRICULTURAL AND  
ENVIRONMENTAL INNOVATION



RESEARCH  
PROGRAM ON  
Forests, Trees and  
Agroforestry

# Understanding gendered innovation processes in forest landscapes: Case studies from Indonesia and Kyrgyz Republic

The CGIAR Research Program on Forests, Trees and Agroforestry (FTA) (<http://foreststreesagroforestry.org/>) is the world's largest research for development program to enhance the role of forests, trees and agroforestry in sustainable development and food security and to address climate change. CIFOR leads FTA in partnership with Bioversity International, CATIE, CIRAD, INBAR, Tropenbos International and the World Agroforestry Centre.

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## Foreword

GENNOVATE, *Enabling Gender Equality in Agricultural and Environmental Innovation*, is a qualitative comparative research initiative which brought together researchers from 11 of the Phase 1 CGIAR Research Programs (CRPs). Together the GENNOVATE research team is advancing a two-track strategy of building an authoritative qualitative portfolio of research results and second, catalyzing gender-transformative change in international agricultural research for development (AR4D).

This report forms part of a set of GENNOVATE research reports which pull together CRP-specific findings about how gender norms influence local level development dynamics, including the ability of individual men, women and young people to learn about and engage in innovation processes in agriculture and natural resource management. The findings presented in this report are primarily targeted to CRP research managers, scientists and research teams. They are meant to inform theories of change and intervention strategies, and to help identify opportunities for enhancing impact of agricultural research and development through the integration of gender transformative approaches.

Across the broad GENNOVATE initiative, researchers from different CRPs are working, both independently and collaboratively, on additional in-depth analyses of GENNOVATE results. Please be on the lookout for this follow up work in journal papers, books, briefing notes and other outreach products.

We hope you enjoy the report.



Lone Badstue

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## Preface

Forests, trees and agroforestry (FT&A) systems are key to achieving 14 of the Sustainable Development Goals (SDGs). With an estimated 1.6 billion people dependent on forests and trees, including trees on farms, for their livelihoods, FT&A systems hold the potential to contribute to reducing poverty, improving food and nutrition security, achieving gender equality, addressing climate change, and contributing to sustainable production and consumption. Yet, important social processes – including gender relations – that shape the livelihood and resource management decisions, governance and the distribution of the benefits, prevent these systems from achieving their full potential.

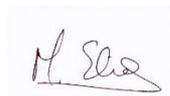
Gender relations and norms, as fundamental organizing structures across cultures and societies, play a pivotal role in shaping opportunities and constraints for people in FT&A systems, and condition the ability of women and men to benefit from, and contribute to, positive development and environmental change processes. This is why the CGIAR Research Program on Forests, Trees and Agroforestry (FTA), the world's largest coordinated research for development program that explores and seeks to enhance the contribution of FT&A systems to sustainable development, has a strong focus on gender and adopts an integrates a gender approach throughout its research portfolio.

This FTA study focuses on how gender norms and agency shape innovation processes in FT&A landscapes. Although the specificity of these norms varies across contexts, their existence is universal and of relevance to all those working, across sectors and disciplines, to effect change in FT&A systems. Fostering innovations – endogenous and externally driven – requires attention to the highly gendered social environment within which people live, and the limitations and opportunities gender norms pose for their ability to manoeuvre within these spaces. This report shows that facilitating beneficial and equitable changes in the world's landscapes critically depends on understanding these norms and creating spaces that unlock both women's and men's capacities to innovate.



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## Executive Summary

An estimated 1.6 billion people depend in part or in full on forests and trees outside forests for their livelihoods. Yet, there are important inequities in the distribution of the benefits forests, trees, and agroforests yield to local people. Gender relations and norms, as fundamental organizing structures across cultures and societies, contribute to shaping the opportunities and constraints of women and men in these (agro)forests, and their ability to benefit from, and contribute to, positive development and environmental change processes. Drawing on data from Indonesia and Kyrgyzstan, this report focuses on how gender norms and agency shape innovation processes in forest, tree, and agroforestry landscapes. The capacity to creatively adapt and innovate to build resilience through natural resource-based livelihood practices is unevenly distributed amongst men, women and young people within communities, and may be constrained by shrinking opportunities in the context of wider structural economic and environmental changes. This aim of this report is to provide a better understanding of how men and women might be supported in exercising their agency in pursuing livelihood goals, independently or with others, in the context of rapidly transforming forest and tree-based landscapes.

