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Gender and Forest, Tree and Agroforestry Value Chains – Evidence from Literature

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Introduction

Forests, trees and agroforests (FTA)¹ contribute to people's wellbeing in myriad ways. The many non-timber forest products (NTFPs)² derived from FTA resources are critical to the livelihoods of approximately 1.4 billion impoverished people in the world (FAO/IFAD/ILO 2010). Adding to the multiple food security, nutrition, energy, health, and cultural benefits they provide, NTFPs contribute on average 20–25% of annual household income for people living in and near forests in the developing world (World Bank 2004). The consumption and sale of NTFPs can be important particularly for marginalized groups, such as women, among others, whose limited access to land, credit and other assets hamper their ability to pursue alternate livelihood opportunities (Hasalkar and Jadhav 2004).

Although women have long remained in the shadows of agricultural and forestry research for development, the critical link between gender and forest-based livelihoods is gaining recognition. It has been realised that there is significant gender differentiation in the collection and trade of FTA products, which supports notions that there are distinctive 'male' and 'female' roles associated with FTA chains (Ruiz Pérez et al. 2002; Paumgarten and Shackleton 2011; Purnomo et al. 2014; Sunderland et al. 2014). This has led to widespread promotion of different products, particularly by organisations interested in sustainable development, enhancing gender equity and empowering women (Shillington 2002; Neumann and Hirsch 2000 in Shackleton et al. 2011). The gender aspects of forest and tree product chains are distinguished from agriculture-based chains (Doss 2002; Carr 2008; WDR 2008; Verhart and Pyburn 2010; Said-Allsopp and Tallontire 2014; Quisumbing et al. 2014) by two particularities. One is the governance arrangements covering access to the resource and to their markets (Meinzen-Dick et al. 1997; Wiersum et al. 2014). Many forest and tree species are wild, governed as public goods or common property as opposed to agricultural crops,

¹ FTA refers to the continuum of wild and managed ecosystems and individual trees from which timber and non timber forest products are sourced (Ingram 2014).

² While various definitions of NTFPs exist, they generally refer to products or services other than timber produced in forests (Belcher 2003).

which are often cultivated on private property (formally or customarily owned). This difference raises questions about how FTA products are managed, by whom and how access to and benefits from these resources are arranged. Research has highlighted the role of gender in shaping access, management and use of forest resources and their associated benefits (Mai et al. 2011).

How resources and the ecosystems in which they are embedded are governed affects their sustainability. This is the second particularity, as an FTA product's sustainability depends on factors such as (1) the abundance of the species from which the product originates, (2) anthropogenic and natural factors, such as forest degradation and climate change impacts on species populations, (3) inherent species vulnerability which depends on the part(s) used and harvesting intensity and (4) a species' tolerance to harvesting (Ingram 2014).

Although there is conflicting information (Sun et al. 2011; Mwangi et al. 2011), some studies have shown that increasing women's participation in forest user groups and decision-making results in improvements in the management of forest resources, whether at the community, household or farm level, as well as enhancing livelihoods (Agarwal 2010). The failure to support both women's and men's involvement in forestry-related processes and enterprises has squandered opportunities to improve the lives of women and their household members, and to promote the sustainable and equitable utilization of FTA resources (IFAD 2008; Awono et al. 2010).

Unleashing the potential of FTA products for alleviating poverty, increasing gender equality, and promoting ecological sustainability require understanding and engaging with global factors—e.g. policies, market trends, and climate change—that affect the nature and extent of women's and men's participation in this sector. This is effectively achieved using a value chain approach, which has gained analytical purchase as a perspective from which to study the articulation of political-economic processes linking diverse geographic regions, people, and goods. A value chain symbolises the activities involved in bringing a product from the production base to final consumers, including harvesting, transport, processing, transformation, packaging, marketing, distribution and support services, and disposal (Kaplinsky and Morris 2001). A chain can range from a local to global level and may be implemented by various actors – harvesters, processors, traders, retailers and service providers. These linkages show how livelihood systems at the local level are shaped by both local conditions (Pfeiffer and Butz 2005) and wider political, socio-cultural, ecological and economic factors, including underlying gender norms (Brown and Lapuyade 2001). What

results are gender differentiated roles in households and communities, gendered interests in and dependence on forest resources, gender-differentiated access, control and power to make decisions over FTA (and other) resources, and women-specific constraints in terms of benefit capture from chain participation (Riisgaard et al. 2010; Mai et al. 2011). Gender also intersects with other factors of social differentiation such as class, race, ethnicity, religion and age, to influence the relative bargaining positions of different interest groups (Mai et al. 2011).

