

# Introducing ‘the gender box’: a framework for analysing gender roles in forest management<sup>1</sup>

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## SUMMARY

This document is designed to aid foresters and other natural resource managers desiring to more effectively integrate gender in (primarily tropical) forest management. It identifies 11 issues that have been highlighted in the literature on gender. Sample issues, though potentially relevant at all scales – macro, meso, and micro – are examined, each at a particular scale, as shown in the ‘Gender Box’. The purpose is to highlight both the importance of and the interactions among scales, as we consider the lives of individual women and men in forests. Frequent reference is made to the literature, both as a guide for users and as a mechanism to show clearly what gender researchers have found relevant pertaining to the sample issues. Brief suggestions for ways forward are provided in closing.

Keywords: scale, women, access, roles, norms, knowledge, health, kinship

## Présentation de “the gender box”: un cadre pour analyser les rôles du sexe des protagonistes dans la gestion forestière

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Ce document vise à aider les forestiers et autres gestionnaires des ressources naturelles désirant intégrer plus efficacement le rôle du sexe des protagonistes dans la gestion forestière, principalement tropicale. Il identifie onze problèmes ayant été soulignés dans la littérature sur le sexe des protagonistes. Des problèmes isolés sont examinés, chacun à une échelle particulière en suivant les indications décrites dans le “gender box”; bien qu’étant potentiellement utiles à tous niveaux: macro, meso et micro. Le but est de souligner l’importance des échelles et de leur interaction, alors que nous considérons les vies des hommes et des femmes dans la forêt. L’article fait des références fréquentes à la littérature, en tant que guide pour les utilisateurs ainsi que comme mécanisme visant à démontrer clairement ce que les chercheurs sur ces questions ont trouvé pertinent vis à vis des problèmes déterminés. De brèves suggestions pour permettre un progrès sont offertes en conclusion.

## Presentación del “cajón de género”: un marco para el análisis de los roles de género en la gestión forestal

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Este documento fue diseñado para ayudar a los silvicultores y otros gestores de recursos naturales que deseen incorporar el género en la gestión forestal (principalmente tropical) de manera más efectiva. El artículo identifica 11 temas que se han destacado en la literatura sobre género. Se examinan ejemplos de entre estos temas, cada uno a una escala en particular, aunque potencialmente sean válidos para todas las escalas –macro, meso y micro– tal y como se muestra en el “Cajón de Género”. El propósito es poner de relieve tanto la importancia de las escalas como las interacciones entre ellas, al momento de examinar las vidas individuales de mujeres y hombres en los bosques. Se hacen referencias frecuentes a la literatura, tanto como una guía para los usuarios como un mecanismo para mostrar claramente lo que los investigadores de género han encontrado relevante en relación con los temas de la muestra. Al final del artículo se ofrecen algunas sugerencias breves para trabajos futuros.

<sup>1</sup> This paper is based on a longer publication (Colfer 2013). See Glossary for unfamiliar social science terms.

## INTRODUCTION

Within the world of professional forestry, there has been a growing recognition that gender roles, knowledge, and interests have been under-acknowledged (e.g., Reed and Christie 2008; Lidestav and Reed's 2010 special issue of the *Scandinavian Journal of Forest Research*; Pottinger and Mwangi's 2011 special issue of *International Forestry Review*). Two changes have stimulated this recognition: The first is that foresters' concerns have evolved in such a way that they now see forests more holistically. Many now recognize, and try to incorporate into their management, elements such as biodiversity, ecological processes, and human livelihood concerns.<sup>2</sup> The second, related change emerges from the first. For centuries, forestry, focused as it has been on timber, has been seen as a male profession – and indeed it has been so in many parts of the world (cf. Porro and Stone 2005; Bolaños and Schmink 2005). But when one begins to look carefully at human subsistence within and near forests – particularly tropical forests – women's involvement and interests become obvious.

Foresters are recognizing a) that they need to do a more thorough job of taking women's knowledge, roles, interests, goals (and in many places, men's as well) into account, and b) that they don't really know how.<sup>3</sup> This need derives from the desire to manage more effectively. To manage well, one may

- need to understand the systems – here, the social systems – that affect forests to maximize efficiency, and minimize conflict and related economic losses.
- want to take advantage of the expertise/knowledge, energy, and commitment available – particularly, that of women, which has been comparatively ignored.
- believe that there are ethical issues involved, that a sense of fair play/justice, requires also attending to the forest-related needs of the female half of the human population, as well as of men who do not somehow 'fit' (by ethnicity, class, or even behaviour, see Reed 2010).
- note women's valued social roles as bearers and (usually) enculturators of the next generation – of serious consequence for forest sustainability.

- take into account (and sometimes work to alter) relations between women and men, in decision-making, labour, access, control and power, which shape whether, how and which people benefit from forest management.

This analysis is designed to clarify key social issues foresters need to address if they want forest management to benefit both the trees and the people who live among them. Our emphasis has been on tropical forests and their residents. We hope the analysis will be of use to forestry policymakers, researchers, managers of production and conservation forests, project and NGO (non-governmental organization) personnel who work in forest contexts. We have become convinced that the sustainability of forests depends fundamentally on better treatment of the people living in and around them. Half of those are women.

Although this analysis emerged from an examination of people living in forested contexts, the framework in fact applies more broadly. There is obvious relevance for gender in agriculture, fisheries, conservation and other natural resource management contexts. Most fundamentally, we have sought to identify the kinds of factors that condition gender differentials in participation in decision making in forest use and management (writ large),<sup>4</sup> and to cluster them into

TABLE I *Examples of gender issues addressed at each scale*

Gender Issues	Macro	Meso	Micro
<i>Formal laws/policies</i>	X		
<i>Cultural/religious trends</i>	X		
<i>Access to natural resources</i>		X	
<i>Norms of behaviour</i>		X	
<i>Access to education</i>		X	
<i>Access to cash</i>		X	
<i>Day to day economic roles</i>			X
<i>Demographic issues</i>			X
<i>Domestic roles</i>			X
<i>Intra-household power dynamics</i>			X
<i>Available economic alternatives</i>			X

<sup>2</sup> Though Reed and Christie (2008) stress the degree to which gender has been ignored, perhaps even more assiduously, in 'the North' than in 'the South'. They argue that forestry in the West could learn much from gender studies in developing countries.

<sup>3</sup> This perception is based partly on Colfer's two decades of intense interaction with foresters around the world, through her connections with CIFOR, IUCN, IUFRO, multilateral donors and a number of national forestry institutions like the Indonesian Ministry of Forestry, the Forestry Commission in Zimbabwe, Nepal's Ministry of Forests and Soil Conservation, and others in Cameroon, Madagascar, Philippines, Laos, Ghana, Gabon, Brazil, and Bolivia. In a study of a failure to address gender effectively in a longstanding DfID program in India, Harrison and Watson (2012) support Colfer's conclusion:

"Some researchers who had been trained in natural sciences interviewed in the United Kingdom expressed an awareness of 'the importance of gender issues,' but they also commented that they were uncertain about how to translate these concerns into action. Gender was described as 'messy' and 'too complex.' One said that to include gender in their work they would need 'an idiot's guide to gender.'" (p. 936).

