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**Gender-Specific Features in Forest
and Tree Uses in South and
Southeast Asia**

Report Number 19

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1. Introduction

People use forest and tree products for many purposes, which tend to vary across geographical region, country, community, and household. These variations are mainly due to differences in distribution of forest/trees, availability and accessibility, product sources, as well as needs and culturally-determined uses. In addition, user categories tend to differ in terms of labor allocation and the nature of the products collected.

Rural households often use the products of forests and trees to meet such subsistence needs as fruit/food, fuelwood, and fodder. In addition, timber, handicrafts, and occasionally-used products are common, despite their indirect link with the household's daily needs.

Use and collection patterns differ among communities and households. For example, the task of collecting products is performed by users in a number of categories. These may include children and adults, men and women, or wealthy and poor. Interaction of these interrelated factors (intra-household, environmental, socioeconomic, and cultural) are difficult to generalize. Any such generalization reflecting a region, country, or community tends to overlook disparities within the next lower strata. Nevertheless, where a tradition of tree-use practices, established over generations, has become closely linked to the survival system, it becomes possible to extract its salient features because the tasks of collecting tree products are often linked either to the conventional tasks of household maintenance or to income generation.

This report analyzes gender-specific patterns of forest- and tree-use practices of South and Southeast Asia using data gathered from 26 communities in six countries.¹ The analysis concentrates primarily on two patterns: (1) behavior of men and women engaged as collectors of forest and tree products; and (2) utilizing sources of products. Information pertaining to these aspects was taken from a data set compiled by the Regional Study on Farm- and Village-Forestry Practices. Because data were from 26 communities in six countries, it was possible to examine broad regional patterns, as well as the country- and community-specific features (see Table 1 and Fig. 1).

Gender-specific information related to the "collector" and the "sources of products used by collectors" was extracted from the original data set. Cross tabulations showed patterns of distribution of men and women as collectors among the categories of products, sharing collection tasks for individual products, and utilizing sources.² The methodology followed in conducting the field study has been discussed by Mehl (1990).³

¹ Regional Study on Farm- and Village-Forestry Practices in Asia conducted in Bangladesh, Indonesia, Nepal, Philippines, Sri Lanka, and Thailand.

² Gender analysis in this study is limited to these aspects.

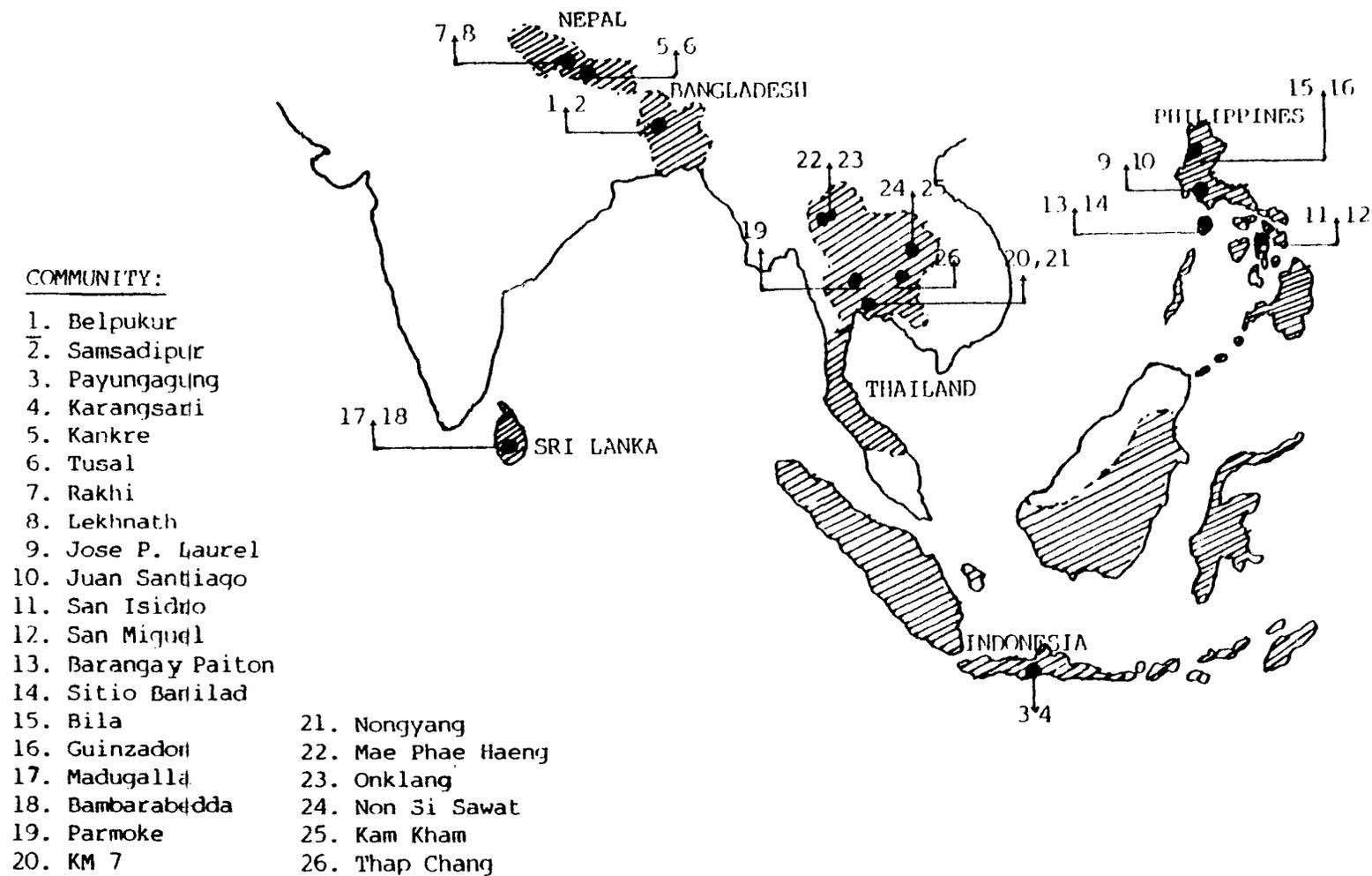
³ *Farm- and Village-Forestry Practices: Methods for a Regional Study*. F/FRED Project.

Table 1. Communities of the regional analysis

Community*	Province/District	Country
1. Belpukur	Rajshahi	Bangladesh
2. Samsadipur	Rajshahi	Bangladesh
3. Payungagung	Ciamis, West Java	Indonesia
4. Karangsari	Ciamis, West Java	Indonesia
5. Kankre	Ugrachandi, Kavre	Nepal
6. Tusal	Ugrachandi, Kavre	Nepal
7. Rakhi	Kaski	Nepal
8. Lekhnath	Kaski	Nepal
9. Jose P. Laurel	Laguna	Philippines
10. Juan Santiago	Laguna	Philippines
11. San Isidro	San Isidro, Leyte	Philippines
12. San Miguel	Baybay, Leyte	Philippines
13. Barangay Paiton	Nanjan, Oriental Mindoro	Philippines
14. Sitio Banilad	Dulangan, Oriental Mindoro	Philippines
15. Bila	Bauko, Mountain Province	Philippines
16. Guizadon	Bauko, Mountain Province	Philippines
17. Madugalla	Udadumbara, Kandy	Sri Lanka
18. Bambarabedda	Udadumbara, Kandy	Sri Lanka
19. Parmoke	Saithong, Ang Thong	Thailand
20. KM 7	Sanamchaikhet, Chachoengsao	Thailand
21. Nongyang	Sanamchaikhet, Chachoengsao	Thailand
22. Mae Phae Haeng	Sankumpang, Chiang Mai	Thailand
23. Onklang	Sankumpang, Chiang Mai	Thailand
24. Non Si Sawat	Non Kung Si, Kalasin	Thailand
25. Kam Kham	Non Kung Si, Kalasin	Thailand
26. Thap Chang	Muang, Nakhon Ratchasima	Thailand

* Numbers refer to locations of study communities in Fig. 1.

FIGURE 1. Location of the Study Communities



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2. Use of Forest and Tree Products in the Region

Forests and trees are used to obtain many products. Tree-use practices are directly linked to patterns of using tree products by households. Information on household use of trees was obtained for the following ten categories of forest/tree products:

- fodder
- fuelwood
- charcoal
- fruit/food
- construction timber
- industrial
- handicrafts
- other
- house construction materials
- occasional

The data summarized in Table 2 show that the total number of records pertaining to all 10 categories of products in all six countries is 10,408. Among these countries, the highest total is in Nepal, followed by Thailand, the Philippines, Bangladesh, Indonesia, and Sri Lanka.

Table 2. Use of trees by countries*

Use	Bangladesh	Indonesia	Nepal	Philippines	Sri Lanka	Thailand
Fodder	185	238	471	124	53	8
Fuelwood	236	418	622	634	115	494
Charcoal	14	39	11	123	—	320
Fruit/Food	368	305	470	671	148	395
Construction Timber	209	307	477	38	16	320
Industrial	—	1	—	—	121	20
Handicrafts	187	35	166	45	—	100
Other	—	—	12	74	—	47
House Construction	201	73	475	188	—	332
Occasional	206	—	127	56	—	113
Total	1,606	1,416	2,831	1,953	453	2,149

* Numbers refer to the number of records

Source: Regional Data Set

The priority order of the products used in the region tends to vary among countries, as well as among communities (see Table 3). However, the order of these products, calculated as number of households using each product in the region, is as follows:

1. fuelwood (94%)
2. fruit/food (91%)
3. fodder (66%)
4. house construction materials(53%)
5. construction timber (50%)
6. handicraft materials (33%)
7. occasional (33%)
8. charcoal (27%)
9. other (12%)
10. industrial (8%)

Table 3. Use of tree products by rural households

Community	Number of Households Collecting/Using Each Product									
	Fo	Fw	Ch	F/F	CT	In	Hd	Ot	HC	Oc
Bangladesh										
Belpukur	48	49	05	50	32	-	38	-	32	50
Samsadipur	50	50	04	49	30	-	41	-	26	50
Indonesia										
Payungagung	26	26	-	26	17	-	-	06	03	-
Karangasari	22	27	16	26	26	-	-	-	03	-
Nepal										
Kankre	25	25	02	25	25	-	23	03	25	16
Tusal	23	24	-	24	23	-	25	02	24	23
Rakhi	24	25	-	23	24	-	-	-	25	-
Lokhnath	23	24	-	25	25	-	-	-	23	-
Philippines										
Jose P. Laurel	22	25	07	25	03	-	03	04	-	14
Juan Santiago	18	25	13	23	12	-	-	14	02	02
San Isidro	21	21	14	22	01	-	07	-	24	01
San Miguel	25	25	03	23	-	-	06	02	22	-
Barangay Piton	23	24	03	25	-	-	11	09	24	10
Sitio Banilad	22	26	01	24	02	-	26	18	23	09
Bila	-	25	-	24	-	-	-	01	-	-
Guizadon	02	25	-	22	-	-	-	-	-	-
Sri Lanka										
Madugalla	11	24	-	25	06	24	-	-	-	-
Bambarabedda	15	25	-	25	01	25	-	-	-	-
Thailand										
Parmoke	03	19	19	18	03	-	06	16	25	01
KM 7	16	21	15	24	01	-	01	04	24	-
Nongyang	21	23	22	19	10	-	08	10	25	11
Mae Phae Haeng	05	49	01	39	44	11	02	-	-	-
Oablang	14	48	08	36	46	-	05	-	-	-
Non Si Sawat	06	18	20	24	21	-	18	-	25	23
Kam Kham	18	17	25	22	24	-	23	-	24	24
Thap Chang	18	24	29	27	04	-	08	04	25	18
Total	501	714	205	695	380	60	251	93	404	252

Products: Fo = Fodder; Fw = Fuelwood; Ch = Charcoal; F/F = Fruit/Food; CT = Construction Timber; In = Industrial; Hd = Handicrafts; Ot = Other; HC = House Construction; and Oc = Occasional

Source: Regional Data Set

Differences in the use of these products affect the collection patterns of men and women as well as the use of sources. Thus, inconsistencies in the regional overview are caused by disparities among communities.

Table 4 summarizes patterns of using tree products by communities. One noteworthy feature is the widespread use of forest/trees primarily for obtaining fuelwood and fruit/food in five of the six countries. Thailand, the only exception, nonetheless shows that more than 90% of the households in three of its communities use forest/trees in obtaining fruit/food and another three communities in obtaining fuelwood. In two communities (Kam Kham and Parmoke) timber products are widely obtained. Two communities in the Philippines (San Isidro and Guizardon) differ from the regional pattern. In San Isidro, fuelwood is not the main category; in Guizardon, fruit/food is the second category (see Table 4).