Interest in FTA chains has increased over the last two decades, but there has been little consolidation of the relevant data on this topic. In particular, studies focusing on the relationship between FTA chains and gender, the factors that influence this relationship, and the nature of interventions seeking to enhance gender equality in FTA chains, are lacking. A more systematic understanding of the information available, the products and regions studied, and the nature and impacts of interventions can result in better targeted research and interventions in FTA chains.

To address this knowledge gap, we present a review of the literature on gender and FTA value chains with a focus on three research questions:

- (1) Where do gender differences exist within FTA value chains and what do they consist of?
- (2) What factors influence these gender differences?
- (3) What kind of FTA value chain interventions have been made and how can future interventions be more gender equitable?

Methodology

A literature review was conducted, consisting of the steps shown in Figure 13.1.

Figure 13.1: Steps in the literature review³

A multidimensional conceptual framework, summarised in Figure 13.2, was used to guide the review. The sustainable livelihoods approach (Krantz 2001) was combined with value chain analysis (Kaplinsky and Morris 2000) and a gendered lens (Colfer 2014). Using the

³ The review protocol is explained in more detail in Haverhals et al. (2015).

sustainable livelihoods approach implies that asset-based livelihood and sustainability outcomes of interventions are analysed for the actors involved in the chain. The framework highlights governance, acknowledging that multiple governance structures (customary authorities, statutory government, projects, etc.) may set their own ‘rules of the game’ (Ostrom et al. 1994) and that hybrid arrangements (chain platforms and networks) can emerge in FTA chains (Ingram 2014). Putting value chain analysis at the core implies an analysis of the direct ‘actors’ involved at different stages of a chain, their linkages and activities, and indirect stakeholders (state, research, non-government, service providers, research, etc.) involved in the chains. A gendered lens allows the nature of gender differences and outcomes to be identified and analysed.

Figure 13.2: Conceptual framework underpinning the literature review

The search terms, shown in

Table 13.1, were identified based on the research questions, which were drawn from the conceptual framework. The terms were then grouped, based on synonymous, alternative spellings and abbreviations of the central concepts.

Table 13.1: Groups of search terms used in the literature review

Group 1: date	Group 2: gender	Group 3: value chain	Group 4: FTAs and NTFPs	Group 5: sustainable livelihoods
Literature published between 2000-2014	Gender, woman/women, female, man/men, male, sex, feminine, masculine, empowerment, power relations	Value chain, VC, Global value chain, GVC, supply chain, commodity, commodity chain, production-to-consumption systems, <i>filière</i>	Product(s) - agroforestry, non-timber forest or non-wood forest product, tree, forest	Impact/outcome/effect on/of: livelihood strategies, social relations, culture, politics, health, poverty, GDP, sustainability, environment, nature, rural development, resources, coping mechanism, adaptation, diversification, transformation, household, income

First, literature was sought from the sources shown in Table 13.2, systematically using combinations of the search terms in groups 1 to 3, and then adding the terms in group 4.

When a large amount of literature was found, the search terms in group 5 were added to refine the search. This resulted in 245 publications.

Table 13.2: Sources of literature

Bibliographic scientific databases	Gateways	Websites of organizations and institutions
Scopus; Web of Science; Gender Studies Database; Social Sciences Citations Index; CAB abstracts; EconLit; SocINDEX, Google Scholar	Eldis; Jolis; 3ie Database of Impact Assessment	UN global impact; CGIAR; CIFOR; Bioversity International; UNDP IFC; ILO; World Bank Research4Development (R4D); KIT; Global Value Chains; SNV FAO; USAID; IFAD

These publications were assessed for quality and relevance to the research questions, leading to 185 publications being retained.⁴ The title and abstract or executive summary of each document was screened to identify publications directly linked to the research questions. If gender and value chains or any of their synonyms or abbreviations were not mentioned or the methods were not explicitly detailed, the publication was excluded. This resulted in 126 publications which were read in full and coded in ATLAS.ti, according to the types of gender differences; where these differences were located along the chain; the type of FTA chain; factors explaining differences; the types of interventions; the geographic location of the origin of the chain; and outcomes or impacts. This evidence was synthesised to respond to each research question.