<sup>4</sup> We include within 'forest use and management', local people's involvement in swiddening, for instance. Findings on gender phrased as 'agricultural' are often observably relevant for forests, and are thus included here.

TABLE II Framework for analysing gender implications in forest and tree management

<i>Consider how these factors function in your site. In what ways might they hinder or reinforce your work at the field level? To what extent do these topics actually transcend scales?</i>
<b>I. Macro scale – broadly based, global ‘rules’ that affect people’s interactions with forests</b>
A. Are there formal, global laws and policies that affect local people and forests? How?
B. What religious traditions, narratives of modernity or equity, or other less formal, global, intellectual forces affect local people and forests?
<b>II. Meso scale – Social patterns from landscape to national levels that influence people’s behaviour in relation to forests</b>
A. How is access to resources gendered? Are there broadly accepted notions that influence land tenure, inheritance and residence?
B. What are the gendered norms of behaviour that affect people’s interactions with trees and forests (e.g. masculinity ideals, seclusion of women, witchcraft beliefs)?
C. Are there gendered differences in access to education (both formal and informal)? How do they affect men, women and forest management differently?
D. How important is cash in the regional system, and how has this affected men and women differently?
<b>III. Micro scale – human behaviours from household to village levels that affect forests and people’s well-being</b>
A. How do men’s and women’s day to day economic roles differ – especially in terms of agriculture, forest products, livestock?
B. What gendered demographic issues affect forests and people locally (e.g., migration, population changes, access to birth control)?
C. What essential/valued domestic roles do men and women play, respectively (e.g., cooking, hygiene, child and elder care, health, fuel wood collection) that affect their respective involvement in forests?
D. What patterns are identifiable in intra-household power dynamics? In what ways do men’s and women’s interests conflict and converge? Are there bargaining strategies used by each?
E. What are the features (e.g., collective action, access to technology, distribution of benefits, time constraints/conflicts) of locally available, alternative economic strategies designed to enhance people’s livelihoods, trees and forests? How do these differentially affect men and women?

manageable categories (see Tables I and II), which can guide us as we seek a more equitable and effective approach in managing forests.

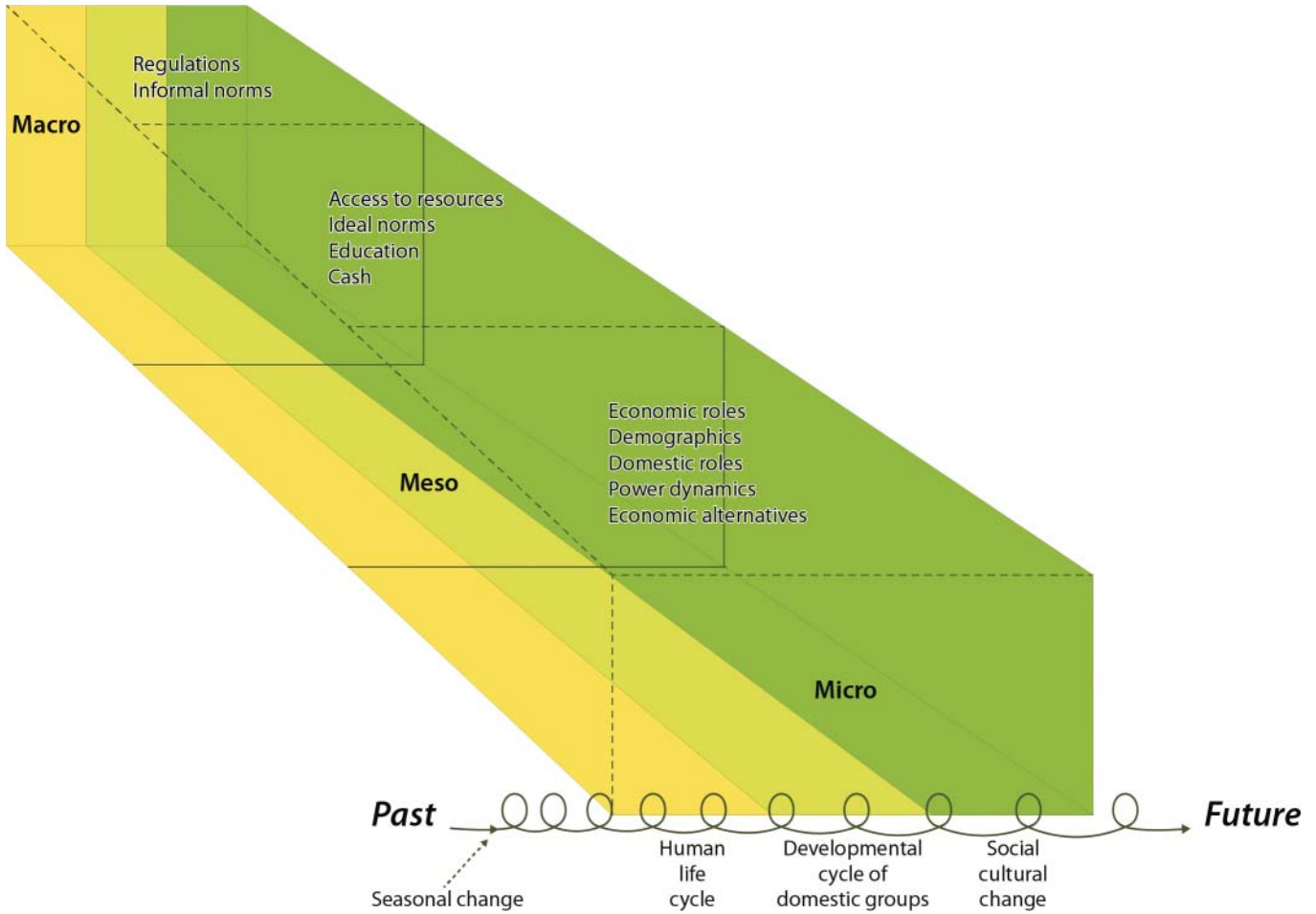
The Gender Box (Figure I), referred to in the title of this article, is partially designed to reflect the organization for the coming discussion. But it also can serve as a handy reminder, a mnemonic device, of the importance of key issues (listed across the top of the figure), scale (represented in different shades), and the passage of time (indicated across the bottom) in our attempts to address gender. All 11 issues have some relevance at all three scales; but here we emphasize a particular scale for each issue addressed, based on materials coming from the literature.