Table 4. Pattern of using tree products by communities

Community	Percentage of Households Using Products*			
	> 90	80-89	70-79	40-69
Bangladesh				
Belpukur	fodder fuelwood fruit/food occasional	---	handicrafts	construction timber house construction materials
Samsadipur	fuelwood fruit/food fodder occasional	handicrafts	---	construction timber house construction materials
Indonesia				
Payungagung	fodder fuelwood fruit/food	---	---	construction timber
Karangsari	fuelwood fruit/food construction timber	---	fodder	charcoal
Nepal				
Kankre	fodder fuelwood fruit/food construction timber house construction materials	---	handicrafts	occasional

Table 4. (continued)

Community	> 90	80-89	70-79	40-69
Nepal (continued)				
Tusal	fodder fuelwood fruit/food construction timber house construction materials handicrafts occasional	---	---	---
Rakhi	fodder fuelwood fruit/food construction timber house construction materials	---	---	---
Lekhnath	fodder fuelwood fruit/food construction timber house construction materials	---	---	---
Philippines				
Jose P. Laurel	fuelwood fruit/food	fodder	---	occasional
Juan Santiago	fuelwood fruit/food	---	fodder	construction timber other
San Isidro	house construction materials fruit/food	fodder fuelwood	---	charcoal
San Miguel	fodder fuelwood fruit/food	house construction materials	---	---
Barangay Paiton	fodder fuelwood fruit/food house construction materials	---	---	handicrafts occasional
Sitio Banilad	fuelwood fruit/food handicrafts	fodder house construction materials	---	other

Table 4. (continued)

Community	> 90	80-89	70-79	40-69
Philippines (continued)				
Bila	fuelwood fruit/food	---	---	---
Guinzadon	fuelwood	fruit/food	---	---
Sri Lanka				
Madugalla	fuelwood fruit/food industrial	---	---	fodder
Bambarabedda	fuelwood fruit/food industrial	---	---	fodder
Thailand				
Parmoke	house construction materials	---	fuelwood charcoal	fruit/food other
KM 7	fruit/food house construction materials	fuelwood	---	fodder charcoal
Nongyang	fuelwood house construction materials	fodder charcoal	fruit/food	construction timber other occasional
Mae Phae Haeng	fuelwood	construction timber	fruit/food	---
Onklang	fuelwood construction timber	---	fruit/food	---
Non Si Sawat	fruit/food house construction materials occasional	charcoal construction timber	fuelwood handicrafts	---
Kam Kham	charcoal construction timber handicrafts occasional house construction materials	fruit/food	fodder	fuelwood
Thap Chang	charcoal fruit/food	fuelwood house construction materials	---	fodder occasional

*Products used by less than 40% of households are not listed.

With regard to timber products, they are widely used by all four communities in Nepal, by two in the Philippines, six in Thailand, and one in Indonesia.

The use of forest/trees in obtaining two or more products by more than 90% of households is a well-marked feature; among these products, fuelwood, fruit/food, and timber products are widely recorded. However, more disparities emerge with regard to products used by small percentages of households.

3. Regional Overview

Gender-disaggregated data referring to "primary collectors" was examined to construct a general overview. The regional picture, as shown in Table 5, consists of information on the differential engagement of men and women in obtaining all types of tree products. Accordingly, about 67% of the collectors are men and 33% are women. Further analysis revealed specific distribution patterns concerning the categories of products. Percentage share of the collectors differs between categories of products. Engagement of men as primary collectors ranges between 53% and 89%, and that of women between 11% and 47% (See Table 5). Men are most heavily engaged in obtaining products for occasional uses (89%) and construction timber (88%). Men's percentage share is between 53% and 63% for four categories of products: fuelwood (63%), fruit/food (58%), fodder (54%), and charcoal (53%). Their share as collectors of materials used indirectly or for purposes other than domestic consumption is high. These include timber products and products for occasional uses, industries, and handicrafts. This varies between 70% and 80% (See Table 5).

Although as primary collectors women's engagement for all products is less than that of men, they are heavily engaged in collecting fodder (46%), fruit/food (42%), charcoal (47%), and fuelwood (37%).

The pattern of engaging men and women in obtaining individual categories of products shows a gender-specific difference well-marked between two types of product. About 42-47% of the household products are collected by women. More than 70% of the products used for construction and industries are collected by men. This means that the male-dominated, regional picture that reflects men as primary collectors becomes blurred when products like fodder, fuelwood, charcoal, and fruit/food are considered separately. Another feature disclosed here is the wide distribution of men as collectors of many products and a high concentration of women as collectors of a few products mainly used to maintain the household.

It is interesting to examine how the tasks of collecting products are shared by men and women. Men are the heaviest collectors of fodder in four countries: Bangladesh (58%), Nepal (64%), the Philippines (62%), and Sri Lanka (69%). Indonesia is an exception, with more women as collectors (58%), followed by Thailand (50%). More men than women collect fuelwood in three countries: Nepal (67%), the Philippines (68%), and Thailand (59%). Women are the heaviest collectors of fuelwood in Bangladesh (54%) and Sri Lanka (61%); both genders are equally engaged in Indonesia. For charcoal collection, men's engagement is prominent in Indonesia (70%), the Philippines (71%), and marginally above women's in Nepal (54%). ~~Both genders are engaged equally in collecting products for charcoal in Bangladesh, while in Thailand more women are engaged (69%).~~ As shown in Table 5, among all categories of products, fruit/food is outstanding due to the shared tasks of collecting by both genders, having a marginally higher percentage of men in three countries and women in three countries. Construction timber is collected primarily by men (60-92%); however, in Bangladesh, 40% of the women are engaged.

Table 5. Percentage of men's and women's engagement

Product	Bangladesh		Indonesia		Nepal		Philippines		Sri Lanka		Thailand		Total	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Fodder	58	42	42	58	64	36	62	38	59	31	50	50	54	46
Fuelwood	46	54	50	50	67	33	68	32	39	61	59	41	63	37
Charcoal	50	50	70	30	54	46	71	29	--	--	31	69	53	47
Fruit/food	40	60	53	47	46	54	59	41	47	53	65	35	58	42
Construction Timber	60	40	98	02	91	09	--	--	91	09	87	23	88	22
Industrial	--	--	--	--	50	50	--	--	80	20	--	--	75	25
Handicrafts	50	50	89	11	50	50	85	15	--	--	77	23	78	22
Other	65	35	50	50	88	12	66	34	--	--	88	22	70	30
House Construction Materials	47	53	72	28	82	18	91	09	--	--	85	15	83	17
Occasional	100	--	72	28	73	27	81	19	--	--	94	06	89	11
Percentage Share for Country	53	47	72	28	65	35	71	29	58	42	68	32	67	33

M = men, W = women

Source: Regional Data Set

With regard to other products, the overall regional picture, which is predominantly controlled by men, tends to differ. For example, in Nepal, the task of collecting industrial products is shared equally. A similar situation is noted in the collection of handicrafts in Bangladesh and Nepal. In collecting house construction materials, Bangladesh is an exception due to its marginally high percentage of women (53%) engaged as collectors. Except for these differences, both genders are engaged in collecting products intended for domestic consumption, but men are heavily engaged as collectors of other products as well. Of the six countries, Bangladesh shows more balance of men and women as collectors of primary products, ranging from 40% to 60% for seven categories (See Table 5).

A well-marked feature in the tasks of collecting products is the high percentage of men for all categories except fodder, fuelwood, charcoal, and fruit/food, for which more than one third of the collectors are women.

Summary of the data in Table 6 shows how men and women are distributed among 10 categories of products independently. There are some regional inconsistencies in the pattern for women. For example, in five countries, of the total number of all products, the highest percentage of women are engaged in collecting fruit/food: Bangladesh (24%), Indonesia (31%), Nepal (29%), the Philippines (36%), and Sri Lanka (44%). In this respect, Thailand is an exception because it is characterized by 33% of the women collecting fodder. The next highest percentage of women are engaged in collecting fuelwood (15-32% across the region). This consistency is not seen when men are considered as collectors. For instance, the highest percentage of men is associated with fuelwood in Bangladesh, Nepal, and the Philippines. In Indonesia and Thailand, they are more associated with construction timber, and in Sri Lanka, with industrial materials. A feature prevalent across the region is women engaged as collectors of products needed for household subsistence—primarily fruit/food and fuelwood, which are often associated with household tasks conventionally done by women. Men's use of trees is diverse, ranging from collecting products for industries, construction, and domestic use.

Table 6. Gender-specific patterns in the distribution of collectors (percentages)

Product	Bangladesh		Indonesia		Nepal		Philippines		Sri Lanka		Thailand		Region	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Fodder	10	08	03	11	09	09	14	22	15	10	15	33	14	23
Fuelwood	18	23	06	15	27	26	34	26	14	32	14	21	20	23
Charcoal	14	15	12	13	11	18	04	05	--	--	02	09	04	08
Fruit/Food	14	24	14	31	13	29	22	36	29	44	18	20	18	27
Construction Timber	03	02	26	05	15	03	--	--	06	01	19	06	13	04
Industrial	--	--	--	--	02	03	--	--	36	13	--	--	02	01
Handicrafts	03	04	11	03	02	03	06	02	--	--	08	05	07	04
Other	11	06	--	01	04	01	04	05	--	--	--	--	02	02
House Construction Materials	14	18	18	12	12	05	14	03	--	--	14	05	13	06
Occasional	13	--	10	09	05	03	02	01	--	--	10	01	07	02

Source: derived from the Regional Data Set

4. Collection patterns: Country overviews

In this section, gender-specific patterns related to the distribution of labor for collecting forest/tree products within a country or community are examined.⁴

4.1. Bangladesh

The distribution pattern of men and women as collectors of forest/tree products signifies their priorities. The two products most associated with women are fruit/food and fuelwood, while charcoal and house construction materials are secondary. Almost 80% of the women are engaged in the collection of these four products and the rest is distributed among other products. Eighteen percent of the men collect fuelwood. Fruit/food, house construction materials, charcoal, and occasional products are of secondary importance. Nearly 70% of the men are engaged as collectors of these five products (see Table 7).

Table 7. Collection distribution pattern of men and women in Bangladesh

Product	Percentages of Men and Women Engaged as Collectors					
	Country		Belpukur		Samsadipur	
	Men	Women	Men	Women	Men	Women
fuelwood	18	23	14	23	22	22
fruit/food	14	24	15	21	14	27
fodder	10	08	07	--	12	14
house construction materials	14	18	25	17	--	19
construction timber	03	02	03	03	04	02
handicrafts	03	04	03	08	02	--
occasional products	13	--	02	--	28	--
charcoal	14	15	15	17	14	14
other	11	06	16	11	04	02
industrial	--	--	--	--	--	--

Source: derived from the country data set of Bangladesh

⁴ Information is given on engagement of collectors associated with two categories: adult male and adult female (due to an extremely low engagement of children, analysis was limited to primary collectors).

Examination of the situation in Belpukur and Samsadipur helps identify deviation from the overall regional picture. In Belpukur, the highest percentage of women (23%) is engaged in collecting fuelwood. For fruit/food, it is 21%. Collection of fuelwood, fruit/food, house construction materials, and charcoal are the tasks in which women are engaged as primary collectors (78% total). The highest percentage of men is associated with collecting house construction materials (25%). Sixty percent of the men are engaged in collecting the next four products of importance: other (16%), fruit/food (15%), charcoal (15%), and fuelwood (14%).

In Samsadipur, 90% of the men are engaged in collecting five categories of products: occasional (28%), fuelwood (22%), fruit/food (14%), charcoal (14%), and fodder (12%). Women collect house construction materials (19%), but are excluded from collecting occasional products, which is important for men. Except for differences in percentage distribution, the priority products are virtually the same in both communities for each gender.

Detailed analysis of the data on each community shows how men and women share tasks in collecting individual categories of products (Table 14, page 29). In Belpukur, 58% of the collectors are men and 42% are women. Yet, women become more visible as collectors of fuelwood and handicrafts. Except for fruit/food, collected equally by both genders, all categories of products are collected predominantly by men. This is particularly so regarding fodder and occasional products. In Samsadipur, women are more visible than men as collectors of fodder, fuelwood, charcoal, and fruit/food. Women are the sole collectors of house construction materials. Two products exclusively predominated by men are handicrafts and occasional (see Table 14, page 29). Regarding the collection of construction timber and other products, men are more engaged as collectors than women.

According to data in Table 14 (page 29), in Samsadipur, 53% of the collectors of forest/tree products are women, while 47% are men. Women's overall collection engagement tends to vary between 100% and 40%.

