Amazon Assessment Report 2021

Chapter 26

Sustainable Development Goals (SDGs) and the Amazon

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THE AMAZON WE WANT

Science Panel for the Amazon

SUSTAINABLE DEVELOPMENT SOLUTIONS NETWORK
A GLOBAL INITIATIVE FOR THE UNITED NATIONS

About the Science Panel for the Amazon (SPA)

The Science Panel for the Amazon is an unprecedented initiative convened under the auspices of the United Nations Sustainable Development Solutions Network (SDSN). The SPA is composed of over 200 preeminent scientists and researchers from the eight Amazonian countries, French Guiana, and global partners. These experts came together to debate, analyze, and assemble the accumulated knowledge of the scientific community, Indigenous peoples, and other stakeholders that live and work in the Amazon.

The Panel is inspired by the Leticia Pact for the Amazon. This is a first-of-its-kind Report which provides a comprehensive, objective, open, transparent, systematic, and rigorous scientific assessment of the state of the Amazon's ecosystems, current trends, and their implications for the long-term well-being of the region, as well as opportunities and policy relevant options for conservation and sustainable development.

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Graphical Abstract

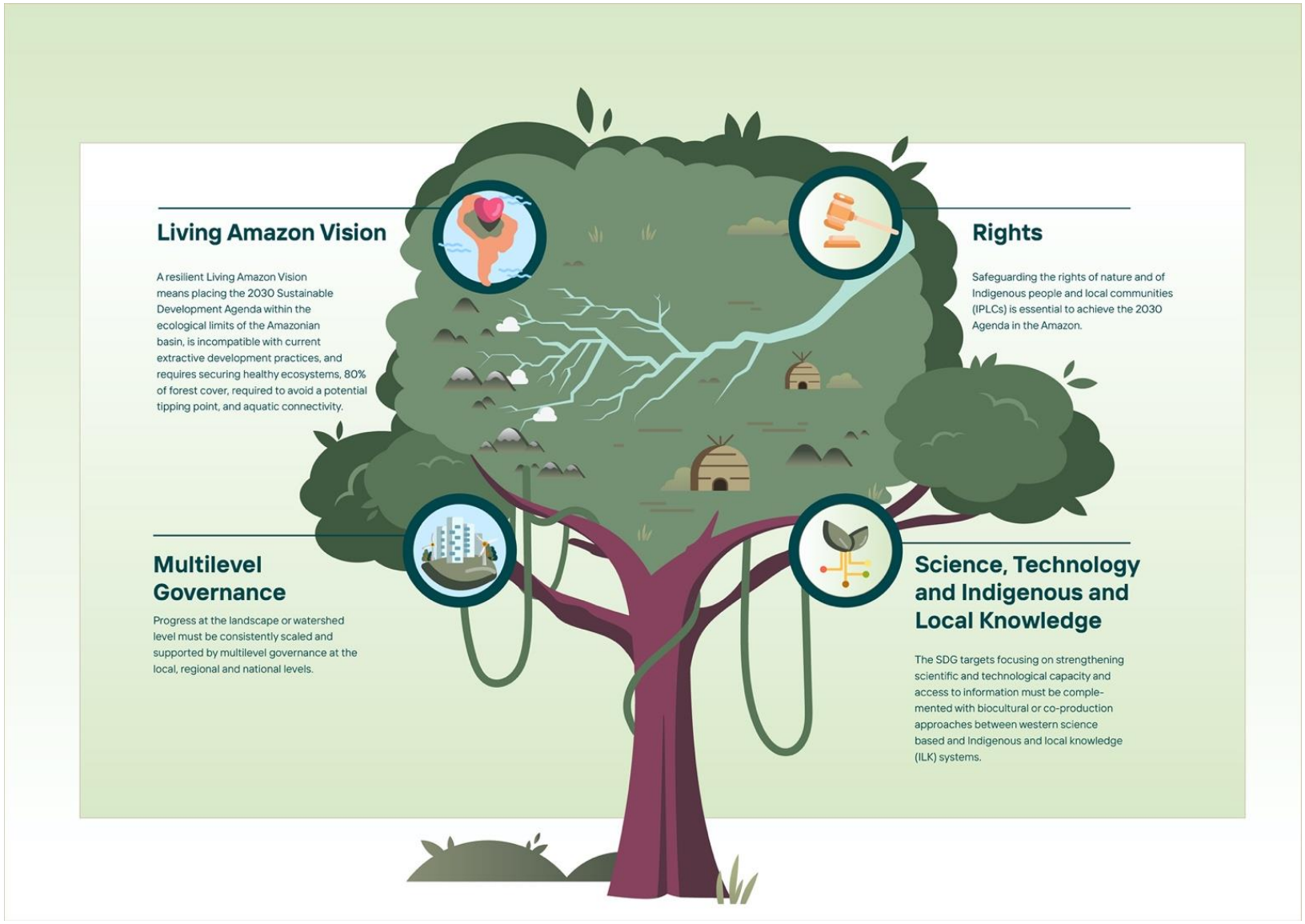

Figure 26.A A resilient Living Amazon Vision means placing the Sustainable Development Agenda within the limits of the Amazonian basin, safeguarding the rights of Indigenous peoples and local communitites, investing in science, technology and inclusive knowledge systems, while supported by multilateral governance at the local, regional, and national levels.

Sustainable Development Goals (SDGs) and the Amazon

Lilian Painter[a], Ane Alencar[b] Aoife Bennett[c], Paulette Bynoe[d], Camilo Guio[e], Maria R. Murmis[f], Belen Paez[g], Daniel Robison[h], Martin von Hildebrand[i], Valeria Ochoa-Herrera[j,k], Isabella Leite Lucas[l]*

Key Messages

- A resilient Living Amazon Vision means placing the People, Prosperity, Peace, and Partnership dimensions of the 2030 Agenda within the ecological limits to disturbance of the Amazonian Basin.
- The Living Amazon Vision is incompatible with current extractive development practices and requires securing healthy ecosystems, 80% of forest cover to avoid a potential tipping point, and aquatic connectivity.
- Trade-offs amongst the different Sustainable Development Goals (SDGs) can be reduced and synergies maximized by refining the approach and developing locally-relevant indicators.
- Progress at the landscape or watershed level must be consistently scaled and supported by multilevel governance at the local, regional, and national levels.
- Efforts are required to increase effectiveness and coherence between the Paris Agreement and the 2030 Agenda.
- SDG targets for strengthening scientific and technological capacity and access to information must be complemented with biocultural or co-production approaches between western-science-based and Indigenous and local knowledge (ILK) systems.
- Safeguarding the rights of nature and of Indigenous peoples and local communities (IPLCs) is essential to achieving the 2030 Agenda in the Amazon.
- The Amazon has been significantly affected by the COVID-19 pandemic, possibly setting back achievement of the SDGs. The COVID-19 crisis is a wake-up call; humans are having a massive and potentially irreversible impact on nature, and achieving the SDGs is more urgent than ever.