The third dimension, which emphasizes the past, the present and the future, was not, to our mind, sufficiently highlighted in Colfer’s earlier (2013) analysis. We provide an adapted figure here. There is growing awareness of the importance of both history (e.g., Federici 2004; Andaya 2006; Wardell and Fold 2013) and people’s dreams of the future (e.g., Djoudi and Brockhaus 2011, Wollenberg, Edmunds, and Buck 2001; Cronkleton 2005; Nemarundwe, De Jong, and Cronkleton 2003) in forest management. More specifically, in a forthcoming analysis (Colfer *et al.* 2014, in press), we identify and discuss the following time-related features: individual human life cycle, the developmental cycle of domestic groups, and broad socio-cultural change, as well as seasonal changes.

The diversity that exists in the world’s forests does not allow a tidy, cookie-cutter list of items one can check off. Instead, we have pulled together topics that recur, and, in the text, provided examples of some of the relevant issues in forests where gender has been studied. This paper provides a simple organizing framework, alerts readers to potential areas of interest through a partial literature review, and hopefully aids any given reader in maximizing his/her creativity to deal with particular people in any real forest.

The Gender Box acknowledges our ability to look at any of these issues at any scale and over any time period. But considering the needs of foresters specifically, further clustering these 11 issues into three scales – macro, meso, and micro – provides a convenient organizational framework. It has also allowed us to emphasize the importance of looking at all three levels and the interactions among them; and to provide examples of issues that might best be addressed at each. The figure is intended to be read in a fluid, rather than a static manner.

While all of the issues listed are important, here we examine one at the macro level, one at the meso level, and two at the micro scale (see Colfer 2013, for additional examples). This uneven attention emerged from the issues identified in our readings. It also reflects our own sense that the micro-level is the most powerful in determining what actually happens in a given forest. The third dimension, only included here peripherally, warrants further attention – reaching back

FIGURE I *The Gender Box, updated*

into the past and thinking forward into the future. We conclude the paper with some thoughts on gaps and ways forward.

## RESULTS

In this framework, these three scales, macro, meso, and micro, comprise layers of influence on any given woman (many affect men too). The boundaries between scales are fluid and fuzzy; they represent more continua than discrete layers and, importantly, they mutually interact.<sup>5</sup> Consideration of these interactions has been missing in much forest-related research.

- Within the macro level, we select an example, a realm of study likely to be somewhat unfamiliar to foresters:

comparatively informal, but powerful and widespread cultural beliefs and assumptions.

- The meso scale is the most geographically diverse, ranging from formal administrative units (the state and below), to the supra-community area inhabited by a particular ethnic, caste/class or religious group. The landscape level is another meso-example. At this scale, land tenure and access to resources/assets are addressed here.
- At the micro level, we focus on issues of women's domestic roles and intra-household power dynamics – also issues somewhat alien to the forestry profession, but central to people's lives.

These classifications allow us to simplify reality, and think in terms of specific issues that foresters can look at, using different methods through varying conceptual lenses – always

<sup>5</sup> Cf. Pigg (1996) who phrases this interacting scale issue thusly, accepting "...the premise that a locality (such as a Nepali village) is itself a translocal (or transnational) space. Locality is constituted in and through relations to wider systems, not simply impinged upon by them. We are more accustomed to noting this for economic systems – for instance, in discussing the organization of peasant household production in its relation to capitalism and markets – than for systems of signification (roughly, 'meaning')" (p. 165). Or see Tsing (2005) whose conception of 'friction' highlights where the 'rubber meets the road' as local communities encounter broader influences.

remembering that each of the issues discussed also has interacting implications at the other scales.

## MACRO-SCALE

As we consider factors conditioning gender differentials in participation in forest use and management, many analysts assume the macro-scale to be the most relevant. Such analysts argue a) that this scale provides the context, the backdrop, against which individual decisions are made and within which openings for participation do or do not exist; and b) that macro-level attention can support the forces for greater equity within nations. These are both valid perspectives, with varying degrees of impact on the ground.

Just as forest policies may exist that ignore key realities in the field, so it is with policies designed to address gender. We need to consider the interplay among scales. Tsing (2005) uses evidence from Borneo's forests, to demonstrate how macro-level forces influence local realities, but she also finds that such influence is moderated, adapted, changed in interaction with realities on the ground. See Gezon's (2012) work in Madagascar on women's dominance in *khat* production; Dolan (2002) links the weakness of the state with the intimate violence of men in northern Uganda; Schroeder's earlier work (1999), tracing the influence of development fads on gender relations in the Gambia, pre-dates but mirrors these analyses.

At this scale, we examine examples of broad global, intellectual forces (related to religion, culture, and narratives of modernity).

### Broadly accepted underlying beliefs and norms

More than half a century ago, Robert Redfield (1971 [original 1960]) – though writing within the anthropological language of the time – helped to lay the groundwork for our present-day thinking about multiple scales, with his notion of 'Great traditions' and 'little traditions'.<sup>6</sup> Present-day writers like Paulson and Gezon (2004), Tsing (2005), and Scott (2009) have moved us further along in recognizing the mutual interactions among scales. We now recognize that what Redfield called Great Traditions are less monolithic, less coherent perhaps, than he envisioned in their effects on his 'Little Traditions' (local, day to day manifestations). But recognition that global or regional cultural notions affect, and are affected by local realities remains. Here we highlight several of the recurring themes

found in the literature, with implications for forest management: hierarchy, hegemonic masculinity, and nature and nudity (see also Colfer and Elias with Jamnadass, under review).

### *Hierarchy*

From the perspective of gender in forests, many authors have noted the adverse effects of broadly accepted, explicit hierarchical ideals that disadvantage, and assign lower value to women, particularly in East and South Asia. Gupte (2004), for example, examines how gender stratification affects participatory environmental policy-making, based on a comparison of community forestry in four Indian communities, two in conservative Rajasthan and two in Maharashtra. The latter, less stratified region has better indicators for women's literacy, higher age at marriage, and lower fertility and infant mortality rates, as well as a history of pro-active female involvement in political action. There is also less female involvement in forest management in the more conservative Rajasthan. Among some groups, limiting women's work outside the home is seen as a mark of higher status. The northern Indian Yadava caste – officially described as 'backward' – tried to raise caste status by limiting women's work outside the home, including in forests (Jassal 2012). Hull (1996) reports similar encouragement of domesticity among the Javanese middle class, as do Djoudi and Brockhaus (2011) among higher status pastoral groups in Mali.<sup>7</sup>

