The socioeconomic benefits of forests

Forests play a major role in the livelihoods of billions of people, and there is potential to scale up their contributions to global sustainable development

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Social and economic: Women sell fruit and vegetables in the shade of trees in Kigoma, United Republic of Tanzania. *Photo: S. Maina/FAO*

In most regions of the world, forests, trees on farms, and agroforestry systems play important roles in the livelihoods of rural people by providing employment, energy, nutritious foods and a wide range of goods and environmental services. Well-managed forests have tremendous potential to contribute to sustainable development. What is lacking is empirical data that provides clear evidence of this.

FAO publishes a report on the state of the world's forests every two years, each edition focusing on a specific topic. Last June FAO released *State of the World's Forests 2014* (known as SOFO 2014), which presented data on the socioeconomic role of forests and reviewed policies for enhancing that role. This article summarizes some of the report's findings.

Measuring the socioeconomic benefits

Information is collected routinely on forests, trees and related management aspects. Measuring the social or socioeconomic benefits derived from forests is much more challenging, however, because of the lack of systematic data collection and the consequent scarcity of hard evidence to demonstrate societal benefits. Some assessments of the socioeconomic benefits of forests exist at the project or local level, and some data are collected at the national level, such as the contribution of forests to gross domestic product and employment, and some of these are compiled at the global or regional levels through, for example, FAO's Global Forest Resources Assessment and the regional criteria and indicators processes (including ITTO's). Overall, however, the collection and analysis of information on socioeconomic benefits is weak and needs to be improved if the contributions of forests to society are to be fully recognized.

A first step in improving data on the socioeconomic benefits from forests is to define the term. We propose the following definition:

> Socioeconomic benefits from forests are the basic human needs and improvements in quality of life (higher-order needs) that are satisfied by the consumption of goods and services from forests and trees or are supported indirectly by income and employment in the forest sector.

Note that the following analysis does not include many of the direct and indirect environmental and cultural services and existence benefits that forests are known to provide.

The multiple benefits provided by forests

Income from forestry and forest-related activities

The table on page 5 summarizes the data compiled in SOFO 2014 on the socioeconomic benefits of forests. Among other things, it shows that, globally, the value added in the wood-based forest sector amounted to just over US$600 billion in 2011, which was 0.9% of the global economy. The non-wood forest product sector generated a further US$88 billion in income; the informal production of woodfuel and forest products used for house construction generated US$33 billion; and there were other, smaller contributions. The total income generated by forests in 2011 was estimated at about US$730 billion.

Employment

The formal forest sector employs an estimated 13.2 million people worldwide, and at least another 41 million are employed in the informal sector. About 29 million people own forests.

An estimated 840 million people—12% of the world's population—collect woodfuel for their own use. This is not strictly employment, and many of those involved in this activity are women and children, who are usually unpaid for their woodfuel collection work.

On the job: Workers in a plywood factory in China. *Photo: A. Lebedys/FAO*

Consumption benefits

Notwithstanding the considerable contributions of forests to the global economy, employment and personal wealth, the lion's share of socioeconomic benefits from forests is derived from the consumption of forest goods and services. Billions of people use forest outputs to directly meet their needs for food, energy and shelter.

Wood energy is often the only energy source in rural areas of less-developed countries and is particularly important for poor people. It accounts for 27% of total primary energy supply in Africa, 13% in Latin America and the Caribbean, and 5% in Asia and Oceania. Wood energy is also increasingly used in developed countries as a means of reducing dependence on fossil fuels: about 90 million people in Europe and North America now use wood energy as their main source of domestic heating.

Forest products make a significant contribution to the shelter of at least 1.3 billion people, or 18% of the world's population. Forest products are used in the construction of peoples' homes in almost all parts of the world. The recorded number of people living in homes where forest products are the main materials used for walls, roofs or floors is about 1 billion in Asia and Oceania and 150 million in Africa. This estimate is based on only partial information, and the true number could be much higher.

A major contribution of forests to food security and health is the provision of woodfuel for cooking and the sterilization of water. It is estimated that about 2.4 billion people cook with woodfuel, of whom an estimated 764 million people also boil their water with wood. On the downside, an estimated 1.7 million people die each year as a result of indoor air pollution caused by woodfuel use (usually where woodstoves are inefficient, and there is considerable scope to reduce the number of such deaths). The collection of edible non-wood forest products also supports food security and provides essential nutrients for many millions of people.

Further work is needed to evaluate and develop the socioeconomic benefits of forests for specific groups, including women, indigenous people and the poor.