4.2. Indonesia

The generalized information based on two communities shows that the pattern of allocation of labor for men and women contrasts, although both collect all types of products. For instance, 26% of the men collect construction timber and 18% collect house construction materials (see Table 8). This means that 40% of the men are engaged in collecting products which are not required on a regular basis. Women, when compared with men, are heavily engaged in collecting household subsistence products (46%). Thirty-one percent of the women are engaged in collecting fruit/food and 15% in collecting fuelwood. Products of secondary importance for men are fruit/food (14%), charcoal (12%), handicrafts (11%), and occasional (10%). This shows a wide distribution of men (94%) among six product categories (see Table 8). In fact, these six products are also collected by women, but less labor is allocated as compared with fruit/food and fuelwood. Women's distribution in collecting these products is charcoal (13%), house construction materials (12%), fodder (11%), and occasional (9%). Altogether, 91% of the women are engaged.

Table 8. Collection distribution pattern of men and women in Indonesia

Product	Percentages of Men and Women Engaged as Collectors					
	Country		Payungagung		Karangsari	
	Men	Women	Men	Women	Men	Women
fuelwood	06	15	06	17	06	14
fruit/food	14	31	14	35	13	30
fodder	03	11	02	17	04	07
house construction materials	18	12	24	07	15	14
construction timber	26	05	17	05	31	05
handicrafts	11	03	14	04	10	02
occasional products	10	09	13	06	08	12
charcoal	12	13	10	09	13	15
other	--	01	--	--	--	01
industrial	--	--	--	--	--	--

Source: derived from the country data set of Indonesia

It is interesting to compare patterns of each gender's distribution among products in the two villages. In both villages, the highest percentage of women collect fruit/food, while for men it is construction timber. The only difference noted is in Payungagung; men are more engaged in collecting house construction materials (24%), while in Karangsari the highest is in collecting construction timber. For women in Karangsari, the second most important product is charcoal (15%); fuelwood and house construction materials are 14% each. In Payungagung, exclusive of fodder and fuelwood, men's labor is distributed among six categories, with a total of 92%. Women are most heavily engaged in collecting three primary products: fruit/food, fuelwood, and fodder, with a total of 69%.

In Karangsari, 82% of the men are engaged in collecting construction timber, house construction materials, handicrafts, and fruit/food (see Table 8). The collection of fodder, construction timber, and handicrafts is less important among women in Karangsari. This indicates that diversity of engagement is due solely to use practices. Here women are heavily engaged in collecting fruit/food (30%), fuelwood (14%), charcoal (15%), house construction materials (14%), and occasional products (12%) (a total of 85% of the women for these five categories).

How men and women are engaged in collecting forest/tree products discloses task-sharing patterns. Men's engagement is 25-87% in Payungagung (Table 14, page 29), and women's is 13-75%. In Karang Sari, the range is 50-94% for men and 6-50% for women. This implies that, when compared with women, men's collection patterns are more diverse. For example, in Payungagung, men collect construction timber, handicrafts, house construction materials, charcoal, and fruit/food. Women, however, are mostly involved with collecting fodder and fuelwood (see Table 14, page 29).

The pattern in Karang Sari consistently shows lower shares for women regarding all products. Yet, women's share is substantially higher in collecting fodder, fruit/food, fuelwood, charcoal, and other products. This comparison shows community-specific features, as well as gender-specific priorities, in the patterns of task sharing. Commonly observed features are the high engagement of women collecting products to meet subsistence needs and men's collection of diverse products.

4.3. Nepal

Spatial disparities in the engagement of men and women as primary collectors in Nepal are possibly due to the availability of data from four geographical locations: Kankre, Tusal, Rakhi, and Lekhnath (see Table 9). However, the overall situation in Nepal shows that women are primarily engaged in collecting fruit/food (29%), fuelwood (26%), charcoal (18%), and fodder (9%) (a total of 82%). In comparison, 87% of the men are primarily engaged in collecting fuelwood (27%), construction timber (15%), fruit/food (13%), house construction materials (12%), charcoal (11%), and fodder (9%). This shows that 27% of the men collect timber alone--not among the priority products for women.

Analysis shows a wide range of product uses in Kankre and Tusal and less in Rakhi and Lekhnath. However, in Rakhi and Lekhnath, the highest percentages of men and women collect products in different categories. But in Kankre, the highest percentages of men and women collect fuelwood. The order of products for men in Kankre is fuelwood (23%), house construction materials (21%), charcoal (20%), fruit/food (14%), and occasional (10%). Altogether, 88% of the men collect these five product categories, while 12% are distributed among the five remaining categories. Seventy-four percent of the women are concentrated in three product categories: fuelwood (26%), fruit/food (24%), and charcoal (24%); while 26% of women are distributed among seven categories.

In Tusal, the same three products (fuelwood, fruit/food, and charcoal) are of importance to women; 23% of women also collect fodder. Consequently, 92% of the women collect fuelwood (25%), fodder (23%), fruit/food (21%), and charcoal (20%). In fact, these products are widely and regularly needed by households. In Tusal, men do not collect fruit/food. The other feature is a greater engagement of men in collecting fodder. The overall picture shows that 72% of the men are collecting four products: house construction materials (24%), charcoal (17%), fuelwood (16%), and fodder (15%).

Table 9. Collection distribution pattern of men and women in Nepal

Product	Percentages of Men and Women Engaged as Collectors									
	Country		Kankre		Tusal		Rakhi		Lekhnath	
	M	W	M	W	M	W	M	W	M	W
fuelwood	27	26	23	26	16	25	35	27	36	30
fruit/food	13	29	14	24	--	21	19	44	20	53
fodder	09	09	06	04	15	23	14	15	02	07
house construction materials	12	05	21	07	24	03	--	--	--	--
construction timber	15	03	01	--	08	02	24	14	34	03
handicrafts	02	03	02	04	04	04	--	--	01	--
occasional products	05	03	10	05	08	--	--	--	--	--
charcoal	11	18	20	24	17	20	04	--	01	--
other	04	01	02	01	08	02	04	--	--	--
industrial	02	03	01	05	--	--	--	--	06	07

Source: derived from the country data set of Nepal

When compared to Kankre and Tusal, forest/tree uses in Rakhi is limited to four primary products and two secondary products. A striking feature related to Rakhi is the concentration of both genders in collecting four products (see Table 9). Altogether, 100% of the women are engaged in collecting fruit/food (44%), which shows the overall importance of this product, fuelwood (27%), fodder (15%), and construction timber (14%). When compared with others in Nepal, women's engagement in collecting construction timber adds a specific feature to Rakhi. Ninety-two percent of the men collect the above four products and 8% collect charcoal and other products. Women do not collect charcoal because of its limited use in households.

In Lekhnath, only three products are widely used: fuelwood, fruit/food, and construction timber. Thus, diversity in tree-use practices and distribution of labor are less. Eighty-three percent of the women collect fruit/food (53%) and fuelwood (30%), while the remaining 17% are distributed among three products: fodder (7%), industrial (7%), and construction timber (3%). Ninety percent of the men collect three products: fuelwood (36%), construction timber (34%), and fruit/food (20%).

The task-sharing patterns in collecting need to take individual products into consideration. The overall situation indicates that 65% of the collectors are men and 35% are women. But a substantial difference was found among studied communities as well as among products (see

Table 14, page 29). In Kankre, for example, 49% of the total collectors are men and 51% are women; in Tusal, 71% are men and 29% are women; in Rakhi, 73% are men and 27% are women; Lekhnath shows a high percentage of men (83%) and a rather low percentage of women (17%). This shows the spatial dissimilarities in task sharing for the collection of products by men and women.

The overall situation reveals that in Nepal, Kankre is the only community where a rather balanced engagement of both genders was found. The other three communities are characterized by a higher rate of engagement of men and lower engagement of women. Moreover, data from Kankre is significant due to the community's use of all categories of products and engagement of both genders in collection. Men's engagement as collectors is 74-18% and women's is 72-16%. Men collect 74-63% of house construction materials, other products, construction timber, and occasional products. Men collect 60% of the fodder, and their engagement is extremely low in collecting industrial products (only 18%). In contrast, women collect more of the industrial products, handicrafts, fruit/food, charcoal, and fuelwood. Women collect nearly 40% of the fodder and 34% of the construction timber and other products (see Table 14, page 29).

In Tusal, men predominate as collectors of occasional products and women as collectors of fruit/food. Collection of construction timber, house construction materials, and other products is done exclusively by men, with less than 10% of women as collectors. Among other products (i.e., handicrafts, charcoal, fuelwood, and fodder), 67-60% of the collectors are men; 40-33% of the fodder, fuelwood, charcoal, and handicrafts are collected by women. This shows a significant number of women engaged as collectors of products used primarily for domestic consumption and a predominance of men collecting products for other uses.

In Rakhi and Lekhnath, women do not collect charcoal, handicrafts, or other products. Men collect 70-85% of the fodder, fuelwood, and construction timber. Women collect 45% of the fruit/food--the highest percentage for this product among the other communities. Women also collect 30% of the fodder and 22% of the fuelwood. In Lekhnath, for construction timber, industrial products, and fodder, women's collection percentages are extremely low (less than 18% total). Women also collect fruit/food (33%) and fodder (36%). When product collection is observed as a task shared by men and women, remarkable spatial disparities among communities were identified. Women are engaged in the collection of products for home maintenance, while men collect a number of other products in addition to those most important to women.

4.4. Philippines

Differential priorities were revealed in the distribution pattern for men and women as collectors. The overall situation indicates that 84% of the women collect three primary categories of products: fruit/food (36%), fuelwood (26%), and fodder (22%). The remaining women (16%) are distributed among five categories, which indicates their lesser importance to women. Men are most highly engaged in collecting fuelwood (38%); for women, it is fruit/food (39%) (see Table 10).

Table 16. Collection distribution pattern of men and women in the Philippines*

Community	firewood		fruit/ food		fodder		house construction		handicrafts		occasional		charcoal		other	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Jose P. Laurel	32	22	48	78	-	-	-	-	-	-	-	-	-	-	02	-
Juan Santiago	18	44	32	56	-	-	-	-	-	-	-	-	-	-	-	-
San Isidro	12	12	12	33	21	32	38	11	10	01	01	-	05	11	01	-
San Miguel	25	17	17	41	22	35	29	-	06	04	-	-	01	03	-	-
Barragay Pasion	36	26	39	33	-	19	08	02	02	02	-	03	14	08	01	07
Sitio Benild	41	29	25	33	12	09	-	-	01	02	01	02	14	07	06	18
Bila	29	37	16	23	26	30	14	-	04	05	05	02	01	-	05	03
Guizadon	28	36	12	15	19	26	14	06	16	03	03	01	-	-	08	13
Country average	34	26	22	36	14	22	14	03	06	02	02	02	04	04	04	05

* Data unavailable for construction timber or industrial products
 Source: derived from the country data set of the Philippines

Among the communities in the Philippines, Jose P. Laurel and Juan Santiago are similar and tree-use practices are confined primarily to two products. In both communities, the highest percentage of women collect fruit/food: Jose P. Laurel (78%) and Juan Santiago (56%). For men, however, the highest percentage is associated with collecting fuelwood: Jose P. Laurel (52%) and Juan Santiago (78%).

Women are most highly engaged in collecting fruit/food in San Isidro, San Miguel, Barangay Paiton, and Sitio Banilad. Next highest is fodder collection in San Isidro and San Miguel; in Barangay Paiton and Sitio Banilad, it is fuelwood. A special feature observed in San Isidro is women's substantial engagement in collecting fruit/food (33%), fodder (32%), fuelwood (12%), charcoal (11%), and house construction materials (11%). Eighty-four percent of the men are engaged in collecting these same products and another 10% collect handicrafts. In fact, the highest percentage of men (38%) collect house construction materials. In San Miguel 93% of the women collect three products: fruit/food (41%), fodder (35%), and fuelwood (17%). Men collect house construction materials (29%). This pattern is similar to that of San Isidro.

In Barangay Paiton and Sitio Banilad, women are heavily engaged in collecting fruit/food and fuelwood: 59% in Barangay Paiton and 62% in Sitio Banilad. A differential engagement in these two communities is associated with women collecting fodder: 19% in Barangay Paiton (where no men are engaged) and 18% in Sitio Banilad. One specific feature related to men's distribution is in the order of their labor allocation. In Barangay Paiton, the highest percentage (39%) is in fruit/food, while in Sitio Banilad it is fuelwood (41%). In both communities, men's engagement in collecting charcoal is considerably high (14% for each). (See Table 10.)

Eighty-nine percent of the men in Barangay Paiton are engaged in collecting fruit/food (19%), fuelwood (36%), and charcoal (14%); 78% of the women collect fruit/food (33%), fuelwood (26%), and fodder (19%). In Sitio Banilad, 94% of the men are engaged in collecting fuelwood (41%), fruit/food (25%), charcoal (14%), and fodder (12%); 80% of the women collect fruit/food (33%), fuelwood (29%), and other products (18%).