Results

Overview of the literature reviewed

The reviewed studies covered a range of chains based on fruits, seeds, nuts, gums, resins, barks, stalks, leaves, branches, fungi and roots – sold for food, feed, medicinal and cosmetic uses, as scents, energy, tools and utensils. The majority (62%) of the documents were peer-reviewed journal articles, 25% were grey literature reports, 10% were books/book chapters, 2% policy briefs and 1% theses. All the publications concerned chains originating in developing countries, with most (58%) covering chains originating in Africa, 26% in Asia and the Pacific, and 16% in Latin America (Figure 13.3). Most studies covering global chains did

⁴ See Haverhals et al. (2015) for full list.

not address all the stages and locations of the chains. Nearly one third of the studies described chain interventions.

Figure 13.3: Location of FTA value chains

Gendered differences in FTA value chains

Of sixty publications covering participation in different stages in FTA chains, only 32% state the sex of different participants. The number of women participating in FTA chains was higher than the number of men on a global level, but not on a regional basis (

Figure 13.4). Most information on participation concerns collectors, particularly in Africa where more women are reported to participate than men. In Latin America more men reportedly engage in collection. These results mirror Sunderland et al.'s (2014) global study, which found that whilst both men and women participate in collection and processing for trade when a global perspective is taken, men dominate in Asia and Latin America, and women in Africa. Differences in male and female participation in harvesting are influenced by: The physical nature of the task, social restrictions/prescriptions, household responsibilities (such as childcare), and distance to the collecting site. Limitations with respect to tenure (lack of access rights and limited decision making power over natural resources) were important factors influencing who collects FTA products.

Figure 13.4: Gendered participation in stages of FTA value chains

At the processor stage, information on male/female participation was generally lacking. The few cases that did mention participation all indicated female dominance. Participation was mainly influenced by: Domestic roles, with fewer women participating when the activity was of a very physical nature, involved long distances to the processing site, and required access to credit and technology.

At the trader stage, data was also generally lacking on gendered aspects of participation, particularly in Asia and Latin America. In Africa, female dominance was noted. In all cases women were reported to participate most in small-scale retail trade, with men running larger

businesses. The main factors influencing such participation are household responsibilities, distance to trading site, social restrictions/prescriptions, access to capital and literacy level.

Differences in norms surrounding the gendered division of labour were mentioned in 36% of the studies as contributing to women's and men's distinct involvement in chains. This suggests that gendered power relations, particularly within households but also in enterprises, influence women's and men's participation in chain activities and the associated benefits they respectively derive. Inequitable gendered power relations in terms of decision making at household and community scales were mentioned as influencing factors in 14% of the publications.

Gendered contribution to household income from FTAs

Evidence abounds about the contribution of FTA product sales to household income and differences in the revenues and profits gained by men and women. Mentions of gender-differentiated patterns of income generation were found in 32% of the publications, with men generally earning more than women (Box 1). Across 17 African countries, the sale of FTA products contributed between 22% and 40% of household income (Pouliot and Elias 2013; Pouliot and Treue 2013). The level of income generated by chain actors greatly depended on how, where and when value is added: At the source by managing wild resources, by domesticating FTAs as part of mixed farm-fallow-agroforestry systems, and/or through processing and marketing. No trend was clear, likely due to the disparity in methods and data presented in the publications. Value addition at the source depends on access to forest resources; Towards the consumer end of the chain, access to markets is a critical determinant (Wiersum et al. 2014). Besides gender, income is influenced in varying degrees by variables such as age, ethnicity, household composition, marital status, class, and caste (Byron and Arnold 1999; Shackleton and Shackleton 2006 in Sunderland et al. 2014).

[!box!]

Box 13.1: Charcoal value chains in eastern and southern Africa: Where are the women?

The charcoal trade is a booming business in the region, benefiting both women and men. Gendered differences are apparent: i) both men and women participate throughout the charcoal chains but women comprise a small proportion of the actors - estimated at 27% in

Uganda (Shively et al. 2010); ii) women dominate both ends of the chain, mainly in seedling and tree management and small-scale retailing; and iii) men dominate the transportation and trade stages, accounting for up to 90%, while women rarely reach 20% in these stages (Delahunty-Pike 2012; Ndegwa 2010; Mutimba and Barasa 2005a; Cuambe 2008; Shively et al. 2010).