The case studies reported here form part of ‘GENNOVATE: Enabling gender equality through agricultural and environmental innovation’; a qualitative comparative research initiative engaging 11 of the Phase I CGIAR Research Programs to examine the gender dimensions of innovations – new agricultural and natural resource management technologies, institutions, and practices. Despite significant historical, socio-political and environmental differences, the five case studies in East Kalimantan, Indonesia, and the case from southwest Kyrgyzstan exhibit pronounced and rapid changes in the relationship between people and forests. Both country contexts are marked by shifts in the relationship between rural and urban livelihood opportunities, forest livelihoods increasingly linked to migration and remittances, and commodification processes intensifying people’s integration into tree-based value chains. In the Indonesia cases, recent transformation is being driven by large scale commercial oil palm investment, which is bringing new wage work opportunities, whilst displacing other forms of livelihoods and resource access. In Kyrgyzstan, integration into the market economy and changing forest tenure regimes are resulting in new opportunities and challenges for different groups of forest dwellers.

Our analysis foregrounds the norms that act as structural barriers to gender equality and wider human well-being. Through our findings, we make four key points.

- First, we show how specific patterns of gender norms are associated with socially-differentiated priorities for livelihood innovation, and with the ability to exercise forms of agency required for realizing innovations. For example, in oil palm-dominated landscapes in Indonesia, there are stark contrasts between men’s and women’s priorities, which are cross-cut by access to capital and the social networks necessary to participate in particular forms of innovation.
- Second, our findings show how gender norms shape access to (tangible and intangible) assets, such as land, labor and capital as well as decision-making and information, without all of which the capacity to ride ‘waves of opportunity’ is diminished.
- Third, we demonstrate that the interplay between gender norms and innovation is dynamic: that is, innovation spaces vary for different groups of women and men and over time. Whilst many norms are sticky (e.g. women’s principal responsibility for domestic tasks), some livelihood innovations have, often by necessity, led to adjustments and the renegotiation of the division of labour, knowledge, rights and responsibilities under conditions of rapid socio-ecological transformation.

- Finally, we show how livelihood innovations that benefit some may bring significant harms to others. This is underscored by an interplay between gender norms and access to assets/decision-making as these change over time. For example, livelihoods that are being built around current innovations in smallholder oil palm are driving new processes of land acquisition and limiting the prospects for sustainable and equitable development within landscapes dominated by this crop.

As we show, these results have implications for gender-responsive and transformative design and implementation of FTA projects and policy interventions, namely:

- Interventions that target women must recognize men's role in facilitating (or hindering) women's access to resources, information, and decision-making, and engage men in a process to gain their support in view of improved household well-being. Other channels promoting women's access to the resources they need to innovate should also be explored; for example, through strengthening women's collectives that facilitate access to credit, land or information.
- Care must be taken not to view women or men as homogenous groups, as norms that affect their capacity to innovate vary within gender groups. Precise targeting must be coupled with attention to the norms that apply to particular groups of women (and men).
- Amid rapid rural transformation, the relaxation of certain gender norms can open up spaces for women's (and men's) innovation. Interventions can capitalize upon such openings to expand local innovation spaces by creating a critical awareness and dialogue around norms that restrict women's (and men's) capacity to innovate, to make and act upon strategic life decisions, and to achieve their aspirations can enhance capacities to innovate and bring transformative change in rural areas.
- Champions, including women innovators and the men who support them, can play an important role in unlocking innovation by serving as role models for other members of their community. When a critical mass of such individuals can be achieved, transformation in both livelihoods and gender norms and relations can become a reality.
- At the same time, the innovations of some can enhance their power to exclude. Unless uneven and damaging opportunity structures are attended to, the emblematic livelihood innovations of those in more privileged positions can spell further marginalisation and poverty of the poor and those with insecure resource rights. This calls for explicit attention to the ways new exclusions can emerge, and for ongoing engagement with the reshaping of power relations that (re)produce inequalities in forest landscapes.