For Bila and Guizadon, the highest percentage for both genders is fuelwood. In Bila, 85% of the men are engaged in collecting fuelwood (29%), fodder (26%), fruit/food (16%), and house construction materials (14%). Ninety percent of the women are engaged in collecting three products: fuelwood (37%), fodder (30%), and fruit/food (23%). In Guizadon, a wider distribution is observed. Eighty-nine percent of the men are engaged in collecting five products: fuelwood (28%), fodder (19%), handicrafts (14%), house construction materials (14%), and fruit/food (12%); 90% of the women collect four products: fuelwood (36%), fodder (26%), fruit/food (15%), and other products (13%).

This scenario, regarding eight separate communities, indicates that fuelwood and fruit/food are the greatest concerns for both men and women; however, their distribution differs from community to community for each product. Another feature is the collection of house construction materials; when this product is among the most important, its collection is heavily dominated by men. For fodder and charcoal, both genders are engaged as

collectors. In circumstances where forest/tree products are used diversely, the labor is also widely distributed between men and women with differential priorities placed on the products.

How men and women share product collection tasks in these communities is also important. The overall situation indicates that men predominate as collectors (at 71%), while only 29% are women.

As shown in Table 11, this pattern of task sharing is inconsistent among communities. For instance, women collect 16-39% of the products, while men collect 61-81%. Men's overall percentage is extremely high in Bila (84%), Sitio Banilad (79%), Guizadon (75%), and Juan Santiago (73%). In the remaining communities, about one third of the collectors are women.

Table 11. Collection task-sharing pattern for men and women in the Philippines

Community	Men (%)	Women (%)
Jose P. Laurel	63	37
Juan Santiago	73	27
San Isidro	64	36
San Miguel	61	39
Barangay Paiton	64	36
Sitio Banilad	79	21
Bila	84	16
Guizadon	75	25

Source: derived from the country data set of the Philippines

When categories of products are considered, further complexities emerge. For instance, in circumstances where all product categories are used, the men's share tends to increase, perhaps due to their higher engagement in collecting products used less often. In Juan Santiago, 81% of the fuelwood and 60% of fruit/food are collected by men. Among all products, women's percentage is high for collecting fruit/food (40%).

In Bila, men collect house construction materials. Also, their share is high for collecting occasional (93%) and other products (88%) (see Table 14, page 29). In Sitio Banilad, men are the predominant collectors of charcoal (89%), fodder (84%), fuelwood (84%), and fruit/food (76%). In Bila, only 23% of women collect fruit/food. Similarly, in Sitio Banilad, 24% of women collect fruit/food.

In Guizadon, men's engagement as collectors is 64-100%. Men are the sole collectors of construction timber (100%) and charcoal (100%); they also collect handicrafts (94%), occasional products (89%), and house construction materials (87%). This shows that only 6-

13% of the women are collectors for these categories. However, when collecting fodder, fuelwood, and fruit/food, women share the tasks with men, at 31% for each product.

In Jose P. Laureí, the sole collectors of products for other uses are men; their share in collecting fuelwood is also high (80%). The task of collecting fruit/food is equally shared by both genders (50% each). In San Isidro and San Miguel, more women collect charcoal and fruit/food. For charcoal, it is 60% in San Isidro and 67% in San Miguel; for fruit/food, it is 67% in San Isidro and 61% in San Miguel. A rather balanced pattern was identified in these two communities in collecting fodder. In San Isidro, fodder is collected by 51% of the men and 49% of the women; in San Miguel, 49% are men and 51% are women. Yet, in collecting fuelwood in San Isidro, 63% of the collectors are men, and in San Miguel, 69% are men. Products collected for occasional and other uses, house construction materials, and handicrafts are predominated by men. Collection is 70-100% for both communities.

Despite these disparities, men and women tend to share the tasks of collecting products used for daily subsistence, although the priority order of products tends to vary in terms of percentages.

4.5. Sri Lanka

In Madugalla and Bambarabedda, women tend to collect fruit/food and men tend to collect industrial products. Yet, 94% of the men are engaged in collecting four products: industrial (36%), fruit/food (29%), fodder (15%), and fuelwood (15%). When compared with this distribution, women are primarily collectors of two products: fruit/food (44%) and fuelwood (32%). Women's engagement in collecting industrial products and fodder is low (see Table 12).

In Madugalla, 12% of the men collect construction timber, compared to only 1% in Bambarabedda. Men's distribution in Madugalla is as follows: fruit/food (29%), fuelwood (14%), construction timber (12%), and fodder (10%). Eighty-two percent of the women are engaged in collecting fruit/food (47%) and fuelwood (35%).

In Bambarabedda, 99% of the men are engaged in collecting industrial products (36%), fruit/food (28%), fodder (20%), and fuelwood (15%). The distribution pattern for 99% of the women is fruit/food (41%), fuelwood (28%), industrial products (18%), and fodder (11%). This pattern of labor distribution indicates differential priority levels are placed on products for subsistence by women and products for industry by men.

Table 12. Collection distribution pattern of men and women in Sri Lanka

Product	Percentages of Men and Women Engaged as Collectors					
	Country		Madugalla		Bambarabedda	
	Men	Women	Men	Women	Men	Women
fuelwood	15	32	14	35	15	28
fruit/food	29	44	29	47	28	41
fodder	15	10	10	09	20	11
house construction materials	--	--	--	--	--	--
construction timber	07	01	12	--	01	02
handicrafts	--	--	--	--	--	--
occasional products	--	--	--	--	--	--
charcoal	--	--	--	--	--	--
other	--	--	--	--	--	--
industrial	36	14	36	09	36	18

Source: derived from the country data set of Sri Lanka

The general picture for the country shows that men's engagement as collectors is higher than that of women (see Table 14, page 29). Both sites show similar situations: 58% of the men and 42% of the women collect forest/tree products. In Madugalla, men's collection distribution varies between 100 and 46%. They are the sole collectors of construction timber. Women's collection distribution varies between 64 and 14%; the lowest (14%) is for the collection of industrial products. In Bambarabedda, men collect 73-42% of the products. For women, the distribution ranges between 58 and 27%. For both sites, more women collect fuelwood and fruit/food. In Madugalla, women collect 64% of the fuelwood and 54% of the fruit/food. In Bambarabedda, women collect 58% of the fuelwood and 51% of the fruit/food. These gender-specific patterns related to tree-use practices show that women's primary concern is collecting subsistence products (fuelwood and fruit/food); men's concerns cover a wider and more diverse range of products, not necessarily those used to meet subsistence needs.

4.6. Thailand

In Thailand, for both genders, primary importance is placed on five products: fodder, fruit/food, fuelwood, house construction materials, and construction timber. Handicrafts products are also important in Parmoke, Mae Pha Haeng, Kam Kham, and Thap Chang.

Products for occasional uses and charcoal are collected mainly in KM 7 and Onklang. Overall, about 74% of the women collect three products: fodder (33%), fuelwood (21%), and fruit/food (20%). About 90% of the men are engaged in collecting five products: construction timber (19%), fruit/food (18%), fodder (15%), fuelwood (14%), and occasional (10%). This indicates that in using forest/tree products, men collect a wide range of products, while women are heavily engaged in collecting products necessary to the daily survival of their families (see Table 13).

This overview of the country differs among communities in terms of percentages of distribution, priority levels of categories, or both. In Parmoke, 89% of the women are primary collectors of fodder, fuelwood, and fruit/food. Men's collection patterns are more diverse: fodder (21%), house construction materials (17%), construction timber (16%), fruit/food (15%), fuelwood (12%), and handicrafts (11%) (see Table 14, page 29).

In KM 7, neither gender collects fuelwood--charcoal is the main fuel. This changes the labor distribution pattern for men and women. Here 100% of the women collect five products: fodder (36%), charcoal (25%), fruit/food (18%), construction timber (11%), and house construction materials (10%). Among the remaining communities--Nongyang, Mae Pha Haeng, and Non Si Sawat--fodder, fuelwood, and fruit/food are products mostly collected by women for household subsistence and consumption. About 82% collect these in Nongyang, 86% in Mae Pha Haeng, and 100% in Non Si Sawat. In Nongyang, men are the primary collectors of the same subsistence products (45%) and construction timber and house construction materials combined (55%). However, the situation in Mae Pha Haeng is more diverse; men collect three subsistence products (51%), handicrafts (10%), and products for occasional uses (10%). In Non Si Sawat, 81% of the men collect products for subsistence; 19% of the men also collect house construction materials and construction timber.

The situation in Onklang and Thap Chang is similar in that the highest percentages of women collect fuelwood--45% for Onklang and 28% for Thap Chang. The highest percentage of men collect fuelwood in Onklang and fruit/food in Thap Chang. A significant difference observed in Onklang is that women collect charcoal products as well. Consequently, four categories of products are important for 96% of the women: fuelwood (45%), charcoal (23%), fruit/food (18%), and fodder (10%). In comparison, 87% of the men collect four products: fuelwood (29%), construction timber (25%), fruit/food (18%), and fodder (15%). Further differences observed in Thap Chang are due to the collection of products for handicrafts. In Thap Chang, 84% of the women collect fuelwood (28%), handicrafts (19%), fodder (19%), and fruit/food (18%). Men's collection is widely distributed among seven categories, including subsistence products (49% total) and non-subsistence products (51%).

In the community of Kam Kham, 79% of the women collect products for handicrafts (25%), fruit/food (21%), fodder (20%), and fuelwood (13%). Ninety-eight percent of the men collect occasional products (24%), fruit/food (24%), construction timber (17%), house construction materials (17%), and handicrafts (16%).

Table 13. Collection distribution pattern of men and women in Thailand*

Community	fuel/wood		fruit/ food		fodder		house construction		construction timber		handicrafts		occasional		charcoal		other	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Parmoke	12	29	12	12	21	48	17	05	16	05	11	01	09	--	01	--	01	--
KM 7	--	--	19	18	09	36	30	10	26	11	--	--	--	--	16	25	--	--
Nongyang	11	28	18	22	16	32	29	10	26	08	--	--	--	--	--	--	--	--
Mae Pha Haeng	15	25	15	18	21	43	15	01	14	--	10	07	10	04	--	--	--	02
Ongkiang	29	45	18	18	15	10	04	--	25	04	--	--	--	--	09	23	--	--
Non Si Sawat	34	30	21	33	26	37	04	--	15	--	--	--	--	--	--	--	--	--
Kam Kham	--	13	24	21	02	20	17	06	17	08	16	25	24	06	--	01	--	--
Thap Chang	16	28	17	18	16	19	11	03	11	04	13	19	16	05	--	04	--	--
Country average	14	21	18	20	15	33	14	05	19	06	08	05	10	01	02	09	--	--

* Data unavailable for industrial products

Source: derived from the country data set of Thailand

Examination of the data on individual products reveals further complexities relating to collection task-sharing. The overall situation shows a predominance of men as collectors (72%), with only 28% women. Yet, this picture deviates with regard to individual communities and products. In Parmoke, men are the primary collectors of rarely used products (i.e., charcoal and other products). Men also dominate collecting house construction materials and construction timber. For fruit/food collection, 73% of the collectors are men and 27% are women. Yet for the collection of fodder and fuelwood, the share for women has increased to 46% for fodder and 48% for fuelwood.

In KM 7, women are more heavily engaged: fodder (87%), charcoal (74%), fruit/food (62%), construction timber (42%), and house construction materials (37%). (See Table 14.)

In Nongyang, women are the primary collectors of fodder (73%), fuelwood (69%), and fruit/food (57%). However, men's labor is dedicated extensively to collecting house construction materials and construction timber (see Table 14). Women collect 96% of the fuelwood and 90% of the fodder. Men collect occasional products (92%), house construction materials (88%), construction timber (84%), and fruit/food (76%).

