



Background Analytical Study UNFF18 Thematic Priority #2

Increase significantly the area of protected forests worldwide and other areas of sustainably managed forests, as well as the proportion of forest products from sustainably managed forests

Progress, challenges and opportunities on Global Forest Goal 3

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In accordance with ECOSOC resolution 2020/14, the quadrennial programme of work of the United Nations Forum on Forests (UNFF) for the period 2021–2024 includes two thematically linked biennium: 2021–2022 (UNFF16 and UNFF17) and 2023–2024 (UNFF18 and UNFF19). According to this resolution, the thematic priorities should be based on the Global Forest Goals (GFGs) and targets, taking into account the programme of the High-level Political Forum on Sustainable Development (HLPF) and other relevant international forest-related developments.

In response to ECOSOC resolution 2020/14, the Bureau of UNFF18 decided that the thematic priorities for UNFF18 and UNFF19 to be as follows: (i) Enhancing forest-based economic, social and environmental benefits (GFG2); (ii) Increase significantly the area of protected forests worldwide and other areas of sustainably managed forests, as well as the proportion of forest products from sustainably managed forests (GFG3); and (iii) mobilizing financial resources and strengthening scientific and technical cooperation; promoting governance frameworks to advance implementation; and enhancing cooperation, coordination and coherence, for sustainable forest management (GFG4, 5 and 6).

The views and opinions expressed herein are those of the authors and do not necessarily reflect those of the United Nations Secretariat. The designations and terminology employed may not conform to United Nations practice and do not imply the expression of any opinion whatsoever on the part of the Organization.

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The background analytical study benefitted from a large number of published reports, news articles and policy briefs from international organizations, in particular, the United Nations, Food and Agriculture Organization of the United Nations; research institutions and academic papers, as well as from the national reports submitted to the fifteenth session of the United Nations Forum on Forests (UNFF). Author heavily drew data, information and findings from those sources for this study.

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All opinions expressed in the report, and any mistakes, remain the responsibility of the author.

ABBREVIATIONS AND ACRONYMS

CBD	Convention on Biological Diversity
CC	Climate Change
CPF	Collaborative Partnership on Forests
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FRA	Global Forest Resources Assessment
FSC	Forest Stewardship Council
GFG	Global Forest Goal
ha	Hectare
ITTO	International Tropical Timber Organization
IUCN	International Union for Conservation of Nature
NGOs	Non-governmental organizations
PA	Protected Area
PEFC	Programme for the Endorsement of Forest Certification Schemes
SDG	Sustainable Development Goal
SFM	Sustainable forest management
UK	United Kingdom, Government of the
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
UNFFS	United Nations Forum on Forests Secretariat
UNSPF	United Nations Strategic Plan for Forests 2017–2030
WB	World Bank
WRI	World Resources Institute

EXECUTIVE SUMMARY

This study on Global Forest Goal 3 (GFG3) - *“Increase significantly the area of protected forests worldwide and other areas of sustainably managed forests, as well as the proportion of forest products from sustainably managed forests.”* - is the Thematic Priority 2 for the 18th and 19th sessions of UNFF, to be held in 2023 and 2024 respectively. It is aimed at facilitating the technical discussions at these scheduled UNFF sessions.

This study is based on the review of relevant published studies, 52 national reports to UNFF, FRA 2020, and related documents available in the public domain.

The world is in the midst of a cascading and interlinked global economic, health, climate and conflict crises affecting every sector, including the forest sector. While it may be too early to get a full understanding of impacts, specific to GFG3 and its targets, the current crises would definitely have caused harm to many forest and protected areas. For example, the impact of COVID-19 was widespread, adversely affecting forest management, forest industry and trade, livelihoods, institutional capacities and investment opportunities.

Progress in GFG3

The world seems to have made reasonably good progress towards the GFG3. Many countries reported on their forest legislation, codes, and policies, which had specific provisions addressing protected areas or PAs in short (target 3.1), sustainable forest management or SFM in short (target 3.2), and the promotion of markets for products from sustainably managed forests (target 3.3). Global statistics show that 726 million ha of forests (about 18 percent of world’s forests) are now designated as protected areas. Except for Europe and North and Central America regions, proportionate forest areas under PAs are in double digits to total forest area. Europe and North America have already large areas under PAs and further expansion is unlikely (FAO 2020).

The global statistics also show a growing trend of forests being brought under long-term forest management plans, and supply of forest products coming from sustainably managed forests. However, the progress is uneven across the countries and regions. As of 2020, more than 2 billion ha of the world’s forests have management plans (about 54 percent of the total forest area). The area of forests under management plans is increasing in all regions – globally, it has grown by 135 million ha since 2010. However, there are considerable differences between regions. Almost all forests in Europe (96%) are being managed under some kind of management plans. Forests with long-term management plans in Europe (944 m ha) account for almost half of the total global forests under management plans. On the other hand, Africa and South America regions account for less than 25 percent of the forests under management plans, and Central America sub-region has the lowest number of forests under management plans (11%) (FAO 2020).

Certified wood has become synonymous with sustainable wood and is being used as an indicator (Fernholz 2012). As the current data shows, forest certification is concentrated to Europe and North America, and not so much in developing countries. Several factors have contributed to the slow adoption to certification in developing countries, for example, complicated procedures, additional financial and management burden, uncertainties over market benefits and incompatibility between legal setting and certification standards.

Even in developed countries such as the United States and New Zealand, the certification of forests owned by small forest owners is relatively lagging behind compared to certification of larger forests under the public ownerships such as in Canada (Perera and Vlosky, 2006; Fernholz et al., 2021). Moreover, a lack of certification does not automatically mean that a forest area is not sustainably managed. The owner of that forest may have chosen not to get certification for various reasons, including among others, a lack of information and additional cost involved in certification. Nevertheless, it is worthwhile to promote forest certification worldwide through support programmes including incentives to forest owners and managers to seek certification, and developing markets for certified wood products universally through raising awareness among consumers. In addition, it is desirable to explore other practical ways (indicators) to measure the extent of sustainably managed forests as well.

Strategies, policies, priority actions

All reporting countries to UNFF15 (2020) have mentioned a number of legal and policy provisions in support of the targets of GFG3.

In reference to target 3.1, China, in 2017, launched an Overall Scheme on the Establishment of National Park System, which will establish a unified management of national parks. Ghana empowers rural communities in the management of natural resources in conservation areas. Kenya's national forest programme set to achieve the national target of 10 percent forest cover by 2030 while Thailand's 20-year National Strategic Plan (2018-2037) aims to set aside 25 percent of its forests under protected area.

Bulgaria's Law for Biological Diversity defines 55 percent of its forest areas as ecological network. Canada has about 24 m ha of forest area protected (almost 7 percent of the country's total forest area), and has a national System to provide consistent, standardized and reliable tracking and reporting on the status of its protected areas.

Regarding targets 3.2 and 3.3, countries provided examples of laws, strategies, master plans, national forest programmes and national development plans aiming at, among others, SFM, management planning and controlling of illegal harvesting.

A number of countries, for example, Australia, Brazil and Botswana, have established forest and environment funds to promote sustainable forest management. Likewise, several countries have launched large-scale tree plantation programmes, including Mauritius, Kenya and Australia. For instance, Australia has a billion trees plantation programme in progress.

National laws mandate countries such as Austria, Serbia, Slovenia, Switzerland, Turkey and the US to manage their public forest under long-term forest management plans¹. Similarly, Ghana developed 76 management plans (out of the target of 100 by 2020) for its forests. Jamaica's Forest Policy 2017 has given a clear mandate to develop management plans for its forests. Papua New Guinea sets aside 10 percent of forest areas of a timber concession for conservation purposes; Nepal has adopted community forestry as a major policy intervention for the management of a substantial proportion of its forests.

¹ In the case of Austria, reported that under its Austrian Forest Act: § 1 all forests have to be managed in a sustainable manner.

This enables the Nepal Forestry administration to share management responsibilities and revenues with communities

In a few developed countries (e.g., Canada, Slovenia, the US) they already have their public forests under long-term forest management plans. Governments in such countries are encouraging private owners to manage their forests sustainably under long-term management plans through an array of policies, financial incentives, and technical extension services to support planning and SFM (Australia, Austria, Slovak Republic, the US).

Regarding Target 3.3, towards more forest products from sustainably managed forests, a number of countries have reported steps they have taken, including policies, legal frameworks and incentive programmes. Most widely reported activity is the promotion of forest certification but there are a few new and interesting initiatives as well. Countries have been encouraging forest certification through various kinds of incentives. New Zealand has launched an aggregation project to evaluate how small forest growers can more effectively aggregate their resources, coordinate with tax authority to address tax barriers to aggregation so as that small growers achieve economies of scale for sustainably managing their forests and afford group certification. Moreover, countries, such as Algeria and Cameroon, are not only bringing more forests under management plans but also promoting lesser-known timber species for sustainable production and marketing.

In the national reports submitted to UNFF15, countries including Australia, Austria, Japan, Brazil, Thailand, Nigeria, and Ghana have described policy measures, either in place or in the process of developing, for controlling illegal harvesting and marketing of forest products. New Zealand and Australia has started a joint initiative towards creating a joint standard guidance to assist companies undertake due diligence for chain of custody and sourcing. Australia also has in place the Illegal Logging Prohibition Act 2012 and related regulations. Brazil in 2018 has launched SINAFLOR as an improvement in tracking the transport of forest products and preventing illegal logging. Austria reported of the EU-Timber Regulation to prevent illegally harvested timber entering the EU market.

The use of wood and wood products is not only more sustainable but also contributes in addressing climate change impacts. A few countries including Australia, Austria, Canada and Japan have taken concrete steps, such as the revision of building codes and bio-energy strategy, to promote the use of wood and wood products as renewable raw materials substitutes to more energy intensive and non-renewable materials in building constructions. Russian Federation has initiated amendments to their forest regulation in 2020 to ensure roundwood chain-of-custody through a digital platform. It has also started a programme to promote wooden houses by providing banks with support for consumer loans of up to 350,000 Rubles (\$4,375).²

The new EU forest strategy will aim for effective afforestation, forest preservation and restoration in the EU so as to increase the potential of forests to absorb and store CO₂, promote the bio-economy, reduce the impact and extent of fires, and protect biodiversity.

Issues, gaps and challenges

² See the section titled, "Policy and regulatory developments affecting the forest products sector" (pp. 218-220). https://www.itto.int/direct/topics/topics_pdf_download/topics_id=6783&no=1

Some of the critical issues, gaps and challenges, mentioned in national reports, affecting progress towards GFG3, include the following:

- Global scale challenges such as climate change, biodiversity loss, land degradation;
- National level challenges
 - Insufficient means of implementation, in particular, funding and technical capacities for management in most developing countries as well as a few countries with economy in transition;
 - Forest certification related issues such as the lack of a national certification system, cumbersome certification requirements and challenges faced by small forest owners;
 - Data availability/reliability;
 - Public support/awareness to SFM;
 - Motivating businesses to SFM, developing market for lesser-known species, for certified wood;
 - Contradiction between protection and production, weak governance, institution, and lack of political will;
 - Forest fragmentation, inadequate protection;
 - Lack of policy coherence;
 - Pressure on forest land from other land uses such as agriculture, mining;
 - Insects, diseases, fire;
 - Aging forest owners;
 - Military conflict;
 - Illegal trade; and
 - Capacity building;

Since the national reports to UNFF15 were submitted in late 2019, prior to the beginning of COVID-19 pandemic, the reports did not mention the challenges posed by COVID-19. This is clearly a major challenge faced by the forest sector across the world, including in the achievement of GFG3.

In addition to the above challenges, the academic literature has revealed other relevant issues and challenges related to GFG3 targets; some of which are described below.

Threats to PAs

An assessment based on data from 1,961 PAs across 149 countries, has revealed two most reported threats to PAs are unsustainable hunting (61% of all PAs), and disturbance from recreational activities (55%). The next frequently reported threats include natural system modifications from fire or its suppression (49%), and invasive alien species (Schulze et al., 2017).

Climate change and PA management challenges

Thomas and Gillingham (2015), in their paper discussed about another level of challenges to PAs and biodiversity, in the face of changing climate. Climate changes have been driving large-scale shifts in the distributions of species and in the composition of biological communities. This has raised question about the continuing value of Protected Areas (PAs), given that PAs remain static, whereas species move, and they will likely continue to move under future climate scenarios.

PAs and people conflict

The issue of PA-people interaction is one of the key factors of failure (or success). Lack of equitable benefits, involvement in management decisions or lack of information, awareness, education are the contributing factors to such frictions or conflicts. Experiences in countries have shown that strict protection without considering the interests of local people surrounding PAs and excluding them from management decisions of the PAs lead to friction between conservation and social/economic interests. Positive conservation and socioeconomic outcomes were more likely to occur when PAs adopted co-management regimes and maintained cultural and livelihood benefits for local communities (Oldekop et al. 2021).

Quality of protected areas

While the international community has made remarkable progress towards the global target on protected and conserved area coverage, the management quality of these areas seems to be generally insufficient. To be effective, the protected areas need to include important sites for biodiversity, better connectivity as well as equitable sharing of benefits with local communities (IUCN 2022).

Forest certification

As mentioned earlier, forest certification including certified forest products have become more or less synonymous to sustainable forest management (Fernholz and Kraxner, 2012). However, forest certification has not been able to make much inroads in developing countries, because of different technical, financial, cultural factors. Apparently, current incentives are not sufficient to attract the majority of producers to seek certification, particularly in tropical developing countries where the costs of improving management to meet the requirements of forest certification schemes are significantly greater than any market benefits they may receive. On the other hand, uncertified forests should not be automatically assumed as unsustainably managed forests. A forest area could also be well managed forests under the principles of SFM. Moreover, the wood markets in developed countries demand certification not only on sustainability criteria but also on legality of forest products. Thus, current systems of forest certification are often deemed not sufficient.

Interlinkages

The role of trees and forests are many and therefore their conservation and sustainable management contribute to a number of SDGs. GFG3 and its three targets resonate with several SDGs, and obviously contribute to achieving those SDGs, directly, or indirectly. SDGs that are related to natural resources, natural resource-based economic issues, forests, environment and biological diversity exhibit direct linkages with GFG3 but other SDGs addressing social dimensions of sustainable development including poverty, hunger, health, water and sanitation, education, cities, climate change and governance are also linked with GFG3. The “Glasgow Leader’s Declaration on Forests and Land Use” of 2021 and a launch of “Climate and Forest Leaders’ Partnership” in 2022 during the Climate COP26 and COP 27 demonstrate the link between forests (and GFG3) and climate change, as well as the political commitment at the highest level for protection and sustainable management of forests for multiple purposes. Likewise, several targets of the recently adopted Kunming-Montreal Global Biodiversity Framework of CBD (GBF) show close link to GFG3 as they address the issues of protection, conservation, sustainable management, harvest, use, and consumption choices of forests.