Abstract

Within the framework of the Sustainable Development Goals (SDGs), the 17 goals can be clustered in five dimensions, each beginning with the letter P: “People, Planet, Prosperity, Peace, and Partnership”. Chapter 26 discusses the relevance and limitations of the definitions of the Sustainable Development Goals for each of these five dimensions, considering the Amazonian context. For the People dimension, limitations discussed include the definition of poverty for the Amazon, the role of ecological and cultural capital, ethnic and gender disparities, and policy propositions for sustainable livelihoods. For the Planet dimension, the chapter discusses the Agenda 2030 objectives to protect the planet from degradation, including through

[a] Wildlife Conservation Society, C. Gabino Villanueva Nº 340 Entre 24 y 25 de Calacoto Casilla: 3 - 35181 SM, Bolivia, lpainter@wcs.org
[b] Amazon Environmental Research Institute, ane@ipam.org.br
[c] National Intercultural University of the Amazon, aoife.bennett@gmail.com
[d] University of Guyana, Turkeyen Campus, Greater Georgetown, Guyana, paulette.bynoe@uog.edu.gy
[e] Fundación Gaia Amazonas, Cl. 70a #11-30, Bogotá, Cundinamarca, Colombia, cguio@gaiaamazonas.org
[f] Universidad Andina Simón Bolívar de Quito, Toledo, Quito 170143, Ecuador, mariamurmis@gmail.com
[g] Fundación Pachamama, Vía Lumbisí Km 2, Office 5, Quito 170157, Ecuador, belenpaez@pachamama.org
[h] Future Generations University, 400 Road Less Traveled, Franklin, WV 26807, drobison@future.edu
[i] Fundación Gaia Amazonas, Cl. 70a #11-30, Bogotá, Cundinamarca, Colombia, mvhildebrand@gmail.com
[j] Universidad del Rosario, Escuela de Ingeniería, Ciencia y Tecnología EICT, Bogotá, Colombia, valeria.ochoa@urosario.edu.co
[k] Universidad San Francisco de Quito, Diego de Robles y Vía Interoceánica, Quito, Ecuador, vochoa@usfq.edu.ec
[l] Science Panel for the Amazon (SPA) Secretariat, Sustainable Development Solutions Network (SDSN), 475 Riverside Drive Ste 530, New York NY 10115, USA, isabella.leite@unsdsn.org

sustainable consumption and production, sustainable natural resource management, and taking urgent action on climate change, so that it can support the needs of present and future generations. Here, we discuss the limitations of the current mainstream vision that perceives nature as a collection of resources to be managed as opposed to the Amazon and nature as a subject. In the Prosperity dimension, the chapter discusses objectives to ensure access to energy for all, inclusive and sustainable economic growth, employment, resilient infrastructure, industrialization and innovation, reduced inequality within and among countries, and sustainable cities and human settlements. Policy propositions to achieve Peace in the Amazon are discussed in terms of advances and gaps, and Partnerships are analyzed across borders in the Amazon. To achieve the 2030 Agenda, multi-level governance is critical to leverage results obtained through the localization of goals, targets, and indicators at a landscape and watershed scale, including self-determined Life Plans; thus, placing the People, Prosperity, Peace, and Partnership dimensions within the ecological limits, or thresholds to disturbance, of the Amazon Basin, namely maintaining healthy terrestrial and aquatic ecosystems, 80% of forest cover, and aquatic connectivity. This green and inclusive vision must be promoted as part of the post-COVID-19 recovery and a Global Partnership for a Living Amazon established to channel resources in recognition of the global importance of the Amazon for a healthy planet.

Keywords: Sustainable Development Goals, 2030 Agenda, Living Amazon Vision, nature-based solutions.

26.1 Introduction

At the turn of the millennium, with the aim of reducing extreme poverty and its many manifestations, the United Nations (UN) established the Millenium Development Goals (MDGs). The MDGs comprised a set of eight measurable goals to be achieved by 2015 and galvanized unprecedented shared efforts from the international community. When the Millennium Development Goals concluded in 2015, inequalities persisted within many countries, and there was increased concern over anthropogenic impacts on the environment. In response, in 2015, Member States of the United Nations unanimously adopted the 2030 Agenda for Sustainable Development. This agenda, which includes 17 Sustainable Development Goals to be achieved by 2030, comprised five dimensions: People, Planet, Prosperity, Peace, and Partnership (United Nations 2015).

In the last 20 years, a significant amount of public resources have been channeled into the Amazon region for the implementation of the MDGs and SDGs, and some progress has been made in reducing extreme poverty, increasing access to water and sanitation, improving education, establishing protected areas, and gaining legal recognition of Indigenous lands (CODS 2020; Collen 2016; for protected areas and Indigenous territories, see Chapter 16). However, all eight Amazonian countries are still lagging in achieving all indicators, and only Colombia is on track to achieving poverty eradication indicators by 2030 (comparable data is not available for French Guiana). Overall, current trends imply that no country will achieve the SDGs in the next 50 years (CODS 2020). Additionally, despite some isolated policies aimed at supporting more sustainable pathways post-2015, all countries have largely continued to implement development models that increase social inequalities and are based on unsustainable economic activities, including agricultural expansion, mining, oil and gas, as well as timber extraction, that ultimately lead to environmental degradation, labor informality, poverty, inequality, weak health and social infrastructure, corruption, and violence against IPLCs (see Chapters 14–21). Expansion of the road network, which began in the 1960s, is a common driver of deforestation and encroachment into protected areas and Indigenous lands. Not surprisingly, this has increased the level of violence and social unrest across the region. The COVID-19 crisis has exacerbated poverty, inequality, and the

Figure 26.1 Living Amazon Vision and the SDGs.

pattern of dependence on primary production (ECLAC-CEPALSTAT 2021; INPE-PRODES 2021; Fellows *et al.* 2021; Abeles *et al.* 2020).

Countries in Latin America and the Caribbean (LAC), and those in the Amazon are not an exception, have faced challenges in identifying and reporting indicators of national progress towards the 2030 Agenda (CEPAL 2019a). An effort to address this issue was made by the SDG Center for Latin America and the Caribbean (CODS) with the support of the United Nations Sustainable Development Solutions Network (SDSN), in which new metrics were identified to compare advancement in the region (CODS 2020). We use these measurements to evaluate progress towards achieving the 2030 Agenda in the Amazon.

The SDGs can be grouped around five intertwined dimensions, "People, Planet, Prosperity, Peace, and Partnership". In this chapter, we argue that in order to maintain ecosystem integrity and promote economic prosperity and social justice for the Amazonian citizens of today and tomorrow, we must look beyond the vision of nature as a collection of natural resources to be managed for social and economic development. This chapter reinforces the Living Amazon Vision proposed in Chapter 25 as an urgent alternative to current trends in the Amazon, placing People, Planet, Prosperity, Peace, and Partnership within the ecological limits of the Amazon Basin (Figure 26.1).

This means ensuring that actions to respond to each dimension are compatible with maintaining healthy ecosystems, the 80% forest cover required to avoid a potential tipping point in the Amazon (Nobre *et al*. 2016, see also Chapter 24), and aquatic connectivity. It also requires increasing the effectiveness of and coherence between the Paris Agreement and the 2030 Agenda, including true cost–benefit evaluations of development projects and their ensuing impact on natural capital.

26.2 Evaluation of relevance and limitations of definitions of sustainable development in the Amazon

26.2.1 People

The 2030 Agenda states under the People dimension, "We are determined to end poverty and hunger, in all their forms and dimensions, and to ensure that all human beings can fulfill their potential in dignity and equality in a healthy environment". The 2030 Agenda establishes People as one of the overarching core elements, under which five of the sustainable development goals are included: No Poverty (SDG 1), Zero Hunger (SDG 2), Good Health and Well-being (SDG 3), Quality Education (SDG 4) and Gender Equality (SDG 5).

According to the CODS's 2019 SDG index, there was already a moderate to significant lag in the "performance" of Amazonian countries in achieving SDG indicators under this dimension (Figure 26.2) prior to COVID-19, in comparison with global averages. These comparisons are made using a list of indicators selected, in part, based on the availability of data (Annex 26.1). Additionally, in almost all cases, Amazonian countries were also not advancing at an appropriate rate, or "trend", to achieve these goals by 2030 (Figure 26.2). This index distinguishes between negative trends, no progress, moderate progress (a linear trend lower than 50% of what would be required to achieve the goal in 2030), and values above 50% that are classified as following the expected trajectory.

This situation has worsened as a result of the COVID-19 pandemic. Despite having a population that is much younger than that of the USA/Canada and Europe, LAC is the region with the second-highest cumulative death rate as a result of COVID-19 in the world. It is also likely that there is significant under-reporting of COVID-19 deaths (Roux *et al*. 2021). Both under-reporting and high death rates are the result of weak public health systems, limited social safety nets, and high levels of inequality. Inequality is directly evident in health outcomes; for example, cases among Indigenous people in Brazil have been under-reported by 14% and deaths by 103%. Similarly, incidence and mortality rates in the Brazilian Legal Amazon were 136% and 110% higher than the national average (Fellows *et al*. 2021). Moreover, uneven access to vaccines and healthcare creates inequalities among countries in the region (CEPAL 2021). Universal access to COVID-19 vaccines is imperative, and regional and global solidarity is required to reduce inequalities, mitigate social impacts, and accelerate recovery.

