Food and Agriculture Organization of the United Nations

2018

IN BRIEF

THE STATE OF THE WORLD'S FORESTS

FOREST PATHWAYS TO SUSTAINABLE DEVELOPMENT

GATSUK, BELARUS
Despite the world's forest area decreasing from 31.6 percent of global land area to 30.6 percent between 1990 and 2015, the pace of loss has slowed in recent years. In agrotowns such as Gatsuk – 70 km south of Minsk – local populations help conservation efforts by living off sustainable forestry.
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This booklet contains the key messages and content from the publication ***The State of the World's Forests 2018***. The numbering of the tables and figures corresponds to that publication.

COVER PHOTOGRAPH

NEPAL: Two female farmers walk through a forest pathway.

FOREWORD

It is now almost three years since world leaders agreed to chart a course towards a better, more prosperous future for the planet and all its people. The 2030 Agenda for Sustainable Development, with its 17 Sustainable Development Goals (SDGs), has become the central framework for guiding development policies in countries throughout the world.

Given the ambition of the SDGs, transformation is needed if we are to end poverty and hunger, achieve inclusive growth, narrow inequalities, respond to climate change and sustainably manage our natural resources.

The 17 SDGs are comprised of 169 targets with 230 indicators identified to help measure progress. While this number may at first glance appear daunting, the Agenda is purposely fashioned in an integrated way with goals 'interlinked and indivisible'. The key to unlocking the door of progress will be understanding the golden threads that tie multiple goals and targets together.

The 2018 edition of *The State of the World's Forests* aims to do just that, presenting new information to help recognize these interlinkages and enhance our understanding of how policies on forests and trees go beyond SDG15 on Life on Land to contribute to achieving many other goals and targets of the 2030 Agenda.

The State of the World's Forests 2018 provides detailed analysis aimed at capturing the contribution of forests and trees to 28 targets relating to ten SDGs. Through thematic metrics bringing together available evidence from a wide range of sources, a clearer picture is emerging of the full impact that forests and trees have on many other crucial areas of development.

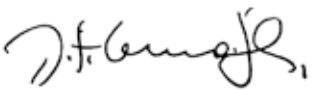
We have greater evidence on how forests are critical to livelihoods of the world's poorest, with a better understanding of the trade-offs and more exact confirmation that healthy and productive forests are essential to sustainable agriculture. And we have proof of the significance of forests and trees for the quality of water, for contributing to the energy needs of the future, and for designing sustainable, healthy cities.

With this year's High-level Political Forum (HLPF) focusing on SDG15, as well as SDGs 6, 7, 11, 12 and 17, the timing of *The State of the World's Forests* could not be more opportune in helping to inform experiences and ideas on the actions that must be taken and the partnerships and alliances that must be struck to realize the ambition of the 2030 Agenda.

Forest pathways to sustainable development will be fundamentally strengthened by legal frameworks that recognize and secure the rights of local communities and smallholders to access forests and trees, by fortifying an enabling environment and helping to incentivize private sector engagement in pro-sustainability activities. There is also great potential in transforming the informal sector, both for those who rely on it for their livelihoods and because it will also bring wider economic, social and environmental benefits. Ultimately, ending hunger and poverty and transforming to a sustainable world can only be realized if sectoral ministries – forestry, agriculture, rural development and national development – coordinate policies across governments.

While more evidence on forests and trees exists today than ever before, there is still a need to dig deeper. Investing in effective monitoring at national and subnational levels will help plug data gaps so that policy-makers can calculate incentives, manage sector trade-offs, and better design forest and food-security initiatives.

Seventy years ago, FAO completed its first assessment of the world's forest resources. At that time the major concern was whether there would continue to be sufficient timber to satisfy global demand. Since then, we have increasingly come to recognize the broader global relevance of our forests and trees, as reflected in the most recent editions of FAO's Global Forest Resources Assessment (FRA). Complementing the FRA, *The State of the World's Forests 2018* provides a comprehensive assessment of quantifying the contributions of forests to the SDGs. I hope you will find it valuable.



José Graziano da Silva
FAO Director-General

KEY MESSAGES

➔ **To achieve our global goals, urgent action is needed to sustain the planet's forests.** Time is running out for the world's forests, whose total area is shrinking by the day. By halting deforestation, managing forests sustainably, restoring degraded forests and increasing the global forest area, potentially damaging consequences for the planet and its people can be avoided. Governments need to foster an all-inclusive approach that promotes the benefits of forests and trees, engaging all stakeholders.

➔ **The branches of forests and trees reach out across the SDGs.** From tackling poverty and hunger to mitigating climate change and conserving biodiversity, the impacts of forests and trees go well beyond SDG15 to contribute to achieving multiple goals and targets across the 2030 Agenda. Managing forests sustainably benefits both urban and rural communities and is essential to the planet's healthy and productive future. Strategies to achieve the SDGs should consider interlinkages with forests and trees.

➔ **It is time to recognize that food security, agriculture and forestry can no longer be treated in isolation.** Sustainable agriculture needs healthy and productive forests. Forests and trees supply hundreds of millions of people with food, energy and income, acting as a safety net during hard times. To accomplish the historic ambition of ending hunger and poverty, sectoral ministries must ensure policy coherence across government, integrating strategies and balancing trade-offs. Actions on forests, agriculture, food, land use, rural and national development must be integrated in the future if the 2030 Agenda is to be realized.

➔ **To reach those furthest behind first, we must go down the forest path and empower agents of change.** Around 40 percent of the extreme rural poor – or some 250 million people – live in forest and savannah areas. Policies that secure tenure rights for the poor and vulnerable, including indigenous people, landless farmers, rural women and youth, will go a long way to ending poverty and food insecurity. Investing in these agents of change will spur entrepreneurship and the sustainable management of forests.