Table 14. Task-sharing pattern for product collection by men and women*

Community	fodder		fuelwood		charcoal		fruit/ food		construction timber		industrial		handi- crafts		other		house construction		occasional		average	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Bangladesh																						
Belpukur	100	—	45	55	55	45	50	50	60	40	—	—	40	60	65	35	67	33	100	—	58	42
Sarnadipur	46	54	46	54	46	54	31	69	60	40	—	—	100	—	60	40	—	100	100	—	47	53
Indonesia																						
Payungagung	25	75	45	55	71	29	51	49	87	13	—	—	86	14	—	—	86	14	81	19	70	30
Karangari	59	41	53	47	69	31	54	46	94	06	—	—	89	11	50	50	74	26	63	37	70	30
Nepal																						
Kankro	60	40	46	54	45	55	38	62	66	34	28	72	36	64	66	34	74	26	63	37	49	51
Tusal	60	40	64	36	66	34	—	100	91	09	—	—	67	33	95	05	94	06	100	—	71	29
Rakhi	70	30	78	22	100	—	64	36	98	02	82	18	—	—	100	—	—	—	—	—	73	27
Lekhnath	67	33	85	15	100	—	64	36	98	02	82	18	100	—	—	—	—	—	—	—	83	17
Philippines																						
Jose P. Laurel	—	—	80	20	—	—	50	50	—	—	—	—	—	—	100	—	—	—	—	—	63	37
Juan Santiago	—	—	81	19	—	—	60	40	—	—	—	—	—	—	—	—	—	—	—	—	73	27
San Isidro	51	49	63	37	40	60	33	67	—	—	—	—	90	10	100	—	84	16	100	—	64	36
San Miguel	49	51	69	31	33	67	39	61	—	—	—	—	70	30	—	—	100	—	—	—	61	39
Barangay Piton	—	100	71	29	77	33	68	32	100	—	—	—	60	40	25	75	87	13	—	100	64	36
Sitio Baniled	84	16	84	16	89	11	76	24	—	—	—	—	67	33	58	42	—	—	67	33	79	21
Bila	79	21	77	23	100	—	77	23	—	—	—	—	77	23	88	12	100	—	93	07	84	16
Guinzadon	69	31	69	31	100	—	69	31	100	—	—	—	94	06	64	36	87	13	89	11	75	25
Sri Lanka																						
Madugalla	60	40	34	64	—	—	46	54	100	—	86	14	—	—	—	—	—	—	—	—	58	42
Bambarabedda	73	27	42	58	—	—	49	51	50	50	73	27	—	—	—	—	—	—	—	—	58	42
Thailand																						
Parmoke	54	46	52	48	100	—	73	27	87	13	—	—	98	02	100	—	91	09	100	—	72	28
KM 7	13	87	—	—	26	74	38	62	58	42	—	—	—	—	—	—	63	37	—	—	36	64
Nongyang	31	69	27	73	—	—	43	57	74	26	—	—	—	—	—	—	74	26	—	—	48	52
Mae Pha Haeng	56	44	61	39	—	—	68	32	100	—	—	—	79	21	33	67	97	03	87	13	72	28
Onklang	87	13	73	27	61	39	80	20	97	03	—	—	—	—	—	—	100	—	—	—	81	19
Non Si Sawat	46	54	59	41	—	—	46	54	100	—	—	—	—	—	—	—	100	—	—	—	56	44
Kam Kham	10	90	04	96	—	100	76	24	84	16	—	—	64	36	—	—	88	12	92	08	73	27
Thap Chang	83	17	77	23	33	67	81	19	92	06	—	—	78	22	—	—	95	05	95	05	85	15

*Numbers indicate percentages. Source: Regional Data Set

5. Discussion

Overall patterns of the engagement of men and women collecting forest/tree products are related to two factors. The first relates to their distribution among all categories of products in each community and country, which reveals gender-specific differences in the order of product priority for each gender. The second relates to the pattern of task sharing for the collection of each product.

These two aspects, which emerged from the data analysis, can be contextualized by referring to the tree-use practices of the region. Throughout the region, three products are used primarily and widely: fuelwood, fruit/food, and fodder--all non-timber products. The percentage of all households using these three are 94% for fuelwood, 91% for fruit/food, and 67% for fodder. Products of secondary importance throughout the region are house construction materials (53%) and construction timber (50%). Which gender collects these products is influenced by geographical location and cultural, intra-household, environmental, and socioeconomic factors. By examining the data, a number of important facts are revealed:

1. Among all the products, two are of overwhelming importance to both genders--fuelwood and fruit/food. Additionally, fodder is of almost equal importance to fuelwood for women.
2. The distribution of collectors (adult males and adult females) is unequal. Seventy-three percent of the women are engaged in the collection of non-timber products; however, only 52% of the men collect these same products, having an almost equal percentage for the collection of other products.
3. The remaining categories are not of primary importance to women, but a significant percentage of the men (26%) collect construction timber and house construction materials, while the remaining 22% are distributed among five other product categories.
4. In five countries, fruit/food is the highest priority category for women, and in one country, it is fodder. In three countries, fuelwood is a priority for men; in two countries, it is construction timber; and in one country, it is handicraft materials.
5. Spatial disparities were revealed regarding community-specific situations. As shown in Table 15, when more than 10% of the collectors are engaged, the highest percentage of women collect fruit/food in 14 communities, fuelwood in six, and fodder in six. Men collect more diversity of products; the highest percentage of men collect fuelwood in 10 communities, house construction materials in seven, fruit/food in three, fodder in two, construction timber in two, and products for occasional use in two. In fact, this labor distribution feature is associated not only with the collection of forest/tree products, but also with the tasks related to household subsistence and survival.

Table 15. Distribution patterns of men and women engaged as collectors of products*

Community	fuel/wood		fruit/food		fodder		house construction		construction timber		handicrafts		occasional		charcoal		other		industrial	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Bangladesh																				
Belpukur	14	23	15	21	--	--	25	17	--	--	--	--	--	--	15	17	16	11	--	--
Sarnadipur	22	22	14	27	12	14	--	19	--	--	--	--	28	--	14	14	--	--	--	--
Indonesia																				
Payungagung	--	17	14	35	--	17	24	--	17	--	14	--	13	--	10	--	--	--	--	--
Karangasari	--	14	13	30	--	--	15	14	31	--	10	--	--	12	13	15	--	--	--	--
Nepal																				
Kankre	23	26	14	24	--	--	21	--	--	--	--	--	10	--	20	24	--	--	--	--
Tual	16	25	--	21	15	23	24	--	--	--	--	--	--	--	17	20	--	--	--	--
Rakhi	35	27	19	44	14	15	--	--	24	14	--	--	--	--	--	--	--	--	--	--
Lekhanth	36	30	20	53	--	--	--	--	34	--	--	--	--	--	--	--	--	--	--	--
Philippines																				
Jose P. Laurel	52	22	46	28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Juan Santiago	68	44	32	56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Isidro	12	21	12	33	21	32	38	11	--	--	10	--	--	--	11	--	--	--	--	--
San Miguel	25	17	17	41	22	35	29	--	--	--	--	--	--	--	--	--	--	--	--	--
Barangay Paiton	36	26	39	33	--	19	--	--	--	--	--	--	--	--	14	--	--	--	--	--
Sitio Bamilad	41	29	25	33	12	--	--	--	--	--	--	--	--	--	14	--	--	18	--	--
Bila	29	37	16	23	26	30	14	--	--	--	--	--	--	--	--	--	--	--	--	--
Guinzadon	28	36	12	15	19	26	14	--	--	--	16	--	--	--	--	--	--	13	--	--
Sri Lanka																				
Madugalla	14	35	29	47	10	--	--	--	12	--	--	--	--	--	--	--	--	--	36	--
Bambareboda	15	28	28	41	10	11	--	--	--	--	--	--	--	--	--	--	--	--	36	18
Thailand																				
Parnoko	12	29	12	12	21	48	17	--	16	--	11	--	--	--	--	--	--	--	--	--
KM 7	--	--	19	18	--	36	30	10	26	11	--	--	--	--	16	25	--	--	--	--
Nongyang	11	28	18	22	16	32	29	10	26	--	--	--	--	--	--	--	--	--	--	--
Mae Pha Haeng	15	25	15	18	21	43	15	--	14	--	10	--	10	--	--	--	--	--	--	--
Ongkiang	29	45	18	18	15	10	--	--	25	--	--	--	--	--	23	--	--	--	--	--
Non Si Sawat	34	30	21	33	26	37	--	--	15	--	--	--	--	--	--	--	--	--	--	--
Kam Kham	--	13	24	21	--	20	17	--	17	--	16	25	24	--	--	--	--	--	--	--
Thap Chang	16	28	17	18	16	19	11	--	11	--	13	19	16	--	--	--	--	--	--	--

*Numbers indicate collection percentages for each gender; product collection less than 10% is not recorded. Source: Regional Data Set

Products for subsistence are of overwhelming importance for women, a common feature to many communities throughout the region. These are fruit/food, fuelwood, and fodder. In fact, to a great extent, this shows how women use these products to fulfill their conventional tasks: ensuring food for their families, providing fuelwood for cooking, and providing fodder for farm animals. Yet, none of these tasks are exclusively done by women. Men, as partners, share the responsibilities of collecting products; yet, men collect many other products in addition to the three most important to women.

By looking at each product, based on the collection percentages of men and women, it was possible to see the differential order of priorities as well as the emerging patterns (see Table 16). As shown, women are clustered under fruit/food, fuelwood, and fodder, with few exceptions. In most cases, these products are below the second priority for men. Regarding men, the first and second priorities, in most communities, are construction timber, house construction materials, handicraft materials, products for occasional uses, and charcoal; these products are not, however, high priorities for women. In addition to spatial disparities related to community situations, gender-specific priorities and differences exist throughout the region.

Table 16. Order of products used in the region by each gender*

Products/Gender	Rank of products based on the percentage of use by men and women									
	1	2	3	4	5	6	7	8	9	10
Fishwood										
Men	•	•••	••••	••••	•••••	•••	••••	•		
Women	•••••	••••••••••	••••	••••	••					
Fruit/Feed										
Men	••	••	••••	••••	••••••••	••	•••			
Women	••••••••	••••	••••••••••			•				
Felder										
Men	••	•	••••	••••	••••	•••	••	•		
Women	••••	••••••••••	••••	••••		•	••••••••			
House Construction										
Materials										
Men	••••••••	••••	••	•	•					
Women	•	•	••	•	••	•	••••••••		•	
Construction										
Timber										
Men	••••••••	••	••••••••	•	••	•	•	•		
Women	••	••	••••	••	••	••	•	•	•	
Handicrafts										
Men	••	••	••••••••	••	••	•	••	••		
Women	••	••	•	•	••••	•••	••	•		
Occasional Products										
Men	••••••••	•	••••	•	•	•	•	•		
Women	•	•	••	••	•	•	•	•		
Charcoal										
Men	••••••	••	••	••	•	••••	•			
Women	••••	••	•	••••	•	••				
Other										
Men	••••	••	••	•	•	•	•	•	•	
Women	••••	•	•	•	••	•	••			
Industrial										
Men	•	•	•	•	•	•	•	•	•	
Women	•	•	•	••	•	••				

* • = one community.
Source: Regional Data Set

6. Gender and the use of sources of forest/tree products

There are 12 main sources of forest/tree products, categorized as follows:

- government forests
- private forests
- common forests
- other commons
- homegardens
- farms with only trees
- farm agroforestry systems
- farms with scattered trees
- non-tree products (on-farm)
- non-tree products (off-farm)
- purchased tree products
- purchased non-tree products

The use of these sources by small-scale farmers is determined by such factors as availability, land tenure, access, tree-use practices, socioeconomic conditions, intra-household situations, etc. However, who collects forest/tree products from these sources, in many circumstances, is a gender-specific feature; men and women, within a given context, are either the users of all sources or users of a few selected ones. Therefore, analysis of data in a gender-disaggregated manner assists in identifying the differential patterns in the use of the sources.

The data summarized in Table 17 show the users of the sources. Irrespective of spatial disparities related to sources used by communities, it shows that an average of 68% of the users of all sources are men, while only 32% are women. In fact, this percentage distribution of men and women is nearly identical to their engagement patterns as collectors of products. However, six countries in the region are not identical. In Bangladesh, for example, 80% of the users of all sources are men and 20% are women. It is interesting to examine how this regional pattern is closer to the pattern of using individual sources. To see how each source is used by men and women refer to the number of records for each gender and each source.

The pattern for men engaging as users is closer to the regional picture regarding four categories of sources: non-tree products (off-farm), other commons, farms with only trees, and purchased tree products (see Table 18). In five categories of sources (government forests, common forests, farm agroforestry systems, farms with scattered trees, and purchased tree products), men's share as users is higher than the regional average. It is below the regional average of 68% in using private forests, homegardens, and non-tree products (on-farm).