In Uganda, for instance, women accounted for 6% of transporters in 2008 (Shively et al. 2010). Most of the men involved in the charcoal transport business own vehicles, thus dominating large-scale transportation. Generally women consider transporting risky, due to inconvenient, risky hours in poor vehicles on poor roads, and illicit behavior is required to deal with state officials (Sem 2004). Charcoal retailing is dominated by women in most eastern and southern African countries, where their proportion ranges from 57% in Kenya to 90% in Mozambique. Tanzania is an exception with about 16% being female (Mutimba and Barasa 2005; Cuambe 2008; Shively et al. 2010). Typically benefits are highest in the middle of the charcoal chain, and lowest for producers and retailers at the tail ends. This is shown by the average monthly profits in the chain in Uganda, where women form 6% and 22% of transporters and agents respectively and 69% of retailers (Shively et al. 2010). As women do not engage in the more lucrative stages, they benefit less than their male counterparts.

[!box ends!]

Often, financial benefits from NTFP sales vary between men and women even when both sexes pursue the same chain activity. For instance, in Cameroon, male eru (*Gnetum* spp.) harvesters earn on average 12% higher profits than women and male bush mango (*Irvingia* spp.) harvesters and exporters, 8% and up to 52% more than women, respectively (Ingram et al. 2014). Moreover, in the female-dominated FTA chains, average annual household incomes from the sale of a given FTA product tended to be lower than in male-dominated chains, with men on average earning 11% higher profits. Higher profit margins were attributed to men's ability to trade in high volumes, and to select the high value products and stages in which to operate (Ingram et al. 2014). This finding that women often engage in lower profit products and men in higher profit products mirrors studies of agricultural products (Kaaria and Ashby 2001).

Chikoko's 2000 study (in Kiptot and Franzel 2011) of benefits from woodlots in Malawi showed that both women and men harvested multiple products, with no significant difference

between male-headed and female-headed households in products harvested. However, male-headed households earned over three times as much income as female-headed households. In the safou (*Dacryodes edulis*) chain, female traders gained lower profit margins per unit than men (Schure et al. 2009). This may be because men sell more per transaction than women and most female traders do not have enough capital to increase their stocks. Asfaw et al. (2013) found that being female positively and significantly affected forest income, whereas other socioeconomic characteristics (education, family size and wealth) had no significant effect. Sunderland et al. (2014) found that whether a household was female-headed was consistently statistically significant in influencing household income derived from FTA product sales across regions and that women in female-headed households have larger shares of income from forest products compared to those in male-headed households.

Regional differences were apparent in how much men and women earn from FTA product sales, particularly from processed products. Socio-economic status was also a factor, cutting across gender, influencing people's dependence and engagement in a chain, with poorer households being more dependent on FTA products than richer ones. Benefits were often co-determined by socio-cultural norms and customs, and such socio-economic characteristics as the sex of the household head.

Gendered spending patterns

The literature indicates that increases in women's incomes tend to have greater impacts on food, health and education expenditure and therefore overall household well-being than increases in men's incomes (Blumberg 1988; Hoddinott and Haddad 1991; Engle 1993; Kabeer 2003 in Guarascio et al. 2013). This review showed that women often engage in harvesting and processing products such as shea (*Vitellaria paradoxa*) in Benin, safou (*Dacryodes edulis*) in Cameroon, bitter cola (*Garcinia kola*) in Nigeria and marula (*Sclerocarya birrea*) in southern Africa in periods when there are few other income-earning alternatives. This enables households to cover major expenses during seasonal financial shortfalls and generate capital for new activities (Mai et al. 2011; Njie Ndumbe 2013). Overall, women use FTAs to support household needs, while men invest slightly more in farm and other business activities, on major household expenditures and on their personal expenses (FAO 2007). In different regions, women's roles in household decisions on expenditure were positively correlated with improvements in household food and nutrition security (IFAD 2014). How FTA-based income is spent is influenced by other sources of income, household

characteristics and individual and household specializations in specific chain activities. Women's involvement in the trader node, as with female cocoa traders in Bolivia, tends to give them greater control over the income generated (Marshall et al. 2006).

Factors influencing gender differences

The literature indicates that contextual factors influence the gender differences observed in FTA chains. Key economic factors were the effects of new global markets for what were previously subsistence products (Brown and Lapuyade 2001; Gausset et al. 2005) and reforms due to economic crisis and structural adjustment programs (Brown and Lapuyade 2001). These affect demand and consumption of FTA products, and accordingly their markets, leading to changes in the participation of men and women in the chains.