### *Hegemonic masculinity*

A fair amount of recent scholarship on men in gender studies has emphasized the geographically broad-based notion of 'hegemonic masculinity', which is seen as creating and/or reinforcing gender hierarchies. This gendered, masculine ideal mandates a male role as protector, provider, and rightful dominator within families (Moore 2009). Barker and Ricardo (2006) link increasing violence (warfare, domestic abuse) and criminality in sub-Saharan Africa with changing sex roles that no longer allow men to perform this idealized form of masculinity (also noted by Silberschmidt 2001, for East Africa; Amuyunzu-Nyamongo and Francis 2006, in Kenya; Dolan 2002, for war-torn northern Uganda). Richards (2006) discusses the complexities of warfare and young men's roles, as they relate to powerful cultural features of marriage, sharecropping (and its antecedent, slavery), and gendered social grouping, in the forests of Sierra Leone and Liberia – much of which he sees as affecting West Africa more generally. Chevannes (2006) discusses the functioning and effects of

<sup>6</sup> Redfield wrote of peasant communities, as part of civilizations: "In a civilization there is a great tradition of the reflective few, and there is a little tradition of the largely unreflective many. The great tradition is cultivated in schools and temples; the little tradition works itself out and keeps itself going in the lives of the unlettered in their village communities. The tradition of the philosopher, theologian, and literary man [sic] is a tradition consciously cultivated and handed down; that of the little people is for the most part taken for granted and not submitted to much scrutiny or considered refinement and improvement. ... The two traditions are interdependent. Great tradition and little tradition have long affected each other and continue to do so (Redfield 1971 [original 1960] pp. 41–42).

<sup>7</sup> These are excellent examples of the intersection of gender with other social modes of classification. Higher status men are also likely to have norms that constrain their behavior. Maureen Reed has observed that in Canada input from "men who do not conform to particular forms of masculinity (either logger or boardroom guy or scientist) often get dismissed" (pers. comm., 14 October 2012; or see Reed 2010).

hegemonic masculinity in the Caribbean. Groups exist, however, in which such norms do not play well (e.g., the San of the Kalahari Desert, the Lanoh of Peninsular Malaysia, or the Aka of the Central African Republic).

#### *Nature and Nudity*

Although notions of women's closeness to nature – and thus relevance for forest management – have long been discussed, there is no unanimity of opinion (from Pierce 1971, who decried the notion to Shiva 1989, who celebrated it, and back to Leach 2007, who critiqued it). Rather than linking nature to women in an 'essentialist' way, we can profitably look at women's (and men's!) varying perceptions, and build on those that lead toward sustainable and equitable use, forest protection, and holistic views of people and forests. Many writers have noted women's common knowledge of and interest in their environment (discussed in more depth below under *Micro-scale*). Such knowledge often exists and is more likely to have been ignored than is that of men. Forest managers can benefit from exploring existing emotional and cognitive links to nature, whether those of local men or women.

One intriguing and recurring pattern when women are pushed to the limit – often with regard to access to resources – involves using nudity in protest. Stevens (2006) writes, for instance, of the women of the Niger Delta:

*“A mature woman's intentional exposure of her vagina is an extreme desperate act, threatened only when she feels that her most basic rights and obligations... her very dignity as a woman are endangered, [that] other methods of persuasion are realized as ineffectual and she has little to lose. To engage in this act of desperation by herself is extremely risky for a single woman; when many women assemble and make the threat collectively, their individuality as social people is irrelevant, and the amassed power of their femininity is absolutely awesome and terrifying.”* (p. 597)

Not an isolated example, Diabate (2011) provides a literary analysis of women's 'genital power' in West Africa generally (also discussed in Federici 2011). Colfer (2011) found examples of women exposing their breasts in fairly successful political protest – relating to land and forests – in Brazil, Zimbabwe and Indonesia. Greater care with gender issues in forestry could serve to avoid women's feeling the necessity of such culturally extreme measures.

In these multi-scale efforts to improve people's conditions and equity, we face a recurring dilemma: Is it more effective to try to include women by fitting into existing patterns? Or should we attack the existing inequitable social, cultural (and power) structures head-on (as argued by Mutimukuru-Maravanyika 2010)? Although building on existing practice is usually more efficient in the short run, we are likely to reinforce existing gender stereotypes. The latter, more confrontational course can be dangerous, figuratively and sometimes concretely; and it raises ethical questions relating to cultural relativity – questions of cultural cohesion and people's rights to determine their own rates and directions of change.

There are no easy answers when we see the clash between global efforts to increase equity and valued but inequitable local customs. Meola (2012), for instance, though valuing many of the successes of the Amazonian conservation project she examined, questioned the desirability of some of the family changes she saw. Women who went to work sometimes had to leave young children unattended, spend long periods of time away from home, and absent themselves from their customary networks. Boyd (2009) recognized the positive contributions of the climate mitigation project she examined in Bolivia (health care, education, and income generating components for women), but fretted that these projects addressed practical, rather than the more important and long-lasting, strategic gender needs of empowerment (a practical preoccupation also noted by Djoudi and Brockhaus 2011, in Mali). Real progress in strengthening women's voices, access to resources, and general life conditions will require complementing the practical with serious attention to the strategic (also noted by Arora-Jonsson 2013).

As we move from the macro- to the meso-scale, we must keep the interactions among scales in mind: to what degree are local and meso-processes affecting these broader issues? Who is championing and who is resisting the various changes underway? Global human and environmental diversity dictate that much such work will have to happen at meso- and micro-scales.

## MESO-SCALE

What we have called the meso-scale is actually a variety of levels – from national to multi-village or – most popular among foresters recently – landscape. Meso-scale influence on individual women, men and forests is likely to increase as scale narrows, becoming most powerful closest to village and individual (micro) levels. We focus below on the issue of land/forest ownership. Such an issue can be relevant, as noted initially, at all levels; but the meso-scale is likely to be a particularly fruitful context for addressing it.

### **Lands, forest and ownership**

Interplay between formal systems of land tenure and traditional ones (Marfo *et al.* 2010) is ubiquitous in tropical forests. Key issues include gendered access to resources (land, forest, non timber forest products/NTFPs); security thereof; and kinship-related inheritance and residence patterns.

#### *Access to Resources*

In many forests tenure derives at some level from the 'axe right': the premise that he who cuts the forest – and it is almost always a man who wields the axe or chainsaw – gains rights to it (see Diaw 2005, on this forest principle in Africa; Fortmann and Bruce 1988, for the European version, called 'assartment').

But the complexity of this issue defies simple treatment. There are often multiple rationales for such access (e.g., various customary rights vs. statutory rights). Men and women

may have access rights that differ by locale, by season, by crop; access may differ between land and trees. Different strategies may be recognized for establishing ownership or control of resources (e.g., labour, group membership, network connections). These divergent elements often yield uncertainties and opportunities for power plays in which women are likely to lose out.

Recently, evidence has surfaced linking women and reforestation efforts: In El Salvador, rather than cutting down distant trees to establish more secure ownership – as happens in many contexts – women (many of whose men were absent) established ownership by planting trees in agroforests and home gardens close to home (Kelly 2009). They thereby demonstrated the 'active use' required by their government.