The report makes the following recommendations for consideration by the Forum and its members:

- Encourage countries to include in their reports a few key empirical data and details on measures taken and results achieved related to GFG3 targets in addition to general information of actions on SFM, forest sector or environment/sustainable development;
- Request countries and CPF members to explore ways to measure progress on target 3.3 more realistically (preferably quantitatively) so that actual work being done on the ground are appropriately recognized and shared with the global community. Invite research organizations to focus their attention to this measurement challenge;
- Increase resources and capacity of national forest institutions;
- Take concrete steps to enhance coordination among government institutions and between different stakeholders, including indigenous peoples, local communities, women, youth, private sector and NGOs;
- In collaboration with civil society organizations, government agencies, forest-based industries and trade unions, and consumer groups, CPF may consider launching programmes to inform and educate consumers about the need to support forest products from sustainably managed forests, and for certified forest products;
- Consider undertaking a few in-depth case studies/impact assessments (in country or sub-region basis) to better understand the state of progress, approaches, factors enabling progress (or obstruction), and experiences/lessons learned, to be shared with the global community to learn from; and
- Consider UNFF, with support of the CPF, taking note of and facilitating the follow-ups of forest-related declarations and commitments for example, the Glasgow Leaders' Declaration, Forests and Climate Leaders' Partnership, Bonn Challenge, New York Forest Declaration 2014, and similar corporate sustainability pledges. This would enhance the standing of UNFF as the central intergovernmental body on all forest policy-related matters.

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1. INTRODUCTION

1.1 Context

Forests are a complex and vital component of the planet Earth's ecosystem. Forests embody numerous biological diversity ranging from pathogens, miniscule plants to giant trees, grasses, insects, and animal species, as well as abiotic resources such as water, minerals and soil. Human existence and civilizations evolved in and from forests, and despite the technological advances, human beings are and will continue to remain dependent on forests for the products and services they provide. As a home for 80 percent of terrestrial biological diversity, forests are essential not only to maintain earth's health but are also important resource for economic growth, employment, food security, and energy, as well as to address climate change and other environmental challenges (see Box 1).

Box 1. Five principal sets of services from forests

1. A habitat that affords a livelihood and way of life for forest dwellers
2. A habitat for a diversity of plant and animal species
3. Protection and nutrition of soils, associated watershed services, and prevention of desertification
4. Regulation of local and global climatic patterns through evapotranspiration and carbon sequestration
5. Production of wood for future use.

Cutting down trees may or may not bring about the loss of these services. If the land is converted to an alternative use, such as pasture, food crops, or urban development, most of these forest services will be lost. If trees are replanted after cutting, or if cutting is highly selective, some or most of these services may remain, depending on the resilience of the forest type.

Source World Bank, 1991

Due to various reasons, human demands on forests and forest lands are increasing. The most notable causes for relentless pressure on forest resources have been the increasing population; increasing demand on forests for products and services; and conversion of forest lands for expanding agriculture, infrastructure, industrial development and urbanization. This pressure has caused loss of forests since the dawn of human civilizations across the world. It is estimated that the world lost 420 million ha of forest through deforestation since 1990. However, due to concerted actions by the countries in the past few decades, the rate of forest loss has been declining substantially. In the most recent five-year period (2015–2020), the annual rate of deforestation was estimated at 10 million ha, down from 12 million ha in 2010–2015, and 15 million ha in 2000–2010 (FAO 2020).

Today the world is in the midst of critical crises in many areas such as environmental degradation, biodiversity loss, climate change, uneven or inequitable economic growth, diseases and other natural calamities. In addition, social, economic, and political challenges including food insecurity, conflicts, governance, gender inequality, and extensive gaps in human development (education, health, jobs,

living with dignity) are manifesting as looming threats to planetary and human sustainability. The world has been trying to respond to such crises for last several decades, starting from the 1992 United Nations Conference on Environment and Development, resulting in the Agenda 21 in 1992 and 2030 Agenda for Sustainable Development (2030 Agenda) in 2015. The 2030 Agenda is the most comprehensive global response to those multi-dimensional challenges, containing 17 sustainable development goals (SDGs) and associated 169 targets with year 2030 as the target date of accomplishment.

In all those global commitments, forests have been recognized as a critical component. Corresponding to those overarching global frameworks of sustainable development, there has been significant developments in global understanding and commitments to curb the loss of forests and promote sustainable forest management worldwide. The latest such commitment on forests at the intergovernmental level is the United Nations Strategic Plan for Forests 2017-2030 (UNSPF), developed through the United Nations Forum on Forests (UNFF) and adopted by the UN General Assembly in 2017³. The Strategic Plan serves as a reference for the forest-related work with clear shared vision, and mission, global goals and targets as well as implementation framework for member States, international organizations and relevant stakeholders of the UNFF. The UNSPF sets six global forest goals and 26 targets under the following overarching shared vision and mission statements.

Vision: A world where all types of forests and trees outside forests are sustainably managed, contribute to sustainable development and provide economic, social, environmental and cultural benefits for present and future generations.

Mission: To promote sustainable forest management and the contribution of forests and trees outside forests to the 2030 Agenda for Sustainable Development, including by strengthening cooperation, coordination, coherence, synergies and political commitment and actions at all levels.

Global forest goals (GFGs) and targets are presented in Annex 1.

The 18th and 19th sessions of UNFF in 2023 and 2024 will focus on two thematic priorities related to GFG2 and GFG3, as well as a cross-cutting thematic priority related to GFG4, 5 and 6. To provide solid foundation for productive discussions on the thematic priorities, the UNFF Secretariat has commissioned two separate background analytical studies. This study is the one focused on thematic priority 2 on GFG3 - *“Increase significantly the area of protected forests worldwide and other areas of sustainably managed forests, as well as the proportion of forest products from sustainably managed forests.”*

³ Glasgow Leaders’ Declaration on Forests and Land Use at UNFCCC COP-26, November 2021 may be considered a most recent political declaration on forests. <https://ukcop26.org/glasgow-leaders-declaration-on-forests-and-land-use/>.

1.2 Objectives of the study

The purpose of this study is to facilitate the technical discussions on Thematic Priority at UNFF18 and UNFF19, to be held in 2023 and 2024 respectively. The study should also be useful in the preparations of the Forum's input to the 2023 High Level Political Forum on Sustainable Development (HLPF).

1.3 Scope, methodology and limitation of the study

The study is global in scope and is based solely on the review of relevant published studies, national reports to UNFF15, news items, policy briefs, websites, and related documents. Thus, the study is mainly through secondary data collection methods, drawing heavily from the national reports to UNFF, Global Forest Resources Assessment 2020 (FRA 2020) and Global Forest Goals Report 2021 (GFGR 2021).

Due to the methodology adopted and limited timeframe for the study, there was no opportunity for verification through, for example, in-person interviews and field visits for data triangulation. FRA 2020 is the source for the latest global quantitative data on forests.

1.4 Structure of report

This report is organized in the following way. Section 2 presents a brief overview of current global crises and their implications on GFG3. Section 3 reviews the status of progress in achieving GFG3 and discusses strategies, policies and priority actions by countries; issues and challenges encountered, including gaps; and opportunities and lessons learned. This is followed by Section 4, which focuses on GFG3 and its linkages to related SDGs and other relevant goals, objectives, and targets of global processes and frameworks, including the Paris Agreement on Climate Change, the recently adopted Kunming-Montreal Global Biodiversity Framework⁴, and the UN decade on ecosystem restoration, among others.

The last section - Section 5 - focuses on way forward by drawing conclusions and offering recommendations for consideration by the UNFF and its members.

⁴ https://prod.drupal.www.infra.cbd.int/sites/default/files/2022-12/221219-CBD-PressRelease-COP15-Final_0.pdf

2. Current global crises and GFG3

2.1 Economic outlook

The world is in the midst of cascading and interlinked global crises and conflicts in the past few years. With the COVID-19 pandemic in its third year, the war in Ukraine is exacerbating food, energy, humanitarian and refugee crises – all against the background of a full-fledged climate emergency (UN 2022).

According to the most recent World Economic Outlook of October 2022 by the IMF⁵, the world is facing a serious economic crisis. Global economic activity is experiencing a broad-based and sharper-than-expected slowdown, with inflation higher than seen in several decades. Now, a "cost-of-living crisis" threatens livelihoods everywhere, with the most vulnerable hit the hardest, and acute food insecurity is an unbearable hardship in too many parts of the world. The ongoing Russia-Ukraine conflict and the lingering COVID-19 pandemic all weigh heavily on economic outlook. Global growth is forecast to slow from 6.0 percent in 2021 to 3.2 percent in 2022 and 2.7 percent in 2023 (Figure 1). This is the weakest growth profile since 2001 except for the global financial crisis and the acute phase of the COVID-19 pandemic. Global inflation is forecast to rise from 4.7 percent in 2021 to 8.8 percent in 2022 but to decline to 6.5 percent in 2023 and to 4.1 percent by 2024. While policymakers are responding, multi-decade inflation highs, tightening financing conditions, rising food and energy insecurity, capital flow disruptions, and high debt levels point to a difficult and uncertain period ahead—especially in the context of slowing growth in the US, Europe, and China. The increasing frequency and intensity of climate-related disasters—devastating floods, droughts, and wildfires—add to these challenges (IMF 2022).

Figure 1. IMF's global growth projection



⁵ <https://www.imf.org/en/Publications/WEO/Issues/2022/10/11/world-economic-outlook-october-2022>

2.2 Ukraine Conflict

The current Ukraine conflict since February 2022 has brought many changes on forests and timber trade at global and local levels. In addition to the damage to forests in the conflict areas, it has impacted global timber markets, bringing supply and price shocks. Trade sanctions and restrictions on financial transactions imposed by a number of countries halted shipments from Russia and Belarus. Exports from Ukraine were also disrupted. The two major wood certification organizations, the FSC and the PEFC, have labeled all timber from Russia and Belarus as “conflict timber”⁶, following the sanctions imposed on Russia by some countries. This timber can no longer be used in products deemed certified, which will impact any country buying wood from Russia or Belarus to manufacture products for the international market⁷ (Adams 2022).

There is a report of more than 160,000 ha of forests being destroyed by fire between February and May 2022. A less immediate but equally serious issue of concern to Ukraine’s forests has emerged in recent months. A number of proposals to simplify the harvesting of old forests are currently being considered as emergency measures to rescue the country from this economic crisis. These and other steps have resulted in a 10-25% increase in felling volumes in recent months throughout Ukraine’s western regions compared to the same period in 2021. Activists fear this increase is only the beginning (Hrynyk 2022).

Furthermore, it is obvious that conflict must have disturbed forests and any declared or undeclared PAs in the conflict areas in many ways.

2.3 COVID-19 and forests

In the Sustainable Development Goals Report 2022, the UN Under-Secretary-General presented a stark and grave situation the world is facing today. He wrote:

“Over the past two years, the COVID-19 pandemic has wreaked havoc on almost every aspect of our lives. And it is still far from over. The pandemic wiped out more than four years of progress on poverty eradication and pushed 93 million more people into extreme poverty in 2020. It has disrupted essential health services, resulting in a drop in immunization coverage for the first time in a decade and a rise in deaths from tuberculosis and malaria, among many other impacts. Prolonged school closures put 24 million learners – from pre-primary to university levels – at risk of not returning to school.”

Although the spread of COVID has been much less now than in the beginning period of the pandemic, largely due to the drastic measures taken by countries, changes in social behaviour and particularly due to the invention and application of vaccines, the threat from this virus is still far from over. The Notes prepared by the UNFF Secretariat for UNFF16 (2021) and UNFF17 (2022) sessions have described the key impacts on forests worldwide, the measures taken by governments and other stakeholders and challenges faced in the recovery processes. The impact was widespread, adversely affecting forest management, forest industry and trade, livelihoods of people dependent on forests and forest-based

⁶ It should be noted that Russian Federation currently has the second largest area of certified forests (54.1 million ha) after Canada with 167 million ha (FAO 2020).

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enterprises, institutional capacities and investment opportunities, financing and international cooperation for SFM. Countries faced delay in and the reduction of planned forest management activities, incidence of forest fires increased, illegal harvesting of forest products and reverse migration from urban areas to rural areas due to loss of jobs linked to the pandemic put additional pressure on forests.

Supply chains have been adversely affected, decline in most timber trades as economic activities were sharply reduced due to the lockdowns and movement restrictions to contain coronavirus spread. Forest-based ecotourism and other recreational activities were negatively impacted. In many developing countries of Africa, the Asia-Pacific region and Latin America and the Caribbean, a decrease in income was observed in forest-based tourism and recreational industries due to supply chain disruptions and travel restrictions. It was reported that in some areas of Africa, women were disproportionately impacted as they lost their forest income when urban dwellers moved back to rural communities and entered the forest sector. North America and Western and Eastern Europe reported a surge in the use of forests for recreational purposes during the pandemic, with some challenges arising, particularly those related to local overuse. In addition, forest research and conferences were disrupted. However, there were some unique innovations such as digitization of administrative functions such as issuing of electronic permits and virtual meetings using ITC gained popularity as alternate means of interactions and communications. Also, while demand for certain traditional wood and wood products declined during the peak period of the pandemic, demand for packaging materials, pellets and tissue for masks and sanitary products remained stable or increased.

2.4 Concluding notes on section 2

In conclusion, the global, persistent and cascading economic, health and conflict crises affect every sector and forest is no different. These crises have set back the progress made in SDGs, climate, economic stability, poverty, health, livelihoods and peace, just to name a few. In terms of the specific impact on GFG3 and its targets, at this stage only an educated guess can be made that the Goal3 and its targets are most likely impacted in negative ways. Humanitarian crisis and conflicts would definitely have cause harm to many forest and protected areas. As reported in Ukraine, wildfires due to conflicts, and plan to harvest trees for national emergency purposes can have long-term impact on sustainability of its forest resources. Forest management will likely suffer leading to ability to supply sustainably produced timber. As described above about conflict timber, even a forest product coming from previously certified forests could be prohibited from entering international markets. It also revealed the complexity in practicing sustainable forest management because forest issues are as much a technical issue as a social, economic, environmental and international political issue.

3. CURRENT STATE OF PROGRESS ON GFG3 AND ISSUES/CHALLENGES

3.1 Current data on progress made on GFG3 targets

The brief overview of progress on GFG3 is based on information from a number of sources, including reports, academic studies and assessments, most notably the Global Forest Goals Report 2021, Global Forest Resources Assessment 2020 and the national reports to UNFF15 (2018). The national reports provided rich information about the policy and other measures taken and challenges encountered by countries in support of the implementation of UNSPF and its goals in general and GFG3 in particular.

The world seems to have made reasonably good progress towards the GFG3. Many countries reported of their forest legislation, codes, and policies, which had specific provisions addressing protected areas (target 3.1), sustainable forest management (target 3.2), and the promotion of markets for products from sustainably managed forests (target 3.3). Global statistics show that about 18 percent of world's forest is now designated as protected area (FAO 2020, GFG3 2021). This not only demonstrates progress on Target 3.1 but also exceeds the Aichi Biodiversity Target 11⁸. The global Statistics also show a growing trend of forests being brought under long-term forest management plans, and supply of forest products coming from sustainably managed forests. However, the progress is uneven across the countries and regions when against the magnitude of the challenges (FAO 2020).

3.1.1 The area of forests worldwide designated as protected areas or conserved through other effective area-based conservation measures is significantly increased (Target 3.1)

Protected areas (PAs) of forests play an important role in conserving forests and biodiversity within the designated protected areas from further damage due to human induced pressures and providing an enabling environment for those forest resources to recover and rehabilitate. According to Schulze et al. (2017):

⁸ Aichi Biodiversity Target 11 - to protect at least 17% of terrestrial area globally by 2020; this target was exceeded for forests at the global level, and for most regions.