The most significant socio-cultural factors are closely linked to governance, with cultural norms and customs strongly influencing the participation and activities men and women perform in chains (Rocheleau and Edmunds 1997; FAO 2007; Sikod 2007; Mai et al. 2011). Governance, political and institutional factors are often complex and interlinked. Plural governance, particularly the combination of customary and formal regulatory arrangements, was frequently noted. Societal rules and norms can result in the under-representation of women in the institutions mediating formal governance: Government, policy- and law making (Bandiaky-Badji 2011, and this volume; Sikod 2007). However, in household and customary governance arrangements, and in market-based governance arrangements, women have developed strategies which heighten their representation and participation in institutions governing chains (Mai et al. 2011; Guarascio et al. 2013; Sunderland et al. 2014). Gender was just one socio-cultural and demographic variable which socially differentiates men's and women's participation. For example, education affects male/female participation in economic activities (Mai et al. 2011). Gendered divisions of labour and contributions to household income are also influenced by variables such as age, ethnicity, household composition, marital status, class, and caste, all of which have varying degrees of influence (Byron and Arnold 1999; Shackleton and Shackleton 2006 in Sunderland *et al.* 2014).

The most mentioned environmental factors influencing gendered differences in FTA chains were the level of resource degradation, due to anthropogenic and/or natural causes, affecting the quality and quantity of FTA resources available (Belcher et al. 2005; Pfund and Robinson 2005). The literature suggests that women may be more vulnerable than men to the effects of

such degradation, because they are more likely to be poor and dependent on natural ecosystems threatened by degradation and climate change and because of the socially and politically driven lack of participation in decision making and access to power. Women's presence in community institutions can improve resource conservation and regeneration, as is the case in India and Nepal (Agarwal 2009). The *buriti* leaf (*Mauritia vinifera*) chain in Brazil (Virapongse et al. 2014) illustrates the consequences of high market demand leading to overharvesting. As the socioeconomic situation of harvesters improved, engagement in the chain shifted to less skilled collectors who tended to harvest less sustainably.

Types of interventions in FTA value chains

Figure 13.5 illustrates that from the 32 publications that covered interventions in FTA chains, 66% focused on mushrooms, honey, and shea (see also Figure 13.6). Figure 13.7 shows that most interventions were made at the harvester and/or processor stage.

Figure 13.5: Interventions per type of FTA chain

Figure 13.6: Target groups of chain interventions

The vast majority (81%) of interventions in FTA chains reviewed reported a primary focus on gender (

Figure 13.7), likely due to the review methodology. Most of the initiatives analysed targeted women exclusively, mainly by stimulating higher female participation in chains and aiming to increase the benefits to women.

Figure 13.7: Primary focus of chain interventions

Interventions were classified according to the strategies used, shown in Box 13.2.

Figure 13.8 shows that most frequently interventions focused on process upgrading achieved through improved technology and marketing advice, infrastructural support, value adding to products and improved marketing. Examples include the mushroom chain in Mexico (Marshall et al. 2006), honey in Rwanda (Matabishi 2012), shea in Mali (Traoré 2002) and NTFP chains in Africa (Shackleton et al. 2011). Upgrading interventions included organising women producers and processors into groups (horizontal upgrading), running businesses, and linking them to traders (vertical upgrading) in the *sabai* grass (*Eulaliopsis binata*) chain in India (Singh 2012) and the shea chain in Senegal (Souare 2002). Product upgrading included support to increase the quality of shea butter in Burkina Faso, through improved processing and production techniques (Konate and Ouédraogo 2010), establishing a honey production training and demonstration centre resulting in quality improvements, new product markets, and 50% more income for producers in Ethiopia (Sisay 2012). Over a quarter (28%) of interventions used functional upgrading, such as skill training in the wood furniture chain in Indonesia (Purnomo et al. 2014) and the shea chain in Burkina Faso (Ndow 2007).

[!box!]

Box 13.2: Upgrading strategies

Horizontal coordination: between the same type of actors – e.g. harvester groups, trader cooperatives, mixed gender groups, etc.

Vertical coordination: between actors in different chain positions, e.g. between individual women or a women’s group with their buyers or service providers

Product upgrading: to more sophisticated products with increased per unit value (e.g. products complying with buyer requirements for higher quality, certification, food safety standards, traceability, packaging, etc.)