# 1. Introduction

A renewed emphasis has been placed on achieving gender equality in the context of the Sustainable Development Goals (SDGs). The fifth of these goals, SDG5, is a call for gender equality and the empowerment of all women and girls. Realising this is also essential for achieving all the other SDGs. The CGIAR Research Program (CRP) on Forests, Trees and Agroforestry (FTA) contributes to achieving SDG5 by prioritizing a transformative approach to gender equality that focuses on the structural constraints and drivers of change in tree-based and forested landscapes, and how these affect men's and women's capabilities to control and manage assets and resources in sustainable ways, and participate meaningfully in decision-making at household and community levels. The approach taken in this report foregrounds men's and women's agency: their capacity to creatively adapt and innovate to build resilience through natural resource-based livelihood practices in forest and agroforestry contexts. The creativity exercised by forest-based communities in turning external shocks into 'waves of opportunity' has been examined by researchers who note the ways people frequently switch from one income source to another depending on resource availability, seasonality, market prices, outside investments, and so on, as part of an often-innovative resilience-building strategy (Colfer, 2008; Gönner, 2011; Schmidt, 2014; Sagynbekova, 2017). However, the capacity to exercise agency in this way is unevenly distributed amongst men, women and young people within communities, and may be constrained by shrinking opportunities in the context of wider structural changes to economies and ecologies. Our aim here is to arrive at a better understanding of how men and women might be supported in exercising their agency in pursuing livelihood goals, independently or with others, in the context of rapidly transforming forest and tree-based landscapes.

We examine these issues in six case study communities in East Kalimantan, Indonesia (five cases) and the Kyrgyz Republic (Kyrgyzstan) (one case). Despite significant historical, socio-political and environmental differences, both country contexts exhibit pronounced and rapid changes in the relationship between people and forests. Both are marked by shifts in the relationship between rural and urban livelihood opportunities, are contexts where forest livelihoods are increasingly linked to migration and remittances, and where commodification is intensifying people's integration into tree-based value chains. In the Indonesia cases, recent transformation is being driven by large scale commercial oil palm investment, which is bringing new wage work opportunities, whilst displacing other forms of livelihoods and resource access. As tree crops and forest landscapes are valued in new ways, they attract new actors (oil palm entrepreneurs from other parts of the country), leading to changes in social and gender relations. In Kyrgyzstan, integration into the market economy and changing forest tenure regimes are resulting in new opportunities and challenges for different groups of forest dwellers. The combination of these wider forces has created novel spaces in which livelihood innovation might be fostered, but has foreclosed other means by which men, women and youth can exercise their agency within forest-based livelihoods.

The approach we take foregrounds the norms that act as structural barriers to gender equality and wider human well-being. Deep seated gender norms – or societal expectations governing women's and men's daily behaviours and capacities to act – contribute to important differences in the ability of women, men and youth to learn, adapt and innovate within natural resource-based livelihood practices in forest and agroforestry contexts. For example, gender norms govern ideas about which agricultural tasks are associated with men or women, or whether it is appropriate for women to speak up in a public meeting where arrangements for oil palm dividends are being discussed. Specifically, such norms give rise to gender-differentiated capacities to access, control and manage forest and tree

resources sustainably, and thus to move out of poverty whilst navigating the profound changes underway in the governance of forested and tree-based landscapes.

The case studies reported here form part of 'GENNOVATE: Enabling gender equality through agricultural and environmental innovation'; a qualitative comparative research initiative engaging 11 of the Phase I CGIAR Research Programs to examine the gender dimensions of innovations – new agricultural and natural resource management technologies, institutions, and practices. GENNOVATE has been designed to allow for contextually grounded analysis, comparison and identification of patterns across the research contexts and sample groups reached. Given the variations in mission and objectives of the different CRPs involved in GENNOVATE, 'innovation' is defined expansively to encompass agricultural technologies, natural resource management practices, learning opportunities, relationships and institutions which are new for the study communities. Innovations may result from external intervention or have arisen locally. Innovations may be benign and beneficial, but they may also bring substantial harm to specific groups of women or men, and to forest and agro-ecologies. Rather than focusing on the introduction of a specific intervention derived from a CRP, the approach to 'innovation' for FTA within GENNOVATE emphasizes new livelihood practices that have been identified as important within the communities being studied. This includes both exogenous and endogenous innovations that bring both harms and benefits.