Long haul: A man transports fuelwood along a dusty road in Niger. Woodfuel is a major source of energy for more than 2 billion people worldwide. *Photo: G. Napolitano/FAO*

Policy measures to enhance socioeconomic benefits

SOFO 2014 reviewed and analyzed the policies and measures put in place by countries since 2007 to enhance the socioeconomic benefits of forests. The analysis found that virtually all countries with significant forest resources have national forest programs or similar regimes of policies and programs that address critical forest issues. Countries also usually have policies and instruments that address socioeconomic benefits. The number of measures introduced by countries to promote sustainable forest management (SFM) since 2007 is impressive.

There have been substantive shifts in the last few decades in certain areas of forest policy, such as the adoption of a broader concept of SFM, more emphasis on participation in policy processes and forest management, and more openness to voluntary and market-based approaches as a complement to command-and-control instruments. The SOFO 2014 analysis largely confirmed the continuation of these long-term trends in 2007–2013.

Countries that amend national forest programs or forestry policies tend to include SFM as a broad national goal, which is essential if the provision of socioeconomic benefits is to be sustained over time. Many countries have

Summary of the socioeconomic benefits from forests, 2011

	AFR	ASO	EUR	NAM	LAC	World
PRODUCTION BENEFITS						
Income generation (billion US$)						
• Formal sector (value added)	16.6	260.4	164.1	115.5	49.4	606.0
• Informal production (for construction and fuel)	14.4	9.9	-	-	9.0	33.3
• Medicinal plants	0.1	0.2	0.4	n.s.	n.s.	0.7
• Plant-based NWFPs (excluding medicinals)	2.1	63.7	5.5	2.6	3.0	76.8
• Animal-based NWFPs	3.2	3.5	2.1	1.0	0.6	10.5
• Payments for environmental services (PES)	n.s.	1.2	n.s.	1.0	0.2	2.4
Total	**36.3**	**338.8**	**172.2**	**120.1**	**62.2**	**729.6**
(as percent of gross domestic product)	*2.0*	*1.4*	*0.9*	*0.7*	*1.2*	*1.1*
Beneficiaries (millions)						
• Formal sector employment	0.6	6.9	3.2	1.1	1.3	13.2
• Informal employment (for construction and fuel)	19.2	11.6	-	-	10.3	41.0
Total employees (millions)	**19.8**	**18.5**	**3.2**	**1.1**	**11.7**	**54.3**
(as percent of workforce)	*4.8%*	*0.9%*	*0.9%*	*0.6%*	*4.1%*	*1.7%*
• Forest owners (families and individuals)	8.2	4.7	7.2	3.3	5.7	29.0
Total beneficiaries (including employees)	**28.0**	**23.2**	**10.4**	**4.4**	**17.3**	**83.3**
(as percent of population)	*2.7%*	*0.5%*	*1.4%*	*1.3%*	*2.9%*	*1.2%*
CONSUMPTION BENEFITS						
Food security: availability (kilocalories/person/day)						
• Food supply from plant-based NWFPs	2.4	18.8	4.9	6.2	12.4	13.7
• Food supply from animal-based NWFPs	4.7	1.8	4.7	4.6	3.3	2.8
Total food supply from forests	**7.0**	**20.6**	**9.6**	**10.9**	**15.7**	**16.5**
(as percent of total food supply)	*0.3%*	*0.8%*	*0.3%*	*0.3%*	*0.5%*	*0.6%*
Food security: use (millions)						
• Number of people using fuelwood to cook	555.1	1 571.2	19.0	n.s.	89.6	2 234.9
• Number of people using charcoal to cook	104.5	59.0	0.2	n.s.	5.4	169.1
Total	**659.6**	**1 630.3**	**19.2**	**n.s.**	**95.0**	**2 404.0**
(as percent of population)	*63.1%*	*38.4%*	*2.6%*	*n.s.*	*15.9%*	*34.5%*
Energy supply (million tonnes of oil equivalent)						
• From forests	165.7	202.2	41.4	11.0	75.6	495.9
• From forest processing	15.6	91.2	86.7	49.8	33.1	276.5
Total	**181.2**	**293.4**	**128.1**	**60.8**	**108.8**	**772.4**
(as percent of total primary energy supply)	*26.9%*	*4.8%*	*4.9%*	*2.5%*	*13.4%*	*6.1%*
Shelter (millions of people using forest products)						
• Use of forest products for house walls	94.0	831.0	32.7	-	68.5	1026.1
• Use of forest products for house floors	20.2	194.0	28.7	-	25.3	268.3
• Use of forest products for house roofs	124.6	313.6	-	-	43.6	481.8
Use of forest products in any part of housing	**148.2**	**996.6**	**61.5**	**-**	**73.4**	**1 279.6**
(as percent of population)	*14.2%*	*23.5%*	*8.3%*	-	*12.3%*	*18.3%*
Health (millions of people)						
• Use of woodfuel to boil and sterilize water	81.9	644.5	-	-	38.6	765.0
• Use of herbal/home remedies to treat children's diarrhea	232.6	630.8	-	-	169.5	1 032.9
• Deaths due to indoor air pollution (from woodfuel use)	0.5	1.2	n.s.	-	n.s.	1.7