There are parts of the world where women's access to land has been no more problematic than men's (e.g., the Malagasy described by Gezon 2012; the Kenyah in Borneo, Colfer 2009; the Khmu in northeast Laos, Michelle Roberts, pers. comm. 2012). But these represent the minority. Women's access to land in India is widely recognized as inequitable: Naga women of north India do not own land generally (Cairns 2007); Jassal (2012) found that women's lack of rights to land, a touchy subject where she worked, also in northern India, resulted in serious disadvantages for women's status and work opportunities. See Koopman and Faye (2012) for an historically informed examination of this issue in several countries in Africa.

#### *Security of Access*

In many parts of Africa, women's rights to land have traditionally come through men. When marriages fail or bride prices are not paid, women can be left landless. This insecurity has been exacerbated in recent years with the move toward land privatization and 'structural adjustment conditionalities' (see Federici's 2011 nuanced discussion of the adverse implications for women in east and southern Africa; or Koopman and Faye 2012). Richards (2006) notes particularly the vulnerability of widows and divorcées to loss of access to land in war-torn Sierra Leone and Liberia (also noted by Agarwal 2010, for India and Nepal; Goebel 2003, for Zimbabwe; Pandolfelli *et al.* 2007, and Gillespie 2008, with regard to HIV/AIDS widows' susceptibility to land grabbing). El Salvadoran women whose husbands are away earning money may suffer similar vulnerability (Kelly 2009). In Ethiopia, even when women own assets, men may control them (Mabsout and Van Staveren 2010); also reported in Sumatra by Suyanto *et al.* (2001).

Social, economic and ecological change can also affect ownership. The lack of secure ownership of land increases women's vulnerability to climate change crises (see Ahmed

and Fajber's 2009 Gujarat findings) and reduces their ability to participate in collective action (Pandolfelli *et al.* 2007). Quisumbing *et al.* (2001) examined two matrilineal systems, concluding that Ghanaian women gained land rights by helping their husbands on newly formed cocoa farms, whereas Sumatran women lost rights as men became more involved in agroforestry – thereby competing with women's traditional dominance in paddy rice cultivation. A parallel shift was seen in the Gambia, from female dominance of gardens to male dominance of Agroforestry (Schroeder 1999). But the issue is not simply a 'woman's problem': Barker and Ricardo (2006) provide examples from various countries in sub-Saharan Africa of the key roles that access to land plays in men's life cycles, in their ability to 'achieve' manhood, and the difficulties they are coping with due to civil unrest, warfare, refugee status, and/or the dominance of older men.

#### *Kinship and Inheritance Rules*

Rights and security of access and inheritance rules are mediated by the prevalent kinship system, which typically exerts a meso-level influence.<sup>8</sup> Whether a group is patrilineal, matrilineal, or bilateral can make a big difference in women's access to land. In patrilineal groups, women formally may have no direct access to land. But they may gain access from a variety of sources: from their husbands (most common); via mothers in law (as among the Luo of Kenya, Shipton 2007); by using marginal lands (found by many, since Rocheleau's (1991) initial discussion based on findings from Machakos District, Kenya);<sup>9</sup> or by enlisting outsiders' help to combat inequitable land holding traditions (cf. Nemarundwe 2005, on women's gardening efforts in Chivi, Zimbabwe). In many places, land and tree tenure are different 'animals'. Women may be able to claim tree ownership on others' land, though they may not be able to plant trees, due to the long term nature of such crops and resulting anticipated conflicting claims.

The rarer matrilineal systems, despite the continued dominance of men in much decision making (see e.g., Noerdin 2002), provide a more hospitable context for women's access to lands. In the hinterlands of West Sumatra and in Jambi, among the Minangkabau, land ownership formally rests with matrilineal clans, and women have straightforward and secure access to paddy ricefields (Colfer *et al.* 1988), though Suyanto *et al.* (2001) argue that husbands have a strong voice in agricultural decision making. Forest lands that husbands clear for swiddens (and subsequent rubber orchards) belong to the husband and can be inherited by the man's children (also noted in Ghana where men cleared forest for cocoa). Bourdier (2014 [in press]) recounts women's unusual access and security of tenure among the matrilineal Tampuan of Cambodia. A less equitable situation exists among the

<sup>8</sup> See Jiggins' (1994) outline of 7 key, traditional, cultural principles at work in Nigeria. One of these emphasizes how "Access to and control over economic resources and benefits were vested in membership rights [in a lineage], not ownership rights" (p. 185).

<sup>9</sup> Rocheleau refers to such "off-farm lands" as "roadsides (public land), stream banks and riversides (a combination of public and private property), hillslope woodlands (mostly private land), the dry forest across the river (national government land) and most importantly, the grazing lands, woodlands, fencerows and gullies of other farmers (private holdings, small medium, and large)" (1996, p. 162). For a more recent discussion of this phenomenon see (Federici 2011).

matrilineal Akan of Ghana, but one in which Quisumbing *et al.* (2004) see women's access to land as increasing with the adoption of cocoa – by creating “incentives for husbands to give their wives and children land”<sup>10</sup> (p. 2).

Bilateral systems are often the most woman-friendly (e.g., many such systems in Southeast Asia), though Laderman (1996) notes the bilateral Malay women of Trengganu rarely owning land. Among the Kodi of Indonesia's eastern island of Sumba, patrilineal systems are key in inheritance and land ownership, but matrilineal systems have parallel but different functions (Fowler 2013). Patrilineality further strengthens men's position vis-à-vis women's with regard to land, though Fowler sees day-to-day gender relations as relatively egalitarian.

In comparison to macro scale factors, the meso scale is marked by considerably more diversity. Such diversity expands further as we move to the micro scale. One central take-home message – ever clearer as we move to the micro-scale – is the importance of examining carefully the varying factors and trends operating in any given context. Within the field of forestry, there is often inadequate recognition of the complexity represented by human systems; social systems represent at least as much variety as do biological systems. The significance and variety of kinship and tenure systems and their differing implications for gendered *interests, voice* in forest management and *access* to forest resources should be clear from the examples provided in this section. Forest managers need to think carefully about the implications of these differing patterns – how forest management decisions at the meso scale affect men *vis-à-vis* women – as decisions are made by foresters themselves and by the people living in the forests both [in reality] manage.

## MICRO-SCALE

It is at the micro-scale, of course, that the most extreme variation exists; it is also the scale with the most power to affect people's behaviour – and thus, we argue, the scale at which we need to focus considerable attention, despite the inconvenience of its diversity. It may also, however, be the scale most appropriate for many foresters, particularly those working at the forest management unit level. Within this scale, we have opted to examine two topics – women's valued domestic roles and intra-household power dynamics. Both of these can, of course, also be examined at meso and macro scales.