Through our findings, we make four key points.

First, we show how specific patterns of gender norms are associated with socially-differentiated priorities for livelihood innovation, and with the ability to exercise forms of agency required for realizing innovations. For example, in oil palm-dominated landscapes in Indonesia, there are stark contrasts between men's and women's priorities, which are cross-cut by access to capital and the social networks necessary to participate in particular forms of innovation. Secondly, our findings show how gender norms shape access to (tangible and intangible) assets, such as land, labor and capital as well as decision-making and information, without all of which the capacity to ride 'waves of opportunity' is diminished.

Thirdly, we demonstrate that the interplay between gender norms and innovation is dynamic: that is, innovation spaces vary for different groups of women and men and over time. Whilst many norms are sticky (e.g. women's principal responsibility for domestic tasks), some livelihood innovations have, often by necessity, led to adjustments and the renegotiation of the division of labour, knowledge, rights and responsibilities under conditions of rapid socio-ecological transformation.

Finally, we show how livelihood innovations that benefit some may bring significant harms to others. This is underscored by an interplay between gender norms and access to assets/decision-making as these change over time. For example, livelihoods that are being built around current innovations in smallholder oil palm are driving new processes of land acquisition and limiting the prospects for sustainable and equitable development within landscapes dominated by this crop.

As we show, these results have implications for gender-responsive and transformative design and implementation of FTA projects and policy interventions. These range from the need to engage men to support women's capacities to innovate, to supporting collectives that facilitate women's access to resources, and improving targeting strategies by recognizing the diversity of women (and men) and the unevenness of gender norms operating among differentiated groups. Interventions to expand local women's innovation spaces can capitalize upon ongoing rural transformation to create a critical awareness and dialogue around norms that restrict women's (and men's) capacity to innovate, to make and act upon strategic life decisions, and to achieve their aspirations can enhance

capacities to innovate and bring transformative change in rural areas. Efforts to support champions, including women innovators and the men who support them, can play an important role in unlocking innovation, as these individuals can serve as role models for other members of their community. When a critical mass of such individuals is achieved, profound transformation in both livelihoods and gender norms and relations can become a reality.

The report is organised as follows. We begin by outlining the conceptual framework and research methodology adopted for this study. The study focuses on the perceptions and voices of people within communities, and how they articulate gender norms and their interplay with livelihood innovation. This is followed by a discussion of the opportunity structure for livelihood innovation in each case study. We contextualize our cases in times of rapid landscape (ecological, socio-economic) change, amid which there are winners and losers. The remaining sections of the report set out our key findings – themed around the ways in which gender norms shape priorities for FTA livelihood innovations; how factors that support—and conversely, hinder—innovation are linked to gender norms shaping access to assets, decision-making and information; and finally, how innovation spaces vary for different groups of women and men and over time. To conclude, we turn to the implications of our findings for policies, programmes, and initiatives concerned with enhancing women’s and men’s capacities to innovate in forest and agroforest landscapes.

## 1. Methodology

GENNOVATE (“Enabling Gender Equality in Agricultural and Environmental Innovation”) explores the interplay between gender norms and livelihood innovation processes. The approach combines contextually-grounded, comparative and collaborative research strategies guided by the following study questions:

- How do gender norms and agency advance or impede innovation capacity in natural resource based livelihoods across different contexts and social structures?
- How do innovations affect gender norms and agency across different contexts, and under what conditions can these do harm?
- How are gender norms and women’s and men’s agency changing, and under what conditions do these changes catalyse innovation that is equitable and inclusive? What contextual factors influence this relationship?

Across most rural contexts worldwide, it is still more common and acceptable for a man than a woman to display agency, including taking the initiative to become knowledgeable about and test a new tree crop or forest management practice. Moreover, the ability to benefit from innovations is uneven across communities. A growing body of literature is finding that new agricultural and NRM technologies and practices which do not incorporate a gender analysis risk worsening the poverty, workload, and wellbeing of poor rural women and their families (e.g. Cornwall and Edwards, 2010; Okali, 2011; 2012; Kumar and Quisumbing, 2010). A better understanding is needed of the conditions under which both women and men participate in, benefit from or are harmed by livelihood innovations in agrarian or forest and tree-based landscapes. Thus, a central question guiding the study is how gender norms, or the daily roles and behaviours expected of each gender, differentially shape men’s and women’s capacities to innovate in their rural livelihoods. We also ask how gender norms are themselves potentially altered by peoples’ engagement in agricultural and NRM innovation processes.