➔ **Landscape approaches balance sustainability.** Nourishing a growing world population while nurturing our planet requires landscape approaches that protect and sustainably use vital ecosystem services, sustain livelihoods and tackle food security challenges, while adapting to the impacts of climate change. Integrating landscape approaches into national strategies and development priorities is part of building the forests of the future.

➔ **Coherent policy frameworks encourage partnerships and stakeholder engagement in forests.** Integrating forests into sustainable development strategies requires effective partnerships and private sector engagement. Clear legal frameworks, community engagement and coherent policy measures that balance stakeholder interests are part of the enabling environment needed. Policies must be geared towards incentivizing companies and small producers to engage in sustainable forest management, addressing potential barriers to investment and removing motives for clearing forests. Corporate responsibility for zero deforestation is key.

➔ **Healthy cities need trees.** In view of increasing urbanization, trees, parks and forests are a must for planners designing the sustainable cities of the future and peri-urban landscapes. Removing pollution, offering shade and contributing to numerous health benefits, greenery is crucial for the well-being of city people, who globally outnumber those living in rural locations. Trees and green spaces in urban areas are also associated with reductions in both childhood obesity and crime, underscoring the links between forests and trees to multiple targets across the 2030 Agenda.

➔ **Evidence is key in achieving recognition of the true value of forests in the 2030 Agenda.** By investing in monitoring at national and subnational levels, governments will gain a clearer picture of the social, economic and environmental impact of forests and trees across the SDGs. This information will be critical in calculating incentives and managing sector trade-offs, fashioning forest and food security initiatives, measuring out social safety nets, investing in technology and innovation, and determining the level of support needed for different sectors of the economy.

BURUNDI
SOFO 2018 shines a light on the profound interlinkages that exist between forests and many goals and targets of the 2030 Agenda. This photo shows an FAO project designed to protect ecosystems in Burundi's Kagera river basin, an example of successful action to ensure availability and sustainable management of water resources (SDG6).
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EXECUTIVE SUMMARY

The 2030 Agenda for Sustainable Development is a commitment made by countries to tackle the complex challenges we face, from ending poverty and hunger and responding to climate change to building resilient communities, achieving inclusive growth and sustainably managing the Earth's natural resources. The 17 Sustainable Development Goals (SDGs), 169 targets and 230 indicators lay out specific objectives for countries to meet within a given timeframe, with achievements monitored periodically to measure progress. Universally relevant, they call for comprehensive and participatory approaches that bring everybody together to "leave no one behind".

As governments determine how best to commit national efforts to achieve transformational change, *The State of the World's Forests 2018* (SOFO 2018) analyses the role that forests and trees – and the people who use and manage them – can play in helping countries achieve their objectives and bring about a brighter future. SOFO 2018 shines a light on the profound interlinkages that exist between forests and many goals and targets of the 2030 Agenda, enabling policy-makers to strike the right balance in actions, investments and partnerships directed towards food security, poverty alleviation, ecological conservation and, ultimately, to find pathways to sustainable development.

Forests and trees make vital contributions to both people and the planet, bolstering livelihoods, providing clean air and water, conserving biodiversity and responding to climate change. Forests act as a source of food, medicine and fuel for more than a billion people. In addition to helping to respond to climate change and protect soils and water, forests hold more than three-quarters of the world's terrestrial

biodiversity, provide many products and services that contribute to socio-economic development, and are particularly important for hundreds of millions of people in rural areas, including many of the world's poorest.

However, the world's population is projected to increase from around 7.6 billion today to close to 10 billion people by 2050. The corresponding global demand for food – estimated to grow by 50 percent during this period – is placing enormous pressure on the way we use productive land, particularly in developing countries where the overwhelming majority of the world's 800 million and more poor and hungry people are concentrated. Deforestation, chiefly caused by the conversion of forest land to agriculture and livestock areas, threatens not only the livelihoods of foresters, forest communities and indigenous peoples, but also the variety of life on our planet. Land-use changes result in a loss of valuable habitats, land degradation, soil erosion, a decrease in clean water, and the release of carbon into the atmosphere. **How to increase agricultural production and improve food security without reducing forest area is one of the great challenges of our times.**

BOX 8 NON-WOOD FOREST PRODUCTS PROVIDE NUTRITIONAL DIVERSITY

An investigation into the dietary contributions of wild forest foods in 37 sites in 24 tropical countries indicated that more than half of the sampled households collected forest foods for their own consumption. In 13 sites, the proportion of fish and meat sourced from forests was greater than that from domestic livestock and aquaculture. In 11 sites, a greater proportion of fruits and vegetables was procured by households from forests than from agriculture. The contribution to dietary adequacy is substantial where large quantities of forest foods are consumed (Rowland *et al.*, 2017).

In Cameroon, forest fruits provide important macro- and micronutrients otherwise lacking from the family diets of rural people. For example, 200 grams of moabi fruit (Baillonella toxisperma) or nuts from the bean tree (Pentaclethra macrophylla) could supply 100 percent of daily iron and zinc requirements for children aged one to three years old (Fungo *et al.*, 2015); there is a statistically significant positive association between tree cover and the dietary diversity of children in the communities of 21 countries across Africa (Ickowitz *et al.*, 2014). Forest caterpillars contribute to local diets as they are commonly found in many parts of the world. They have higher protein and fat content than meat or fish and provide more energy per unit. Research findings from Bangui in the Central African Republic showed that 100 grams of cooked insects provide more than 100 percent of people's daily requirements of vitamins and minerals (Durst *et al.*, 2010). Similarly, a study conducted in four villages in Gabon showed that forest food contributes 82 percent of protein, 36 percent of total vitamin A and 20 percent of iron (Blaney *et al.*, 2009).

BOX 15 WATER IN THE DRYLANDS – THE ROLE OF FORESTS FOR WATER SECURITY

More than one-third of the world's population live in drylands, which account for 35 percent of global land area. These populations are dependent on dryland forests and trees outside forests for their food security, livelihoods, and water security. Proper management – including reforestation and restoration – of drylands that also takes into account the effects of tree cover on hydrology can therefore bring great benefits for billions of people.