Table 17. Regional pattern of source use by men and women

Country	Total records (men)	Total records (women)
Bangladesh	1,246 (80%)	305 (20%)
Indonesia	676 (71%)	266 (29%)
Nepal	1,384 (59%)	948 (41%)
Philippines	1,428 (72%)	551 (28%)
Sri Lanka	316 (61%)	199 (39%)
Thailand	1,170 (64%)	631 (36%)
Regional average	6,240 (68%)	2,906 (32%)

Source: Regional Data Set

Table 18. Gender-specific patterns related to regional source use

Source	Men (%)	Women (%)
government forests	72	28
private forests	59	41
common forests	74	26
other commons	63	37
homegardens	56	44
farms with only trees	65	35
farm agroforestry systems	76	24
farms with scattered trees	70	30
non-tree products (on-farm)	60	40
non-tree products (off-farm)	65	35
purchased tree products	82	18
purchased non-tree products	68	32

Source: Regional Data Set

When the percentage share is considered, women, as a user group, consistently remain below that of men. Yet, women's use of private forests, other commons, homegardens, and non-tree products (on-farm) is higher than that of the regional average. Among all the sources, homegardens are the most widely used by women; for men, however, it is purchased tree products. Many explanations can be given for this: it may be due to the greater mobility of men when compared to that of women and also due to men's greater abilities to make purchasing decisions for products not widely used for subsistence and therefore not widely collected by women. Throughout the region, among all sources, women are concentrated on family-owned sources: homegardens, non-tree products (on-farm), and private forests. These are the most accessible sources for women as well.

In Bangladesh, Indonesia, and the Philippines, men use more of the sources as collectors, and their percentage as collectors is higher than that of the region. In Nepal, Sri Lanka, and Thailand, however, women's percentage for using many sources is higher. But this generalization is not consistent with the patterns for using individual sources (see Table 19). A considerable proportion of women in Indonesia use the following sources: farms with only trees (35%), farms with scattered trees (37%), non-tree products (on-farm) (35%), and purchased non-tree products (40%). In Bangladesh, women use homegardens (36%) and government forests (33%) as primary sources; men, however, collect products from all sources more heavily than women. In Nepal, women, for most sources, represent more than 32% of the users, which is the regional average. Also, women use homegardens, government forests, and non-tree products (on-farm) as their primary sources. Less used by women are: farms with only trees, farm agroforestry systems, purchased tree products, and purchase non-tree products. In contrast, women in the Philippines widely use the same four sources. In Sri Lanka, 52% of the users of homegardens are women. In Thailand, common forests, farms with only trees, and farm agroforestry systems are the sources heavily used by men, and for all other sources, 34-56% of the users are women.

In the use of all 12 categories of sources, a broad variation was observed. Men's use of sources varies between 56 and 82%; for women, it varies between 18 and 44%. If both genders are able to use all 12 sources, their differential use patterns may be affected by the nature of the products they collect from each source, as well as other factors: availability, proximity, competition, etc. So, by taking the total number of users for each source and disaggregating them by gender, all the sources used throughout the region were ranked (see Table 20).

Table 19. Source use pattern for men and women

Source	Bangladesh		Indonesia		Nepal		Philippines		Sri Lanka		Thailand		Region	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W
government forests	67	33	86	14	49	51	90	10	58	42	66	34	70	30
private forests	73	27	--	--	54	46	73	23	50	50	60	40	59	41
common forests	100	--	--	--	66	34	84	16	100	--	83	17	74	26
other commons	81	19	--	--	41	59	71	29	--	--	58	42	64	36
homegardens	64	36	77	23	44	56	57	43	48	52	51	49	56	44
farms with only trees	100	--	65	35	83	17	55	45	53	47	75	25	71	29
farm agroforestry systems	100	--	80	20	84	16	75	25	54	46	90	10	76	24
farms with scattered trees	95	05	63	37	61	39	73	27	--	--	65	35	70	30
non-tree products (on-farm)	90	10	65	35	30	60	68	32	--	--	59	41	60	40
non-tree products (off-farm)	81	19	71	29	47	53	79	21	--	--	65	35	67	33
purchased tree products	89	11	92	08	83	17	62	38	75	25	81	19	82	18
purchased non-tree products	98	02	60	40	71	29	60	40	80	20	44	56	68	32

Source: Regional Data Set

Table 20. Order of sources used, ranked by use for each gender

Regional use	Men as users	Women as users
1. homegardens	1. farms with scattered trees	1. homegardens
2. farms with scattered trees	2. homegardens	2. farms with scattered trees
3. purchased tree products	3. purchased tree products	3. government forests
4. government forests	4. government forests	4. non-tree products (on-farm)
5. farm agroforestry systems	5. farm agroforestry systems	5. purchased tree products
6. purchased non-tree products	6. non-tree products (on-farm) purchased non-tree products	6. farm agroforestry systems purchased non-tree products
7. non-tree products (on-farm)	7. non-tree products (off-farm)	7. non-tree products (off-farm)
8. non-tree products (off-farm)	8. private forests common forests farms with only trees	8. private forests farms with only trees
9. farms with only trees	9. other commons	9. other commons
10. private forests	10. —	10. common forests
11. other commons	11. —	11. —
12. common forests	12. —	12. —

Source: Regional Data Set

Men and women primarily depend on family-owned sources, while both genders generally use all sources at differential rates. Less priority is placed on purchased products by women than men. By referring back to the patterns of collecting tree products, this can be interpreted as a direct relationship to each gender's tasks. Women primarily use family-owned sources. Men collect a wide range of products for subsistence and other uses from family-owned sources, followed by purchasing products and using government forests. Quite simply, the differential priorities placed on sources may be due to how men and women share the responsibilities of collecting products.

7. Distribution pattern of users

How men and women are distributed among the sources is another factor examined in the analysis. This helps identify the most exploited sources for each gender, as well as specific patterns of distribution within countries and communities. The data were first analyzed to examine the country-specific patterns of the distribution of men and women, followed by a discussion of spatial similarities and disparities.

7.1. Bangladesh

The analysis of the data on patterns of men and women using sources shows much disparity. Out of a total of 1,553 records, 1,248 are men (80%) and 305 (20%) are women. Of all the sources, only nine are primary. The rest are used by less than 2%, and thus excluded from the analysis. Women do not use common forests, farms with only trees, or farm agroforestry systems as sources. Only five primary sources are used by women: homegardens (73%), private forests (9%), non-tree products (off-farm) (9%), farms with scattered trees (5%), and non-tree products (on-farm) (4%). This shows the overall importance of homegardens for women in Bangladesh.

Although homegardens are a primary source (33%), men follow a different pattern. Six other sources are important to men (see Table 21). Unlike women, men's use of sources is diversified: farms with scattered trees, purchased tree products, and non-tree products. When patterns of using sources by men and women are examined, it becomes apparent that their concerns for and about each source are different.

Table 21. Pattern of product source use by men and women in Bangladesh*

Men	Women
homegardens (32%)	homegardens (73%)
farms with scattered trees (23%)	private forests (9%) non-tree products (off-farm) (9%)
purchased tree products (13%)	farms with scattered trees (5%)
non-tree products (on-farm) (10%)	non-tree products (on-farm) (4%)
non-tree products (off-farm) (8%)	
private forests (5%)	
purchased non-tree products (5%)	
other commons (2%)	
farms with only trees (2%)	

*Sources are ordered according to percentage use by gender
Source: derived from the country data set of Bangladesh

In the community of Belpukur, homegardens are the primary source for both genders (70% of the women and 33% of the men). Other sources important to women are private forests (12%) and non-tree products (off-farm) (9%). Other sources important to men are farms with scattered trees (25%), private forests (14%), purchased tree products (13%), and non-tree products (off-farm) (7%) (see Table 22).

Table 22. Distribution pattern of source use in Belpukur and Samsadipur

Source	Belpukur		Samsadipur		Country	
	Men	Women	Men	Women	Men	Women
homegardens	33	70	32	76	32	73
farms with scattered trees	25	04	22	06	23	05
private forests	14	12	02	03	05	09
non-tree products (on-farm)	04	03	14	06	10	04
non-tree products (off-farm)	07	09	10	09	08	09
purchased tree products	13	01	11	--	13	--
purchased non-tree products	02	01	07	--	05	--
other commons	02	--	01	--	02	--
farms with only trees	--	--	--	--	02	--

Source: derived from the country data set of Bangladesh

In the village of Samsadipur, homegardens are the primary source for men and women. Men's primary sources are homegardens (32%), farms with scattered trees (22%), non-tree products (on-farm) (14%), purchased tree products (11%), non-tree products (off-farm) (10%), and purchased non-tree products (7%). In contrast, only four of these sources are of primary importance to women: homegardens (76%), non-tree products (off-farm) (9%), farms with scattered trees (6%), and non-tree products (on-farm) (6%). This village-specific situation discloses the overall importance of

homegardens for both genders and an extreme dependence of women on this source. Another feature revealed is the wide use of various sources by men, while women are confined to a few sources, particularly to those owned by the family.

5.2. Indonesia

In Indonesia, 71% of the users of sources are men and 29% are women. In the pattern of their distribution, out of the 12 sources, only nine are used. Neither a clustering of users on a few sources nor a concentration of both genders on one source was observed. Among the sources used, men are less dependent upon purchased products, only 4%. As shown in Table 23, the order of sources differs, and, therefore, is an indication of gender-specific differences. Family-owned, farm sources are of immense importance to both genders. These include farms with scattered trees, farm agroforestry systems, and farms with only trees. About 61% of the men and 72% of the women use these sources. Homegardens are used as source by 18% of the men and 13% of the women.

Table 23. Gender-specific pattern of source use in Indonesia

Order of sources for each gender	
Men	Women
1. farm agroforestry systems (23%)	1. farms with scattered trees (30%)
2. farms with scattered trees (21%)	2. farms with only trees (22%)
3. homegardens (18%)	3. farm agroforestry systems (20%)
4. farms with only trees (17%)	4. homegardens (13%)
5. government forests (9%)	5. non-tree products (on-farm) (9%)
6. non-tree products (on-farm) (7%)	6. government forests (3%)
7. purchased tree products (4%)	7. non-tree products (off-farm) (1%) purchased non-tree products (1%) purchased tree products (1%)
8. non-tree products (off-farm) (0.6%)	
9. purchased non-tree products (0.4%)	

Source: derived from the country data set of Indonesia

5.3. Nepal

Nepal has a unique balance when compared to the other countries: 59% of the men and 41% of the women are users of all 12 categories of sources. Table 24 shows the distribution differences between genders.

Table 24. Gender-specific pattern of source use in Nepal

Order of sources for each gender	
Men	Women
1. purchased tree products (25%)	1. homegardens (23%)
2. farms with scattered trees (21%)	2. farms with scattered trees (19%)
3. homegardens (13%)	3. non-tree products (on-farm) (13%)
4. government forests (7%)	4. government forests (10%)
5. common forests (6%) purchased non-tree products (6%)	5. non-tree products (off-farm) (8%)
6. farm agroforestry systems (5%) non-tree products (off-farm) (5%)	6. private forests (7%) purchased tree products (7%)
7. private forests (4%) non-tree products (on-farm) (4%)	7. common forests (4%) purchased non-tree products (4%)
8. farms with only trees (3%)	8. other commons (3%)
9. other commons (1%)	9. farm agroforestry systems (1%) farms with only trees (1%)

Source: derived from the country data set of Nepal

The primary source for men is purchased tree products (25%); for women, it is homegardens (23%). The other sources most important to men are farms with scattered trees (21%) and homegardens (13%). The other sources important to women are farms with scattered trees (19%) and non-tree products (on-farm) (13%). The remaining sources are used less by both men and women. This shows that 55% of the women in Nepal use only three primary sources, which are family-owned while 25% of the men use homegardens alone and 34% use two other primary sources.

The data for each village (Kankre, Tusal, Rakhi, and Lekhnath) were analyzed to examine the differences in the source-use patterns. The summary of the village data given in Table 25 shows many differences among the villages, as well as between genders. The data indicate the differences among sites in terms of the number of sources used by each community.

Table 25. Distribution pattern of source use in Kankre, Tusal, Rakhi, and Lekhnath

Source	Kankre		Tusal		Rakhi		Lekhnath	
	M	W	M	W	M	W	M	W
farms with scattered trees	20	12	24	19	24	24	15	19
purchased tree products	25	07	18	02	28	08	40	08
homegardens	12	17	11	16	11	17	21	35
government forests	10	21	—	03	13	15	03	03
non-tree products (on-farm)	03	11	06	06	05	16	02	16
non-tree products (off-farm)	08	15	05	17	—	01	—	05
common forests	04	03	11	16	05	03	02	01
purchased non-tree products	07	06	10	13	01	—	02	01
private forests	02	02	—	—	08	10	14	10
farm agroforestry systems	07	05	07	02	—	—	—	—
farms with only trees	01	—	08	05	—	—	—	—
other commons	—	—	—	01	05	06	01	02

Source: derived from the country data set of Nepal

Most of the 12 categories of sources are used in all four villages, but the percentages of men and women using the sources and the order of source importance differs. For instance, in Kankre, purchased tree products are used by 25% of the men and farms with scattered trees by another 20%. Here, the most widely used sources for women are government forests (21%), homegardens (17%), and farms with scattered trees (13%). In Rakhi, two sources are used by 52% of the men: purchased tree products (28%) and farms with scattered trees (24%). As a primary source, farms with scattered trees are used by 24% of the women and the remaining 76% are distributed among eight sources. Among the villages, Lekhnath has the specific feature of a clustering of users among a few sources. For example, purchased tree products are used by 40% of the men, while homegardens are used by 35% of the women. In fact, among the villages and sources, these two sources are comparatively the highest percentages for Nepal.