### Women's valued domestic roles

Although a central role of most women in all societies still involves care of families' domestic needs – child care and training, cooking, cleaning, care of the sick and elderly – societies vary in both the specific allocation of tasks and the flexibility with which their accomplishment is viewed. Yet

their accomplishment – in and of themselves – is vital in all societies. Such tasks also comprise a significant drain on the energies of whoever has responsibility for them, and can be serious constraints to forest involvement, particularly for women. Here we highlight cooking, childcare, women's forest-related knowledge, and health care roles as central issues in women's involvement in forest management.

### Cooking

Women's cooking roles link them to forest management in many parts of the world by means of the need for cooking fuel and resulting involvement in collecting firewood (see, for instance, Sarin 2000, Agarwal 2001, Gupte 2004, for South Asia; Wan *et al.* 2011, or Mahat 2003, for global views) – though Jiggins (1994) reminds us that women's forest management involvement goes far beyond this issue. Recently, the potential relevance of women's fuel wood decisions for mitigating climate change has been highlighted (The World Bank 2009), as women make decisions about cooking fuel efficiencies that could reduce carbon emissions.

Cooking can be centrally related to gender identity. Previously, in Indonesia's formal governmental pronouncements about ideal women's roles, cooking featured centrally (Oey-Gardiner 2002). When members of a community in eastern Bolivia considered women's proposed involvement in a forest management project, they considered the most reasonable way to involve women was as cooks for field teams (Bolaños and Schmink 2005). Among the Malays of Trengganu, the masculinity of a man who cooked was called into question (Laderman 1996); yet not far from there, in Borneo among the Kenyah, men cook regularly without adverse social sanction. Similar flexible attitudes about cooking and gender roles were noted elsewhere (throughout much of Southeast Asia, van Esterik 2008; among the Khmu of northeastern Laos, Roberts 2014 [in press]; and in eastern Indonesia, Gondowarsito 2002). Although symbolic issues are rarely noted by the forestry community, they can be important. Fowler (2012 [in press]) notes a symbolic significance of fire among the Kodi of Sumba (Indonesia): “Trading fire is analogous to trading women. Fetching fire to revive a cold cooking hearth is metaphorical for enveloping good-looking, hard-working women into exogamous patrilineal through marriage exchanges” (p. 71).

In northern India, cooking involved an age-related progression (Jassal 2012): young girls and women are relegated to the least skilled (and least enjoyable) cooking tasks, as helpers. In middle age, they take on the guiding, even commanding role, and in old age, they are relieved of cooking. Torri (2010) emphasizes the pressure the young women of Rajasthan feel – responsible to provide the fuel wood needed to cook food, and unable to do so legally. Incorporated with the ability to cook is typically a vast repertoire, among forest women, of knowledge about local plant and animal resources

<sup>10</sup> We remain uncertain why these authors consider fathers giving to their children inherently better than uncles giving to nephews (see MacLean 2010, for a nice comparison of how these Akan systems function in Ghana and Côte d'Ivoire), though both analyses note that when a man dies and his matrilineal system reclaims his land, his wife and children may be left homeless and destitute.



(see Singh *et al.* 2013, for instance, on the knowledge elderly Adi women of India have about firewood, but also about wild edible plants and how to cook them; or see the collection by Howard 2003).

#### *Women's Knowledge and the Enculturation of Children*

Such decisions, along with important links with children's enculturation, depend on the knowledge women possess. Many have noted the importance of women's knowledge in maintaining biodiversity (Mata and Sasvári 2009) – in agriculture, in preserving underutilized species, in medicinal plants (also noted by the World Bank 2009, globally; Singh *et al.* 2013, among elderly Adi women, India; Andaya 2006, historically for Southeast Asia; Howard's 2003 global collection). Older women's knowledge is particularly central in the saving of seed as well as the selection of planting materials in Andhra Pradesh, India, where women are seen as 'natural guardians' and 'keepers of agrobiodiversity' (Sajise 2014 [in press]). Yucatec Mayan immigrant women choose the species to bring with them to urban areas in Quintana Roo, according to Greenberg (2003). She finds a number of valued functions (ethnic continuity, maintenance of biodiversity, access to ingredients, shared consumption patterns, enculturation of the young and more) among this population.<sup>11</sup>

Women also have important roles in maintaining medicinal plants in Brazil (Sajise 2014 [in press]; or see Roberts 2014 [in press]) on Khmu women's knowledge of medicinal plants, Laos). Uma' Tukung Kenyah women of the Apo Kayan (central Borneo) were somewhat more knowledgeable about plant remedies than men, and such knowledge was most common among older people (Leaman 1996). Mamirauá women played dominant roles in cultivation and processing of medicinal plants in Brazil (Meola 2012). In her study of local natural resource knowledge, she found that "Men named more species of fish, trees for various purposes, fish bait, fruit, eggs and vines while women named more species of seeds, medicinal plants and agricultural products" (p. 173). Women, who accepted greater responsibility for family health, also expressed their overt efforts to teach local medical knowledge to the young. Such knowledge is closely related to women's frequent caretaking roles within families; and Meola (like Voeks 2007, in the eastern Amazon or Cairns 2014 [in press] for Southeast Asia) fears its loss as local adults become more involved in wage labour.

Torri (2012) expresses similar fears, about medicinal plant knowledge in Tamil Nadu, India, where she worked with local women to reinforce such indigenous knowledge. Lyon and Hardesty (2012) describe how young Antanosy women (SE

Madagascar) begin childbearing at around 14 years of age. They learn about forest products used for menstrual, reproductive, and child care remedies early, from mothers, sisters, and other female family and friends.

#### *Health Providers*

Among many groups, women are the primary midwives (cf. Laderman 1987, or Jordan 1993) – often the only source of skilled medical assistance, in tropical forests (cf. global collection by Colfer 2008; or Kothari 2003, on women's health maintenance roles in an Ecuadorian village). Health also represents a more direct conduit to women, since their roles in this sphere are more broadly acknowledged than in forestry. Ahmed and Fajber (2009) found, for instance, that women in Gujarat were included in a health committee in somewhat more equitable numbers than in the other village level disaster committees developed to enhance local abilities to adapt to climate change. Both Meola (2012) in Brazil and Boyd (2009) in Bolivia found that their respective projects attended to women's health needs more readily than to women's needs in less gender-stereotyped realms.

These domestic tasks – cooking, enculturation of children, and care of the sick – are clearly vital to human existence. They also routinely conflict with other human needs, such as food production/gathering or income generation; they can also conflict with women's desires to better themselves, through education, volunteer work or collective action to improve local forest habitats.