Native trees that dot the 350 million hectares of dryland terrains in Africa serve as "water harvesters" in the landscape, contributing to improved soil water storage capacity and groundwater recharge. As noted in the case study presented in Chapter 3, Burkina Faso is vulnerable to drought and a recent study in the country's agroforestry parklands found that soil infiltration under the dominant shea tree (Vitellaria paradoxa) was five times higher than in open areas. In other words, more rainwater infiltrated the soil than ran off as surface water.

As rainfall in the semi-arid tropics is intense but short in duration, it is estimated that without trees overland flows would occur in at least 71 percent of the area, resulting in soil erosion and degradation.

These dryland tree systems are well adapted to arid conditions and maximize the little precipitation available. In addition, they have expansive root systems that improve groundwater recharge through preferential flow, a process whereby water flows through large pores in the soil created by roots and soil fauna. The trees also reduce water loss from evaporation from the soil, and maintain its health by reducing erosion and adding nutrients through leaf litter and organic matter.

Tree density, canopy cover and the spatial distribution of trees in dryland areas are key variables that affect hydrology. The balance between the positive effects of the trees (higher infiltration and preferential flow) and their negative effects (higher evapotranspiration) needs to be taken into account in their management, using appropriate techniques such as thinning and pruning. In this case, 5–10 percent tree cover was found to improve water availability.

SOURCE: Tobella, 2014; Ilstedt *et al.*, 2016.

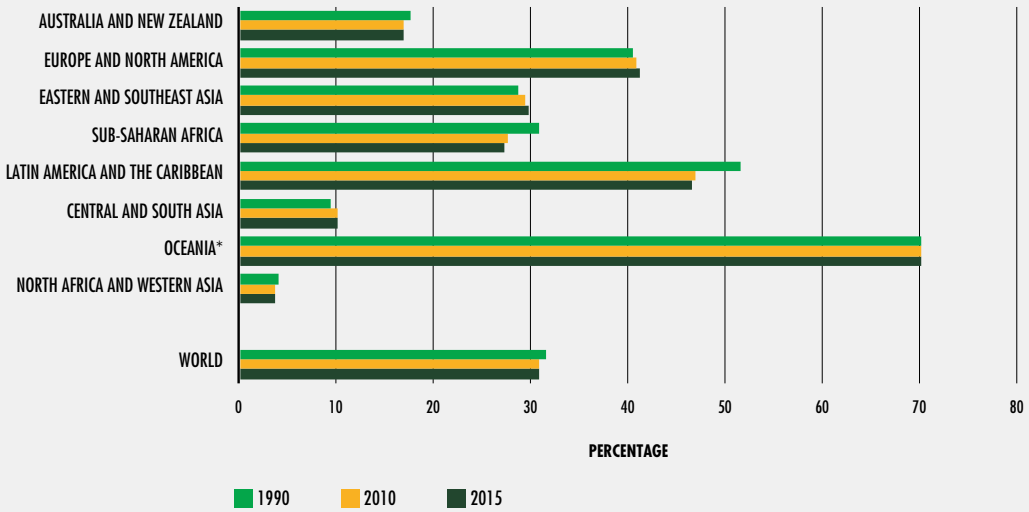
Evidence is key to opening the forest pathways to sustainable development. While the importance of forests and trees to a healthy, prosperous planet is universally recognized, the depth of those roots may be greater than imagined. Agreed by the UN Statistical Commission in March 2016, the 2030 Agenda's 230 indicators are designed to help countries measure the progress they are making towards achieving their objectives, learning from their experiences and understanding which areas to prioritize and allocate resources to. Several indicators under SDG15 focus on forests, specifically monitoring forest land and the share of forests under sustainable management. The Global Forest Resources Assessment (FRA), coordinated by FAO, found that

the world's forest area decreased from 31.6 percent of the global land area to 30.6 percent between 1990 and 2015, but that the pace of loss has slowed in recent years.

There is quantitative evidence to show that forests are being managed more sustainably and that forests and trees contribute to achieving SDGs relating to livelihoods and food security for many of the rural poor, access to affordable energy, sustainable economic growth and employment (in the formal sector), sustainable consumption and production, and climate change mitigation, as well as sustainable forest management.

The people left furthest behind are often located in areas in and around forests. The livelihoods and food security of many of the world's rural poor depend on vibrant forests and trees. Evidence points to around 40 percent of the extreme rural poor – around 250 million people – living in forest and savannah areas. Access to forest products, goods and services is vital for the livelihoods and resilience of the poorest households, acting as safety nets in difficult times. Some studies suggest that forests and trees may provide around 20 percent of income for rural households in developing

FIGURE 24 FOREST AREA AS A PROPORTION OF TOTAL LAND AREA IN 1990, 2010 AND 2015



NOTE: *Excluding Australia and New Zealand.
SOURCE: Based on UN, 2017a.

FIGURE 26 PROGRESS TOWARDS SUSTAINABLE FOREST MANAGEMENT FOR EACH OF THE SUB-INDICATORS OF INDICATOR 15.2.1, BY SDG REGIONAL GROUP

SDG regional grouping	Forest area net change rate	Above-ground biomass stock in forest	Proportion of forest area located in legally established protected areas	Proportion of forest area under long-term forest management plans	Forest area under independently verified forest management certification schemes
World	🟡	🟡	🟢	🟢	🟢
North America	🟢	🟢	🟡	🟢	🟢
Europe	🟢	🟢	🟢	🟡	🟢
Latin America and the Caribbean	🟡	🟢	🟢	🟢	🟢
Central Asia	🟡	🟢	🟡	🟡	⚫
South Asia	🟢	🔴	🟡	🟢	🟢
Eastern Asia	🟢	🟢	🟢	🟢	🟢
Southeast Asia	🔴	🔴	🟢	🟡	🟢
Western Asia	🟢	🟢	🟢	🟢	🟢
North Africa	🔴	🟡	🟡	🟢	⚫
Sub-Saharan Africa	🟡	🟡	🟢	🟢	🔴
Oceania, excluding Australia and New Zealand	🟡	🟡	🟢	🟢	🟢
Australia and New Zealand	🟢	🟢	🟢	🟢	🟢
Landlocked developing countries (LLDCs)	🔴	🟡	🔴	🟢	🔴
Least-developed countries (LDCs)	🟡	🟡	🟢	🟢	🟢
Small island developing states (SIDS)	🟢	🟡	🟢	🟢	🔴

NOTE: The indicator is presented as a dashboard of traffic lights that show progress in each of the five sub-indicators, with green, yellow and red indicating the direction and rate of change.