Note: AFR = Africa; ASO = Asia and Oceania; EUR = Europe; NAM = North America; LAC = Latin America and the Caribbean; n.s. = not significant; - = data not available. This analysis assumes that all income and employment in wood and woodfuel production in Europe and North America is captured in official statistics and recorded as part of the formal sector.

taken measures to strengthen the role of stakeholders in developing and implementing such policies, reflecting a broader trend away from exclusive state control towards governance that encourages stakeholder involvement.

Relatively few countries have specifically addressed poverty when amending national forest programs or forestry policies. This indicates a still-dominant technical paradigm of forest management, rather than a people-oriented (social) one, notwithstanding overall increased stakeholder participation. On the other hand, the integration of forestry into wider national poverty reduction strategies has improved. While forests feature in many rural development strategies, the alignment of national forest programs and forest policies with national strategies for development, energy and food security seems weak.

In many countries, inadequate capacity to implement the goals and intentions expressed in national forest programs

and policies seems to be a major bottleneck in achieving change on the ground. Comparatively few reported measures explicitly address adjustments of institutional frameworks to new needs and modes of governing. New and different capacities are needed to implement SFM with increasingly diverse stakeholders to grow the socioeconomic benefits of forests.

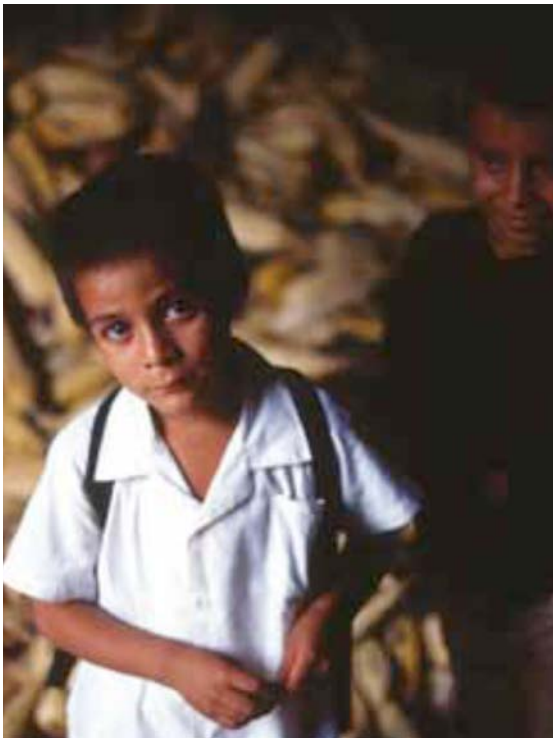
Strengthening links between policies and benefits

From the SOFO 2014 policy review and analysis, the following key points can be made.

- Forest policies need to focus more on benefits to people and to better reflect changing societal demands for the socioeconomic benefits of forests.
- Policies on SFM need to be backed by greater implementation capacity to realize the potential to enhance the socioeconomic benefits of forests.
- Providing people with greater access to forest resources and markets and improving the enabling environment for producer organizations are powerful ways of supporting access to markets, allowing more inclusive and efficient production and, ultimately, generating greater socioeconomic benefits.
- Greater policy recognition is needed of the socioeconomic benefits provided by forest environmental services.

SOFO 2014 drew the following three key lessons that could inform and shape the continued development of forest policies:

1. Forest policies must explicitly address the provision of food, energy and shelter.
2. More and better data are needed on the socioeconomic benefits of forests to make the case for forests and SFM.
3. To meet rising and changing socioeconomic demands, SFM must involve more efficient production techniques, including in the informal sector.



Forests for reducing poverty: The Honduran forest policy explicitly addresses poverty reduction, one of only a relatively few forest policies that do so. *Photo: G. Bizzari/FAO*

Conclusion

A common theme in SOFO 2014 is the importance of putting people at the center—for both the measurement of socioeconomic benefits and the development of policies and measures to enhance these benefits. If this is done, it seems likely that the socioeconomic benefits of forests can be developed to meet the growing demands of society while maintaining the integrity of the forest resource base. This will improve the prospects for SFM and demonstrate how forests should be conserved for the multiple benefits they provide. SOFO 2014 suggests ways in which this might be done; it is now up to countries to take action.

State of the world's forests 2014: enhancing the socioeconomic benefits from forests *is available in Arabic, Chinese, English, French, Russian and Spanish at: www.fao.org/forestry/sofo*