“A principal objective of PAs is to conserve nature by eliminating, minimizing, or reducing human pressures and threats operating within their boundaries. Protected areas (PAs) represent a cornerstone of efforts to safeguard biodiversity, and if effective should reduce threats to biodiversity.”

Box 2. What is a Protected Area (PA)?

IUCN: A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.

Australia: Within the IUCN definition, Australia governments has set the following minimum standards:

- The land must be designated a ‘protected area’ to be conserved forever.
- The land must contribute to the comprehensiveness, adequacy and representativeness (CAR), of the National Reserve System – in other words it must meet certain scientific criteria and strategically enhance the protected area network.
- The land must be managed to protect and maintain biological diversity according to one of six international classes developed by IUCN.

Sources: <https://www.iucn.org/our-work/topic/effective-protected-areas>

<https://www.dceew.gov.au/environment/land/nrs/about-nrs/requirements>

The world has seen a noticeable growth in forest protected areas in the recent years. Based on the recent FRA 2020 statistics, there is an estimated 726 million ha of forests in protected areas worldwide (Table 1)⁹, accounting for approximately 18 percent of the world’s forests. The area of protected areas globally has increased by 191 million ha since 1990. The annual average growth during 2010-2020 was over 2.8 million ha whereas it was over 10 million ha in the preceding decade (2000-2010).

⁹ This statistics is based on the information FRA 2020 received on the area of forest in protected areas in 2020 from 173 countries and territories accounting for 97 percent of the global forest area.

Table 1: Forest Area in Legally Established Protected Areas

Region	Total, 2020	Annual Change, 2010-2020	Share of Forest Area, 2020
	Million ha	Million ha	%
Africa	158	0.2	27
Asia	144	0.7	25
Europe	58	0.5	6
North & Central America	80	0.2	11
Oceania	29	0.2	16
South America	257	1.0	31
World	726	2.8	18

Source: GFGR 2021 Table 6, p. 39; adopted from FAO 2020

The proportion of forests in protected areas is more than 30 percent in South America; 11 percent in North and Central America; and 6 percent in Europe. The relatively low proportion of forests in protected areas in Europe is influenced heavily by the Russian Federation, which reported that 2.3 percent of its forest area is protected; if the Russian Federation is excluded, the figure for Europe rises to about 20 percent (FAO 2020).

The ten countries with the largest areas of formally protected forests account for over 447 million ha, which accounts for almost 62 percent of all forests in protected areas worldwide, i.e., close to 726 million ha (Table 2). Fifteen countries reported that more than 50 percent of their forest area is under formal protection (FAO 2020).

TABLE 2. Top ten countries for forest in protected areas, 2020

Ranking	Country	Forest in protected areas		
		Area (1 000 ha)	Share of global total (%)	Cumulative %
1	Brazil	149 577	21	21
2	Indonesia	51 770	7	28
3	Venezuela (Bolivarian Republic of)	45 605	6	34
4	Zambia	31 831	4	38
5	United States of America	31 735	4	43
6	China	30 350	4	47
7	Canada	29 507	4	51
8	United Republic of Tanzania	28 508	4	55
9	Democratic Republic of the Congo	24 297	3	58
10	Australia	24 072	3	62

Source: FAO 2020 (Table 61, p. 72)

3.1.2 The area of forests under long-term forest management plans is significantly increased (Target 3.2)

As of 2020, more than 2 billion ha of the world's forests have management plans¹⁰ (about 54 percent of their total forest area), and the area of forests under management plans is increasing in all regions – globally, it has grown by 135 million ha since 2010. However, there are considerable differences between regions (Table 3).

Almost all forests in Europe (96%) are being managed under some kind of management plans. Forests with long-term management plans in Europe (944 m ha) account almost half of the total global forests under management plans. On the other hand, Africa and South America regions account for less than 25 percent of the forests under management plans, and Central America sub-region has the lowest number of forests under management plans (11%). It may possible that at country level many developing countries may have much lower percentage of forests under management plans. From the available global statistics and national reports, it is difficult to make any firm assessment on how effectively and sustainably the forests under those long-term management plans are being managed. The statistics can only indicate the trend of efforts by countries to bring their forests under long-term management plans. And the trend is positive almost in all regions and sub-regions (Table 4), which is important and encouraging. As such, the GFG Report 2021 concluded that between 2015 and 2030, most regions were on track to significantly increase or maintain the area of forest under long-term management plans.

Table 3. Area of forest with long-term management plans, by region and subregion, 2020

Region/subregion	Data availability		Forest with management plans	
	No. of reporting countries	% of total forest area	Area (1 000 ha)	% of forest area
Eastern and Southern Africa	14	80	59 156	25
Northern Africa	5	77	9 202	34
Western and Central Africa	17	91	61 853	22
Total Africa	36	85	130 211	24
East Asia	4	98	195 586	74
South and Southeast Asia	9	83	123 983	51
Western and Central Asia	11	84	33 915	73
Total Asia	24	89	353 484	64
Europe excl. Russian Federation	36	82	128 591	77
Total Europe	37	96	943 836	96
Caribbean	8	51	2 759	68
Central America	4	47	1 133	11
North America	5	100	428 803	59
Total North and Central America	17	98	432 695	59
Total Oceania	9	97	55 713	31
Total South America	12	95	133 879	17
WORLD	135	94	2 049 817	54

¹⁰ This statistics is based on the information provided to FRA 2020 by 135 countries and territories representing 94 percent of the global forest area.

Source: FAO 2020, (Table 63, p. 73)

Table 4. Forest area with long-term management plans, and annual change, by region and subregion, 2000–2020

Region/subregion	Data availability		Forest area with management plans (1 000 ha)			Annual change (1 000 ha/yr)	
	No. of reporting countries	% of total forest area	2000	2010	2020	2000–2010	2010–2020
Eastern and Southern Africa	12	80	41 149	44 651	59 151	350	1 450
Northern Africa	4	71	5 234	7 851	8 938	262	109
Western and Central Africa	12	47	32 971	38 707	49 551	574	1 084
Total Africa	28	64	79 354	91 210	117 639	1 186	2 643
East Asia	4	98	140 231	162 691	195 586	2 246	3 289
South and Southeast Asia	9	83	112 875	120 986	123 983	811	300
Western and Central Asia	8	77	27 292	30 502	33 403	321	290
Total Asia	21	89	280 397	314 178	352 973	3 378	3 879
Europe excl. Russian Federation	31	80	124 767	122 417	127 091	-235	467
Total Europe	32	96	934 036	937 552	942 337	352	478
Caribbean	8	51	1 471	1 972	2 759	50	79
Central America	2	31	26	19	23	-1	n.s.
North America	5	100	385 531	399 391	428 803	1 386	2 941
Total North and Central America	15	97	387 029	401 382	431 585	1 435	3 020
Total Oceania	8	25	12 044	12 458	12 453	41	-1
Total South America	12	95	64 970	98 758	133 879	3 379	3 512
WORLD	116	87	1 757 831	1 855 538	1 990 865	9 771	13 533

Note: n.s. = not significant.

Source: FAO 2020, (Table 64, p. 74)

3.1.3 The proportion of forest products from sustainably managed forests is significantly increased (Target 3.3)

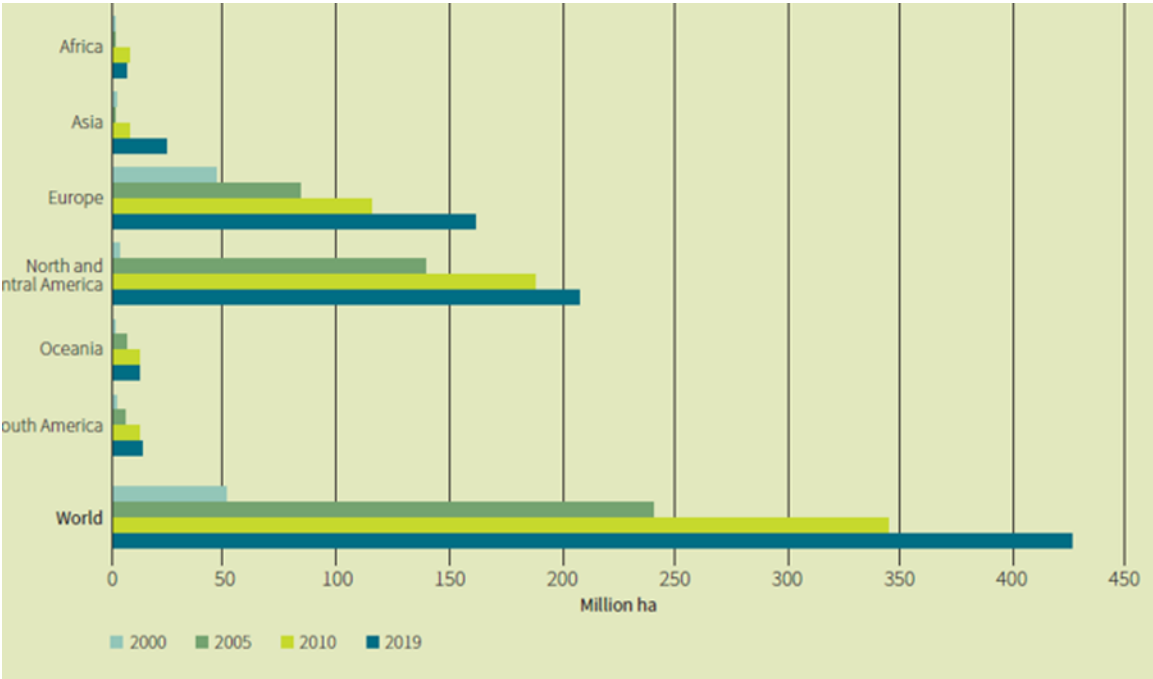
About 1.15 billion ha of world's forests (about 30 percent) are managed primarily for the production of wood and non-wood forest products. Additional 749 million ha forests are designated for multiple use, which often includes production. Worldwide, the area of forests designated primarily for production has been relatively stable since 1990 (FAO 2020).

There is no simple approach for measuring the amount of forest products produced and brought to market from sustainably managed forests. However, certified wood has become synonymous with sustainable wood and is being used as an indicator (Fernholz 2012). Certification schemes consist of two essential components: forest management certification and product certification, also known as 'chain of custody' certification (Perera and Vlosky, 2006). Thus, in addition to promoting SFM, the core element of forest certification is to provide information for the consumers to consider when making purchasing decisions for forest products, and to empower consumers to buy products that come from sustainable sources. Therefore, the underlying assumption behind the adoption of forest certification is that consumers are concerned about the state of forests and the impacts of forest management, and such attitudes are translated into their behaviour to purchase environmentally certified forest products (Holopainen, 2012).

The forest area under forest certification is a sub-indicator of Sustainable Development Goal indicator 15.2.1 (“progress towards sustainable forest management”) and FAO reports on this sub-indicator to UN Statistics Division annually based on data provided by the secretariats of the two major international certification schemes: the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC).

The total net certified forest area in 2019 was 426 million ha¹¹, and the general trend is positive although with different regional paces. The majority of the certified forests are in Europe and North America (see Figure 2) since the beginning of movement for forest certification in mid 1990s. Currently, Canada had by far the most, at 167 million ha, followed by the Russian Federation (54.1 million ha) and the United States of America (38.1 million ha). These three countries together accounted for more than 60 percent of the world’s certified forest area in 2019. (FAO2020).

Figure 2. Total area of certified forest after adjustment for double certification under FSC and PEFC, by region, 2000-2019



Source: FAO 2020 (Figure 34, p. 75)

It should be underscored that certification of forest management is not a fail-proof measure of forests under sustainable management. As the current data shows, forest certification is concentrated to Europe and North America. The forest certification trend in developing countries seemed to be still very low despite the fact that prevention of deforestation in tropical regions was among the main reasons for introduction of forest certification in early 1990s. Several factors have contributed to the slow adoption to certification in developing countries. Some of the critical factors revealed from the review of literature and national reports to UNFF include complicated procedures, additional financial and

¹¹ In 2019, total forest area under FSC certification was 200 million ha and under PEFC was 319 million. Of these areas, 93 million ha was certified under both systems; thus, adjusting for doubly certified forests, the total net certified forest area in 2019 was 426 million ha.

management burden, uncertainties over market benefits and incompatibility between legal setting and certification standards. Even in developed countries such as the United States and New Zealand, the certification of forests owned by small forest owners relatively lag behind compared to certification of larger forests under the public ownerships such as in Canada (Perera and Vlosky, 2006; Fernholz et al., 2021)¹².

Moreover, a lack of certification does not automatically mean that a forest area is not sustainably managed. The owner of that forest may have chosen not to get certification for various reasons, including among others, a lack of information and additional cost involved in certification. Here, it is relevant to note the conclusion by Fernholz et al. (2021):

“The world gives little thought to how much forestland or wood is certified. To the extent governments, companies, conservation organizations, and others are paying attention, the questions are more along the lines of: are forests being sustainably managed? And how can we responsibly source products from forests? Certification has been able to serve as a proxy for the answers, especially as it experienced strong growth and seemed like a silver bullet solution. But the limitations of forest certification as the single answer to the diverse drivers of land use change have become increasingly clear. As a result, the past decade has seen steady growth of private and public sector alternative approaches manifested within supply chains, technology innovations, and government policies. To some degree, each of these developments pose a threat to the future of forest certification. However, this growing interest and innovation also presents the opportunity to revisit the original questions and recommit to identifying collaborative ways of securing the future of forests and forest products.

“There is growing recognition that forests can be at the center of a circular bioeconomy, the structure for a healthy and more equitable built environment, and the source of global natural climate solutions. These opportunities are much bigger than the tools and solutions offered by forest certification, and they will require massive cooperation and significantly greater resources. To realize this potential for forests and forest products, relevant organizations must know how to work together to build alliances and reduce friction.”

Nevertheless, it is worthwhile to promote forest certification worldwide through support programmes including incentives to forest owners and managers to seek certification and developing markets for certified wood products universally through raising awareness among consumers. In addition, It is desirable to explore other practical ways (indicators) to measure the extent of sustainably managed forests as well.

¹² Fernholz et al., 2021 found that approximately 71 percent of the FSC certified forest area and about 80 percent of the PEFC certified forest area in North America are in Canada. They conclude that landownership difference between Canada and the US contribute to this distribution pattern. Most forests in Canada are in public ownership whereas a large portion of forestlands in the US (58 percent) are privately owned and commonly in smaller sizes that are less likely engage in certification. The national report of New Zealand described about a project to facilitate certification of small forestland holders through group certification.

3.2 Strategies, policies and priority actions by countries and other stakeholders

All reporting countries to UNFF15 (2020) have mentioned a number of legal and policy provisions in support of the targets of GFG3. From the review of the national reports, countries are making serious effort in policies, strategies and programmes to increase protected forest areas, wider application of sustainable forest management practices, controlling illegal forest activities and promoting forest products from sustainably managed forests.