SOURCE: FAO, FRA 2015a.

- 🟢 Positive change
- 🟡 No/small change
- 🔴 Negative change
- ⚫ No certified areas

TABLE 1 DISTRIBUTION OF RURAL PEOPLE LIVING ON LESS THAN USD 1.25 PER DAY AND RESIDING IN OR AROUND TROPICAL FORESTS AND SAVANNAHS

	Africa	Latin America	Asia	Total Tropics
Forest population (millions)	284	85	451	820
Forest population living on under USD 1.25/day (millions)	159	8	84	251
Forest population living on under USD 1.25/day as percentage of total rural population living on under USD 1.25/day	50%	82%	27%	40%

SOURCE: IFAD, 2016; Chomitz *et al.*, 2007.

countries, both through cash income and by meeting subsistence needs. Non-wood forest products (NWFPs) provide food, income, and nutritional diversity for an estimated one in five people around the world, notably women, children, landless farmers and others in vulnerable situations.

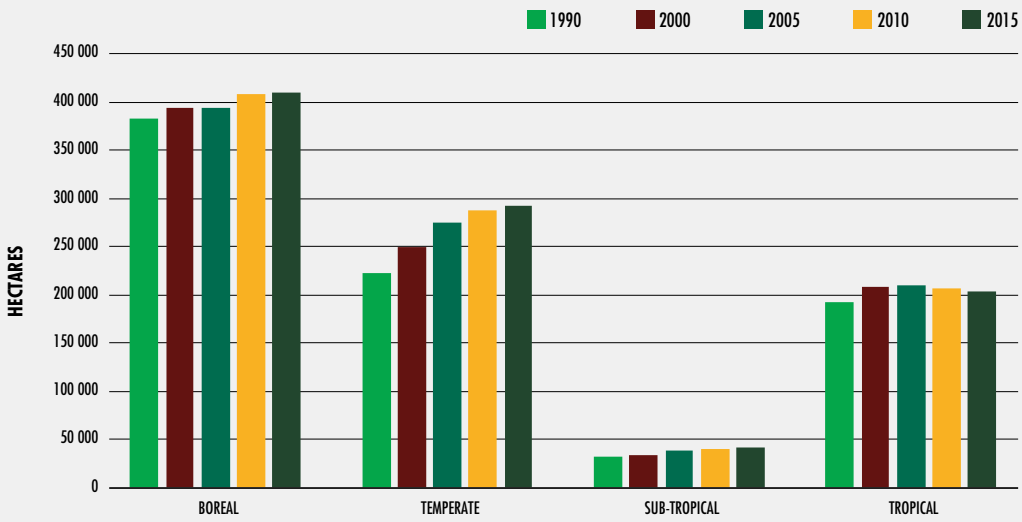
Water quality, essential to the health and life of both rural and urban populations, is directly related to forest management. Changes in land cover, use and management have grave implications for a nation's water supply. While three-quarters of the globe's accessible freshwater comes from forested watersheds, research shows that 40 percent of the world's 230 major watersheds have lost more than half of their original tree cover. Despite this, the area of forests managed for soil and water conservation has increased globally over the past 25 years, and in 2015 a quarter of forests were managed with soil and/or water conservation as an objective.

Modernizing the traditional wood energy sector has the power to improve livelihoods, create sustainable value chains and unlock resources for investments in sustainable forest management. The potential of forests is perhaps no better illustrated than in the fact that wood grows back. Around one-third of the world's population, or about 2.4 billion people, make use of wood to provide basic energy services such as cooking, boiling water and heating. Overall, forests supply about 40 percent of global renewable energy in the form of woodfuel – as much as solar, hydroelectric and wind power combined. Emphasis must now be on producing woodfuel more sustainably to reduce forest degradation, as well as more cleanly and efficiently to improve the health of millions of people, particularly women and children.

The world's response to climate change – in terms of adaptation, mitigation and resilience – must focus more on forests. As underscored at the Paris Climate Agreement in 2015, forests