The comparative analysis in this report employs the concepts of agency and gender norms, and important regularities in their interactions, to enhance understanding of the socially uneven impacts

of and engagement in livelihood innovation processes on the ground. Box 1 defines the key study concepts, and annex 1 elaborates in greater detail the research objectives and protocols.

### **Box 1. Key Study Concepts: Gender Norms, Agency and Innovation**

**Gender norms** refer to the gender dimensions of social norms, or the societal expectations of how men and women ought to behave in their everyday affairs. Social norms also “structure social interactions in ways that allow social actors to gain the benefits of joint activity. And they determine in significant ways the distribution of the benefits of social life” (Knight and Ensminger 1998, page 105).

As Ridgeway (2009, p.145) further explains, “Gender is a primary cultural frame for coordinating behavior and organizing social relations.” Despite technological and institutional change in a society, “gender-framing” persists in shaping social life—e.g. stereotypical beliefs of men’s greater authority and competence than women are often “reinscribed into new organization procedures and rules that actors develop through their social relations in that setting” (p. 152).

**Agency** is “the ability to define one’s goals and act upon them” (Kabeer, 1999, p. 438), either independently or jointly with others. GENNOVATE’s conceptual framing positions agency as a process which is mainly embedded in and conditioned by local formal and informal institutions, although the agency and empowerment of disadvantaged groups can also transform constraining institutions and their rules.

**Innovation** in this study is defined expansively to encompass agricultural technologies, natural resource management practices, learning opportunities, relationships, and institutions which are new for the study communities sampled. These innovations may be locally devised or externally introduced. Our understanding of innovations and innovation systems is also informed by Berdegue’s (2005, p. 3) definition of innovation as “social constructs, and as such, they reflect and result from the interplay of different actors, often with conflicting interests and objectives, and certainly with different degrees of economic, social, and political power.”

GENNOVATE brings together a collaboration of 11 of the Phase I CGIAR Research Programs (CRPs). Field teams travelled from mid-2014 to mid-2016 to 137 agricultural and forest communities spread across 26 countries of Asia, Africa, and Latin America. This report draws on the subset of 6 village-level case studies from two countries (one case from Kyrgyz and five from Indonesia) that were sponsored by the Forests, Trees and Agroforestry (FTA) CRP.

The individual case studies were purposively selected to enable exploration of innovation processes in contrasting settings. As discussed in annex 1, the GENNOVATE sampling procedures call for cases that differ significantly in economic dynamism and gender gaps in assets and capacities within the study countries. The Indonesia cases were selected according to the mode of incorporation into oil

palm systems (see box 2) and according to ethnic profile in order to follow an intersectional approach (see box 3). In general, international comparisons across national development indicators show that both the Republic of Kyrgyzstan and Indonesia are low middle income countries with economies based on commodity export, and where migrant remittances are playing an important part in economic development. However, the communities themselves have relatively low economic dynamism and there is a significant proportion of households considered to be in poverty.

GENNOVATE's qualitative methodology prioritizes learning systematically from people's own perceptions and lived experiences with agriculture and the management of natural resources. In gender-specific focus groups and semi-structured individual interviews, the study engaged equal numbers of women and men in reflecting on questions relating to new livelihood practices, gendered life histories and movement out of (or into) poverty, and the social context of livelihood innovation.

Field teams applied a standardized package of six different data collection instruments in each research community. The instruments feature semi-structured questions as well as selected pre-coded questions. Some topics and questions, such as those related to new farming practices, are repeated in different instruments, while others appear only once, such as those for youth about education.