Several countries provided specific examples of policy measures and quantitative data related to protected areas (Target 3.1), such as the increase in number and hectares of protected areas and conservation areas. In 2017, China launched an Overall Scheme on the Establishment of National Park System, which will establish a unified management of national parks. Ghana empowers rural communities in the management of natural resources in conservation areas. Kenya's national forest programme (nfp) set to achieve the national target of 10 percent forest cover by 2030 while Thailand's 20-year National Strategic Plan (2018-2037) aims to set aside 25 percent of its forests under protected area.

Bulgaria's Law for Biological Diversity defines 55 percent of its forest areas as ecological network. Canada has about 24 m ha of forest area protected (almost 7 percent of the country's total forest area). The Canadian Council of Ecological Areas maintains a national Conservation Areas Reporting and Tracking System (CARTS) provides tracking and reporting on the status of Canada's protected areas in a consistent, standardized and reliable manner.

Regarding targets 3.2 and 3.3, countries provided examples of laws, strategies, master plans, national forest programmes and national development plans aiming at, among others, SFM, management planning and controlling of illegal harvesting.

A number of countries, for example, Australia, Brazil and Botswana, has established forest and environment funds to promote sustainable forest management. Likewise, several countries have launched large-scale tree plantation programmes, including Mauritius, Kenya and Australia. For example, Australia has a billion trees plantation programme in progress.

National laws mandate countries such as Austria, Serbia, Slovenia, Switzerland, Turkey and the US to manage their public forest under long-term forest management plans¹³. Similarly, Ghana developed 76 management plans (out of the target of 100 by 2020) for its forests. Jamaica's Forest Policy 2017 has given a clear mandate to develop management plans for its forests. Papua New Guinea sets aside 10 percent of forest areas of a timber concession for conservation purposes; Nepal has adopted community forestry as a major policy for the management a substantial proportion of its forests by sharing management responsibilities and revenues with communities

However, a few countries (e.g., Canada, Slovenia, the US) noted that forest areas under long-term management plans have not been growing in the recent past because they already have their forests (which are mostly publicly owned) under such plans. On the other hand, governments in such countries

¹³ In the case of Austria, reported that under its Austrian Forest Act: § 1 all forests have to be managed in a sustainable manner.

encourage private owners for manage their forests sustainably under long-term management plans through an array of policies, financial incentives, and technical extension services to support planning and SFM (Australia, Austria, Slovak Republic, US). Japan, on the other hand revealed another aspect of forest management – the older age of private forest owners. The proportion of privately-owned forest with forest management plans remain relatively low (at about 30 percent as of March 2018) due to the aging of forest owners and difficulty of identifying ownership and boundaries of forest properties following the inheritance procedures.

Regarding Target 3.3, towards more forest products from sustainably managed forests, a number of countries have reported steps they have taken, including policies, legal frameworks and incentive programmes. Countries have been encouraging forest certification through various kinds of incentives. New Zealand has launched an aggregation project to evaluate how small forest growers can more effectively aggregate their resources, coordinate with tax authority to address tax barriers to aggregation so as that small growers achieve economies of scale for sustainably managing their forests and afford group certification. Moreover, countries, such as Algeria and Cameroon, are bringing more forests under management plans and promoting lesser-known timber species for sustainable production and marketing. Kenya’s aims to achieve sustainable supply of forest goods and services by 2030; enhance sustainable livelihoods for forest-dependent communities; and drive the country towards sustainable economic development.

Countries including Australia, Austria, Japan, Brazil, Thailand, Nigeria, and Ghana described policy measures put in place or in the process of developing for controlling illegal harvesting and marketing of forest products. Some of the notable examples include, a New Zealand and Australia joint initiative towards creating a joint standard guidance to assist companies with for due diligence for chain of custody and sourcing. Australia also has in place the Illegal Logging Prohibition Act 2012 and related regulations. Brazil in 2018 has launched SINAFLOR as an improvement in tracking the transport of forest products and preventing illegal logging. Austria reported of the EU-Timber Regulation to prevent illegally harvested timber entering the EU market.

A few countries including Australia, Austria, Canada, Japan) have taken concrete steps, such as the revision of building codes and bio-energy strategy, to promote the use of wood and wood products as renewable raw materials substitutes to more energy intensive and non-renewable materials in building constructions. The use of wood and wood products is not only more sustainable but also contributes in addressing climate change impacts (see Box 3).

Box 3. Wood Encouragement Policies (WEPs)

Generally referred to as “Wood Encouragement Policies (WEPs)”, there are policies formulated at the national or subnational level to promote the use of wood as a building material –they are in place in (for example) Australia, Canada, France, Germany, Japan, New Zealand and the United States of America. WEPs are designed to support local forest industries, sustainable economic development and climate-change mitigation objectives. Most, but not all, WEPs target public buildings.

Source: FAO. 2022.

In addition to the national reports to UNFF, the following relevant information from the ITTO's Biennial review and assessment of the world timber situation 2019-2020¹⁴:

- Europe's policy focus has been on climate change and circular economy, legal and sustainable harvesting of forests and the increased use of wood for construction. Obviously, this has direct impact on forest management and supply of forest products within and outside of European region. The European Council recognized a new EU forest strategy to further strengthen the consistency and coherence of EU forest related policies after 2020. The new EU forest strategy will aim for effective afforestation, forest preservation and restoration in the EU so as to increase the potential of forests to absorb and store CO₂, promote the bio-economy, reduce the impact and extent of fires, and protect biodiversity.
- Russian Federation has initiated amendments to their forest regulation in 2020 to ensure roundwood chain-of-custody through a digital platform. It has also started a programme to promote wooden houses by providing banks with support for consumer loans of up to 350,000 Rubles (\$4,375).

3.3 Issues, gaps and challenges

While the centrality of forests to well-being of planet and people due to multiple roles and benefits provided by forests, the same characteristics of forests also make it very challenging to achieve consensus on the objectives of forest management among forest stakeholders and sectoral interests (GFG3 2021). This section highlights some of the critical issues, challenges and gaps from global to local and from policies and strategies to technical aspects, in making progress towards GFG3.

The following are the key challenges emerged from 52 national reports to UNFF15 (2018):

- Global scale challenges such as climate change, biodiversity loss, land degradation (Canada, Austria, Niger, Slovenia, Turkmenistan);
- National level challenges
 - Insufficient means of implementation, in particular, funding and technical capacities for management in most developing countries as well as a few countries with economy in transition (Central African Republic, Cote d'Ivoire, Ghana, Guinea, Guinea-Bissau, Kenya, Myanmar, Senegal, Serbia, Suriname, Thailand, Turkmenistan);
 - Forest certification related issues such as the lack of national certification system (Philippines), cumbersome certification requirements (South Africa, Suriname) and challenges faced by small owners (New Zealand);
 - Data availability/reliability (Algeria, Eswatini, Kenya);
 - Public support/awareness to SFM (Australia, Nigeria, Slovak Republic);
 - Motivating businesses to SFM, developing market for lesser-known species, for certified wood (Australia, Cameroon, Bulgaria);
 - Contradiction between protection and production (China, Philippines, United States);
 - Weak governance, institution (Lesotho, Mauritius);

¹⁴ See the section titled, "Policy and regulatory developments affecting the forest products sector" (pp. 218-220). https://www.itto.int/direct/topics/topics_pdf_download/topics_id=6783&no=1

- Lack of political will (Eswatini, Serbia, Sri Lanka, Sudan, Thailand);
- Forest fragmentation, inadequate protection (Mauritius, Myanmar, Niger, United States);
- Lack of policy coherence (Cote d'Ivoire, Myanmar);
- Pressure on forest land from other land uses such as agriculture, mining (Cameroon, Cote d'Ivoire, Kenya, Mauritius, Philippines, Republic of Korea, Suriname);
- Insects, diseases, fire (Eswatini, Lesotho);
- Aging forest owners (Japan);
- Military conflict (Ukraine);
- Illegal trade; and
- Capacity building.

Due to several issues, in particular, country capacities and resources, gathering and maintaining quality statistics and data have remained a serious challenge to most countries. Lack of sufficient, complete, updated, standardized and comparable data hinders management, monitoring, assessment, and reporting of progress in GFGs as well as other related global goals and targets. Needless to say, such lack of data also frustrates national and local level management systems.

Since the national reports to UNFF15 were submitted in late 2019, prior to the beginning of COVID-19 pandemic, the reports did not mention the challenges posed by COVID-19. This is clearly a major challenge faced by the forest sector across the world, including in the achievement of GFG3.

In addition to above challenges, the academic and scientific literatures have revealed other highly relevant gaps, issues and challenges related to GFG3 targets; some of which are described below.

Threats to PAs

Based on situ data from 1,961 PAs across 149 countries, assessed by PA managers and local stakeholders two most reported threats to PAs are unsustainable hunting (61% of all PAs), and disturbance from recreational activities (55%). The next frequently reported threats include natural system modifications from fire or its suppression (49%), and invasive alien species (Schulze et al., 2017).

The main reported threats in developing countries were linked to overexploitation for resource extraction, while negative impacts from recreational activities in PAs dominated in developed countries. Threats from overexploitation in PAs in developing countries were in part, because local communities in and around PAs in developing countries typically depend on hunting and other resource collection for their livelihood, whereas threats in developed countries were more frequently linked to human disturbance through recreational activities, such as off-road vehicle¹⁵ access, cross-country skiing, mountain biking, or hiking. Such spatial differences in the importance of threats also suggest very different solutions to address threats on the ground, for example, to ensure sustainable livelihoods for local communities in developing countries ideally emphasizing areas outside of reserves, and to regulate and control visitor activities in PAs in developed countries. The authors also noted that the number of

¹⁵ In the strict sense of PAs, recreational activities such as off-road vehicles should not be allowed to operate, or should be strictly regulated.

reported threats was lower in PAs with greater remoteness, higher control of corruption, and lower human development scores (ibid).

The authors of the paper noted that fire per se is not a threat, but its frequency and/or severity are greater or less than natural. They assume climate change, the frequency of uncontrolled or inappropriate burning (e.g., from agricultural clearance activities close to PA boundaries), and fire suppression, leading to more severe wildfires once ignited could lead the threat from fire to more severe category in the future. The fourth most frequently reported threat globally is invasive alien species (ibid).

The authors acknowledged that many of the most serious threats to PAs are difficult to monitor with remote sensing, and highlight the importance of in situ threat data to inform the implementation of more effective biodiversity conservation in the global protected area estate (ibid).

Climate change and PA management challenges

Thomas and Gillingham (2015), in their paper discussed about another level of challenges to PAs and biodiversity the PAs are mandated to protect and conserve, in the face of changing climate.

Climate changes have been driving large-scale shifts in the distributions of species and in the composition of biological communities. This has raised question about the continuing value of Protected Areas (PAs), given that PAs remain static, whereas species move, and they will likely continue to move under future climate scenarios.

PAs have continued to accommodate many species, which have shifted to higher elevations, to poleward-facing aspects, and into cooler microhabitats within PAs as the climate has warmed. Nevertheless, even when species have declined in some PAs, they often remain more abundant inside than outside PAs. As species expand their ranges poleward in response to global warming, The 40-year track record of species responding to environmental change in PAs suggests that networks of PAs have been essential to biodiversity conservation and are likely to continue to fulfil this role in the future. The challenge for managers will be to consider the balance between retaining current species and encouraging colonization by new species. Such a scenario may be more likely for animal species in short or medium term but eventually plant species would also need to move to different areas or even vanish due to warming climate and its other impact on environment. Although species composition in PAs may be changing due to climate change the importance of PAs for conservation of biodiversity would most likely not diminish in the future.

PAs and people conflict

The issue of PA-people interaction is one of the key factors of failure (or success). Lack of equitable benefits, involvement in management decisions or lack of information, awareness, education are the contributing factors to such frictions or conflicts. Experiences in countries have shown that strict protection without considering the interests of local people surrounding PAs and excluding them from management decisions of the PAs lead to friction between conservation and social, economic interests.

Governments and donors should pay attention to such crucial aspects of implementation. Otherwise, there is a real risk of PAs remaining just paper parks. When local communities are stakeholders are duly engaged in PA management and benefit-sharing arrangements are made, positive results can emerge.

But when local communities who rely on forest products are denied access to sustainable use of forest products from PAs for their livelihoods or are hurt by wildlife in PAs, they become resentful of the establishment of PAs. A recent example of such relationship was seen in a recent BBC video news on the success of Nepal in meeting its goal of doubling the tiger population. A community leader who was previously mauled by a tiger in a national park in Nepal is now an activist for tiger conservation because he understood the value of protecting forests and tiger in the park, and saw economic benefits coming to communities near and around the park.

From a global meta-analysis on 165 PAs using data from 171 published studies, Oldekop et al. (2015) assessed how PAs affect the well-being of local people, the factors associated with these impacts, and crucially the relationship between PAs' conservation and socioeconomic outcomes. Protected areas associated with positive socioeconomic outcomes were more likely to report positive conservation outcomes. Positive conservation and socioeconomic outcomes were more likely to occur when PAs adopted co-management regimes, empowered local people, reduced economic inequalities, and maintained cultural and livelihood benefits. Whereas the strictest regimes of PA management attempted to exclude anthropogenic influences to achieve biological conservation objectives, PAs that explicitly integrated local people as stakeholders tended to be more effective at achieving joint biological conservation and socioeconomic development outcomes. In some cases, strict protection may be needed in some circumstances, in general, conservation and development objectives can be synergistic. Studies have shown that sustainable-use PAs are more likely to result in successful socio-economic outcomes than more strictly protected areas. Implementing policies taking into account the interests of local communities and indigenous peoples was also seen as a challenge (Oldekop et al., 2015; GFGR 2021).

Quality of protected areas

While the international community has made remarkable progress towards the global target on protected and conserved area coverage, the management quality of these areas seems to be generally insufficient, according to a new report, titled "*Protected Planet Report*" from the UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) and the International Union for Conservation of Nature (IUCN), produced with support from the National Geographic Society. According to the report, to be effective, the protected and conserved areas need to include important sites for biodiversity; better connectivity equitable sharing of benefits so that the costs of conservation are not borne by local people while its benefits are enjoyed by others. This is key to building conservation networks that have the support and participation of people everywhere (IUCN, 2021)¹⁶.

Is certification the litmus test of sustainably managed forests?

As mentioned earlier, forest certification including certified forest products have become more or less synonymous to sustainable forest management (Fernholz and Kraxner, 2012). As discussed above, the assumption of the certification of forests as the proof of sustainable management and sustainable production has limitations. The statistics on forest certification show that despite three decades of forest certification as a means to reduce deforestation and forest degradation in tropical developing countries, the accomplishment is very modest. Apparently, current incentives are not sufficient to

¹⁶ IUCN Press Release, 19 May 2021. <https://www.iucn.org/news/protected-areas/202105/world-met-target-protected-area-coverage-land-quality-must-improve>.

attract the majority of producers to seek certification, particularly in tropical developing countries where the costs of improving management to meet the requirements of forest certification schemes are significantly greater than any market benefits they may receive.

It is not unrealistic to assume that non-certified forests (and forest products coming from such forests), could also be well managed forests under the principles of SFM. As the statistics in the developing countries illustrate, forest certification has not been able to make much inroad, obviously because of different technical, financial, cultural factors. How to account for such cases when making judgment on progress in sustainably managed forests globally?