The COVID-19 pandemic is likely to exacerbate inequality by setting back advances in reducing poverty and extreme poverty in LAC by 12 and 20 years, respectively (ECLAC 2021a, b). This indirect and lasting impact will have a more significant effect on rural areas, owing to higher rates of poverty (45.7% in rural areas, relative to an overall average of 30.5% in 2019) and extreme poverty (21.2% in rural areas, relative to 11.3% overall in 2019). It will also affect children between 0–14 years old living in poverty (47.2%) and extreme poverty (19.6%), and Indigenous people living in poverty (46.7%) and extreme poverty (17.3) in 2019 (ECLAC 2021a).

Education will suffer long-term impacts. Thus far the pandemic has affected over 170 million students across different levels in LAC (World Bank 2021a). Remote learning strategies have excluded 46% of children aged 5–12 years living in households without internet access (ECLAC 2021b). This is likely to result in poor academic performance in primary and secondary school, increased dropout rates, and decreased physical and emotional well-

being, including loss of access to school meals (World Bank 2021a). The pandemic has also

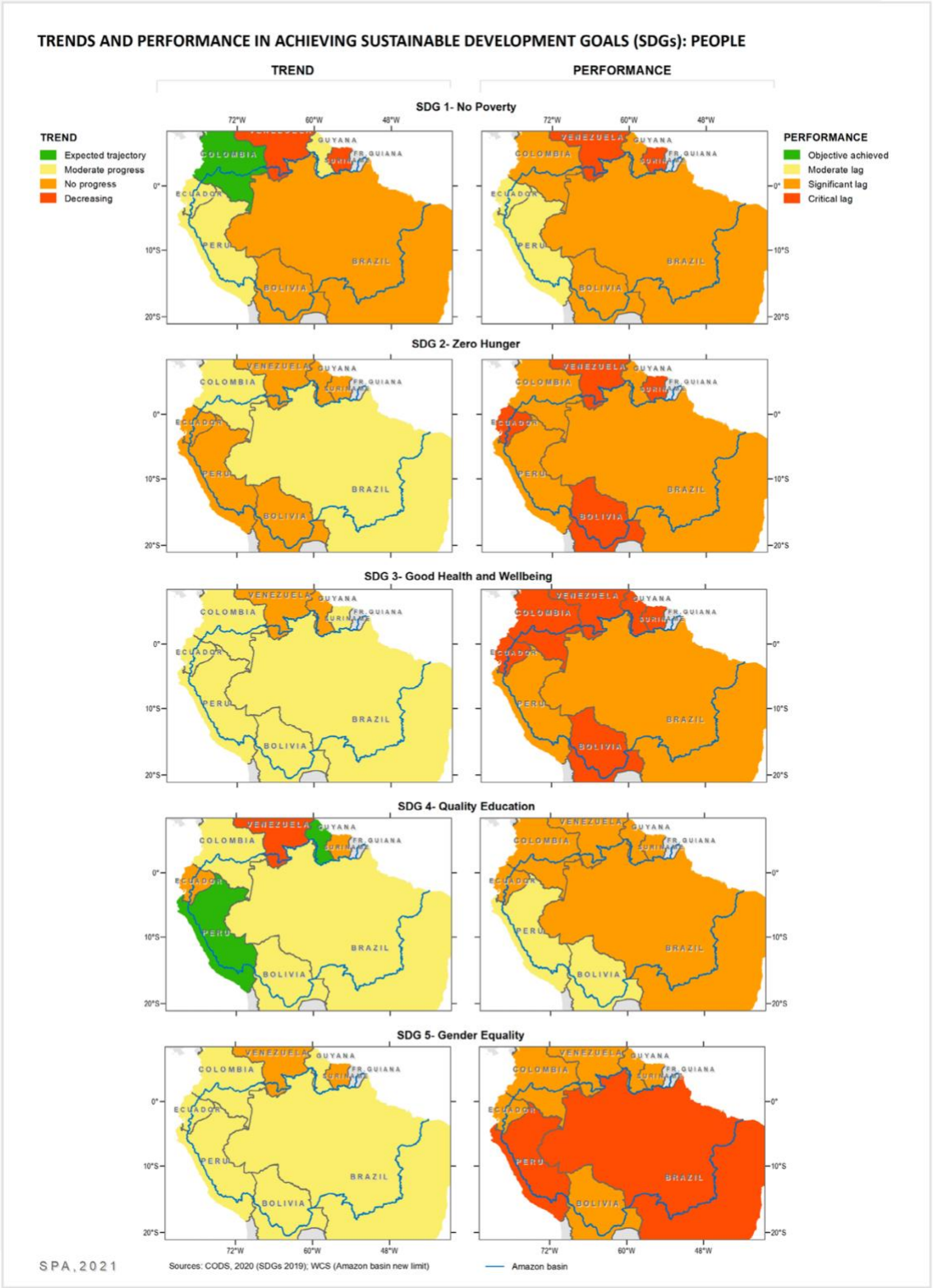

Figure 26.2 Performance and trends in achieving SDGs of the People dimension (based on 2019 Data CODS 2020).

affected food security, as lockdowns reduce both physical access to food and household income (Devereux *et al*. 2020).

Regarding gender equality, women have been on the front lines in the response to the pandemic. In 2019, women represented over 70% of health sector staff in Amazonian countries. Additionally, women have faced long work days and high risk of infection, as well as greater domestic responsibilities and increased domestic violence. Adolescent fertility rates are expected to increase and affect the most vulnerable girls due to reduced access to birth control, abuse and sexual violence, and suspension of sexual education programs, leading to increased unwanted pregnancies (ECLAC 2021b). Government responses to increased violence against girls and women since the pandemic began have been varied; Colombia is a good example, designating services to protect women as essential (ECLAC 2021b).

26.2.1.1 What are the limitations of the definition of poverty in the Amazon?

Accepted and widely used definitions of poverty have shortcomings; most operational definitions do not provide an objective concept of the 'problem' (Piachaud 1987). Despite limitations, definitions remain central to decision making about the design and implementation of appropriate sustainable development objectives (Schreckenberg *et al*. 2018). Poverty is generally measured by comparing a person's or family's income, derived through a specific (or multiple) livelihood strategy(ies), to a set threshold or minimum amount of income needed to cover basic needs.

The Human Development Index (HDI) arose as an effort to include human welfare in development assessments, which before 1990 had previously considered only Gross National Product (GNP) (UNDP 1990). It is a composite index of life expectancy, education, and *per capita* income indicators, which are widely used today to rank countries into tiers of human development (including poverty). The HDI includes more than the accumulation of comm-odities and financial wealth to include other determinants of long, healthy, and creative lives. However, although the HDI is a critical index to guide poverty alleviation, it is based on national averages and can mask inequality.

In 2020, the Human Development Report addressed the challenges faced in the Anthropocene, the period during which human activity has a dominant influence on Earth's climate and the environment. It adjusted the HDI to take into account the pressures placed by humans on the planet, creating the Planetary Pressures-adjusted Human Development Index (PHDI) (UNDP 2020).

The poverty eradication targets included under SDG 1 in Agenda 2030 include support for people harmed by climate-related extreme events and other economic, social, and environmental shocks and disasters, in addition to ending poverty and ensuring social protection for all. SDG 2 seeks sustainable solutions to end hunger and to achieve food security, and its targets focus on improving access to food and the widespread promotion of sustainable agriculture. The targets for SDG 3 include improving reproductive, maternal, and child health; addressing priority communicable and non-communicable diseases; and achieving universal health coverage and access to medicines and vaccines. SDG 4 targets focus on securing access to quality education and lifelong learning opportunities.