#### **Box 2: sampling gender gaps in Indonesia and Kyrgyzstan – an intersectional approach**

Cases from both countries are considered to have a low gender gap when international comparisons are drawn across GENNOVATE case studies. The approach taken in this report is to highlight ways in which gender intersects with other social categories. Case studies in Indonesia were selected to represent different ethnic profiles and include Dayak, Javanese, Bugis and Melayu (coastal Malay) dominated communities in which it was hypothesized that gender norms would play out differently. In Indonesia, gender can best be understood through its intersection with other social categories such as age, position in the sibling birth order and marital status. Ethnicity, sometime analysed as *adat* or custom, is key in shaping gender norms, kinship practices and property relations, and it is within this intersection that critical gender concerns emerge. Researchers have noted that in mainly Dayak communities, social relationships are not ordered by a fundamental code of gendered differentiation, and there is limited evidence of norms restricting or enabling activities purely on the basis of gender. Women and men have historically been able to inherit plots of land (e.g. fruit gardens), the mutability of gender roles has historically been shaped by men's travel for work or hunting forays, and women play a central role (symbolically and materially) in swidden rice cultivation (Colfer, 2008). However, ethnicity cannot be easily reduced to a customary 'origin' due to cultural flows associated with European colonialism and global capitalism, and for Dayak groups generally, Christianity. For other groups in the study, e.g. local Melayu (sometimes self-identifying as orang Berau) or Bugis (originating from South Sulawesi), cultural flows associated with Islam intersect with gendered adat practices and discourses. The intersection of gender with ethnicity is significant because ethnicity is more than an identity position: it is associated with a historical relationship with the state, and through this, with particular kinds of resource access. The Kyrgyzstan case study is also considered to have a low gender gap, but in this instance, gender intersects with age or generation and the political system. National data show that despite the remnants of a Soviet-era discourse of gender equality, there are significant differences in the opportunities available to men and women.

The data were gathered in standardized formats, cleaned, and systematically coded. The data analysis approach involved in-depth analysis of the key study questions in individual case studies; and

comparative analysis on particular topics across the different cases. Thus, some broad patterns could be detected without losing their grounding in local contexts and realities.

In each research community, or “case study”, field teams conducted two single sex focus groups with young (ages 16 to 24) women and men, and four single-sex focus groups with adult (25 to 55) women and men from poorer and better off households in their communities. In addition, semi-structured individual interviews were conducted with local agricultural innovators (2 women, 2 men) and with individuals representing different trajectories of wellbeing, or movements out of and into poverty according to measures derived from local focus groups (2 women, 2 men). Annex 1 provides an overview of key protocols which guided the study’s sampling, data collection, and analysis.

### **Box 3: sampling strategy: economic dynamism and incorporation into oil palm systems**

Cramb and McCarthy (2016) show how oil palm investments are characterized by a range of modes of production, including large scale private or state-owned estates and smallholder investments. The latter comprise a number of different modalities, including those incorporated within the corporate sector as ‘outgrowers’ (*petani sawit plasma*), local smallholders investing in oil palm independently of corporations (*petani sawit mandiri*), and migrants who acquire frontier land in order to participate in the oil palm boom. The definition of ‘outgrower’ has also shifted in recent years where private sector corporate investment is through a partnership (*‘kemitraan’*) arrangement through which companies take control of 80% of the development area, assuring smallholders a 20% share in the form of a ‘dividend’ from the estate (usually the equivalent of the production benefit from a two-hectare allocation, which is referred to as ‘plasma’) (McCarthy and Zen, 2016). Independent smallholders may include farmers who switch from other tree crops to grow oil palm, but also includes independent migrant investors. Whilst individual oil palm smallholdings among this ‘independent’ migrant group may be relatively small in size, incrementally these account for a significant element in land acquisition in some localities. Indonesian cases were selected to represent a variety of modes of incorporation into oil palm systems, as shown in Table 2.

The GENNOVATE cases target agri-food systems or intervention domains of relevance to the CRPs involved, and they are meant to help inform present and future research for development in these areas. The quality of the fieldwork is greatly enriched by being able to draw on existing relationships with and knowledge of many of the research sites. These relationships, however, may also prompt concerns for bias in the findings due to factors such as an underrepresentation of difficult places, or study participants being courteous, overstating benefits or downplaying difficulties, or expecting some kind of reward. These concerns are not unique to qualitative research strategies and researchers involved in the GENNOVATE studies have applied social science techniques of critical self-reflection to reduce bias in interpretations and findings. GENNOVATE’s large comparative dataset, which asks many of the same or similar questions to different population groups within the same community, provides numerous opportunities to cross-check data which may be partial, confusing or contradictory.