Due to the wide use of sources and disparities, it is difficult to discern patterns. However, men most frequently use farms with scattered trees (44%) and purchased tree products (55%) as sources, exclusive of Lekhnath. Although it is difficult to identify such patterns regarding women, a few common features can be illustrated. One is the low percentages of women using purchased tree products. Another is the importance of homegardens as the second most important source for 17% of the women in Kankre and 17% in Rakhi; homegardens are the most widely used source for 35% of the women in Lekhnath; however, it is marginally low in Tusal (only 16%). Similarly, in Tusal and Lekhnath, farms with scattered trees are used by 19% of the women, while in Rakhi, it is the most widely used source (24%). For the majority, sources owned by families are most important for women. The greater diversity and the differential patterns associated with gender and community are location-specific.

7.4. Philippines

Having collected data from eight communities in the Philippines, the study generalized that there is a predominance of men using many sources. The users of sources are 72% men and 28% women. For each gender, however, each category of sources differs. The overall situation indicates that homegardens are used by 18% of the users, farm agroforestry systems by 17%, farms with scattered trees by 17%, and government forests by 16%. These four sources, used by nearly 68% of all users, are of immense importance in meeting the people's needs. Among the remaining sources, the next important ones are purchased non-tree products (7%), purchased tree products (6%), and other commons (6%). These three are of nearly equal importance (19% of the users). Used less as sources are non-tree products (on-farm), common forests, and non-tree products (off-farm), while private forests and farms with only trees are the least used sources.

The four most important sources for 70% of the men are government forests (20%), farm agroforestry systems (18%), farms with scattered trees (17%), and homegardens (15%). The remaining sources are not as widely used, and the percentages for men varies between 4 and 6% (see Table 26). These preferences indicate the importance of family-owned sources for men.

Table 26. Gender-specific pattern of source use in the Philippines

Order of sources for each gender	
Men	Women
1. government forests (20%)	1. homegardens (27%)
2. farm agroforestry systems (18%)	2. farm agroforestry systems (15%) farms with scattered trees (15%)
3. farms with scattered trees (17%)	3. purchased non-tree products (11%)
4. homegardens (15%)	4. purchased tree products (9%)
5. purchased non-tree products (6%) other commons (6%)	5. government forests (6%) other commons (6%)
6. purchased tree products (5%)	6. non-tree products (on-farm) (5%)
7. non-tree products (on-farm) (4%)	7. farms with only trees (2%) non-tree products (off-farm) (2%)
8. non-tree products (off-farm) (3%) common forests (3%)	8. private forests (1%) common forests (1%)
9. private forests (2%)	
10. farms with only trees (1%)	

Source: derived from the country data set of the Philippines

A different pattern is observed for women. Among the sources of primary importance are homegardens, used by 27% of the women. The other sources of importance for women are farm agroforestry systems (15%), farms with scattered trees (15%), and purchased non-tree products (11%). Next are purchased tree products (9%), government forests (6%), and other commons (6%); the remaining sources are less important to women, with use varying 1-5%.

Although all 12 categories of sources are used by both genders, only four or five are used as primary sources. The general picture becomes more complex when village situations are considered. Neither the percentage shares nor the order of sources follows the country pattern. Similarly, no two sites are identical, but similarities are identified in a few cases. As shown in Table 27, the number of sources used by villagers varies. For instance, in Jose P. Laurel, four primary sources are used; in Juan Santiago, five; in San Isidro and San Miguel, 11 each; in Barangay Paiton, nine; in Sitio Banilad and Guinzadon, eight; and in Bila, six. Yet many sources are used by only a small percentage.

Regarding the most widely used sources, some similarities between and among communities are identified. For example, in Jose P. Laurel and Juan Santiago, the highest percentages of both genders use farms with scattered trees. In Jose P. Laurel, this source is used by 54% of the men and 49% of the women; in Juan Santiago, by 51% of the men and 66% of the women. Additionally, in both villages, homegardens are the second important source for women, with 41% in Jose P. Laurel and 25% in Juan Santiago. For men, however, the importance of homegardens differs, with 29% in Jose P. Laurel and only 7% in Juan Santiago. The use of farm agroforestry systems is extremely low in both villages and limited to only men in Jose P. Laurel and only women in Juan Santiago.

In Barangay Paiton and Sitio Banilad, the primary source for both genders is farm agroforestry systems. For instance, in Barangay Paiton, 36% of the men and 35% of the women use this source, and in Sitio Banilad, 40% of the men and 45% of the women use it. The second important source in Barangay Paiton is government forests, with 29% of the men and 14% of the women. The pattern changes in Sitio Banilad regarding the use of government forests, with 24% of the men and only 6% of the women.

Homegardens are the primary source for women in San Miguel, Bila, and Guinzadon. In Bila, 71% of the women use homegardens, while only 15% use common forests. Yet, for men, a different pattern emerges, having almost equal percentages using homegardens (41%) and common forests (42%). In Guinzadon, three sources are primarily important for both genders: homegardens, men (26%) and women (58%); government forests, men (32%) and women (11%); and private forests, men (11%) and women (11%). Overall, these three are the primary sources for 80% of the women and 69% of the men in Guinzadon.

Table 27. Distribution pattern of source use in the Philippines

Source	Communities/Gender															
	Jose P. Laurel		Juan Santiago		San Isidro		San Miguel		Barangay Paiton		Sitio Banilad		Bila		Guinzadon	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
homogardens	29	41	07	25	08	15	22	30	01	04	06	07	41	71	26	58
farm agroforestry systems	02	--	--	02	28	16	01	03	36	35	40	45	--	--	06	02
farms with scattered trees	54	49	51	66	14	10	10	11	--	--	--	--	--	--	--	--
government forests	15	10	38	05	01	01	08	--	29	14	24	06	01	02	32	11
purchased non-tree products	--	--	--	--	10	16	17	18	06	14	05	08	06	05	07	07
purchased tree products	--	--	--	--	25	26	23	20	02	07	01	--	--	--	--	--
other commons	--	--	--	--	03	05	05	05	08	07	16	21	--	--	07	06
non-tree products (on-farm)	--	--	04	02	03	04	03	06	06	06	08	12	--	--	--	--
common forests	--	--	--	--	--	--	--	--	--	--	--	--	42	15	10	05
non-tree products (off-farm)	--	--	--	--	01	01	05	02	11	09	--	01	--	--	--	--
private forests	--	--	--	--	03	01	01	--	--	--	--	--	09	05	11	11
farms with only trees	--	--	--	--	04	05	04	05	01	04	--	--	01	02	01	--

Source: derived from the country data set of the Philippines

Examination of the data collected from San Miguel shows how both men and women as users are clustered around only a few sources. Two sources of primary importance for both genders are homegardens and purchased tree products. About 45% of the men and 50% of the women use these two sources alone. Purchased non-tree products is the third important source, with 17% of the men and 18% of the women. This reveals that about 40% of the men and 38% of the women primarily depend on purchased products.

In San Isidro, the primary source for men (28%) is farm agroforestry systems and for women (26%) is purchased tree products. The second widely used source among men (25%) is purchased tree products. Among women, the next important sources are farm agroforestry systems (16%) and purchased non-tree products (16%). In addition to these sources, homegardens and farms with scattered trees are important for both genders. The data indicate that about 35% of the men and 42% of the women primarily depend on purchased products, while 50% of the men and 41% of the women use family-owned sources.

Examination of community-specific patterns indicates a disparity among communities; however, some similarities were identified to an extent. When all the communities are considered, in most cases, the importance of family-owned sources (homegardens, farm agroforestry systems, and farms with scattered trees) for both genders is striking. In a few cases, however, the wide use of purchased products by both genders signifies an extreme inadequacy for family-owned sources to meet their needs.

7.5. Sri Lanka

The overall situation reveals that among all 12 categories of sources, only six are primary. These include government forests, homegardens, farms with only trees, purchased tree products, purchased non-tree products, and farm agroforestry systems. Government forests are the primary source used by both genders, men (31%) and women (35%) (see Table 28). The next important source for women is homegardens (25%); for men, homegardens are the third important source (16%). A substantially higher percentage of men (36%) use purchased tree products and purchased non-tree products; these two sources are used by only 16% of the women.

These gender-specific differences are also observed in the two villages of Madugalla and Bambarabedda. In Madugalla, the most widely used sources for men are purchased tree products (24%) and homegardens (23%). By contrast, 40% of the women use homegardens and 22% use government forests. Purchased products are used less by women (19%) and more by men (38%) (see Table 29).

Table 28. Gender-specific pattern of source use in Sri Lanka

Order of sources for each gender	
Men	Women
1. government forests (31%)	1. government forests (35%)
2. purchased tree products (18%) purchased non-tree products (18%)	2. homegardens (25%)
3. homegardens (16%)	3. farms with only trees (19%)
4. farms with only trees (13%)	4. purchased tree products (9%)
5. farm agroforestry systems (4%)	5. purchased non-tree products (7%)
6. —	6. farm agroforestry systems (5%)

Source: derived from the country data set of Sri Lanka

In Bambarabedda, the pattern of using sources differs; government forests are widely used by both genders. This is the most important source for women (47%), while it is used less by men (38%). About 77% of the women use the following sources: government forests, farms with only trees, and homegardens. About 85% of the men use the following sources: government forests, purchased tree products, purchased non-tree products, and farms with only trees. The use of homegardens is low, at 12% for women and 9% for men. This shows the gender-specific spatial differences in the use of sources is further complicated by the availability of sources (see Table 29).

Table 29. Distribution of source use in Madugalla and Bambarabedda

Source	Madugalla		Bambarabedda	
	Men	Women	Men	Women
government forests	22	22	38	47
homegardens	23	40	09	12
farms with only trees	15	17	12	18
purchased tree products	24	14	12	06
purchased non-tree products	14	05	23	08
farm agroforestry systems	02	02	06	09

Source: derived from the country data set of Sri Lanka

7.6. Thailand

Because data was collected from eight communities in Thailand, it was possible to have a broader comparison of the patterns of source use. Although all 12 categories can be mentioned as sources used by one or more communities, the summarized data in Table 30 show that only four sources are of primary importance: farms with scattered trees (28%), homegardens (24%), purchased tree products (20%), and government forests (17%).

Table 30. Pattern of source use by each gender in Thailand

Source order (total percentage of use)	Pattern of engagement	
	Men	Women
1. farms with scattered trees (28%)	28	28
2. homegardens (24%)	18	34
3. purchased tree products (20%)	19	08
4. government forests (17%)	20	14
5. purchased non-tree products (3%)	03	07
non-tree products (on-farm) (3%)	04	04
6. other commons (1%)	02	01
non-tree products (off-farm) (1%)	01	01
private forests (1%)	01	01
common forests (1%)	02	01

Source: derived from the country data set of Thailand

Parmoke is unique in that only two sources (homegardens and purchased tree products) are primarily used by 100% of the women and 96% of the men; between these two sources, homegardens are more important for 79% of the women and 56% of the men. Among the remaining villages, four (KM 7, Nongyang, Son Si Sawat, and Kam Kham) are comparable in that the major source of products for both genders is farms with scattered trees. However, the order of the sources of next importance tends to vary (see Table 31). In KM 7, the next two important sources for both genders are homegardens and purchased non-tree products; about 88% of the women and 81% of the men use these two sources as well as the primary source. In Nongyang, the two next important sources are purchased tree products and non-tree products (on-farm); 88% of the men use these secondary sources. For women in Nongyang, the next two important sources are non-tree products (on-farm) and purchased non-tree products; 94% of the women use these two sources as well as the primary source. In addition to farms with scattered trees as the primary source in Non Si Sawat and Kam Kham, high percentages of men and women use government forests; in Non Si Sawat, men (30%) and women (33%); in Kam Kham, men 19%) and women (26%).