Moreover, the wood markets in developed countries demand certification not only on sustainability criteria but also on legality of forest products, Thus, current systems of forest certification are often deemed not sufficient.

In addition to above list of issues, gaps and challenges, it would seem timely and important to note a few “gaps” in the current information regarding GFG3, and consider ways to explore the following:

- Impact of PAs - Has the increase of PAs translated into decline in the rate of biodiversity loss and species extinction?
- Impact of long-term forest management plans - Has the increase of forest areas under management plans led to improvement in protection and productivity of those forests?
- While national reports provided rich information on the status on GFG3, it must be acknowledged that this information is based on self-reporting by 52 national reports. There may be a risk of overgeneralization from such limited set of country information.
- Assessment of effectiveness of PAs or management plans requires counterfactual thinking to establish validity between input and results. Thus, it would be desirable to have some forms of comparative analyses using “Before and after” and “with and without” approaches.

3.4 Opportunities and lessons learned

Opportunities

- National reports show that countries are taking concrete measures to make progress on conservation and management of forests thereby contributing to GFG3. There is a healthy public support for conservation, development and sustainable management of forests, which can be harnessed with further awareness initiatives.
- The “Glasgow Leader’s Declaration on Forests and Land Use” of 2021 and a launch of “Climate and Forest Leaders’ Partnership” in 2022 during the Climate COP26 and COP 27 have demonstrated political commitment at the highest level for protection and sustainable management of forests for multiple purposes.
- The world will need more renewable materials. The global consumption of all natural resources, including forest products, is expected to more than double from 92 billion tonnes per year in 2017 to 190 billion tonnes in 2060. Sustainably meeting demand for forest-based biomass will require an increase in resource supply through restoration, reforestation and afforestation on degraded lands and increased resource efficiency. Sustainability also requires efforts to improve manufacturing efficiency and energy flows, promote the cascading use of forest products, change consumption patterns, and facilitate a transition to more circular economies. An

increase in forest area and sustainable forest management could support a green recovery and a transition to carbon-neutral economies. Furthermore, when sustainably produced, wood has significant potential to reduce greenhouse-gas emissions from the building and construction sector. (FAO 2022).

Lessons learned

- Political commitment and support at national and global levels are key to effective implementation of strategies and measures towards the achievement of GFG3 targets.
- Concurrent to political commitment is the need of a programme or action plan to follow through to translate strategies into realities.
- Effective involvement of the local communities
- Stakeholder involvement and cooperation and coordination between different line ministries, sectoral policies and partnerships yield results.
- Public support is crucial in implementing policies and programmes in support of GFG3, in particular establishing and managing PAs and supporting forest certification and purchasing behaviour for certified forest products.

3.5 Concluding notes on Section 3

There is more information available on protected areas in national reports and academic papers compared to information on forest areas under sustainable management and sustainably produced forest products. Among the challenges, there seems a distinct pattern among the developing and developed groups of countries. Developing countries generally seem constrained by funding, capacity, relentless pressure on forests from other land uses, lack of political commitment, development of markets and adoption to forest certification. Developed countries' challenges seem to relate to low public support and business motivation towards SFM, lack of land for additional forest development, aging forest owners, and contending interests among forest stakeholders. Climate change and forest fragmentation were mentioned by a number of both developed and developing countries

It is evident from the review of progress that country reporting will be more informative and valuable if it also includes information on outcomes, not just input. It is important to know what policies, measures and resources (Means of Implementation) were available and which ones proved to be effective; mere description of such input is not sufficient in assessing progress. It may give a false sense of accomplishment, and missed opportunity for corrective measures.

The national reports clearly underscored the significance of cross-cutting nature of the GFGs, namely GFG4 (mobilizing financial resources), GFG5 (promoting governance frameworks), and GFG6 (enhancing cooperation, coordination and coherence) at national and international levels for making progress on GFG3. In fact, elements of those three GFGs can be considered as pre-requisites for achieving GFG3.

4. GFG3, ITS KEY ELEMENTS, AND INTERLINKAGES WITH SDGs AND OTHER RELATED AND RELEVANT GLOBAL PROCESSES AND FRAMEWORKS

4.1 Key elements of GFG3

While all six goals of UNSPF (see Table 5) collectively address the challenges faced by forests and designed to promote sustainable forest management on ground, the Goal 3 specifically focuses on three aspects of forest management: *conservation, sustainable management* and *sustainable use of forest resources*. The key premise is protection and use of forest products from sustainably managed forests.

Thus, the Goal 3 addresses the challenges faced by society on conservation/protection of forest ecosystems and biodiversity; enhancing management of all types of forests; and increasing the supply of forest products from sustainably managed forests. In this report, the terms “sustainable forest management (SFM)”, “sustainably managed forests”, and “forests managed sustainably” are used interchangeably and have the same meaning, although in the intergovernmental negotiated texts under different fora they may have different nuances.

To facilitate the achievement of this Goal (and its three core elements) three specific targets are included in the UNSPF, as shown in Table 5 below:

Table 5 GFGs and Targets

GFG3 elements	GFG3 targets
1. Increase significantly the area of protected forests worldwide	Target 3.1: The area of forests worldwide designated as protected areas or conserved through other effective area-based conservation measures is significantly increased
2. Increase significantly other areas of sustainably managed forests	Target 3.2: The area of forests under long-term forest management plans is significantly increased
3. Increase significantly the proportion of forest products from sustainably managed forests	Target 3.3: The proportion of forest products from sustainably managed forests is significantly increased.

It should be noted that the targets with qualifier “*significantly increased*” do not contain specificity in terms of quantitative thresholds. Hence those targets at the best, are aspirational rather than quantitatively measurable. Moreover, the current national reporting format does not have provision for countries to provide quantitative data. This presents a challenge in assessing the goal in a meaningful and straightforward way.

4.2 Interlinkages between GFG3 and global goals, targets, frameworks and processes

Forests being the reservoir of most territorial biological diversity, industrial raw materials, carbon sequestration, water and nutrient cycles, food, livelihoods and host of other social, cultural and spiritual aspects of human civilization, it has natural links with any global visions, goals and targets on sustainable development. By extension, GFG3, due to its inherent core elements in conservation, sustainable

management and production, can be considered to have close linkages with a number of such goals, objectives, targets and processes. In the following paragraphs, a few of such linkages are explored and analyzed. In this regard, the UNSPF has also recognized the link and anticipated contributions of GFGs and targets to the global frameworks and commitments related to environment, economic development and social development, including SGGs, climate change, biological diversity, food security and human welfare (see paragraphs 1, 4, 6, 8, 9, 15, 22 and 23 of UNSPF)¹⁷.

4.2.1. Sustainable Development Goals (SDGs)

The SDGs and targets are integrated and are indivisible, global and universally applicable (UN 2015)¹⁸. (See **Box 4**). The role of trees and forests are many and therefore their conservation and sustainable management contribute to a number of SDGs. GFG3 and its three targets resonate with several SDGs and obviously contribute to achieving those SDGs, directly, or indirectly. SDGs that are related to natural resources, natural resource-based economic issues, forests, environment and biological diversity exhibit direct linkages with GFG3 but other SDGs addressing social dimensions of sustainable development including poverty, hunger, health, water and sanitation, education, cities, climate change and governance are also linked with GFG3.

Saymore and Busch (2016) elaborate the role of forests in providing water, energy, agriculture, health, and safety. Protected upland watersheds are a source of clean drinking water in human settlements downstream. Forest plants are sources for traditional and many modern medicines. And forest birds and bats provide free natural pest control. Thus, forests contribute toward the achievement of the Sustainable Development Goals (SDGs) related to agriculture (Goal 2), health (Goal 3), clean water and sanitation (Goal 6), energy (Goal 7), safety from disasters (Goal 11), and resilience to the impacts of climate change (Goal 13), in addition to “life on land” (Goal 15). However, they rightly emphasize that forests are rarely the main means for achieving those goals, relative to vaccination campaigns or power plants, for example. But forests when sustainably managed with clear intents, can play a more significant role than is currently recognized by the SDGs. Annex 2 shows an overview of linkages between GFG3 and SDGs with some explanations.

¹⁷ <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N17/184/62/PDF/N1718462.pdf?OpenElement>

¹⁸ <https://sustainabledevelopment.un.org/post2015/transformingourworld/publication> (Assessed on 22 September 2022)

Box 4. Nature of SDGs and their targets

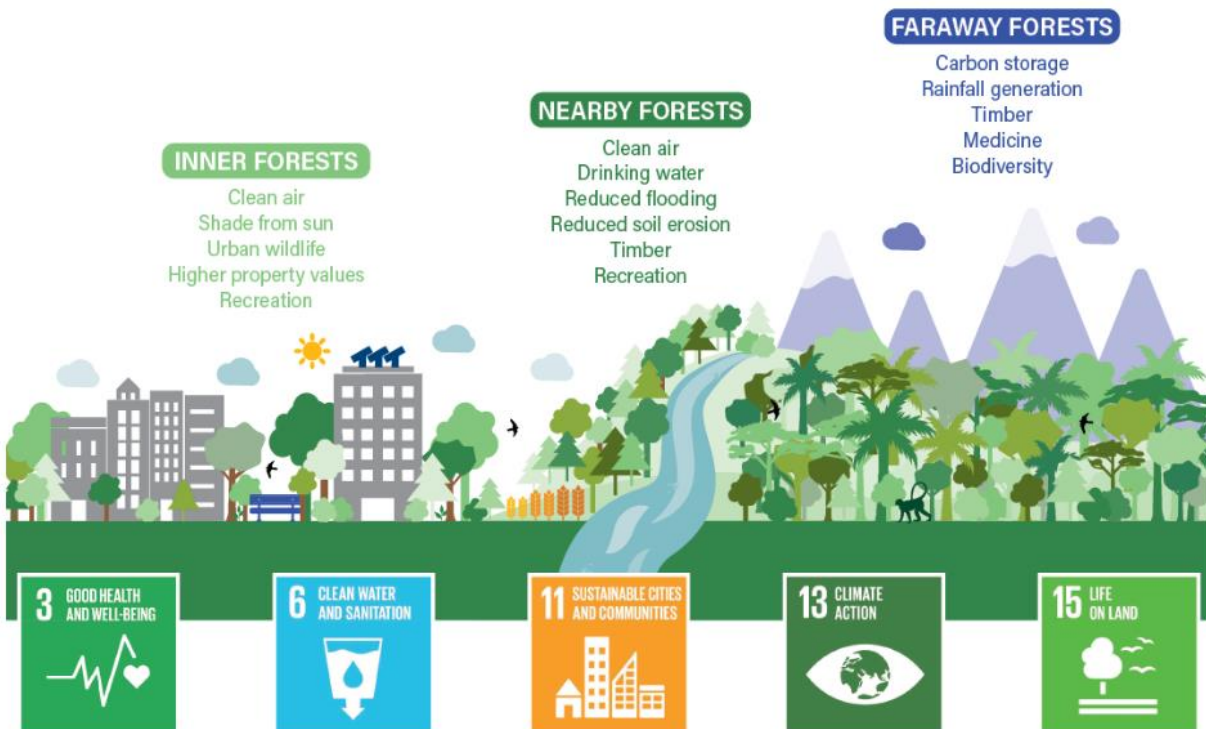
The SDGs and targets are integrated and indivisible, global in nature and universally applicable, taking into account different national realities, capacities and levels of development and respecting national policies and priorities. Targets are defined as aspirational and global, with each government setting its own national targets guided by the global level of ambition but taking into account national circumstances. Each government will also decide how these aspirational and global targets should be incorporated in national planning processes, policies and strategies. It is important to recognize the link between sustainable development and other relevant ongoing processes in the economic, social and environmental fields.

Source: UN 2015. 2030 Agenda for Sustainable Development, paragraph 55

Similarly, in a WRI report titled, *“Better Forests, Better Cities”* Wilson et al. (2022)¹⁹ conclude that forests are particularly effective at providing cities and their residents with four benefits: human health and well-being, a clean and reliable water supply, climate regulation, and biodiversity conservation, showing linkages of forests to SDGs 3, 6, 11, 13 and 15 (see Figure 3). More on linkages between forests, water and human wellbeing is discussed in the next sub-section 4.2.2. High-Level Political Forum (HLPF).

¹⁹ <https://www.wri.org/insights/forests-benefit-cities>

Figure 3. Forests' benefits for cities



Note: Forests at three levels provide benefits to cities and contribute to the achievement of the UN Sustainable Development Goals.

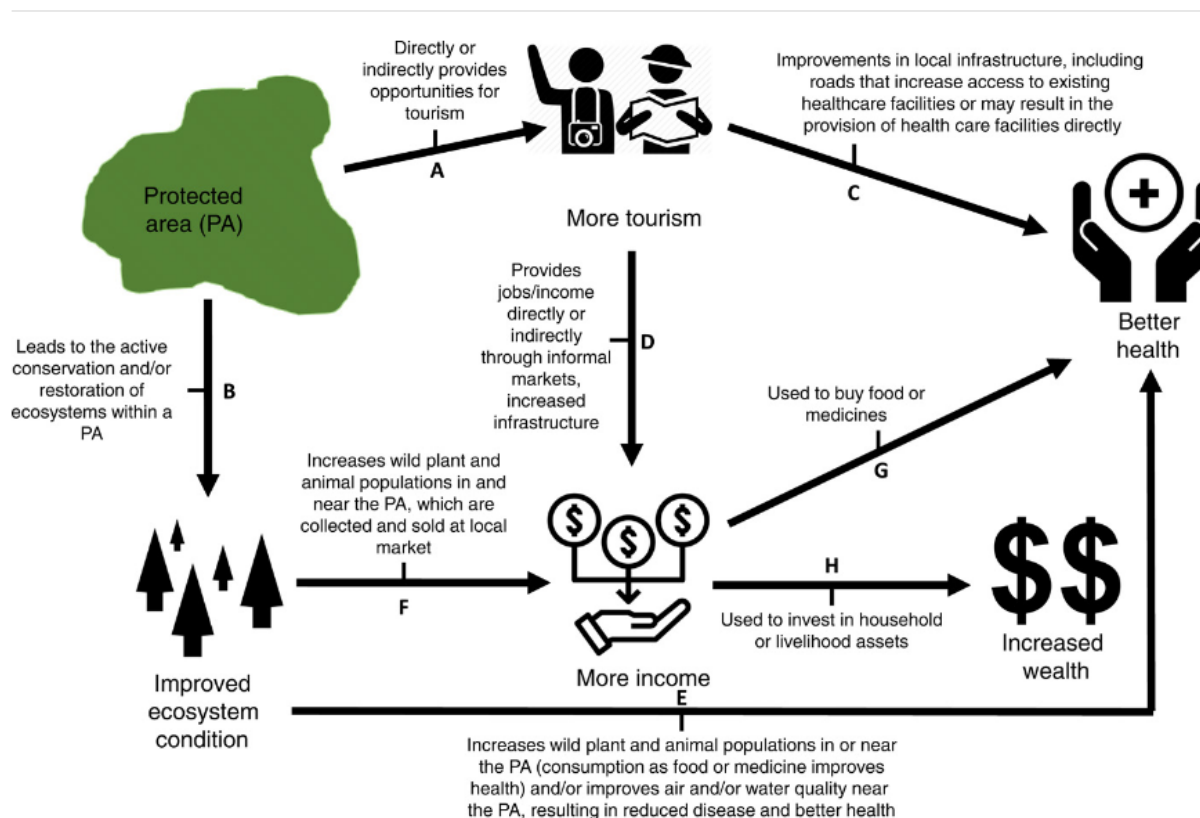
Source: Wilson et al. 2022

Impact of protected areas (PAs) on human well-beings and SDGs

An exhaustive research by Naidoo et al. (2019) on the impacts of protected areas on human well-being in developing countries show significant contribution of PAs to household incomes, children’s health and other socioeconomic benefits of PAs to people living near the PAs (within 10 KM). The research spanning more than 34 developing countries and synthesizing data on environmental and socioeconomic conditions of more than 87,000 children in over 60,000 households situated either near (within 10 KM) or far (more than 10 KM away) from over 600 PAs. They used quasi-experimental hierarchical regression to isolate the impact of living near a PA on several aspects of human well-being. Households near PAs with tourism had higher wealth levels (by 17%) and a lower likelihood of poverty (by 16%) than similar households living far from PAs. Children under 5 years old living near multiple-use PAs with tourism also had higher ‘height-for-age’ scores (by 10%) and were less likely to be stunted (by 13%) than similar children living far from PAs. The authors found no evidence of negative PA impacts but rather consistent statistical evidence to suggest PAs can positively affect human well-being.