Although there is certainly progress in the integrality of development metrics, the need for generalizations at the global level impedes diversity and cultural specificity. Because of the lack of similar data between different countries in the Amazon and Latin America as a whole, comparisons almost exclusively rely on income, consumption, and access to social assistance programs and basic services, referring to government-led health, education, and infrastructure programs (CODS 2020). The lack of mainstreaming of local solutions in development metrics hinders progress to adequately consider all forms of poverty alleviation strategies and hence to channel development funding to these diverse approaches. The challenge

of how to address multidimensionality and complexity in the definition of poverty, and indeed sustainable livelihoods, especially on the ground and in specific contexts, is not new, and the need for subnational approaches for effective implementation is broadly recognized. "Localizing" is the process of taking into account subnational contexts in the achievement of the 2030 Agenda through the identification of goals, targets, and indicators for determining the means of implementation (UN-Habitat and UNDP 2016). The Global Taskforce of Local and Regional Governments brings together the major international networks of local governments to present their perspectives on the SDGs, the global climate agenda (Nationally Determined Contributions [NDCs] to the Paris Agreement), and the New Urban Agenda.

However, a similar platform for the support of Indigenous territories is lacking, and IPLCs' (and their institutions') own definitions of poverty remain poorly understood and operationally mostly absent in sustainable development planning, design, and implementation in the Amazon. Colombia represents a notable exception, having recognized Indigenous autonomy and supporting access to government funds to support their consolidation. This is true despite the numerous advances made by Indigenous movements in establishing Indigenous territorial plans in all countries in the region. Indigenous territorial plans, also called Life Plans, share a common characteristic of representing the shared consensus for the management of a collective Indigenous land, including organizational aspects, territorial zoning, natural resource use, cultural revalorization, women's rights and their needs for basic services, and engagement with the state and non-state stakeholders (Lehm 2019). One way of thinking about poverty in a rich, heterogeneous, and multidimensional way is to think about the different types of capital available in a specific place.

26.2.1.2 Natural and Cultural Capital: Rethinking sustainable 'livelihoods'

The socio-economic circumstances of people in the Amazon are not influenced merely by their individual actions and behavior, but more importantly, by various assets that are available to them and their level of engagement in decision-making processes regarding their self-determined development (Gutiérrez-Montes *et al*. 2009). People defined as 'poor' by widely-accepted definitions may not possess cash or savings; however, they may possess both the material and non-material assets to meet their basic needs (Davies and Smith 1998; Verrest 2007). The Sustainable Livelihood Framework identifies five types of assets or capital: natural assets, human assets, physical assets, social capital, and financial assets (DFID 2000). Recognition of these capitals and plans for a successful investment strategy in all five asset classes would lead to a sustainable society where stocks are enhanced and not depleted.

Critically, in the Amazon, natural and social capital are unique and highly threatened. Time and natural processes, coupled with environmental heterogeneity, climate, and biotic interactions, have produced an exceptional diversity of Amazonian species, genes, and ecosystem functions (see Chapters 3 and 4). In the Amazon, biological and cultural diversity are intrinsically connected and have co-evolved as social-ecological systems, designated as biocultural diversity. Amazonian IPLCs have played an important role in shaping, protecting, and restoring Amazonian ecosystems and biodiversity under different changing contexts (see Chapters 8, 10, and 13). Hence, natural and social capital are irreplaceable, and over-extraction is already resulting in diminishing returns and critically threatening the rights of future generations (Dasgupta 2021).

Kinship and social networks, local and hybrid (including increasingly intercultural) knowledge systems, beliefs, customs, norms, language, and a wide range of culturally-related activities, such as oral folklore, arts, crafts, music, and gender roles, can play a significant role in the sustainability of human societies and their respective sustainable livelihoods. Social organization around cultural

capital in supporting (or not) other capitals (economic, human, physical, ecological) is essential to maintain or initiate sustainable livelihoods. For example, several studies show that even relatively modern supply chains of natural resources, such as charcoal, are based and rely on kin networks (Bennett-Curry *et al*. 2013).

Cultural capital, through local to international coalitions and through its power to reconcile and incorporate new realities into existing knowledge and belief systems, is critical to strengthen resilience and guide adaptation to the climate, biodiversity, and COVID-19 crises. While still limited, increasing attention is being directed towards the role of culture as a social capital that contributes (or limits) the development and well-being of people, as well as to the capacity for territorial management for a diversity of objectives, including conservation. This is best illustrated in the Amazon by initiatives linked to spiritual values, such as the Amazon Sacred Headwaters Initiative in Ecuador and Peru (Koenig 2019), and with efforts to implement Indigenous territorial management plans or Life Plans in their multiple dimensions (Lehm 2019). The Amazon Sacred Headwaters Initiative, for example, builds a shared vision among Indigenous peoples, NGOs, philanthropic foundations, social entrepreneurs, and governments towards establishing a bi-national protected region that is off-limits to industrial-scale resource extraction and governed in accordance with Indigenous principles of cooperation and harmony.

Given the scale of the threats and connectivity requirements to maintain the natural capital of the Amazon, it is important to remember that cultural capital is not limited to the local level. There are multi-level vertical organizational structures as well as horizontal linkages between Indigenous territorial organizations at the national, regional, and global levels, enabling new dynamics of political representation and empowerment within the international policy arena. Therefore, development in the Amazon can be considered a cultural as much as an economic or social process. Thus, it is necessary to increase or enhance awareness of locally-specific cultural traditions, strengths, and perspectives through intercultural research and communication (for more on intercultural education, see Chapter 32).

26.2.1.3 Ethnic and gender disparities in the Amazon

The 2030 Agenda has three guiding principles: i) human-rights-based approach; ii) leaving no one behind; and iii) gender equality and women's empowerment. SDG 5 aims to ensure equal opportunities for women and girls by removing discrimination and violence, and by improving access to paid employment, sexual and reproductive health-care, and decision-making power.

Brazil and Peru have a critical lag in achieving gender equality, and all other countries are significantly behind average global performance (Figure 26.2). Moderate progress has been achieved across the region on reducing gender gaps in access to education, except in Suriname and Venezuela. However, reported gender-based violence is high; for example, in Colombia, 39% of Amazonian women indicated they have recently been victims of physical violence, and the region has the highest incidence of female rape in the country, 7 women per 100 (Collen 2016). In 2014, the United Nations International Children's Emergency Fund (UNICEF) reported a third of women in Guyana had been the victim of gender-based violence (GBV) (Contreras-Urbina *et al*. 2019). As mentioned above, there has been an increase in violence towards women and children during the COVID-19 pandemic.

Although there has been some progress in reducing inequalities in the Amazon, Indigenous peoples, especially Indigenous women, still face higher rates of illiteracy, poverty, infant mortality, and maternal fertility, as well as lower education rates (Collen 2016). These global measurements do not take into account access to subsistence fisheries, hunting, and agriculture, despite the fact thatinclusion of these non-market resources can halve estimates of poverty in Indigenous communities with access to

healthy rivers and forests (Salinas *et al.* 2017). Consolidating and maintaining access to ancestral lands and a healthy environment is a key strategy to implement the 2030 Agenda in the Amazon. Documenting and communicating this contribution is also crucial to increase government support to Indigenous territorial management as part of national poverty alleviation strategies. To ensure their inclusion in poverty alleviation strategies and capture the inequalities they face across all SDGs, Indigenous peoples have been advocating for data disaggregation and the inclusion of community-based data in official statistics.

Ethnic and gender disparities in the Amazon arise from deep-rooted, systemic, historical dynamics and have important cultural, psychological, and identity dimensions, as well as a history of distrust, impeding progress. There is structural violence and injustice at every level of governance, whereby social structures or institutions prevent vulnerable people from meeting their basic needs by failing to safeguard their rights. These power dynamics result in a lack of recognition of land rights of Indigenous people and local communities, limited participation of women from IPLCs in decision-making processes, and poor access to healthcare, education, and employment for rural communities (World Bank 2015).

26.2.2 Planet

The 2030 Agenda states "We are determined to protect the planet from degradation, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations." In this section, we evaluate the most relevant aspects of this vision and the key gaps that exist for the Amazon Basin. Four of the sustainable development goals are included under "Planet": Clean Water and Sanitation (SDG 6), Responsible Production and Consumption (SDG 12); Climate Action (SDG 13), and Life on Land (SDG 15). Conservation and sustainable use of the oceans, seas, and marine resources (SDG 14) is not included in this discussion because it is of limited relevance for the Amazon Basin.