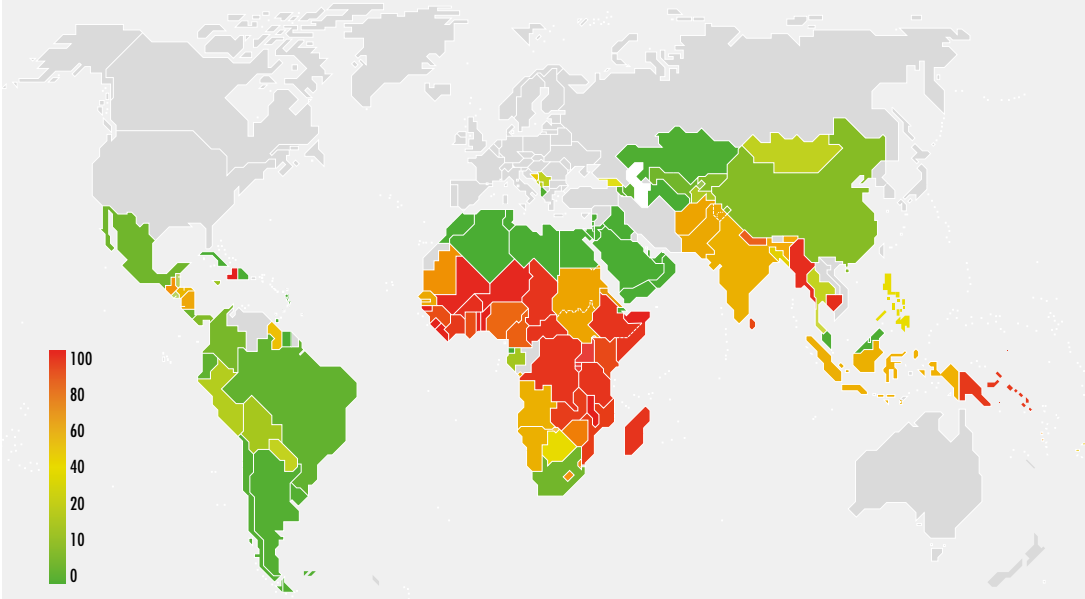
and trees play a crucial role in determining the accumulation of greenhouse gases in the atmosphere. Acting as carbon sinks, they absorb the equivalent of roughly 2 billion tonnes of carbon dioxide each year. However, deforestation is the second-leading cause of climate change after burning fossil fuels and accounts for nearly 20 percent of all greenhouse gas emissions — more than the world's entire transport sector. Effective forest management can strengthen resilience and adaptive capacities to climate-related natural disasters, underscoring the importance of integrating forest-based measures into national disaster risk reduction (DRR) strategies. Reducing emissions from deforestation and forest degradation and the roles of conservation, sustainable management of forests and enhancement of forest carbon stocks (known as REDD+) will be vital for global efforts to combat climate change. The 25 countries with the highest forest cover have all included forest-related mitigation measures (reduced deforestation and forest

FIGURE 6 TRENDS IN MANAGEMENT OF FORESTS FOR SOIL AND WATER CONSERVATION, BY FOREST TYPE



SOURCE: FAO, 2015a.

FIGURE 8 PERCENTAGE OF HOUSEHOLDS RELYING ON WOODFUEL FOR COOKING



SOURCE: FAO, 2014.
NOTE: The final boundary between the Republic of the Sudan and the Republic of South Sudan has not yet been determined.

degradation, afforestation, enhancement of forest carbon stocks, forest conservation and agroforestry) in their Nationally Appropriate Mitigation Actions (NAMAs) and Nationally Determined Contributions (NDCs).

Qualitative evidence suggests that forests and trees also make significant contributions to SDGs through the informal sector, agroforestry, opportunities to empower women, sustainable water management, tourism, sustainable cities, climate change adaptation, and tackling land degradation and biodiversity loss. Nature-based tourism, for example, is growing three times faster than the tourism industry as a whole, and now accounts for approximately 20 percent of the global market. The integration of green space and tree cover in urban planning is also on the rise, with studies showing links to a reduction in levels of both obesity and crime, though measuring and evaluating such benefits remains

BOX 20 NATURE-BASED TOURISM EXPENDITURE IN COSTA RICA

Costa Rica is considered a world leader in ecotourism. In 2016 the country hosted 2.9 million non-resident tourists, with an average expenditure of USD 1 309 per person. According to the Tourism Board of Costa Rica, 66 percent of visitors stated ecotourism as one of their main reasons for visiting the country. Expenditure in 2016 at least partly related to nature-based tourism is therefore estimated to be USD 2.5 billion (based on 2.9 million visitors x USD 1 309/visitor x 0.66), which is 4.4 percent of Costa Rican GDP.

In 2015 there were approximately 1 million non-resident visitors to forest conservation areas. Assuming average visitor spending, this gives a total expenditure of USD 1.31 billion (or 2.5 percent of Costa Rica's GDP) spent on visiting forest conservation areas, although this is a maximum estimate as people may have visited other places as well. In addition, residents made 0.9 million visits to forest conservation areas.

SOURCE: ICT, http://www.ict.go.cr/en/statistics/tourismfigures.html.

challenging. In view of growing urbanization and climate change, the design, planning and management of urban green spaces, including forests and trees, should be integrated into urban planning at an early stage. The role of forests and trees should be reflected in climate mitigation and adaptation policies.

Addressing agriculture and forests together in formulating national development policies is critical to achieving the SDGs. Sustainable agriculture needs healthy and productive forests. Forests and trees support sustainable agriculture by, for example, stabilizing soils and climate, regulating water flows, providing shade, shelter, and a habitat for pollinators and the natural predators of agricultural pests. When integrated into agricultural landscapes, forests and trees can increase agricultural productivity. They also help provide food security for hundreds of millions of people, for whom they are important sources of food, energy and income during hard times.

The world's primary objectives of ending poverty and achieving sustainability will be greatly enhanced by strengthening legal frameworks that recognize and secure the rights of local communities and smallholders to access forests and trees. Globally, 1.5 billion local and indigenous people have secured rights over forest resources through community-based tenure. There are significant benefits to be found in giving local people with traditional knowledge the ability to influence decision-making in ways that contribute to SDG targets. With clear and secure rights, people are

more likely to take a longer-term approach to forest management, as they know that they or their successors will benefit from this. Chapter 3 highlights Nepal's long history of community forest management, an approach adopted by many other countries, especially in Asia and Latin America. Where insecure tenure is a critical problem, frameworks such as the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests can help to provide certainty. Looking ahead, there is a need to learn from successful experiences in community forest management, recognizing the importance of scientific and technical support, training, capacity-building and

BOX 5 SECURING RIGHTS FOR IMPROVED INCOMES FROM FORESTS IN INDIA, GUATEMALA AND MEXICO

In India, the village of Mendha Lekha in the Gadchiroli district of Maharashtra managed to secure community forest rights in 2009 under the 2006 Forest Rights Act. Following this, the village prepared a forest management plan and took control of the bamboo trade, which had earlier been managed by the Forest Department. Mendha Lekha earned profits of over USD 150 000 through bamboo sales between 2011 and 2014. These earnings were used to pay wages to harvesters at higher than Forest Department rates, and the profits used for various village development and social welfare activities (Centre for Civil Society, 2015).