The authors used a conceptual model (Figure 4) to consider possible pathways or mechanisms of PA impacts on health and wealth of nearby people. For example, pathway ADG shows how PAs can contribute to better health outcomes via income gains from tourism employment that are then spent on improving children’s health.

Figure 4. Conceptual model on PA impacts on health and wealth of people living near protected areas



Source: Naidoo et al. 2019.

Even though the impact study used limited indicators of human well-being, they believe that their results suggest that PAs in developing countries generally have positive impacts on human well-being. Such positive link between PAs (with tourism component) and human well-being at local levels suggests that the expansion of properly designed and managed PAs can make important contributions to SDGs on poverty reduction, food security, health, and livelihoods (SDGs 1, 2, 3, and 8).

4.2.2 High-Level Political Forum 2023 (10-19 July 2023)

The High-level Political Forum on Sustainable Development (HLPF) is the main platform of the United Nation for reviewing progress towards SDGs and addressing related global sustainable development issues. HLPFs are held annually. HLPF 2023, will have the theme – “*Accelerating the recovery from the coronavirus disease (COVID-19) and the full implementation of the 2030 Agenda for Sustainable Development at all levels*”. The forum will provide opportunity for discussions on the effective and inclusive recovery measures to address the impacts of the COVID-19 pandemic on the Sustainable Development Goals (SDGs) and explore policy guidance for the full implementation of the 2030 Agenda and the SDGs at all levels.

The HLPF in 2023 will undertake an in-depth review of Goals 6 on clean water and sanitation, Goal 7 on affordable and clean energy, Goal 9 on industry, innovation and infrastructure, Goal 11 on sustainable cities and communities, and Goal 17 on partnerships for the Goals. In addition, the HLPF 2023 will also be held under the auspices of the UN General Assembly as the SDG Summit in September 2023.

As discussed, the interlinkages between SDGs and GFG3 in the preceding section, it is obvious that the themes of HLPF 2022 and 2023 are closely linked to the GFG3. For example, water is crucial for human survival, and it is essential for the SDGs related to water and sanitation (SDG 6), health (SDG3), education (SDG4), gender equality (SDG5) overall wellbeing. The other side of water and human wellbeing story is the importance of forests for maintaining watersheds and sustainable production of water.

According to an organization, called “water.org”²⁰, which is involved in solving drinking water problem in developing countries, access to safe water and sanitation can turn problems into potential – empowering people with time for school and work, and contributing to improved health for women, children, and families around the world. Women and young children in developing countries are disproportionately affected by the water crisis, as they are often responsible for collecting water. Access to safe water and sanitation are important to school attendance, especially for girls. A news article in an online magazine “The Diplomat” show how water crisis can impacts young girls’ school education in Pakistan, especially during their menstrual periods²¹.

The World Bank estimates that forested watersheds and wetlands supply 75 percent of the world’s accessible fresh water for domestic, agricultural, industrial and ecological needs and act as natural filters for our air²².

It is estimated that precipitation over land surfaces in North America has better than a seven in ten chances of falling on a forest. Such odds help explain why the portion of precipitation that passes through forest ecosystems and contribute to surface streams and ground water is by far the largest source of water for daily living. Forests and rangelands are the sources for an estimated 70-80 percent of water supplies in the United States. In the 11 western states, over 90% of the usable water originates in high-altitude watersheds that are largely forested. Forested municipal watersheds provide a substantial portion of domestic water supply. In the Northeast alone, 750 municipalities control 0.8 million ha of forested watershed land as their source of supply or as protection for their reservoirs and well fields, including ground water recharge areas (Wenger 1984).

A new 2022 research report by the US Forest Service²³ re-affirms the role of national forests and grasslands on public drinking water systems. In the Western States of the US, national forests and grasslands supply drinking water to almost 90 percent of the people served by public water systems. The

²⁰ <https://water.org/our-impact/water-crisis/>

²¹ <https://thediplomat.com/2022/10/indias-dams-and-pakistans-water-crisis/>

²² <https://www.worldbank.org/en/news/feature/2016/03/18/why-forests-are-key-to-climate-water-health-and-livelihoods>

²³ <https://www.usda.gov/media/blog/2022/10/04/new-research-reveals-how-critical-forests-are-drinking-water-supply>

story is similar in the eastern U.S., though most of this water is supplied by private forests. More than a century of research has demonstrated that forested lands provide the cleanest and most stable water supply compared to other lands. Within the lower 48 states of the USA, more than 99% of people who rely on public drinking water receive some from forested lands. Even in cities that are further away from forest watersheds, the networks of pipelines and canals that divert water from the source to areas of high need, also known as “inter-basin water transfers” supply water. For example, Los Angeles receive more than two-thirds of their water from forested lands in California and Colorado.

The Sustainable Development Goals Report 2022 noted that universal access to drinking water, sanitation and hygiene is critical to global health but the current situation is disturbing because more than 733 million people – 10 per cent of the global population – live in countries with high and critical levels of water stress²⁴, i.e., above 75 per cent (UN 2022). A growing body of scientific evidence shows that conserving, restoring, and sustainably managing forests can provide robust, low-cost infrastructure solutions to complement other traditionally built infrastructure for sustainable water supply to human settlements (Wilson et al. 2022). For example, five major cities in the United States — New York, Boston, San Francisco, Seattle and Portland, Oregon — rely on nearby protected forests instead of traditional infrastructure to filter their water (Juno and Pool, 2022)²⁵. Hence, the positive link between GFG3 (e.g., increased protected forest areas and sustainable forests), water supply and social aspect of sustainable development goals is evident.

Furthermore, the overarching nature of the COVID-19 pandemic that has seriously impacted the planet Earth, its ecosystems and people since early 2020, discussions on recovery from the pandemic at HLPF 2022 and HLPF 2023 are highly relevant and critical for any and every sector, including forest. Potentials of forests in reducing the risk of future zoonotic crises and in recovering from the present pandemic have been well recognized. For example, in an article by Dr. Aaron Bernstein, titled “How to prevent another Pandemic and Save our Planet”²⁶ stressed the importance of protecting forests to prevent future spillover of pathogens from wild animals to people. A few excerpts from his article (dated 18 August 2021):

- All pandemics since the turn of the 20th century have occurred because a virus has moved — or spilled over — from an animal to a person, with the exception of cholera. For all emerging infections (many of which don’t reach pandemic status), 50% have jumped into people from wildlife, and the proportion has grown in recent decades.

²⁴ Water stress occurs when the ratio of freshwater withdrawn to total renewable freshwater resources is above the 25 per cent threshold. High water stress can have devastating consequences for the environment. It can also curtail or even reverse economic and social development, increasing competition and potential conflict among users. Globally, water stress reached a level of 18.6 per cent in 2019. Although it remained at a safe level (below 25 per cent), this average masks substantial regional variations. Northern Africa and Western Asia had a critical level of water stress that year, at 84.1 per cent, an increase of 13 per cent since 2015 (UN 2022).

²⁵ Converting natural grasslands to forests and the use of non-native trees in plantations may reduce surface water yields. For example, in South Africa [water-intensive Eucalyptus trees](#) have stressed limited water resources. Thus, careful analysis of local conditions, conserving existing forests and planting with native tree species may help to avoid negative unintended consequences (Juno and Pool, 2022).

²⁶ , Director of the Center for Climate, Health, and the Global Environment at Harvard T.H. Chan School of Public Health (Harvard Chan C-CHANGE). The article can be found at <https://medium.com/food-nature-climate/how-to-prevent-another-pandemic-and-save-our-planet-41544d4aac1e>

- A number of forces push pathogens to move from animals to people. The destruction of forests, particularly in the tropics, looms heavily. Forest edges, created when forests are cleared, bring people into contact with wildlife. The hunting, trade, and consumption of wildlife can also promote sharing of pathogens. 26.5% of mammals in the wildlife trade harbor 75% of known viruses that spread from animals to humans. Wild animal hunting and consumption has been associated with many viral disease outbreaks, including HIV and Ebola.

Therefore, he emphasizes that investments in spillover prevention such as protecting tropical forests also confer multiple benefits including climate and our health.

A few suggestions as key forest-related messages for inclusion into the Political Declaration of the 2023 HLPF are the following:

- Re-iterating the role of forests, in particular the importance of SFM for sustainable and nature-based water supply for human consumption and sanitation, agriculture, industries, cities;
- Emphasizing a need for significant and urgent support for protected areas, for stopping deforestation and promoting SFM to preserve forest biodiversity, recovery from current COVID-19 pandemic and prevent future zoonotic health crises; and
- Highlighting the benefits of promoting forest products from sustainably managed forests for general consumption and for increasing their use as sustainable substitute to energy-intensive and/or non-renewable building materials.

4.2.3 Kunming-Montreal Global Biodiversity Framework (CBD)

On 19 December 2022, the Fifteenth Conference of Parties to the Convention of Biological Diversity (COP15) adopted the “Kunming-Montreal Global Biodiversity Framework (GBF)”²⁷, with four goals and 23 action-oriented targets. This symbolizes the culmination of a long process that began at COP-14 of CBD in 2018, upon the expiration of the 2011-2020 Strategic Plan for Biodiversity (2011-2020 SPBD) and its 20 Aichi Biodiversity Targets.

While the news is dominated by headlines such as the effective conservation and management of at least 30 percent of terrestrial, inland water, and coastal and marine areas, countries also agreed to restore 30 percent of the world’s degraded ecosystems by 2030, In addition, the BDF also aims to eliminate or phase out at least \$500 billion of subsidies harmful for biodiversity , and mobilize \$200 billion annually by 2030 for biodiversity action, including \$30 billion from developed countries to developing countries.

A specific target on gender equality (Target 23) is unique to the new GBF. It commits the parties to ensuring gender equality in the implementation of the framework “through a gender-responsive approach” where all women and girls have equal opportunity and capacity to contribute to the three objectives of the Convention, including by recognizing their equal rights and access to land and natural resources.

Most of those 23 targets can be linked to forests but target 10 specifically mention forestry to be sustainably managed (together with agriculture, aquaculture and fisheries. Its other targets, for example Target 2 on 30 percent by 2030 to be restored and Target 3 on 30 percent by 2030 to be conserved and managed, Target 5 on use, harvesting and trade of wild species, Target 6 on eliminate or mitigate the impacts of invasive alien species, Target 9 on sustainably manage and use wild species, Target 13 on fair equitable sharing of benefits, Target 16 on making sustainable consumption choices, Target 18 on eliminate, phaseout or reform incentives harmful for biodiversity, Target 19 on increasing financial resources, Target 20 on capacity building and development, and Target 21 on data, information and knowledge are also closely related to SFM but of course to varying extents.

As far as GFG3 in is concerned, Targets 2, 3, 5, 9, 10, are particular and closely linked as they address the issues of protection, conservation, sustainable management, harvest and use, and consumption choices. They all synch with the core elements of GFG3, i.e., protection/conservation, sustainable management of forest resources and increasing products from sustainably managed forests.

4.2.4. Paris Agreement on Climate Change and follow-up processes (UNFCCC)

The role of forests in regulating global climate in general and as a key sector in addressing the challenges of climate change caused by greenhouse gas concentration in the atmosphere is a known fact.

Maintaining and enhancing the potentials of forests as sink and reservoir of carbon is well recognized in the global climate change agreements (since the adoption of the UNFCCC in 1992) and in subsequent developments. On the other hand, forests when destroyed or mis-managed, can act as a source of GHG emission thus contributing to climate change. “Land use, land use change and forestry (LULUCF)” is a

²⁷ <https://prod.drupal.www.infra.cbd.int/sites/default/files/2022-12/221219-CBD-PressRelease-COP15-Final.pdf>

prominent component of climate agreements. The Paris Agreement of 2015²⁸ has once again underscored, in its Article 5, the significance of forests, in particular, reducing emissions from deforestation, forest degradation and conservation and sustainable management of forests for mitigating the impact of climate change.

The concrete contributions of forests in climate change equation are through conserving existing forest resources, reducing or eliminating deforestation and forest degradation, increasing and enhancing forest areas and forest biomass for carbon capture, among other management objectives, and promotion of forest products as substitute to energy and carbon dioxide emission-intensive building and other consumption materials. The three key elements of GFG3 are in sync with those strategies.

In this respect, the 2021 Glasgow Climate Conference (UNFCCC COP26) provided a platform to launch an ambitions “Glasgow Leaders’ Declaration on Forests and Land Use”²⁹, with 145 governments signing-in to it to halt and reverse the trend of deforestation. The leaders affirmed the role of forests in balancing greenhouse gas emissions and removals, adapting to the impacts of climate change, and maintaining healthy ecosystem services. They called for “transformative” action through shared efforts to conserve forests, promote sustainable trade and development policies, reduce human vulnerabilities, redesign agricultural policies, and increase financial incentives in the name of a “sustainable land use transition” (WRI 2021)³⁰.

The Glasgow Declaration signifies the role of forests in addressing challenges of climate change. In the Glasgow Declaration those leaders from 145 countries, representing 3,691 m ha or 91 percent of world’s forests, committed to working collectively to halt and reverse forest loss and land degradation by 2030 while delivering sustainable development and promoting an inclusive rural transformation. The leaders committed to strengthening their efforts to:

1. Conserve forests and other terrestrial ecosystems and accelerate their restoration;
2. Facilitate trade and development policies, internationally and domestically, that promote sustainable development, and sustainable commodity production and consumption, that work to countries’ mutual benefit, and that do not drive deforestation and land degradation;
3. Reduce vulnerability, build resilience and enhance rural livelihoods, including through empowering communities, the development of profitable, sustainable agriculture, and recognition of the multiple values of forests, while recognising the rights of Indigenous Peoples, as well as local communities, in accordance with relevant national legislation and international instruments, as appropriate;
4. Implement and, if necessary, redesign agricultural policies and programmes to incentivise sustainable agriculture, promote food security, and benefit the environment;
5. Reaffirm international financial commitments and significantly increase finance and investment from a wide variety of public and private sources, while also improving its effectiveness and

²⁸ The Paris Agreement of 2015 renewed the resolve of the global community for actions to control climate change with a goal of holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels.