There has, perhaps understandably, been a reluctance to attack this issue directly – partly because of predictable (sometimes inaccurately predicted) resistance from men.<sup>12</sup> But genuine empowerment of women, and effective, benign use of women's significant energies, creativity, and capabilities, will require more, and more flexible, involvement of men in the fulfilment of such domestic responsibilities.<sup>13</sup>

#### **Intra-household power dynamics**

Another rarely addressed topic within forestry, intra-household power dynamics, plays a crucial role in determining a) the degree to which women have options to become involved in forest management, b) the kinds of responsibilities they can (or must) take on, and c) their involvement in decisions about the division of benefits from labour they may have provided. Here we focus on three issues: the different interests men and women may have, women's vulnerability to force, and intra-household bargaining.

<sup>11</sup> She particularly notes the links between maintenance of cuisine and desired 'cultural control', the exercise of decision making about new cultural elements that people can reject, adopt, or adapt (p. 63).

<sup>12</sup> Cf. the comfort with and involvement in such tasks expressed among men in Aka, Kenyah, and Lahu communities in Central African Republic, Borneo, and southwestern China, respectively.

<sup>13</sup> There is evidence that such gender expectations *can* change: Nakro (2006) found the Naga men, for instance, willing to take on some traditionally female tasks in order to facilitate women's new opportunities to earn income that would benefit the entire family, by selling garden produce. Sen and An (2006) found men in Hue, Vietnam, increasingly taking their share in domestic responsibilities as women were involved in more training and as their incomes increased.

### *Vulnerability to Force*

Women's vulnerability to force renders such differences in gendered interests inequitable under many circumstances. Although Oey-Gardiner (2002) argues that the women's movement in Indonesia has focused too much attention on domestic violence, other writers disagree (e.g. Basu and Idrus 2002, on South Sulawesi). In parts of India, such abuse can be at the hands of various family members, notably husbands or mothers in law (see Jassal 2012, who emphasizes the dread tales sung about women who fail to follow cultural norms in north India). Women in a Maharashtra village in India were spurred to collective action<sup>14</sup> against such violence (Gupte 2004); various strategies have been pursued by women (in Brazil, India, South Africa) to address this issue (Basu 2003). Alcohol consumption can be a precipitator of abuse (including molesting children in Mamirauá, Meola 2012). Parental abuse revolves around forced marriage (e.g., Leve 2007, on Nepal).

Several authors have linked increasing domestic violence with changing sex roles that are perceived to disadvantage men (e.g., Silberschmidt 2001, for East Africa; or Behrman *et al.* 2012, who note a widespread perception that increasing women's access to resources can increase violence against them). Pandolfelli *et al.* (2007), on the other hand, found evidence that women's rights to land and other valued resources can serve to protect them from domestic violence.

Levels of such violence differ markedly from group to group. The Aka (Central African Republic), for instance, have minimal incidence of violence, particularly rare against women (Noss and Hewlett 2001). Both men and women can physically abuse their spouses in Madagascar (Gezon 2012); something also noted, though rarely, among Kenyah Dayaks in East Kalimantan. The preponderance of use of 'husband taming herbs' in a Zimbabwean resettlement community, where 80% of respondents reported their use: designed to "control husband behaviour (especially infidelity), and promote love and harmony in marriage" (Goebel 2003:122). She fully describes the links among women's access to herbs, gendered spaces, and other social processes, including the frailty of women's access to land within a context of marital instability. In parts of Kenya and Tanzania, Silberschmidt (2001) found a widespread fear among men about women poisoning them.

Women can be endangered at work – noted globally by the High Level Panel of Experts (2011). Lower caste working women are subjected to routine violence and sexual abuse by the upper castes in India (Jayal 2003). And interaction with outsiders can also lead to violence against women: Aka women's vulnerability to rape by other ethnic groups who consider them sub-human, was noted in the Central African Republic (Noss and Hewlett 2001); Meola (2012) notes fears of such violence as a barrier for women to travel to urban

areas far from home (as Mamirauá conservation project duties can require); natural disasters represent situations of special danger for women (The World Bank 2009).

### *Intra-Household Bargaining*

This vulnerability to violence can serve as the basis for a seriously uneven playing field in what some label 'bargaining power'. There's little doubt that bargaining can play a significant role – moderated or exacerbated by cultural norms – in intra-household dynamics, with implications for forest management. Increased power for women has been found to occur

- When external involvements result in enhanced self confidence: Amazonian women involved in a conservation project (Meola 2012); lower caste women who received health-related training in Rajasthan, India (Torri 2012).
- When women gain increased incomes or wealth: globally (Pandolfelli *et al.* 2007); Nagaland, India, where men took on some gardening and other duties locally defined as domestic (Nakro 2006); Hue, Vietnam, where men began helping with household chores (Sen and An 2006); women's [temporarily] increased gardening incomes, in the Gambia (Schroeder 1999).
- When women's labour becomes more valuable for the household: Kenyan (Murang'a District) women's growing negotiating power as they became engaged in wage labour elsewhere, as a response to reduction in benefits from their production of coffee on lands owned by their men (Mackenzie 2005); Ghana, where women's labour in cocoa plantations became more vital (Quisumbing *et al.* 2004, Mackenzie 2005).<sup>15</sup>

In some contexts, women can be empowered by growing older: The women with the most likelihood to express their views publicly in Chivi, Zimbabwe were widows and elderly single women – with no husband to answer to (Nemarundwe 2005); Roberts (2014 [in press]) notes the same tendency for older Khmu women in rural north eastern Laos. Women's strengthened decision-making power can also increase when men are gone (e.g., male out-migration, see Giri and Darnhofer 2010, for instance, on Nepal).

Sithole (2005) questions whether Zimbabwean women in Mafungautsi really want to have overt power locally. She found both men and women describing (and expressing a preference for) women's power to be "subtle", "hidden from view", "bedroom tactics", and "politics of the cooking pot" (p. 177) – an approach that allows women to influence events "in ways that are not confrontational to established patriarchal systems and maintains the illusion of male-dominated spheres and women's subordination" (p. 184). Sithole also

<sup>14</sup> Although space does not permit extensive discussion here, collective action has been shown broadly to be a viable and productive strategy for women's empowerment globally (see e.g., <http://www.capri.cgiar.org/>).

<sup>15</sup> Though see Dolan's (2001) analysis of men's usurpation of women's domain, and successful control of their labour for export oriented horticultural production; and the strategies women used to counter such adverse impacts on their daily lives – in Meru District, Kenya.

notes the dangers locally of overt power for women, who can be labelled as witches or as sexually promiscuous (discussed more broadly for Africa by Federici 2008).

In a 'myth-busting' analysis, Mabsout and Van Staveren (2010) studied intra-household decision making in over 3,000 households in Ethiopia. Counter-intuitively, they found that increases in women's incomes did not necessarily result in increases in decision-making power within their households. Instead, many women appeared to compensate for having taken on some of men's ideal responsibilities by more assiduously performing women's traditional responsibilities (including submission) as well.