26.2.2.1 SDG 6: Clean Water

Targets for SDG 6, Clean Water, include universal and equitable access to drinking water and sanitation; improved water quality and quantity by addressing sources of pollution and increasing efficiency of use; integrated water resource manage-ment, protection and restoration of critical ecosystems; international cooperation and capacity building, as well as local community involvement. These targets reflect the importance of natural ecosystems for water provision and access to water quality and quantity as a basic human right and key requirement for sustainable development. They also reflect the need to address pollution, current pressures, and conflicting demands for fresh water in the context of climate change.

Access to clean water is crucial for reducing poverty and inequality and enabling peace, justice, and sustainability. Mainstreaming water in national and subnational planning for energy, agriculture, infrastructure, and the environment is critical for increasing policy coherence and effectiveness, optimizing the use of limited resources available to implement the 2030 Agenda, and integrating strategies to end poverty in order to avoid conflicting impacts. As such, in the Amazon and all Latin America, there have been advances in relevant legislation, including the recognition of access to water as a human right. However, access to safe water remains a challenge.

Throughout the region, illegal mining, lack of access to sewage systems, agroindustry, and other activities have a negative impact on water quality and people's health (Rocha-Román *et al.* 2018). By 2015, mining had polluted at least 30 rivers in the Amazon and affected 88 Indigenous lands, including 32 in Peru and 29 in Colombia (Vallejos *et al.* 2020; for information on the impacts of mining on aquatic systems, see Chapter 20). Pollution of surface waters threatens human health and aquatic life in areas where the expansion of agroindustry is occurring. For example, in Brazil, after relaxing

processes to approve the use of pesticides in 2019, the government allowed the use of at least 474 new

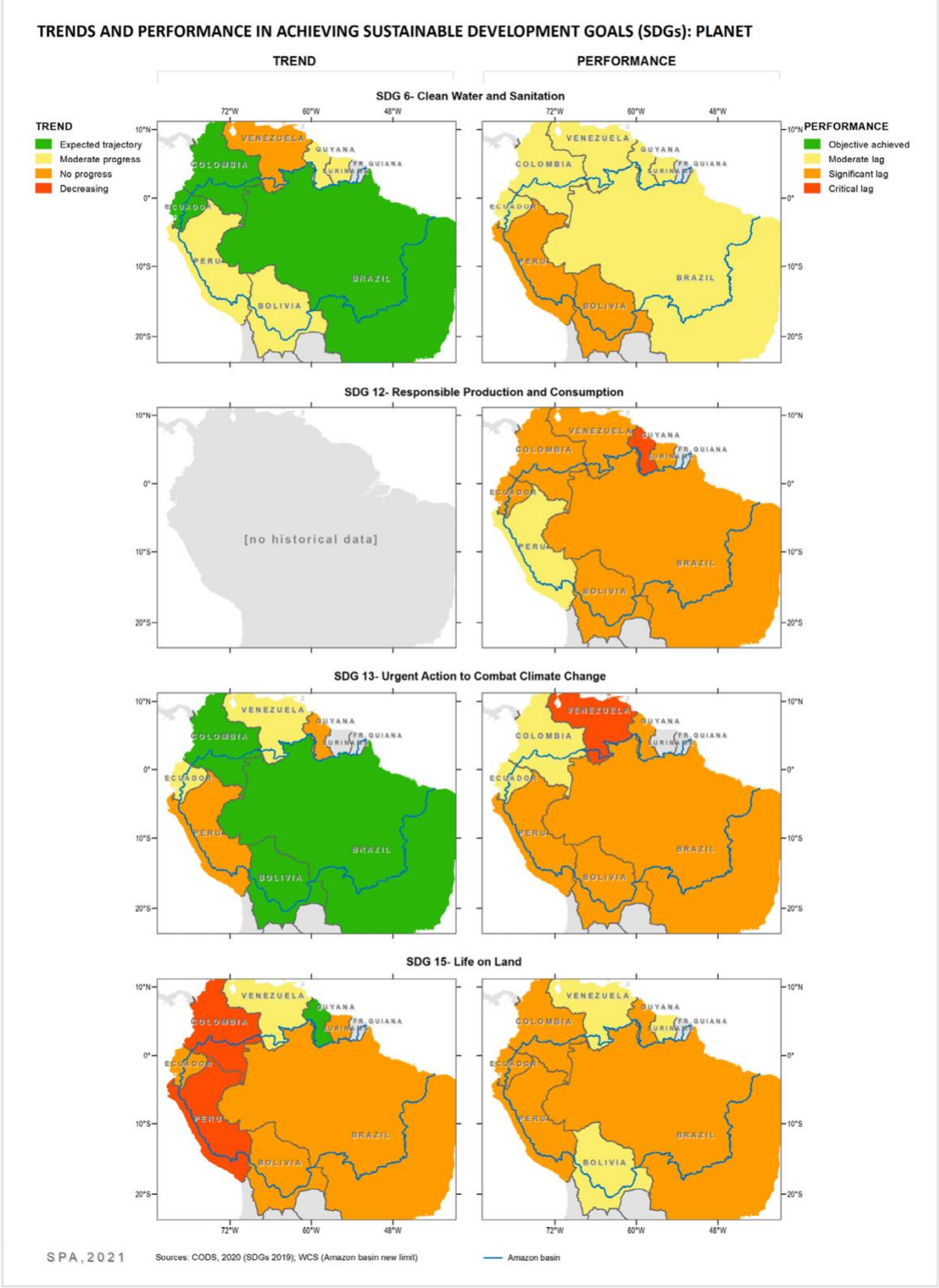

Figure 26.3 Performance and trends in achieving SDGs of the Planet dimension (based on 2019 Data CODS 2020).

agrochemicals, and in 2020 this number increased to 493, including many banned in other countries (Ferrante and Fearnside 2019; Brazil 2021).

Even though the Amazon is the largest watershed in the world, the Regional Technical Team on Water and Sanitation of the World Health Organization (WHO) stated in 2018 that the majority of the 8.5 million people in Latin America without access to potable water are found in Brazil, Colombia, Peru, Ecuador, and Bolivia. According to Fundación Aquae (2017), in 2017, 89% of the people living in the Peruvian Amazon had no access to drinking water, and 38% of households in the state of Amazonas had no household connections to running water in 2018 (WHO and UNICEF 2019). The majority of municipalities in the Amazon Delta and Estuary have less than 20% of households with sewage coverage (Mansur *et al.* 2016; see also Chapter 14). Lack of access to basic sanitation services is an obstacle to regular hand washing, a critical action to reduce disease transmission. In addition, because only a limited number of households in the Amazon are served by sewage collection or treatment, there is significant release of contaminants (pharmaceuticals and other wastewater contaminants) into freshwater ecosystems, especially downstream from urban areas such as Manaus (Fabregat-Safont *et al.* 2021).

Overall, the Amazon, as well as the rest of Latin America, has made moderate progress in providing access to water and sanitation to most of the population. This progress is markedly slower in rural areas (CEPAL 2019b), and the region still shows a moderate lag in its performance in comparison toaverage global performance in achieving selected indicators. At the national level, Brazil, Colombia, and Ecuador are following a trend that will allow them to ensure adequate access to water and sanitation for all their population by 2030. However, this trend is not reflected in the Amazon region. For example, in the Brazilian Amazon, in 2018, only 54% of the population had access to safe water and only 15% had sewage (Santos *et al.* 2018). Even at the national level, Guyana, Peru, Bolivia, and Suriname will not fully reach this goal, in particular Peru and Bolivia, which have a significant gap in coverage. Meanwhile, Venezuela's progress has halted (Figure 26.3 and Annex 26.1 for details of indicators used). Access to water is not always stable and of high quality because of droughts and poor infrastructure. Amazonian countries face a greater frequency, intensity, and geographic extent of floods and droughts (see Chapter 22).

Many of the principal cities in the region increasingly experience water scarcity as a result of poor planning, climate change, and deforestation (World Water Week 2020). These threats are broadly included in the clean water targets measured through three dimensions: i) developing an enabling environment, ii) appropriate institutional capacity, and iii) financing and management instruments.