Process upgrading: more efficient transformation of inputs into outputs by reorganizing productive activities (e.g. applying new processing technologies, delivering on schedule, reducing waste, etc.)

Functional upgrading: acquiring new functions (or abandoning old ones) that increase the skill content of activities (e.g. grading, primary processing, bulking and storage, transporting; provision of services, inputs or finance)

New business actors: creating new products and chains from a timber or forest species previously collected for subsistence use

Sources: Bolwig et al. 2008; GTZ 2007; Mitchell et al. 2009

[!box ends!]

Figure 13.8: Type of interventions in chains

Interventions in cocoa and shea chains

Interventions in two chains, cocoa – a cultivated commodity, often in mixed agroforestry and farm systems -- and shea⁵ – largely wild harvested in agroforests and woodlands – provide insights into the types of interventions reviewed and their impacts on gender.

West Africa is the source of most cocoa sold on the world market. Cocoa is presented in the literature as a typical ‘male crop,’ due to the physical work involved in cocoa farming, because it is a cash crop and most cocoa farms are male owned. Male cocoa farmers generally benefit more than their female counterparts from access to credit, land and markets, and from the social context, where norms generally allow men more control over revenues, decision making and bargaining power. The important roles women play in the cocoa chain in terms of the crop’s cultivation, post-harvest processes and quality enhancement have only recently been highlighted (Enete and Amusa 2010; Kumase et al. 2010). The literature also suggests that empowered female cocoa farmers with access to farm inputs can influence decisions about cocoa production activities, and improve bean quality, quantity, and incomes from cocoa farming (Vigneri and Holmes 2009). Major chocolate manufacturing multinationals and NGOs have increasingly acknowledged the gender gaps that pervade the cocoa chain – particularly in access to training, certification and access to credit and inputs (UTZ 2009; Banerjee et al. 2014). Programs to address these are generally in the early stages of design and implementation, and so their economic, social and ecological impacts are either not yet apparent (Waarts et al. 2013; Ingram et al. 2014) or only just becoming so (International Institute of Tropical Agriculture 2006).

Numerous interventions to improve female producers’ and processors’ inclusion and incomes in shea export chains in West and Central Africa have been made in the last two decades.

⁵ See Elias, this volume, for more on this product.

Mainly donor and NGO projects, the interventions were reported to improve women's access rights to shea nuts, improve shea butter quality, increase production volumes, and enhance women's influence in household decision making and bargaining power (Traoré 2002; Sidibé et al. 2012). The literature however often lacks independent, detailed impact analyses and generally presents the outcomes for women as a homogenous group, positively influenced by the upgrading strategies applied. Poudyal (2009) and Elias (2010) indicate that some interventions have been captured by elites at the expense of marginalized groups, favouring the empowerment of specific groups of women. In some cases, the success of such interventions has led to men encroaching on what were previously female activities (See IFR Special Issue on Gender and Agroforestry, for additional examples). Shifting power dynamics risk resulting in increased social differentiation, changed household consumption patterns and ultimately the loss of income sources for women (Baden 2013; Wardell and Fold 2013).

Conclusions

Gender differences in FTA value chains

Throughout the literature relatively little information was found quantifying male/female participation in FTA chains. This information is specifically lacking for the stages downstream of small-scale traders. A bias in the literature was found towards African countries, with 25 of the 40 cases that mentioned specific male/female participation being based in Africa. In general, female dominance was recorded at the collector, processor and small-scale trader stage, but this does not account for regional differences. At the collector stage, female dominance only holds in Africa, whereas men dominate in Latin America and Asia. There was a lack of information about the sex of processors involved in FTA chains. At the trader stage, data from Latin America and Asia is lacking. Overall trends emerge that women are mostly active in the upstream and downstream ends of chains: Harvesting and small-scale retail trade, and that men tend to run larger businesses.

The nature of gendered differences in participation in FTA chains can largely be ascribed to **social and cultural differences** that influence how chains are governed. These determine gender-differentiated access to, and ownership (tenure) of land, forests, trees, farms, FTA products, labour, technology, credit, information and FTA markets. Because of such differences, women often have fewer or less favourable access rights than men, and if they

have such rights, these are often not well defined or enforced. **Differences due to the nature of the product and activity** were also found with regard to the physical demands of chain activities, notably when physically demanding collecting and primary processing activities were required, such as in charcoal production. The time taken to conduct these activities and their location, such as when long forage distances or extended periods away from home were required, were also strong determinants of participation in chains for some products.