In Guatemala, community-owned forest enterprises manage more than 420 000 hectares of land within the Maya Biosphere Reserve, receiving support from NGOs, donors and Government agencies. Each enterprise was given forest concessions by the Guatemalan Government; within one year (October 2006 to September 2007), they generated USD 4.75 million from certified timber sales and USD 150 000 from NWFPs. Employment in the forestry enterprises benefitted more than 10 000 people directly and 60 000 indirectly. Employees were also paid more than double their normal wage (WRI, 2008).

In Mexico, constitutional reforms in 1992 formally recognized the full rights of communities to their forests (other than the sale of land). In 1997, a major Government programme was initiated to support communities in developing forest-based enterprises. Over 2 300 communities now manage their forests for timber, generating substantial income for communities and households. Some communities are now skilled in managing complex industrial operations and have become internationally competitive, exporting timber products to the United States of America. Profits are used to invest in children's education, with the intention of developing a future generation of university-educated community managers (Consejo Civil Mexicano para la Silvicultura Sostenible, 2014).

Studies from central and southern Quintana Roo show that timber production and processing generates income and thereby offers a way out of poverty for families in communities with rights to forests (Ellis *et al.*, 2015).

access to markets, market information and adequate financial resources, as well as the need for clarity in setting out the rights and responsibilities of different parties. All these measures will need to be in place if forest pathways to sustainable development are to be strengthened.

Access to land, resources and investments in and around forests can propel women, youth and other rural entrepreneurs to be agents of change in the transformation to a sustainable world.

Strengthening tenure rights presents an opportunity to enhance gender equitable access to forests and trees, as well as encouraging a long-term, sustainable approach to forest management. Studies highlight the entrepreneurial role that women play, especially in the informal sector, and their leadership role in community and participatory forest management. The enterprise and energy of youth is just as vital for the future of the sector. Investment in training, capacity-building and the development of producer organizations can help persuade young people to see the value of making a living by the forest and resist uncertain migration. Investing in the informal sector by increasing economic activity, improving employment conditions and fostering a more sustainable approach to forest management can have a positive impact that stretches from forest to farm to town to city. Providing economic incentives to smallholders and communities to manage trees on forest lands is likely to prove rewarding.

BOX 14 WOMEN'S SECURE TENURE RIGHTS OVER FOREST LAND IN NEPAL

There are 6.61 million hectares of forest land in Nepal. About 25 percent of this area is managed in the form of community forestry, which benefits approximately 35 percent of the total population of 29 million people. Altogether, there are more than 19 000 community forestry groups, among which 1 072 are women-only (Government of Nepal, 2017). Until 2009, men as heads of households had rights over forest land through community forest-user group membership. However, the current regulatory framework allows joint memberships of husbands and wives and 50 percent of the decision-making positions are reserved for women (MOFC, 2008). As a result of this policy framework, 62 032 women have already become members in the decision-making bodies of community forestry groups, occupying around 30 percent of the positions (Pathak, 2016). In some cases, women have secured de facto rights over forest land following the migration of men away from the area (Giri and Darnhofer, 2010; Djoudi and Brockhaus, 2011).

Overall, Nepal's community forestry policy is considered one of the most progressive, as it allows women to exercise equal rights with men in the management and utilization of community forests. Furthermore, women-only forestry groups have registered many success stories.

A positive enabling environment is fundamental for attracting the private sector to pro-sustainability activities. Both the formal and informal forest sectors include large numbers of small or micro businesses, while at the other end of the scale there are some very large companies. On a small scale, priorities often include training to improve land management practices, the promotion of agroforestry, the development of producer organizations, better access to markets and the availability of suitable financing arrangements. On a larger scale, there may be a need to address potential barriers to investment, often financial or infrastructure-related. Policy interventions are likely to include a mix of regulatory approaches and incentives to engage in activities that are not necessarily covered by the market, such as ecosystem services and sustainable forest management. At the same time, it will be important to address potential barriers to investment and remove incentives to clear forests. Partnerships with the private sector will be crucial in developing private governance initiatives, such as voluntary certification schemes and commitments to "zero-deforestation" supply chains.

To accomplish the historic ambition of ending hunger and poverty and transforming to a sustainable world, the 2030 Agenda expects sectoral ministries to change the way they work and to coordinate policies across government. If sustainable development is to be realized, initiatives on forests, agriculture, food, land use, rural and national development must synchronize in the future. Although drivers vary significantly between countries and

BOX 13 WOMEN IN THE SHEA INDUSTRY IN WEST AFRICA

In the eight countries of West Africa, 350 000 tonnes of shea butter were exported in 2008 with an export value equivalent to USD 87.5 million (at 2008 prices). About 4 million to 5 million women are reported to be involved in the collection, processing and marketing of shea nuts and butter. Through this, women generate about 80 percent of their income (Ferris et al., 2001, cited in FAO, 2011a).

In addition to providing increased income and employment for women, the industry enhanced women's capacity and knowledge about adding value to shea products. Since 2013, with the support of USAID and the Netherlands' International Cocoa Organization, the Global Shea Alliance has trained over 51 000 female shea collectors on best practices in the quality processing and storage of shea kernels. In the same time period, over 28 000 women belonging to 880 women's groups have also been linked with buyers and signed contracts for approximately 1 945 million tonnes of shea kernels.