Table 31. Distribution pattern of source use in Thailand

Source	Communities/Gender															
	Pamoke		KM 7		Nongyang		Mae Pha Haeng		Onklang		Non Si Sawat		Kam Kham		Thap Chang	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
farms with scattered trees	--	--	46	39	56	64	--	--	02	06	33	30	52	45	28	24
homegardens	56	79	20	26	04	03	09	18	12	11	11	19	14	05	33	52
purchased tree products	40	21	--	--	23	03	42	26	12	08	17	05	06	04	17	07
government forests	--	--	04	02	01	--	42	46	60	71	30	33	19	26	04	02
purchased non-tree products	01	--	15	23	05	14	--	--	01	--	02	02	03	12	01	01
non-tree products (on-farm)	01	--	02	01	09	16	01	03	02	02	04	07	04	07	03	03
other commons	02	--	01	--	--	--	--	--	04	--	01	04	--	--	08	08
non-tree products (off-farm)	--	--	09	08	01	--	01	--	--	--	--	--	01	--	01	01
private forests	--	--	--	--	01	--	--	--	--	--	--	--	--	--	02	02
common forests	--	--	--	--	--	--	04	07	06	--	01	--	01	01	--	--
farms with only tree	--	--	--	--	--	--	01	--	01	02	--	--	--	--	--	--
farm agroforestry systems	--	--	02	01	--	--	--	--	--	--	01	--	--	--	03	--

Source: derived from the country data set of Thailand

In Mae Pha Haeng and Onklang, primary importance is placed on government forests by both genders; in Mae Pha Haeng, women (46%) and men (42%); in Onklang, women (71%) and men (60%). Among the remaining sources, purchased tree products are used by men (42%) and women (26%) in Mae Pha Haeng, and homegardens are used by men (12%) and women (11%) in Onklang.

In Thap Chang, high percentages of men (33%) and women (52%) use homegardens as their primary source. Next are farms with scattered trees, men (28%) and women (24%). The overall situation in Thap Chang shows that homegardens, farms with scattered trees, and purchased tree products are the most important sources for women (83% total) and men (78% total).

Patterns of how each gender uses sources are influenced by geography. The availability of such sources as homegardens, government forests, and farms with scattered trees directly influences villagers' abilities to obtain them. Access to sources may also be a factor. However, the use of purchased products is higher where the number of family-owned sources is lower. This feature is strongly associated with the percentages of women using purchased products.

8. Discussion

In using sources of products to meet their needs, men and women behave differently in each of the studied communities. Men and women place different priorities on forest/tree products and the collection tasks; social, environmental, and economic conditions also affect how men and women use trees. Of all the 12 sources, homegardens and farms with scattered trees are the primary sources of supply for both genders; this is especially so where women are concerned. Men primarily use external (off-farm) sources in combination with family-owned sources.

The use of homegardens varies between 11 and 79% for women and between 11 and 56% for men; a similar pattern was revealed for the use of farms with scattered trees where the variations were between 10 and 66% for women and between 10 and 56% for men (see Table 32). Throughout the region, women primarily depend on family-owned sources.

When country-specific situations are examined, it is possible to contextualize the spatial disparities in the use of sources. For example, purchased tree products (in Bangladesh, Indonesia, and Nepal) are primarily a source used by men (11-40%). In the Philippines, however, the same source is used by both genders, particularly in San Isidro and San Miguel. In Sri Lanka and Thailand, it is used primarily as source by men in almost every community.

Women are primarily collectors of products from family-owned sources used to meet subsistence needs, while men collect many products and have the privilege of using markets as sources. What is not known is whether or not this is due to social norms, greater mobility of men, lower exposure of women to markets, domesticity of and time pressures on women, money-handling matters, or the very nature of the products.

Table 32. Regional distribution of source use*

	Product sources [†] /Genders																									
	1		2		3		4		5		6		7		8		9		10		11		12		total	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Community																										
Bangladesh																										
Belpukur	-	-	14	12	-	-	-	-	33	70	-	-	-	-	25	-	-	-	-	13	-	-	-	-	85	82
Samsadipur	-	-	-	-	-	-	-	-	32	76	-	-	-	-	22	-	14	-	10	-	09	-	-	-	82	76
Indonesia																										
Payungagung	-	-	-	-	-	-	-	-	-	-	34	29	23	20	35	39	-	12	-	-	-	-	-	-	92	100
Karangsari	14	11	-	-	-	-	-	-	29	43	-	-	25	16	12	10	-	-	-	-	-	-	-	-	80	80
Nepal																										
Kankre	10	21	-	-	-	-	-	-	12	17	-	-	-	-	20	13	-	11	-	15	25	-	-	-	67	77
Tual	-	-	-	-	11	16	-	-	11	16	-	-	-	-	24	19	-	-	-	17	18	-	10	13	74	81
Rakhi	13	15	-	15	-	-	-	-	11	17	-	-	-	-	24	24	-	16	-	-	28	-	-	-	76	87
Lekhath	-	-	14	10	-	-	-	-	21	35	-	-	-	-	15	19	-	16	-	-	40	-	-	-	90	80
Philippines																										
Jose P. Laurel	15	10	-	-	-	-	-	-	29	41	-	-	-	-	54	49	-	-	-	-	-	-	-	-	98	100
Juan Santiago	38	-	-	-	-	-	-	-	-	25	-	-	-	-	51	66	-	-	-	-	-	-	-	-	89	91
San Isidro	-	-	-	-	-	-	-	-	-	15	-	-	28	16	14	10	-	-	-	-	25	26	10	16	77	83
San Miguel	-	-	-	-	-	-	-	-	22	30	-	-	-	-	10	11	-	-	-	-	23	20	17	18	72	79
Barangay Paiton	29	14	-	-	-	-	-	-	-	-	-	36	35	-	-	-	-	11	-	-	-	-	-	14	76	63
Sitio Banilad	24	-	-	-	-	-	16	21	-	-	-	40	45	-	-	-	12	-	-	-	-	-	-	-	80	78
Bila	-	-	-	-	42	15	-	-	41	71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	83	86
Quizardon	32	11	11	11	10	-	-	-	26	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79	80
Sri Lanka																										
Madugalla	22	22	-	-	-	-	-	-	23	40	15	17	-	-	-	-	-	-	-	24	14	14	-	-	88	93
Bambarabedda	38	47	-	-	-	-	-	-	-	12	12	18	-	-	-	-	-	-	-	12	-	23	-	-	85	77
Thailand																										
Parmoke	-	-	-	-	-	-	-	-	56	79	-	-	-	-	-	-	-	-	-	40	21	-	-	-	96	100
KM 7	-	-	-	-	-	-	-	-	20	26	-	-	-	-	46	39	-	-	-	-	-	-	15	23	81	88
Nongyang	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	64	-	16	-	-	23	-	-	14	79	94
Mae Pha Haeng	42	46	-	-	-	-	-	-	-	18	-	-	-	-	-	-	-	-	-	42	26	-	-	-	84	90
Ongklang	60	71	-	-	-	-	-	-	12	11	-	-	-	-	-	-	-	-	-	12	-	-	-	-	84	82
Non Si Sawat	30	33	-	-	-	-	-	-	11	19	-	-	-	-	33	30	-	-	-	17	-	-	-	-	91	82
Kam Kham	19	26	-	-	-	-	-	-	14	-	-	-	-	-	52	45	-	-	-	-	-	-	12	-	85	83
Thap Chang	-	-	-	-	-	-	-	-	33	52	-	-	-	-	28	24	-	-	-	-	17	-	-	-	78	76

* Sources used by less than 10% of men and women are not recorded.

† 1 = government forests, 2 = private forests, 3 = common forests, 4 = other commons, 5 = homegardens, 6 = farms with only trees, 7 = farm agroforestry systems, 8 = farms with scattered trees, 9 = non-tree products (on-farm), 10 = non-tree products (off-farm), 11 = purchased tree products, 12 = purchased non-tree products.

Source: derived from the Regional Data Set

9. Conclusions and Recommendations

This analysis helps reveal differences of how men and women collect forest/tree products, the differential priorities placed on products by each gender, and the patterns of using as many sources as are available to each gender. Gender, in this context, is a predetermined factor closely linked to the communities studied. In viewing forests and trees as important sources to meet the many needs of rural households, what should be stressed is that many families rely heavily on their own sources. Rarely are government and common sources available to households.

Women place higher priorities on survival and domestic needs, which are conventionally assigned to them as wives, mothers, and homemakers. Their heavy engagement as collectors of fruit/food, fuelwood, and fodder are examples. Although men as counterparts are heavily engaged as collectors of timber, construction materials, and products for other uses, they are not excluded from collecting products for day-to-day consumption, among which fuelwood is prominent. This indicates a direct and immediate need for closer examination of multipurpose tree species--multipurpose trees can meet the many and varied needs of both genders throughout the region.

Despite many limitations, the findings of this analysis disclose gender-specific features related to forest/tree products, the tasks of collection, and the many sources used. These cover only a fraction of gender issues related to tree-use practices. Yet, it is wrong to assume that the percentages of engagement of men and women as collectors be taken as an indication of the amount collected. The proportion of products collected by each gender is not known. Therefore, analysis is limited to the comparison of use and collection percentages rather than concentrating and quantifying their contributions.

What external factors influence the inequalities and inequities in collecting products and using sources? Considering tree-use practices aside from all household tasks, environmental, socioeconomic, and cultural conditions allow researchers to conduct a more thorough investigation.

Nevertheless, the information pertaining to the patterns of product collection should be used to help plan extension services to small-scale farmers and promote the use of multipurpose tree species among farmers. Researchers need to focus on the many products needed and used by people and product priorities for each gender; these issues must be considered and studied in order to draw necessary attention to small-scale farmers. Farmers--men and women--bear the burdens of collecting products and identifying species, sources, and various locations. Further research will help determine whose needs are addressed and the ways in which basic survival needs can be met through the use of multipurpose tree species by farmers. Gender-disaggregated information pertaining to these issues calls for a number of research priorities, including gender-sensitivity training for extension agents, intervention, policy development, and appropriate technology transfer.

9.1. Research Priorities

Research needs with regard to forests and trees should comprise the efforts pertaining to explaining the current situation as well as highlighting the prospects and possibilities for stimulating innovative, viable, and acceptable programs. In this effort, the Forestry/Fuelwood Research and Development (F/FRED) Project, which functions as a network aimed at addressing the needs and problems of small-scale farmers of South and Southeast Asia, could play a leading role in addressing gender-specific issues. In this context, a number of needs must be highlighted:

1. Management of forests and trees:

- more research is needed beyond the scope of the FVF study because it did not focus specifically on gender-specific information.
- researchers need to learn about how forest/tree products collected by men and women contribute to their survival.
- information must be collected on species propagation and nurturing, specific uses of priority (favored) species, and the collective, indigenous knowledge within communities.

2. Utilization of products:

- who are the key players in processing and utilizing?
- how does time spent collecting products affect villagers' forestry activities?
- members of rural households need to know how to plant, maintain, and care for trees if the trees are to be adopted and accommodated.
- needed technologies in processing, utilization, and marketing must be explored.
- dissemination of knowledge on using products should be explored.

3. Household security:

- the ways in which trees can help household survival and solve the problems related to food scarcity, low income, and unemployment must be considered.

- methodologies should be developed for quantifying tree products, particularly by-products.
- information for maximizing tree use throughout the region could also be useful in other regions.
- examination of indigenous knowledge of tree-use practices must focus on a broad range of issues, including gender.

4. Medicinal uses of trees:

- information pertaining to medicinal uses of trees must be collected and compiled.
- people's general knowledge about tree species should also be collected.

5. Changes over time:

- an attempt should be made to determine whether or not sources of products have changed over time; if so, has it resulted in a differential impact on men and women?
- what has affected women's access to resources and what has changed tenurial and policy issues over time?

9.2. Intervention

Gender-disaggregated information must be incorporated into formulating acceptable and adoptable interventions to better use assets, including labor, indigenous knowledge and technologies, selected species, and resources. On-farm trials must serve as examples of operationalizing the activities. Findings from such trials could act as the link to meet people's needs. Research findings must be transformed into action for the small-scale farmer. There is a great need to formulate a regional gender-analysis network to implement MPTS-based development that meets the many needs of rural communities. Through such an effort, an attempt must be made to generate and compile information on the patterns of processing and using trees and tree products and the indigenous practices and knowledge that could be shared among network members. Such information generation could serve as a solid foundation for intervention.

The Forestry/Fuelwood Research and Development Project (F/FRED) is designed to help scientists address the needs of small-scale farmers in the developing world for fuelwood and other tree products. It provides a network through which scientists exchange research plans, methods, and results on the production and use of trees that meet the household needs of small farmers. These trees, in project terms, are multipurpose tree species (MPTS).

F/FRED is being carried out by the Winrock International Institute for Agricultural Development. Winrock was established in 1985 through merging of the Agricultural Development Council (A/D/C), the International Agricultural Development Service (IADS), and the Winrock International Livestock Research and Training Center. Winrock's mission is to improve agriculture for the benefit of people--to help increase productivity, improve the nutrition, and advance the well-being of people throughout the world. Winrock's main areas of emphasis are human resources, renewable resources, food policy, animal agriculture and farming systems, and agricultural research and extension.

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