The institutional framework for watershed management in each country is very heterogeneous. Brazil, Colombia, Ecuador, Venezuela, and Peru established basin management bodies by law. Bolivia implements watershed management programs, while Guyana has a draft policy and roadmap for Integrated Water Resource Management. Suriname has yet to develop an institutional basis for integrated management of watersheds beyond specific sectorial interests. Even where an institutional framework exists, it rarely has the necessary technical capacity, continuity, enforcement, international coordination, and financial resources to fully achieve integrated watershed management objectives (Dourojeanni Ricordi 2020).

Although the need to work across different scales, including the transboundary scale, is addressed in the 2030 Agenda (UN Water 2020), the role of the Amazon for water provision at a global scale is not addressed. Its immense size and political divisions prevent both conservation and sustainable development projects from being planned at the Basin scale. This has made it particularly difficult to address threats such as mining, sewage, deforestation, and dams, but there are some encouraging advances. There is increasing progress and collaboration between Colombia, Peru, Brazil,

and Ecuador in the Putumayo Basin; and between Bolivia, Brazil, and Peru in the Madre de Dios watershed. All eight Amazonian countries have also come together through an agreement between the Amazon Cooperation Treaty Organization (OTCA), the United Nations Environment Program (UNEP), the Global Environment Facility (GEF), and the Organization of American States (OAS) to implement a project for the Integral and Sustainable Management of Cross-border water resources in the Amazon River Basin (OTCA/PNUMA/OEA 2006).

Connectivity between Indigenous territories and protected areas at a landscape and watershed level is an important enabling condition; thus, Indigenous people are key stakeholders in achieving integrated watershed management, not passive recipients of equitable access to basic services. In addition, transboundary cooperation agreement indicators should address the level to which Indigenous communities from different countries are cooperating on territorial management. Indicators could include recognition of the rights of Indigenous peoples, and the integration of Indigenous Life Plans within watersheds by relevant sectoral policies, as well as the degree of inclusion of Indigenous peoples as rights holders in the implementation of these policies.

The cultural importance of water and the sacred nature of rivers is critical for integrated river basin management with the participation of Indigenous people. Many Indigenous people have a deep connection with water bodies, identifying them with ancestors, forest spirits, and their history, as is the case of the Kukama (WCS 2016) and the sacred headwaters initiative in Peru and Ecuador (Koenig 2019). The cultural value of water does not seem to be included in SDG 6; culture could come into play through references to public participation (Target 6a and 6b), but with no explicit mention it is easily overlooked. There are additional opportunities to specifically include Indigenous participation in monitoring target 6.5, which evaluates the degree of integrated water resources management implementation by including culture in environmental flow requirements (target 6.4.2). The role of women in the affirmation and transmission of these cultural values is particularly important in the Amazon. Thus, the connections between SDGs 5 and 6 are critical; specifically, ensuring that women are empowered to participate in SDG 6 activities and allowed to include the cultural values of water in the concepts encompassed by Goal 6. Recent advances in promoting intercultural dialogue between ILK and scientific knowledge represent an opportunity to integrate cultural management practices into national or regional watershed management plans.

26.2.2.2 SDG 12: Responsible Production and Consumption

With regard to sustainable production and consumption, SDG 12 targets and indicators reflect the impact of socioeconomic and demographic change resulting from the growing middle class in Amazonian countries, and the need to respect planetary boundaries. Action to address climate change is prioritized because of its multiple impacts on nature and people, particularly marginalized groups. These targets recognize that there are limits to the extent and intensity of natural resource extraction (see Annex 26.1 for details of specific indicators).

In Colombia, Bolivia, and Ecuador, retail food losses equate to the amount of food required to reduce the percentage of undernourished people in their populations by half, whereas Brazil and Guyana could reach zero hunger with the amount of food wasted from retail alone. Therefore, addressing food losses and waste is key to eradicating hunger in the Amazon (FAO 2015).

Colombia, Ecuador, and Peru established strategies to promote a circular economy since 2019, and all Amazonian countries have laws or strategies for waste management. Single-use plastic consumption has increased during the COVID-19 pandemic, with an exponential increase in the use of *inter alia* gloves, masks, food packaging, and wrapping. Although global production of single-use plastic has increased worldwide, recycling programs were suspended, negatively affecting 1.8 million waste

pickers in LAC who are responsible for recovering approximately 50% of recycling material (OEP and BID 2021).

Making use of digital innovation is essential to realize circular economy opportunities. Colombia, Brazil, and Bolivia are rapidly adopting digitally-driven innovation (Muruzábal 2018). Nevertheless, in the absence of policy, fiscal, and training support, these opportunities are likely to be taken up by larger companies, leaving small businesses at a disadvantage. The same risk of monopolization is present in the agricultural sector. In Bolivia, Ecuador, and Peru, the agricultural sector employs approximately 30 percent of the population, of which a large proportion are smallholders. Therefore, a transition to a circular, nature-based economy must prioritize smallholders and Indigenous land rights, as well as food sovereignty in order to avoid land grabbing by large-scale agro-businesses (Mills 2015; see also Chapters 14 and 15). This transition also requires support from the international community in order to create and maintain sustainable food systems (e.g., the European Union-Mercosur agreement includes commitments to tackle deforestation as well as social safeguards). Close international cooperation and the setting of robust standards is necessary to ensure that the transition to a circular bioeconomy delivers real environmental benefits and promotes innovation in high value-added sectors through research.

The SDG for responsible production and consumption aims to decouple environmental degradation from economic growth and promote resource use efficiency by applying life cycle thinking. In the case of the Amazon, this may involve leveraging traditional knowledge regarding production and natural resource management practices, rather than new practices altogether. Chapter 25 presents a critique of the idea of infinite economic growth.

To achieve transformative change and reverse the current advancement of degradation in the Amazon, two elements are missing in these targets and their indicators. First, indicators related to the sustainable management and efficient use of natural resources do not consider resource flows driven by demands that originate in markets located outside the region. In this case, consuming countries do not account for the environmental impact and human cost of their demand for beef, soy, oil and gas, timber, and gold. Second, this vision is limited by the general understanding of nature as a collection of natural resources to be managed and excludes the existence of different spiritual and immaterial connections with nature, as well as its value for all life on Earth (see Chapter 10).

These different value systems, sometimes referred to as "*Buen Vivir*", represent an important potential to couple responsible production and consumption with respect for human rights and opportunities to collaborate with Indigenous people. These opportunities include strengthened governance over Indigenous territories covering more than a quarter of the Amazon (see Chapter 16) and the livelihood and climate benefits this entails. Additionally, strengthening biocultural or co-production approaches between Western and Indigenous knowledge systems would complement the targets focusing on scientific and technological capacity, as well as increase access to relevant information and awareness. Co-production and biocultural approaches do not imply a return to the past, but Targets 12.2 (sustainable management and efficient use of natural resources), 12.5 (reduce waste generation), and 12.8 (information and awareness) could all include traditional production practices. One example is the reintroduction of leaves as food wrapping rather than plastic, whether biodegradable or recyclable. Target 12.7 (public procurement practices) should mention the purchase of local and traditional products as a priority. Consistent with this, information and awareness programs (Target 12.8) should aim to include traditional practices and knowledge that are conducive to the attainment of SDG 12.

26.2.2.3 SDG 13: Urgent Action to Combat Climate Change

SDG 13 targets relate to urgent action to combat climate change and its impacts, address resilience and adaptive capacity to hazards and natural disasters, integrate climate change measures into national policies, improve education and capacity building, facilitate global financial mobilization, and support inclusive and climate-resilient planning and management. The urgency of addressing climate change in the Amazon is two-fold: i) the Amazon is a giant carbon reservoir holding 150–200 billion tons of carbon in its soil and vegetation (see Chapter 6) and its forests are a giant cooling mechanism (see Chapter 7), thus any solution to tackle global climate change must consider reducing deforestation in the Amazon; and ii) climate change and deforestation threaten to reduce the role of the Amazon as a water processor of global importance by reducing atmospheric moisture transport and respective recycling of precipitation (Chapter 22). In fact, studies show that the Amazon is close to reaching a potential tipping point of no return, beyond which tropical forests could be replaced by savannah-like degraded ecosystems across over 60% of the Basin (Nobre *et al.* 2016). Chapter 24 examines the different potential tipping points and suggests that it is likely that novel feedbacks associated with invasive plants and human-modified landscapes will lead to open degraded and secondary forest over broad areas.