SOURCE: http://www.globalshea.com/news/past/140/Success-Story-Empowering-the-West-African-Shea-Industry-.

regions, policy-makers must recognize the need to manage trade-offs and set out concrete measures for better aligning multiple objectives and incentive structures. This integrated approach is critical for progressing towards the SDG targets. Establishing SDG implementation platforms composed of key sectors in natural-resource use and management is one way of managing cross-sectoral coordination and overcoming difficulties in governments that have sector-based ministries and agencies, with their own resource allocations and accountability arrangements. SDG implementation platforms would bring together different ministries and government agencies with other key stakeholders working in dialogue and coordinated action, with a focus on achieving the SDGs and benefitting from interlinkages, identifying and addressing barriers to change and monitoring progress. ■

NEPAL
In Nepal, there are more than 1 000 community forestry groups that are women-only. Achieving gender equality and empowering women is at the heart of SDG5.
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COUNTRY CASE STUDIES – SUCCESSES AND CONSTRAINTS

These case studies show that forests and trees have contributed to sustainable development under very different circumstances. They provide illustrations of the progress that countries in a variety of situations have made towards sustainable development, and the challenges they have faced in practical implementation of their forest and woodland management programmes.

Burkina Faso

Burkina Faso is a low-income country with a population in 2017 of 19.3 million, 70 percent of whom live in rural areas. Its population growth is 3.1 percent per year. GDP growth rates average 5 percent per year and the poverty rate fell from 46 percent in 2009 to 40.1 percent in 2015. Forests cover 19.6 percent of the land area. Rainfall is increasingly variable and periods of extreme heat are becoming more frequent, making the country vulnerable to both droughts and floods. Nearly 80 percent of the population is involved in agriculture, including livestock and forestry. Forestry accounts for 5.9 percent of GDP, of which 90 percent relates to woodfuel. Deforestation is estimated at 0.9 percent per year, attributed mainly to the expansion of subsistence-based agricultural land, including post-harvest and pre-clearance burning and overgrazing. Large parts of Burkina Faso are wooded savannah land, with scattered trees that provide multiple benefits, including shade, livestock fodder, water retention, soil stabilization, and production of woodfuel, timber and NWFPs (such as gum arabic, Balanites oil, honey, Bombax flowers, Baobab leaves, wild fruits and medicinal plants).

Community-managed forests and woodland regeneration have played an important role in Burkina Faso since the droughts and famines of the early 1980s, when the concept of “the three struggles”

(against bush fires, uncontrolled grazing and uncontrolled cutting of wood) was first articulated during the revolutionary period. The Constitution, adopted in 1992, emphasizes the importance of sustainable natural resource management, which has been a priority in national programmes since then. Most recently, the 2016–2020 National Economic and Social Development Strategy emphasizes the key role that forests and woodlands play in poverty reduction and local well-being. In 2012 Burkina Faso developed its national strategy and action plan for implementation of Africa's Great Green Wall, a regional initiative that aims to halt desertification and land degradation across the Sahel.

Despite capacity and resource constraints, Burkina Faso has succeeded in integrating sustainable forest and land-use management into its development processes. Success factors include a long-term commitment to natural resource management, legislation that conforms to local traditions, improved land rights for local communities, land restoration programmes that recognize those rights, inter-ministerial coordination, and synergy with international conventions. Constraints include high – albeit declining – overall poverty levels and a lack of economic opportunities, increasing weather and climate challenges and inadequate forest management information systems.

Guatemala

Guatemala is a lower-middle-income country with a population of 16.9 million in 2017, nearly half of whom live in rural areas. Its population growth is 2.5 percent per year. Forests cover 33 percent of land area; it has mixed landscapes in the uplands with interspersed tree-crops and arable land, and dense tropical forest with larger-scale agriculture in the lowlands. Guatemala is exceptionally rich in biodiversity and 70 percent of forest land comes under some form of protection. Although Guatemala is experiencing solid economic growth, poverty rates remain high and are not falling: they were estimated at 56 percent in 2000 and had risen to 59 percent in 2015. Travel and tourism account for 8 percent of GDP, and agriculture (including forestry) for 10.7 percent. Forestry accounts for 2.5 percent of GDP, but this figure excludes NWFPs, woodfuel and the public goods value of regulating services such as watershed protection. Deforestation rates averaged 1.43 percent per year from 1990–2000 and 1 percent per year from 2000–2010; the main causes were extensive livestock-rearing, expansion of palm oil and sugar cane, illegal timber and firewood harvesting (70 percent of Guatemalans use woodfuel for cooking). It is estimated that about 35 percent of tree cutting is illegal, used mostly in small sawmills and by households.

Guatemala's national strategy (the 2032 K'atun Plan) supports sustainable development. Within this framework, forest and woodland resources are

recognized as key to sustainable urban and rural development and to economic and environmental stability. The plan states that forests have three purposes: (i) climate change mitigation and adaptation; (ii) conservation and sustainable use of forests and biodiversity, maintaining forest cover at 32 percent (of which 29 percent under natural forest and 3 percent under plantation); and (iii) water resources protection.

The Inter-institutional Action Plan for the Prevention and Reduction of Illegal Logging in Guatemala (PIPRTIG) is a long-term strategy launched in 2010. Following a comprehensive participatory process, it has elements relating to regulatory and legal frameworks, stakeholder participation, training stakeholders, promoting legal activities, strengthening information systems, preventing and controlling illegal activities, and implementing a forestry information programme.

Combined with the incentive programmes, the multistakeholder, multisector approach of PIPRTIG has helped reduce conflict and improve landscape sustainability. Other successes include the incorporation of sustainable management of forests and trees in development plans, and better informed decision-making. Budget allocations have facilitated the strengthening of forest-related institutions and governance. There are however further opportunities to enhance the regulatory and cultural services of forests and trees, especially in watershed protection and for tourism and recreation. Guatemalan landscapes also have a very rich cultural, architectural and natural heritage, so there is potential to have integrated landscape approaches that combine the manmade and natural environments. However, high levels of poverty and unequal access to land continue to limit improvements in welfare, including in the forest and woodlands sector.