Gendered power relations were noted, mainly at the household level, but also within enterprises, resulting in differentiated benefits to women and men. The ways men and women use revenues from FTA products also differed.

The contextual factors influencing these gender differences

Gendered constraints occur, particularly for women's participation in and benefits from FTA chains, mainly due to social-cultural, political, economic and environmental factors. The influence of each factor varies depending on the product, geographic region and cultural setting. **Socio-cultural factors** such as cultural norms and customs that tend to disadvantage women strongly influence the work performed, the division of labour in chains and (other) household and economic responsibilities and activities of chain actors. **Governance, political and institutional factors** concerned overlapping customary and formal regulatory arrangements, with societal norms often resulting in the underrepresentation of women in governance arrangements. Economic factors such as the effects of globalization of chains and reforms due to economic crises affected global markets for FTA products, and local demand more specifically. Main **environmental factors** mentioned were resource degradation affecting the quality and quantity of FTA resources available. Women were shown in some cases to be more vulnerable than men to the effects of such degradation because of their disadvantaged position and therefore greater dependence on forest ecosystems, and because of their socially and politically driven lack of participation in decision making and power.

Gendered participation in FTA chains is shaped also by other factors of social differentiation such as education, age and ethnicity. **Education** was found to influence participation in and benefits from FTA chains. It is expected that education becomes more influential when moving up the chain. The role of women can be placed in a nested set of relations **cutting across different social constructs** such as ethnicity, of which gender is a prominent but not unique factor.

Making FTA value chain interventions more gender equitable

Most interventions reviewed were implemented at the collector's and/or processor's stage. Although some claimed to specifically target gender relations, in practice they tended to focus on women, rather than on the relations between men and women. Other interventions clearly set out to improve the position of women; these too targeted women separately from their relations to men. Overall, the interventions sought to increase female participation and resulting benefits. The literature indicated that the most successful interventions were those that combined horizontal and vertical upgrading (see Box 2). Most interventions (84%) resulted in process upgrading, followed by product upgrading (41%), which often resulted in improvements in product quality, and 28% resulted in functional upgrading.

Lessons drawn from the literature to improve gender equality in FTA chains include:

Interventions need to be explicitly gender sensitive:

- 1) Establishing gender sensitivity in interventions appears to be a critical criterion for success. This implies carefully selecting beneficiaries, intervention partners and developing the gender mainstreaming capacities of implementing agencies.
- 2) Technical and social-cultural practices need to be considered when developing interventions, along with the recognition that changing established practices may need long timescale;
- 3) Technological changes with market-oriented activities can help transform women's participation in specific chain activities, for example by freeing time;
- 4) Possible negative social cultural repercussions can result from an increase in women's benefits;
- 5) Combining vertical and horizontal upgrading achieves better results;
- 7) Improving women's position in FTA chains and fostering their empowerment requires a multi-pronged approach involving a combination of activities, such as training, technology transfer, increasing their negotiating capacity, developing their business skills and providing them with market information. This can trigger changes by men and women to enable them to self-determine their own upgrading initiatives.

Supporting collective action

- 8) Collective action and groups, often critical for achieving the desired gender equity outcomes, may need support from local leaders and encouragement from projects;
- 9) Pilots and demonstrations, such as of female leadership in FTA chain activities, can support change.

Consider parallel actions to chain interventions

- 10) Improve women's literacy levels;
- 11) Counter discrimination through regulations.

Evidence from the literature reviewed suggests that forest, agroforestry and tree based chains can be made more gender equitable. Approaches to achieve this include addressing how trade is conducted, power differences in chain activities, as well as the social context which exerts a strong influence (e.g. tenure rights, gender norms, literacy, laws relating to discrimination). Given the focus on processes and outcomes in interventions and discrete time periods, and relative lack of attention to relations between intervention outcomes, impacts and the wider chain context, these lessons should be seen as broad generalisations. Research, practice and policy would benefit from processes that involve local actors in anticipating the results of a planned intervention. This would serve as a benchmark of the extent to which initiatives contribute to more gender equitable chains. Equally, the economic, as well as social and environmental impacts of interventions which target or seek to benefit men and/or women, should be evaluated, preferably ex-ante, during and ex-post, examining both desired and unanticipated impacts.

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