²⁹ <https://ukcop26.org/glasgow-leaders-declaration-on-forests-and-land-use/>

³⁰ <http://www.wri.org/news/statement-glasgow-leaders-issue-declaration-forests-and-land-use>

accessibility, to enable sustainable agriculture, sustainable forest management, forest conservation and restoration, and support for Indigenous Peoples and local communities;

6. Facilitate the alignment of financial flows with international goals to reverse forest loss and degradation, while ensuring robust policies and systems are in place to accelerate the transition to an economy that is resilient and advances forest, sustainable land use, biodiversity and climate goals.

The Declaration also urged other leaders to join forces in a sustainable land use transition, halting and reversing forest loss and land degradation, in order to meet the Paris Agreement goals and delivering resilient and inclusive growth.

As a follow-up to the Glasgow Declaration, a Forests and Climate Leaders' Partnership (FCLP)³¹ was launched, on 7 November 2022, at COP27 in Sharm El Sheikh, Egypt. The FCLP was launched on behalf of 26 Governments and the European Commission who together represent a third of the world's forests and nearly 60% of the world's GDP. The FCLP, to be co-chaired by the United States and Ghana, will offer a way to enhance cooperation on delivery of pledges made in Glasgow, to scale ambition and to find innovative solutions to ongoing problems. These leaders are committed to maintaining political focus on the objectives of the GLD, to inspiring and fostering ambition and positive action through providing annual high-level political platforms, to being accountable for delivery of pledges made, and to supporting each other and scaling action through collective initiatives. The FCLP will provide a space for governments to innovate, and problem solve together to drive progress towards the 2030 Target, and to take stock of current progress.

It was announced that public donors have already spent \$2.67 billion of the \$12 billion that governments pledged over a 5-years period to protect, restore and sustainably manage forests. In addition, at COP27 public and private donors pledged to mobilize a further \$4.5 billion to advance these efforts. (UK 2022, WRI 2022).

Although the Glasgow Declaration and the recent launch of FCLP are in response to the challenges of climate change, the implementation approach is grounded in sustainable forest management, with increased financial resources, innovation, and partnerships among governments, private sector and other stakeholders. Thus, this strong political commitment to SFM and increase support should contribute to GFG3 by increasing and improving conservation, sustainable management and supply of sustainably harvested products to the market. This is a new opportunity of enabling environment for making progress towards GFG3 and all concerning governments, and stakeholders will likely consider participating in it.

4.2.5 UN Decade on ecosystem restoration

The UN General Assembly through its resolution 73/284³², declared 2021-2030 as the UN Decade on ecosystem restoration on 1 March 2019. The aim is to support and scale up efforts to prevent, halt and reverse the degradation of ecosystems worldwide and raise awareness of the importance of successful

³¹ <https://www.gov.uk/government/news/cop27-summit-forests-and-climate-leaders-event-summary>

³² <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N19/060/16/PDF/N1906016.pdf?OpenElement>

ecosystem restoration. The Decade underscores that ecosystem restoration and conservation contribute to the implementation of the 2030 Agenda for Sustainable Development, as well as other related United Nations major outcome documents and multilateral environmental agreements, including the Paris Agreement adopted under the United Nations Framework Convention on Climate Change, and the achievement of the Aichi Biodiversity Targets and the post-2020 global biodiversity framework.

Member States are encouraged to, inter alia:

- a) mainstream ecosystem restoration into policies and plans to address current national development priorities;
- b) develop and implement policies and plans to prevent ecosystem degradation;
- c) build on and reinforce existing restoration initiatives;
- d) facilitate synergies; and
- e) promote the sharing of experiences and good practices in ecosystem conservation and restoration.

Ecosystems support all life on Earth. When the ecosystems are healthier the planet and its people will be healthier. The UN Decade on Ecosystem Restoration aims to prevent, halt and reverse the degradation of ecosystems across the planet – on land and oceans.

The UN Decade is led by the United Nations Environment Programme (UNEP) and the Food and Agriculture Organization of the United Nations (FAO). According to website dedicated to the UN Decade³³, basically, the UN Decade on Ecosystem Restoration is a global movement for the protection and revival of ecosystems all around the world, for the benefit of people and nature. It aims to halt the degradation of ecosystems, and restore them to achieve global goals of sustainable development. It provides a common platform for raising awareness, encouraging community action pooling resources and expertise to launch restoration initiatives across the world. Restoration and conservation of forest ecosystem obviously is one of the major component of the Decade. It also promotes consumption of sustainably managed and produced forest products. For example, one of its initiatives, listed on their website, is the “Rosewood Campaign”. Rosewood is the world’s most trafficked endangered species by value. The Rosewood campaign raises awareness about the risk of species loss and encourage urban consumers, mainly in China to choose sustainably sourced wood products, and reduce demand for endangered wood species like rosewood. The Campaign will also partner with local furniture producers and influencers to reach mainstream consumers for changing their consumption behaviours to more sustainable wood choices.

Restoration of degraded ecosystems movement would definitely include restoration of forest ecosystems around the world. Restoring forest and other land-based ecosystems would improve soil, water, plant and animal (abiotic and biotic) health of forest lands. This in turn improves the quantity and quality of biodiversity, give impetus for sustainable management of forest resources and subsequently increase of products coming from such sustainably managed forests. Thus, the goal and strategy of the UN Decade on Ecosystem Restoration and the GFG3 have strong and close linkages, in particular with Target 3.1 and 3.3 of GFG3.

³³ <https://www.decadeonrestoration.org/>

4.2.6 Other global initiatives with close linkage to GFG3

Bonn Challenge

Bonn Challenge, launched by the Government of Germany and IUCN in 2011, is another campaign with a global goal to bring 150 million hectares of degraded and deforested landscapes into restoration by 2020 and 350 million hectares by 2030. The Challenge rely on a flexible approach to restoration called forest landscape restoration (FLR). FLR restores ecological integrity while enhancing human well-being. The Bonn Challenge has surpassed the 150-million-hectare milestone for pledges in 2017. Although it has no immediately visible impact on GFG3, the fact that it pushes restoration of for more degraded lands with trees, that would positively contribute to increased areas of sustainably managed forests in many parts of the world, thus potentially contributing to GFG3 targets.

Land Degradation Neutrality (LDN)

In 2015, the 12th session of the Conference of the Parties to the United Nations Convention to Combat Desertification (UNCCD COP 12) adopted 35 decisions related to desertification, land degradation and drought. These included how to pursue land degradation neutrality (LDN) within the framework of the Sustainable Development Goals (SDGs) and how to align UNCCD goals and the action of Parties with the SDGs. As a follow-up, the UNCCD Secretariat launched a new initiative: Land Degradation Neutrality, which has been enshrined in the SDGs as target 15.3 on achieving a land degradation neutral world by 2030. LDN responds to an immediate challenge: intensifying the production of food, fuel and fiber to meet future demand without further degrading earth's finite land resource base. In other words, LDN envisions a world where human activity has a neutral, or even positive, impact on the land (GEF Website).³⁴

A restored landscape can accommodate a suite of land uses including protected areas, ecological corridors, regenerated forests, planted forests, agroforestry systems (or other agricultural systems that make use of on-farm trees) and plantings along waterways.

Forests and trees can also mitigate climate change by sequestering carbon; on a large scale, restoration could reduce the concentration of carbon dioxide in the atmosphere. Restoration can help people weather the impacts of climate change, helping adapt to global warming by ensuring water supplies or reducing the impacts of catastrophic storms.

Up to now, 120 countries have set voluntary LDN targets as a result of this initiative. Due to complementarity nature of LDN to SFM such as new the protected areas and restored/regenerated forests, with likely application of sustainable forest management principles, and for the reasons mentioned above with regard to the UN Decade on Ecosystem Restoration, Bonn Challenge, it seems relevant to GFG3, in particular its target 3.1 and 3.2.

4.2.7 Concluding notes on Section 4

With creativity, linkages can be discovered or made between anything and everything. But in the case of forests, one can establish solid linkages between forests and most physical, social, environmental and economic resources and aspects. Having said that, the linkages between forests and landmark global goals, targets, frameworks and processes on sustainable development, environment, biological diversity

³⁴ <https://www.thegef.org/what-we-do/topics/land-degradation-neutrality>

and other social, economic and environmental issues are natural and direct. Conservation, development and sustainable management of forests and trees outside forests are critical to the 2030 Agenda for Sustainable Development, the Paris Agreement on Climate Change, the newly adopted Kunming-Montreal Global Biodiversity Framework ,and other processes.

GFG3 is both a stand-alone Goal as well as an integrated part of other goals and vision of the UN Strategic Plan for Forests. Therefore, it should be considered holistically in examining its linkages to other major global goals, frameworks and processes on sustainable development.

GFG3 and its targets are closely aligned and/or contributing to those goals and targets, in particular, those on SDGs, climate change and biological diversity, land and ecosystem restoration. Annex 2 shows some of the direct and indirect linkages between GFG3 and sustainable development goals and targets.

While convergence of goals and targets in different global agendas, conventions and initiatives is a demonstration of consensus on current forest, climate change, biodiversity and general sustainable development challenges and priorities, a plethora of similar sounding goals and targets may also run a risk of overwhelming the policy makers and practitioners/implementors at national and local. Closer coordination among different conventions, frameworks and initiatives to streamline such goals, targets, deadlines and processes for assessing progress could improve efficiency in implementation, resource mobilization and reporting. Synergy and cooperation between different processes enhances the chances of progress and transformative changes on the ground.

5. Way forward

5.1 Conclusions

The global statistics show good progress has been made in increasing protected areas (Target 3.1) globally – 18 percent of world’s forest area. Progress on other two targets (3.2 and 3.3) is evident but the extent of progress (increasing forest areas under management plans and increasing products coming out from sustainably managed forests) is relatively difficult to quantify because of the complexity and lack of standardized means of measurement. Even in the case of target 3.1, while the area under protected area has increased, the quality of management cannot be assumed to be good overall. A comprehensive study by UNEP and partners have raised concerns about the quality of management. PAs are often understaffed, underfunded, and beleaguered in the face of external threats, efforts to expand PA coverage should be complemented by appropriate management of existing PAs.

Countries have introduced many policy and legal measures as well as programmes and projects to promote SFM including to make progress towards the GFG3 and its targets.

Several country reports also mentioned the challenges in improving effectiveness and efficiency due to factors such as funding and staffing constraints, sectoral competition within the government institutions, social and economic inequalities, among others. Coordination, stakeholder engagement especially co-management of PAs with local communities is considered a key tool for success.

Information on the extent of PAs and conservation efforts are relatively easy to find, compared to that for forests under effective and quality sustainable management practices, as well as about the products being produced and brought to market from sustainably management forests.

One conclusion the author came about from this study is the incompatibility of reporting format between the information it generates and the basic questions the Forum would like answers from it. For example, – did a country make progress on GFG3 and its targets? If so, how much and how? That part is missing in the current reporting format. Consultant has been informed by the UNFF Secretariat that a revised reporting format has been developed, which addressed these questions. The format is currently being piloted.

5.2 Recommendations

- Encourage countries to include in their reports empirical data and specific details on measures and results related to GFG3 targets in addition to overall general statements of actions on SFM, forest sector or environment/sustainable development.;
- Request countries and CPF members to explore ways to measure progress on target 3.3 more realistically (preferably quantitatively) so that actual work being done on the ground are appropriately recognized and shared with the global community. Invite research organizations to focus their attention to this measurement challenge;
- Increase resources and capacity of national forest institutions;
- Take concrete steps to enhance coordination among government institutions and between different stakeholders, including indigenous peoples, local communities, women, youth, private sector and NGOs;
- In collaboration with civil society organizations, government agencies, forest-based industries and trade unions, and consumer groups, CPF may consider launching programmes to inform and

educate consumers about the need to support forest products from sustainably managed forests, and for certified forest products;

- Consider undertaking a few in-depth case studies/impact assessments (in country or sub-region basis) to better understand the state of progress, approaches, factors enabling progress (or obstruction), and experiences/lessons learned, to be shared with the global community to learn from; and
- Consider UNFF, with support of the CPF, taking note of and facilitating the follow-ups of forest-related declarations and commitments for example, the Glasgow Leaders' Declaration on Forests and Land Use, Forests and Climate Leaders' Partnership, Bonn Challenge, New York Forest Declaration 2014, and similar corporate sustainability pledges. This would enhance the standing of UNFF as the central intergovernmental body on all forest policy-related matters.

REFERENCES

- Adams, M. 2022. **Russia's invasion of Ukraine has upended global timber markets, bringing supply and price shocks.** *In* Tropical Forest Update Vol. 31, No. 2, 2022 (ITTO). https://www.itto.int/direct/topics/topics_pdf_download/topics_id=7180&no=1&disp=inline (Assessed on 1 December 2022)
- CBD. 2021. **First draft of the Post-2020 Global Biodiversity Framework.** 5 July 2021. CBD/WG2020/3/3. <https://www.cbd.int/conferences/post2020> (Assessed on 22 September 2022)
- CBD. 2022. **Nations adopt four goals, 23 targets for 2030 in landmark UN Biodiversity Agreement.** Official CBD Press Release - 19 December 2022, Montreal. https://prod.drupal.www.infra.cbd.int/sites/default/files/2022-12/221219-CBD-PressRelease-COP15-Final_0.pdf (Assessed on 20 December 2022)
- Creed, I.F. and M. van Noordwijk (eds.). 2018. **Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities.** A Global Assessment Report. IUFRO World Series Volume 38. <https://www.iufro.org/fileadmin/material/publications/iufro-series/ws38/ws38.pdf>
- Genevieve Donnellon-May. 2022. Are 'Water Wars' Coming to Asia?** Climate change-induced water loss in the Tibetan Plateau further challenges water security from Central to Southeast Asia. *In* The Diplomat, 17 September 2022. <https://thediplomat.com/2022/09/are-water-wars-coming-to-asia/>
- Gustafsson, M., I. Creed, J. Dalton, T. Gartner, N. Matthews, J. Reed, L. Samuelson, E. Springgay, and A. Tengberg. 2019. **Gaps in science, policy and practice in the forest-water nexus.** *In* Forests: nature-based solutions for water. Unasylva 251, vol 70 2019/1
- Ellison, D., L. Wang-Erlandsson, R. van der Ent and M. van Noordwijk. 2019. **Upwind forests: managing moisture recycling for nature-based resilience.** *In* Forests: nature-based solutions for water. Unasylva 251, vol 70 2019/1
- FAO. 2020. **Global Forest Resources Assessment 2020: Main report.** Rome. <https://doi.org/10.4060/ca9825en> (Assessed on 30 September 2022)
- FAO. 2022. **The State of the World's Forests 2022.** Forest pathways for green recovery and building inclusive, resilient and sustainable economies. Rome, FAO. <https://doi.org/10.4060/cb9360en> (Assessed on 19 October 2022)
- FAO and CPF. 2022. **Status of, and trends in, the global core set of forest-related indicators.** Rome, FAO. <https://doi.org/10.4060/cb9963en> (Assessed on 19 October 2022)
- Fernholz, K. and F. Kraxner. 2012. **Certified forest products markets, 2011-2012.** *In* UNECE/FAO Forest Products Annual Market Review 2011-2012. (Assessed on 19 October 2022)
- Fernholz, K., J. Bowyer, G. Erickson, H. Groot, M. Jacobs, A. McFarland, and E. Pepco. 2021. **Forest Certification Update 2021: The Pace of Change.** Published by Dovetail Partners January 2021. <https://dovetailinc.org/upload/tmp/1611160123.pdf> (assessed on 6 November 2022)

Goldmann, J., A. Monica, N.D. Burgess, L. Coad and A. Balmford. 2019. **A global level assessment of the effectiveness of protected areas at resisting anthropogenic pressures.**

www.pnas.org/cgi/doi/10.1073/pnas.1908221116 (Assessed on 22 September 2022)

Held, C., Meier-Landsberg, E. & Alonso, V. 2021. **Tropical timber 2050: an analysis of the future supply of and demand for tropical timber and its contributions to a sustainable economy.** ITTO

Technical Series No. 49. International Tropical Timber Organization (ITTO), Yokohama, Japan.

https://www.itto.int/direct/topics/topics_pdf_download/topics_id=6750&no=1&disp=inline

(Assessed on 22 September 2022)

Holopainen, J. 2012. **Market Creation for Certified Forest Products – Literature Review.**

Proceedings of the Biennial Meeting of the Scandinavian Society of Forest Economics Hyytiälä, Finland, May 2012. Anne Toppinen, Heimo Karppinen, Kati Kleemola (eds.).