Italy – region of Tuscany

Italy is a high-income country with a population of 61 million, of whom 3.75 million live in Tuscany. Population growth in Italy was 0.23 percent in 2016, and 39 percent of the population lives in rural areas. Forests cover 31.6 percent of Italy's land area and 51 percent of Tuscany, and both shares are increasing. Within Italy, tourism accounts for 13 percent of GDP and agriculture and forestry (combined) for 2.2 percent. Although forest production does not make a significant contribution to the economy, forests and trees are important for broader landscape and watershed management. Following earlier deforestation, the forest area has doubled since 1920 as agriculture has become more intensive and the population more urbanized. Poverty has increased with the economic stagnation of recent years, with 7.6 percent of the population living below the national poverty line.

Tuscany has been a leader in integrated landscape management and was the first region to prepare a Regional Landscape Plan, which is integrated into its

Territorial Development Plan. Tuscany's forests and trees are valued for their cultural and ecological value, as well as for their role in traditional rural landscapes, which are important for tourism. The trees are mostly broadleaved, were traditionally coppiced and can serve as important links within ecological networks. They also provide regional food products such as sweet chestnuts, walnuts, hazelnuts and olives. Other benefits include shade for grazing animals and protection for agricultural fields. Although timber production contributes only 0.25 percent of regional GDP, the broader services of forests, including production of NWFPs and regulatory and cultural services, are estimated at 6 percent of regional GDP.

Landscape planning integrates economic, social and environmental objectives – including rural development, food production, watershed protection, biodiversity and the cultural values of forests and trees – within a broad framework of territorial planning. A focus on traditional agriculture and rural landscapes has benefited the economy through tourism and quality food production. Tuscany's approach could have a broader application in countries where landscapes resemble complex mosaics, with tourism, environmental protection and cultural as well as production values. Despite these successes, challenges remain: there are tensions between public policies that focus on regulatory or restrictive approaches and those which support development. There can also be tension between collective and private rights, with different stakeholders having different priorities, and difficulties in balancing tradition and innovation. Furthermore, interdisciplinary approaches to research and science and innovation and conservation can be hard to put into practice. It should also be recognized that landscape recovery has been facilitated by wider economic growth and diversification; there is no longer a dependence on extensive agriculture for subsistence or on fuelwood to meet basic energy or industry needs.

Nepal

Nepal is a low-income country with a population of 29 million, over 80 percent of whom live in rural areas. Its population is growing at 1.2 percent per year. Forest cover was estimated at 33 percent in 1990 and is now 25.4 percent, although it has stabilized over the last ten years. Forest landscapes vary widely, from mountain to semi-tropical lowland forests and woodlands. Travel and tourism account for 8 percent of GDP and agriculture and forestry for over 30 percent. Poverty rates fell from 38 percent in 2000 to 21.6 percent in 2015, and GDP growth averaged 4.5 percent over the last decade, helped by changing economic structures and remittances. In 2015 Nepal was hit by a devastating earthquake and in 2017 by severe floods. Estimates on the contribution of forestry to GDP range from 3.5 percent to over 9 percent when NWFPs are included. Fuelwood accounts for 85 percent of household energy and

for the vast majority of harvested wood. Forests and trees also play a key role in watershed protection and climate resilience and are important for biodiversity and agricultural landscape management. Nepal remains vulnerable to devastating floods and landslides that are caused in part by long-term landscape degradation.

Community forest management (CFM) was first introduced in the late 1970s and has evolved and adapted to different political systems. CFM has been more effective in the hilly areas than in intensively cultivated lowlands, and has increasingly been integrated with other development programmes. CFM has contributed to landscape restoration and livelihood security as well as increased availability of firewood. The focus for Community Forest User Groups (CFUGs) has gradually shifted from group formation to equitable access, with an emphasis on marginalized groups and poverty reduction and obtaining multiple benefits involving a broader range of stakeholders. The groups have benefited women by increasing the local availability of fuelwood, fodder and water. Income from the sale of forest products can be used for community infrastructure as well as for local pro-poor programmes. There are now 20 000 CFUGs, involving 11 million people and 2.5 million households, and 38 percent of forest area has been handed over to CFUGs. Established in 1995, the Federation of Community Forestry Users Nepal (FECOFUN) aims to strengthen the role of CFUGs and build social capital.

Nepal has also begun to incorporate the SDGs into its planning and budgeting processes, and work is ongoing to capture SDG indicators more systematically in these. Agricultural, nature conservation and forest sector strategies have all been developed within this framework. ■

Working for #ZeroHunger

THE STATE OF THE WORLD

2018
THE STATE OF THE WORLD'S FORESTS

FOREST PATHWAYS TO SUSTAINABLE DEVELOPMENT

Nearly three years ago, world leaders agreed to the United Nations 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs) – the central framework for guiding development policies throughout the world. This edition of *The State of the World's Forests* is aimed at enhancing our understanding of how forests and their sustainable management contribute to achieving several of the SDGs. Time is running out for the world's forests: we need to work across sectors, bring stakeholders together, and take urgent action.

The State of the World's Forests 2018 identifies actions that can be taken to increase the contributions of forests and trees that are necessary to accelerate progress towards the SDGs. It is now critical that steps be taken to work more effectively with the private sector, and the informal forest sector must be transformed in order to bring broader economic, social and environmental benefits.

Seventy years ago, when FAO completed its first assessment of the world's forest resources, the major concern was whether there would be enough timber to supply global demand; now we recognize the greater global relevance of our forests and trees. For the first time, *The State of the World's Forests 2018* provides an assessment of the contribution of forests and trees to our landscapes and livelihoods.

The purpose of this publication is to provide a much wider audience with an understanding of why forests and trees matter for people, the planet and posterity.

2018 The State of the World's Forests
(full text)