Table 26.1 Advancement of Amazonian countries in fulfilling commitments to the Paris Agreement. Developed with data from Climate Watch (2020)

	Bolivia	Brazil	Colombia	Ecuador	Guyana	Peru	Suriname	Venezuela
Submitted INDC	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NDC	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Updated NDC	No	Yes	Yes	No	No	Yes	Yes	No
Inclusion of mitigation targets	No	Yes	Yes	Yes	No	Yes	No	Yes
Inclusion of adaptation targets	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Specific Legal/policy frameworks to enhance NDC	No	Yes	Yes	Yes	No	No	Yes	No
Potential alignment between NDCs and SDGs	1	0	7	0	2	0	3	3

SDG 13 is relevant to the Amazon at four scales: local, national, regional, and global. Targets and indicators included in this goal, as currently stated, relate to the national level, except for commitments to global finance mobilization. All countries in the Amazon are signatories of the Paris Agreement and are implementing policies to combat climate change under the United Nations Framework Convention on Climate Change (UNFCCC). Advancements towards such commitments are presented in Table 26.1. All countries have submitted their Intended Nationally Determined Contributions (INDCs) and Nationally Determined Contributions, and Brazil, Colombia, Peru, and Surinam updated their NDCs in 2020. Mitigation targets are included in many of these updated commitments, but not by Bolivia, Guyana, and Suriname. All communications, except those of Brazil, include commitments to increase adaptation capacity. Half of the countries have included specific policy frameworks to enhance NDCs; potential alignment with the 2030 Agenda is mentioned by Colombia and to a lesser degree Venezuela, Suriname, Guyana, and Bolivia.

The Paris Agreement is a powerful tool for action because it involves specific targets to which governments can be held accountable. Additionally, there are linkages between SDG indicators and the

expected results of NDC implementation. Nature-based solutions underpin the SDGs by supporting vital ecosystem services, biodiversity, access to fresh water, improved livelihoods, healthy diets, disaster risk reduction, and food security from sustainable food systems. It is important to highlight that the COVID-19 pandemic only had a temporary effect in reducing CO_2 emissions, and total emissions are still increasing consistent with a temperature rise of 3°C this century (UNEP 2020).

Reducing deforestation and restoring forest cover are recognized by all Amazonian countries within their NDC documents (UNFCCC 2021). This is particularly relevant as we have just entered the UN Decade of Restoration. However, we need urgent conservation and restoration actions to address rapid land-use change and deforestation arising from direct, indirect, and cumulative threats across the Basin, such as increased road infrastructure, oil and gas, gold mining, and expansion of the agro-industry (see Chapters 27–29), operating under a common regional vision (see Chapter 25), and addressing international forces that may be driving these phenomena. Additionally, a common regional vision is required if we are to avoid the effects of deforestation on the South American monsoon system (Boers *et al*. 2017). Initiatives such as the NDC partnership (2018) and NDC Latin America and the Caribbean (Samaniego *et al*. 2019), a digital information platform to support action on Climate Change in Latin America and the Caribbean, represent models that can guide the establishment of a regional vision to address climate change. At a subnational scale, progress achieved in engaging local governments in the 2030 development agenda is encouraging (e.g., through communities of practice such as the Local 2030 network). Similarly, local climate change action is critical to strengthen the existing targets and indicators of SDG 13 (e.g., the Governors for Climate Alliance in Brazil) and recognize different identities and knowledge systems within countries. Local programs to enhance education, raise awareness, and improve human and institutional capacity are critical to climate change mitigation, adaptation, impact reduction, and early warning. Furthermore, encouraging governments to consider local knowledge and practices in the climate change measures of Target 13.2 would significantly contribute to attaining SDG 13 through environmental governance, leading to reduced deforestation on Indigenous lands and in subnational protected areas and the sustainable use of nature.

26.2.2.4 SDG 15: Life on Land

Targets for SDG 15 address actions to protect, restore, and promote the sustainable use of terrestrial ecosystems; emphasize equitable access and benefit-sharing; promote sustainable forest management; combat desertification; halt and reverse land degradation; and prevent biodiversity loss including through halting the illegal wildlife trade, integrating ecosystems and biodiversity into development policies, and mobilizing financial resources.

These targets highlight major direct threats to terrestrial ecosystems, which must be addressed through actions both within and outside of protected areas, for example within Indigenous lands, allowing for conservation of forests at the Basin scale. To achieve SDG 15, four approaches are critical: i) acknowledgement of the mutually dependent relationship between forests and rivers, and bordering or related ecosystems, such as wetlands, leading to the need to include conservation and management actions at a watershed scale; ii) inclusion of biodiversity and species-focused management, and not only ecosystem conservation, as management objectives within and outside of protected areas; iii) recognition of the spiritual and cultural values of nature, and thus their inclusion as objects of the protection and restoration measures for the sustainable use and management of land; and iv) inclusion of IPLCs' traditional knowledge and livelihood systems into national and local planning and development processes, strategies, and accounts.

In terms of interventions, Amazonian conservation can be achieved at scale by building on the current

designation of approximately 50% of the region as national and subnational protected areas, as well as Indigenous lands (RAISG 2019; see also Chapter 16). To maintain 80% forest cover, required to avoid a potential tipping point (Lovejoy and Nobre 2019), these areas need to be connected through new protected areas, other effective area-based conservation measures (OECM), sustainable natural resource management plans, and restoration interventions. The Leticia Pact, signed by all countries in the Amazon except Venezuela in 2019, represents an opportunity for coordination across the Basin to maintain healthy forests and rivers by addressing natural disasters and ecosystem degradation caused by illegal mining and fires, establishing early warning systems for deforestation and degradation, monitoring climate change and biodiversity at a watershed scale, promoting responsible consumption and a new bioeconomy, empowering women and IPLCs, promoting citizen education, and mobilizing international finance in support of these objectives.

26.2.3 Prosperity

In the 2030 Agenda, the Prosperity dimension is summarized as "We are determined to ensure that all human beings can enjoy prosperous and fulfilling lives and that economic, social and technological progress occurs in harmony with nature." The Prosperity dimension includes SDG 7 (Ensure access to affordable, reliable, sustainable, and modern energy for all), SDG 8 (Promote sustained, inclusive, and sustainable economic growth, full and productive employment and decent work for all), SDG 9 (Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation), SDG 10 (Reduce inequality within and among countries), and SDG 11 (Make cities and human settlements inclusive, safe, resilient, and sustainable).

Since the 1990s, there has been notable progress in improving access to electricity in both urban and rural areas of Latin America (Iorio and Sanin 2019), and current trends show that most countries are moving towards achieving universal access. Despite developments in research and innovation, the practical application of sustainable energy projects remains difficult and costly. As a result, there is still a moderate to significant lag in comparison with global averages in access to affordable and clean energy in all countries in the region, and a critical lag in Bolivia (see Figure 26.4 and Annex 26.1 for details of specific indicators). It is also important to highlight that this indicator does not include trade-offs between hydroelectric project generation in lowland Amazon and emissions from forest loss, nor does it consider the impacts on ecosystems and aquatic connectivity and local fisheries, with the Madeira Basin being the most impacted by current and future planned dams based on the potential hydrophysical impacts on the fluvial systems and the distribution of biological diversity (Santos *et al*. 2020).

With regard to SDG 8, countries in the Amazon Basin show significant to critical lags in performance, and varying trends towards the achievement of decent work and economic growth. As described in Chapters 14 and 15, increased conflict over land and stagnant incomes have led to increased employment in precarious, wage-based, often seasonal, and sometimes clandestine activities to supplement family income.