Another factor among polygamous groups is the inclusion of a second wife. Both sexual jealousy and resentments about the need to divide material benefits are key issues for polygamous households in a Malaysian fishing village (Laderman 1996). Interactions between co-wives and husbands in Sierra Leone vary from harmonious to conflicted, with wifely status ideally following the 'order of arrival' of wives; this order is ideally reflected in the allocation of farming space as well (Leach 1992). This preferred hierarchy is sometimes disturbed by a 'favourite wife' who may be excused from farm work altogether (one life course – for particularly beautiful or charming young women only – that has long been one of few 'alternative livelihood paths' available to women).

## CONCLUSIONS AND WAYS FORWARD

As Lidestav and Reed (2010) point out, the issues discussed here "...will not be resolved merely by adding women to the mix of decision makers. Rather, [they] will require serious examination and reflection on longstanding cultural assumptions and practices." (p. 4) – a concern reiterated by Harrison and Watson (2012), who emphasize the difficulties of interdisciplinary collaboration and mutual respect among professionals.

If we take seriously the conclusion that gender involvement in forest management requires a holistic, systemic perspective, the research gaps are indeed gaping. Initial assessment in each forest and community would need to be conducted – an improbable outcome. But the simple identification of issues to keep in mind can move us forward toward more aware and conscious forest-related decision-making.

Conclusions about what needs to be done – there is so much! – are seriously influenced by the values of the person making the recommendations. Bearing that in mind, we see the following as particularly useful directions:

- be more equitable in research and development efforts – examining and incorporating both men's and women's needs, interests, behaviours, values, expectations/hopes for the future, into the planning, implementation, assessment, and recurrent revisions of natural resource management, development, and conservation plans.
- Pay less attention to cash, more to non-monetary values that men and women assign to forests in the

different locales where we work. Such values represent potent opportunities for effective collaboration with local men and women – something ultimately needed if forests are to continue to cover significant parts of the Earth.

- Situate our efforts time-wise, by examining local historical contexts/trends and identifying the often-differing preferences of men and women about future expectations and desires.
- Attend more seriously to the recurring dilemma of how much effort to expend within existing gendered patterns of behaviour (helping women with fuel wood collection, for instance); and how much on riskier, but potentially more powerful approaches, ones that can more effectively begin to level the playing field (collaborative gender assessment of winners and losers in a local forest, for instance).
- Work more on strategies that can enlist the help of both men and women in equity-enhancement in forests, publicly and privately. Identifying good strategies is a legitimate research topic; and working on equity explicitly with communities has shown good results.
- Strengthen our abilities as professionals to work together in genuinely interdisciplinary fashion and across-scale. The interactions among features at different scales have been widely ignored, despite increasingly obvious impacts. Similarly, looking backwards and forward in time has not been adequately valued – as we try to fit management plans to local contexts. Both scale and time issues require input from multiple disciplines.

There is no end, we imagine, to the human effort to improve our lives; but with regard to gender, we have much to accomplish. May this framework, summarized in the Gender Box, contribute to our ability to address the needs of both women and men more broadly and effectively!

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## Glossary of Relevant Social Science Terms

addressing practical gender needs	These concern daily and widely accepted needs, such as for food, shelter, health, education; they are valued but providing them is unlikely to alter gender inequities substantively
addressing strategic gender needs	These concern questions of power and voice – at all scales, from intra-household to international; and though more difficult than purely practical approaches, are more likely to result in serious positive change
asset rights	include “ownership, use, decision-making, and documentation over land, housing, material assets, livestock, and financial assets”; see Jacobs <i>et al.</i> 2011. <i>Gender Differences in Asset Rights in KwaZulu-Natal, South Africa</i> . Washington, DC: International Center for Research on Women, p. 31.
bilateral	This kinship system refers to the practice of tracing descent and inheritance through both parents
collective action	This refers both to the process by which voluntary institutions are created and maintained and to the groups that decide to act together; see Pandolfelli, Lauren, Ruth Meinen-Dick and Stephan Dohrn 2007. <i>Gender and Collective Action: A Conceptual Framework for Analysis</i> . Collective Action Working Paper 64: 57.
enculturation	The process of bringing up children within their cultural context
enculturators	Those who bring up children within their cultural context
essentialist	The tendency to see a characteristic as inherent. Women, for instance, are seen by some as inherently closer to nature than men (an essentialist position)

Great Tradition	A body of knowledge and norms cultivated in schools and temples, considered carefully by the 'reflective few', by the philosopher, theologian, and literary persons, consciously cultivated and handed down; see Redfield, Robert 1971 (original 1960). <i>The Little Community, Peasant Society and Culture</i> . Chicago: University of Chicago Press.
hegemonic	The social, cultural, ideological, or economic influence exerted by a dominant group
hegemonic masculinity	Widespread views of men's roles that reinforce male dominance; see Bannon and Correia 2006. <i>The Other Half of Gender: Men's Issues in Development</i> . Washington, DC: World Bank.
Little Tradition	A body of knowledge and norms that evolves and maintains itself in the daily lives of the unlettered, the 'unreflective many', in village communities; see Redfield, Robert 1971 (original 1960). <i>The Little Community, Peasant Society and Culture</i> . Chicago: University of Chicago Press.
macro scale	This refers to issues of global concern
management	Human behaviours designed to affect something. In the case of forestry tradition, management has focused on maintaining or increasing production. There is greater concern now for ecological and social implications of management.
matriclan	a clan in which descent is traced through women (mother to daughter to granddaughter)
matrilineal	Inheritance and kinship affiliation typically flow from mother to daughter; with maternal uncles and brothers typically having more authority than in patrilineal systems
matrilocal residence	a pattern of residing with or near the wife's family after marriage (also called uxorilocal residence)
meso scale	This ranges from the national level to a supra-village scale (a district, a particular forest, a landscape)
micro scale	This ranges from the village through sub-groups within a village to intra-household issues
narratives	Coherent ways of linking and providing a rationale for events
narratives of modernity	Stories that emphasize a unilinear, step-wise progression from primitive to modern; e.g., 'high modernism' described fully in Scott, James C. 1998. <i>Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed</i> . New Haven, Connecticut: Yale University Press
narratives, policy	'Stories' used to simplify reality for the purpose of making/reinforcing policy decisionmaking. See Roe, Emery 1994. <i>Narrative Policy Analysis: Theory and Practice</i> . Durham, North Carolina: Duke University Press.
patriclan	a clan in which descent is traced through men (father to son to grandson)
patrilineal	Inheritance and kinship affiliation typically flow from father to son.
swidden	The food crop component of a system in which forests or grasslands are cleared and used for a shorter amount of time than they are left fallow.