<https://ageconsearch.umn.edu/record/199297/> (Assessed on 29 September 2022)

Hrynyk, Y. 2022. **Russia's invasion is putting the future of Ukraine's forests at risk.** Atlantic Council.

5 August 2022. <https://www.atlanticcouncil.org/blogs/ukrainealert/russias-invasion-is-putting-the-future-of-ukraines-forests-at-risk/> (Assessed on 2 December 2022)

IISD. 2022. **Summary of the Fourth Meeting of the Open-ended Working Group on the Post-2020**

Global Biodiversity Framework: 21-26 June 2022 <https://enb.iisd.org/fourth-meeting-working-group-post-2020-global-biodiversity-framework-summary> (Assessed on 23 September 2022)

IMF. 2022. **World Economic Outlook Report October 2022.**

<https://www.imf.org/en/Publications/WEO/Issues/2022/10/11/world-economic-outlook-october-2022> (Assessed on 1 December 2022)

ITTO. 2021. **Biennial review and assessment of the world timber situation 2019-2020.**

https://www.itto.int/direct/topics/topics_pdf_download/topics_id=6783&no=1 (Assessed on 22 September 2022)

IUCN. 2022. **World met target for protected area coverage on land, but quality must improve.**

Press Release on *UNEP/IUCN Protected Planet Report*. 19 May 2021.

<https://www.iucn.org/news/protected-areas/202105/world-met-target-protected-area-coverage-land-quality-must-improve>.

Juno, E. and J. Pool. 2022. **How Forests Near or Far Can Protect Water for Cities.** World Resources

Institute (WRI), 23 September 2022. <https://www.wri.org/insights/forests-near-or-far-can-protect-water-cities> (Assessed on 30 November 2022)

Nabi, S. and S. S. Batool. 2022. **India's Dams and Pakistan's Water Crisis.** *In* The Diplomat. 17

October 2022. <https://thediplomat.com/2022/10/indias-dams-and-pakistans-water-crisis/>

Naidoo, R., D. Gerkey, D. Hole, A. Pfaff, A. M. Ellis, C. D. Golden, D. Herrera, K. Johnson, M. Mulligan,

T. H. Ricketts, B. Fisher. 2019. **Evaluating the impacts of protected areas on human well-being**

across the developing world. *In* SCIENCE *ADVANCE*, Vol 5, Issue 4, 3 Apr 2019. DOI:

[10.1126/sciadv.aav3006](https://doi.org/10.1126/sciadv.aav3006) (Assessed on 8 December 2022)

[Oldekop](#), J.A., [G. Holmes](#), [W. E. Harris](#), and [K. L. Evans](#). 2015. **A global assessment of the social and conservation outcomes of protected areas.** *In* Conservation Biology, First published: on 10 June.

<https://doi.org/10.1111/cobi.12568> (Assessed on 28 September 2022)

Perera, P. and R.P. Vlosky. 2006. **A History of Forest Certification.** Louisiana Forest Products Development Center, School of Renewable Natural Resources, Louisiana State University Agricultural Center. Working Paper #71. 30 January 2006. (Assessed on 29 September 2022)

Saout. S.I., M. Hoffmann, Y. Shi, A. Hughes, C. Bernard, T. M. Brooks, B. Bertzky, S. H. M. Butchart, S.N. Stuart, T. Badman, and A.. L. Rodrigues. 2013. **Increasing the collective contribution of protected areas toward preventing species extinctions requires the strategic allocation of management efforts.** Science 15 Nov 2013 Vol 342, Issue 6160 pp. 803-805 DOI: 10.1126/science.1239268 (Assessed on 28 September 2022)

Schulze, K., K. Knights, L. Coad, J. Geldmann, F. Leverington, A. Eassom, M. Marr, S.H.M. Butchart, M. Hockings, and N.D. Burgess. 2017. **An assessment of threats to terrestrial protected areas.** Conservation Letters, a journal of the Society for Conservation Biology (Open Access). 29 December 2017. <https://doi.org/10.1111/conl.12435> (Assessed on 28 September 2022)

Seymour, F. and Jonah Busch. 2016. **Why forests? Why now? The science, Economics, and politics of tropical forests and climate change.** <https://drive.google.com/file/d/1X-fBnziloKvUowbYEfflqmRxc9XFs/Wp/view?usp=sharing> (Assessed on 3 December 2022)

Springgay, E. 2019. FAO. 2019. **Forests as nature-based solutions for water.** *In* Forests: nature-based solutions for water. Unasyva 251, vol 70 2019/1 (Assessed on 3 December 2022)

[Thomas](#), C.D. and [P. K. Gillingham](#). 2015. **The performance of protected areas for biodiversity under climate change.** *In* Biological Journal of the Linnean Society, Volume 115, Issue 3, July 2015. <https://doi.org/10.1111/bij.12510> (Assessed on 22 September 2022)

UK. 2022. **COP27 Summit - The Forests and Climate Leaders' Event Summary.** News Story. 25 November 2022. <https://www.gov.uk/government/news/cop27-summit-forests-and-climate-leaders-event-summary> (Assessed on 3 December 2022)

UNDESA, UNFF. 2021. **The Global Forest Goals Report 2021.** <https://www.un.org/esa/forests/outreach/global-forests-goal-report-2021/index.html> (Assessed on 22 September 2022)

United Nations. 2015. **Transforming our World: The 2030 Agenda for Sustainable Development.** <https://sustainabledevelopment.un.org/post2015/transformingourworld/publication> (Assessed on 22 September 2022)

United Nations. 2022. **The Sustainable Development Goals Report.** <https://unstats.un.org/sdgs/report/2022/The-Sustainable-Development-Goals-Report-2022.pdf> (Assessed on 22 November 2022)

UNFF. 2021. **Impact of the pandemic on forests and the forest sector. Note by the Secretariat.** E/CN.18/2021/7. 13 February 2021.

UNFF. 2022. **Challenges faced by countries, strategies adopted and recovery measures taken by countries to reduce the impact of the coronavirus disease pandemic on forests and the forest sector.** Note by the Secretariat. E/CN.18/2022/7. 18 February 2022

Wenger, K.E. (ed.). 1984. **Forestry Handbook. Second Edition.** John Wiley and Sons, Inc. USA.

WRI. 2021. **STATEMENT: Glasgow Leaders Issue Declaration on forests and Land Use.** 2 November 2021. <http://www.wri.org/news/statement-glasgow-leaders-issue-declaration-forests-and-land-use> (Assessed on 10 November 2022)

WRI. 2022. **Partnership and forest-related funding at COP27.** 7 November 2022. <http://www.wri.org/news/statement-forest-and-climate-leaders-partnership-and-forest-related-funding-cop27> (Assessed on 3 December 2022)

Wilson, S., E. Juno, J. Pool, S. Ray, M. Phillips, S. Francisco and S. McCallum. 2022. **Better Forests, Better Cities.** Version 1, November 2022. World Resources Institute (WRI). <https://www.wri.org/research/better-forests-better-cities> (Assessed on 30 November 2022)

World Bank. 1991. **The forest sector. A World Bank Policy Paper.** Report No. 9965. <https://documents1.worldbank.org/curated/en/256211468139769817/pdf/multi0page.pdf> (Assessed on 13 October 2022)

World Bank. 2016. **Why Forests are Key to Climate, Water, Health, and Livelihoods. Feature Story.** 18 March 18 2016. <https://www.worldbank.org/en/news/feature/2016/03/18/why-forests-are-key-to-climate-water-health-and-livelihoods> (Assessed on 23 December 2022)

Annex 1. Global Forest Goals (GFGs) and Targets

Global Forest Goal s	Targets
<p>Global Forest Goal 1 Reverse the loss of forest cover worldwide through sustainable forest management, including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation and contribute to the global effort of addressing climate change.</p>	<p>1.1 Forest area is increased by 3 per cent worldwide 1.2 The world’s forest carbon stocks are maintained or enhanced 1.3 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally 1.4 The resilience and adaptive capacity of all types of forests to natural disasters and the impact of climate change is significantly strengthened worldwide</p>
<p>Global Forest Goal 2 Enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest dependent people.</p>	<p>2.1 Extreme poverty for all forest dependent people is eradicated 2.2 Increase the access of small-scale forest enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets 2.3 The contribution of forests and trees to food security is significantly increased 2.4 The contribution of forest industry, other forest-based enterprises and forest ecosystem services to social, economic and environmental development, among other things, is significantly increased 2.5 The contribution of all types of forests to biodiversity conservation and climate change mitigation and adaptation is enhanced, taking into account the mandates and ongoing work of relevant conventions and instruments</p>
<p>Global Forest Goal 3 Increase significantly the area of protected forests worldwide and other areas of sustainably managed forests, as well as the proportion of forest products from sustainably managed forests.</p>	<p>3.1 The area of forests worldwide designated as protected areas or conserved through other effective area-based conservation measures is significantly increased 3.2 The area of forests under long term forest management plans is significantly increased 3.3 The proportion of forest products from sustainably managed forests is significantly increased</p>
<p>Global Forest Goal 4 Mobilize significantly increased, new and additional financial resources from all sources for the implementation of sustainable forest management and strengthen scientific and technical cooperation and partnerships.</p>	<p>4.1 Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation 4.2 Forest related financing from all sources at all levels, including public (national, bilateral, multilateral and triangular), private and philanthropic financing, is significantly increased 4.3 North South, South, North and triangular cooperation and public private partnerships on science, technology and innovation in the forest sector are significantly enhanced and increased 4.4 The number of countries that have developed and implemented forest financing strategies and have access to financing from all sources is significantly increased 4.5 The collection, availability and accessibility of forest related information is improved through, for example, multidisciplinary scientific assessments</p>

<p>Global Forest Goal 5 Promote governance frameworks to implement sustainable forest management, including through the UN Forest Instrument, and enhance the contribution of forests to the 2030 Agenda.</p>	<p>5.1 The number of countries that have integrated forests into their national sustainable development plans and/or poverty reduction strategies is significantly increased</p> <p>5.2 Forest law enforcement and governance are enhanced, including through significantly strengthening national and subnational forest authorities, and illegal logging and associated trade are significantly reduced worldwide</p> <p>5.3 National and subnational forest related policies and programmes are coherent, coordinated and complementary across ministries, departments and authorities, consistent with national laws, and engage relevant stakeholders, local communities and indigenous peoples, fully recognizing the United Nations Declaration on the Rights of Indigenous Peoples¹⁴</p> <p>5.4 Forest related issues and the forest sector are fully integrated into decision making processes concerning land use planning and development</p>
<p>Global Forest Goal 6 Enhance cooperation, coordination, coherence and synergies on forest-related issues at all levels, including within the UN System and across Collaborative Partnership on Forests member organizations, as well as across sectors and relevant stakeholders.</p>	<p>6.1 Forest related programmes within the United Nations system are coherent and complementary and integrate the global forest goals and targets, where appropriate</p> <p>6.2 Forest related programmes across member organizations of the Collaborative Partnership on Forests are coherent and complementary and together encompass the multiple contributions of forests and the forest sector to the 2030 Agenda for Sustainable Development</p> <p>6.3 Cross sectoral coordination and cooperation to promote sustainable forest management and halt deforestation and forest degradation are significantly enhanced at all levels</p> <p>6.4 A greater common understanding of the concept of sustainable forest management is achieved and an associated set of indicators is identified</p> <p>6.5 The input and involvement of major groups and other relevant stakeholders in the implementation of the strategic plan and in the work of the Forum, including intersessional work, is strengthened</p>

Annex 2. Examples of SDGs and GFG3 linkages

SDGs	SDG targets related to GFG3 targets 3.1	SDG targets related to GFG3 targets 3.2	SDG targets related to GFG3 targets 3.3	Explanatory notes
1. No poverty		1.4 by 2030, ...access to ... natural resources...		Sustainably managed forests help ensure access to forest resources
2. Zero hunger	2.5 By 2020, maintain the genetic diversity of seeds, ... their related wild species, ...	2.4 By 2030, ensure sustainable food production systems, that help ecosystems, ...		Forest protected areas (PAs) help maintain genetic diversity of wild species. SFM contributes to agricultural productivity and food security
6. Clean water and sanitation	6.6 By 2020, protect and restore water-related ecosystems, ... forests, ...	6.5 By 2030, implement integrated water resources management ...		PAs help protect and restore water resources. SFM incorporates management of all resources in forests including water.
7. Affordable and clean Energy			7.2 By 2030, increase ... the share of renewable energy...	Wood fuel from sustainably managed forests can contribute meaningfully.
8. Decent work and economic growth	8.9 By 2030, ... policies to promote sustainable tourism		8.4 Improve global resource efficiency in consumption and production ... environmental degradation...	PAs including national parks and reserves are vehicles for sustainable tourism. Products from sustainably managed forests ensure protection from environmental degradation.
11. Sustainable cities and communities	11.7 By 2030, provide access to ... green and public spaces, ...			PAs provides such access.
13. Climate action	13.2 Integrate climate change measures ...	13.2 Integrate CC measures ...	13.2 Integrate CC measures ...	SFM and CC are mutually reinforcing.
14. Life below water		14.2 By 2020, sustainably manage and protect marine and coastal ecosystems...		Sustainable management of mangrove and other coastal directly contributes to this SDG target.
15. Life on land	15.2 By 2020, ... sustainable management of all types of forests 15.3 By 2030, combat desertification, ... a land degradation-neutral world 15.7 Take urgent action to end poaching and trafficking of protected species ... 15.8 By 2020, introduce measures to prevent ... the impact of invasive alien species ... 15.9 By 2020, integrate ecosystem and biodiversity values into national and local planning,	15.2 By 2020, ... sustainable management of all types of forests ...		Generally, all targets are closely and directly related to GFGs including GFG3.