The contributions of Amazonian regions to national gross domestic product (GDP) are modest, yet growing; however, this trend is the result of unsustainable economic activities linked to habitat loss and degradation. This represents a negative spiral, as it threatens the very ecosystem services that support economic growth and jobs in key sectors, such as agriculture, tourism, forestry, fisheries, pharmaceuticals, and textiles. Knowledge-based sustainable use of biological resources, or a new bioeconomy, is the only way to break this cycle and maintain climate stability and a healthy environment (see Chapter 30), both of which are critical to human well-being and reducing productivity losses due to natural hazards (ECLAC and ILO 2018). Therefore, when we discuss prosperity, we should primarily be interested in the benefits of regenerative or sustainable practices

(Fath *et al*. 2019). For example, throughout the countries that share the Amazon, per capita income significantly increased between 2000 and 2004. The region as a whole tripled its per capita income in that period

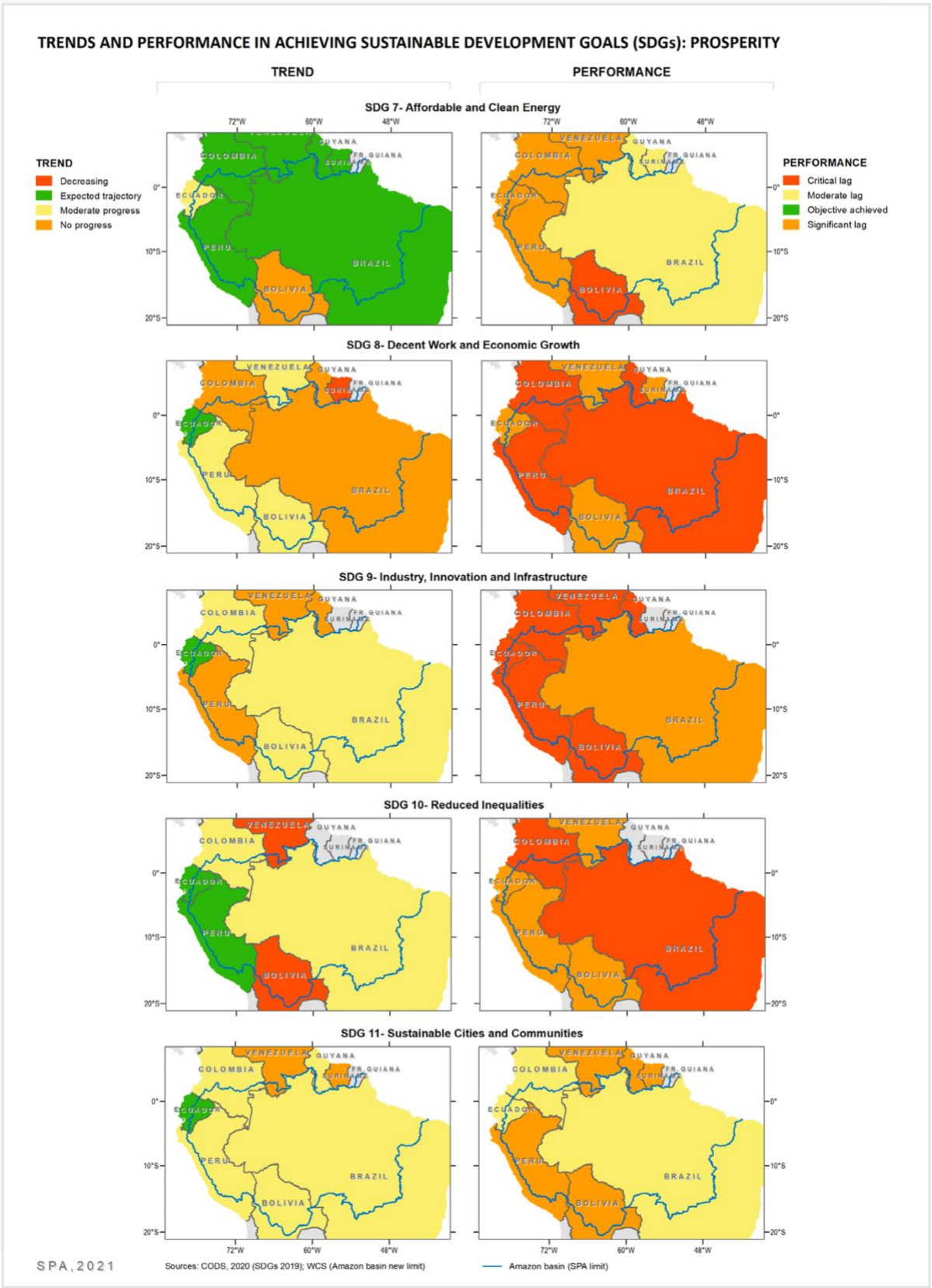

Figure 26.4 Performance and trends in achieving SDGs of the Prosperity dimension (based on 2019 Data CODS 2020).

(World Bank 2020). This was a result of increased prices worldwide for basic natural resources, both renewable and non-renewable, and the acceleration of unsustainable extractive activities across the region. These indicators need to be tied to specific regenerative development pathways. Inclusive and sustainable industrialization and innovation strongly feature in SDG 9; they are essential to move countries, and the Amazonian regions within them, away from exporting raw materials towards high-quality jobs and increased value exports that can support vibrant economies in urban and rural areas. An obstacle is access to technology, information and communication technologies (ICT), and relevant training and capacity building (UNIDO 2015).

26.2.3.1 Inequalities in the generation of wealth from Amazonian resources

There are significant inequalities in the Amazon according to 2018 Gini coefficients[1], ranging from 0.42 in Bolivia to 0.54 in Brazil (World Bank 2021b). Poor performance on SDG 8 is reflected in the high prevalence of informal employment across the Amazon, in rural areas as well as urban areas. In 2019, the informal sector represented 64% of employment in Bolivia, approximately 60% in Ecuador and Peru, and 41% in Brazil (ECLAC-CEPALSTAT 2021). The COVID-19 pandemic has negatively impacted labor markets and incomes, and, as expected, inequality and vulnerability have increased. This is not surprising as only 21.3% of the population in Latin America can work remotely. In the second quarter of 2020, formal employment rates contracted by 10.7% in Brazil, 12% in Bolivia, 16.1% in Ecuador, 21.8% in Colombia, and 34.9% in Peru, principally affecting women (ECLAC 2021a). Unemployment has also impacted informal workers; for example, in the case of Brazil, the informal employment rate dropped in the second quarter of 2020 to 36.9% (4.3% lower than in the same period in 2019), principally affecting young people aged 14–17 years (35.2%) and 18–24 years (21.9%) (ECLAC 2021a). To offset the effect of the COVID-19 pandemic, social protection mea-sures were adopted. South American governments provided US $75,237 million in cash and in-kind transfers between March and December 2020. However, these measures were insufficient to stop poverty, inequality, and vulnerability. The rate of improvement as measured by the Gini index was already slowing before the pandemic and has since worsened, by 2.9% in 2020 (ECLAC 2021a).

Structural changes are required to address inequality. Across Latin America, women are closing the gender gap in participation in the labor force, but policies are needed to better support their participation, for example by strengthening their legal rights, improving childcare, and through educational and job training policies (Novta and Wong 2017). There are also numerous obstacles for regenerative wealth generation by IPLCs, which prevent them from accessing opportunities based on their deep knowledge of biodiversity. These obstacles further entrench the cycle of degradation and poverty linked to unsustainable extractive activities, and include inequal access to legal land rights, financial services, niche markets, and ICT. Additionally, as recognized by the Leticia Pact, global inequality in access to technology and industrialization needs to be addressed to shift the region from a source of primary natural resources (see Chapter 11) towards knowledge and service-based industries, or a new bioeconomy (see Chapter 30).

Finally, inequality is also an issue that must be considered in relation to SDG 11 (Sustainable cities and communities), particularly in a region where rapid urbanization has led to a lag in the provision of adequate and sufficient waste management, healthcare, education, and protection from environmental risks such as floods and landslides. Cities and local goverments recognize the need to improve (Figure 26.4, UCLG 2018). The discourse includes the need to learn from the past and propose a new development model. There is also a need for urban citizens to support protected areas and Indigenous peoples in the struggle to defend their

[1] The Gini coefficient is a measure of income inequality, ranging from 0 (perfect equality) to 1 (maximal inequality).

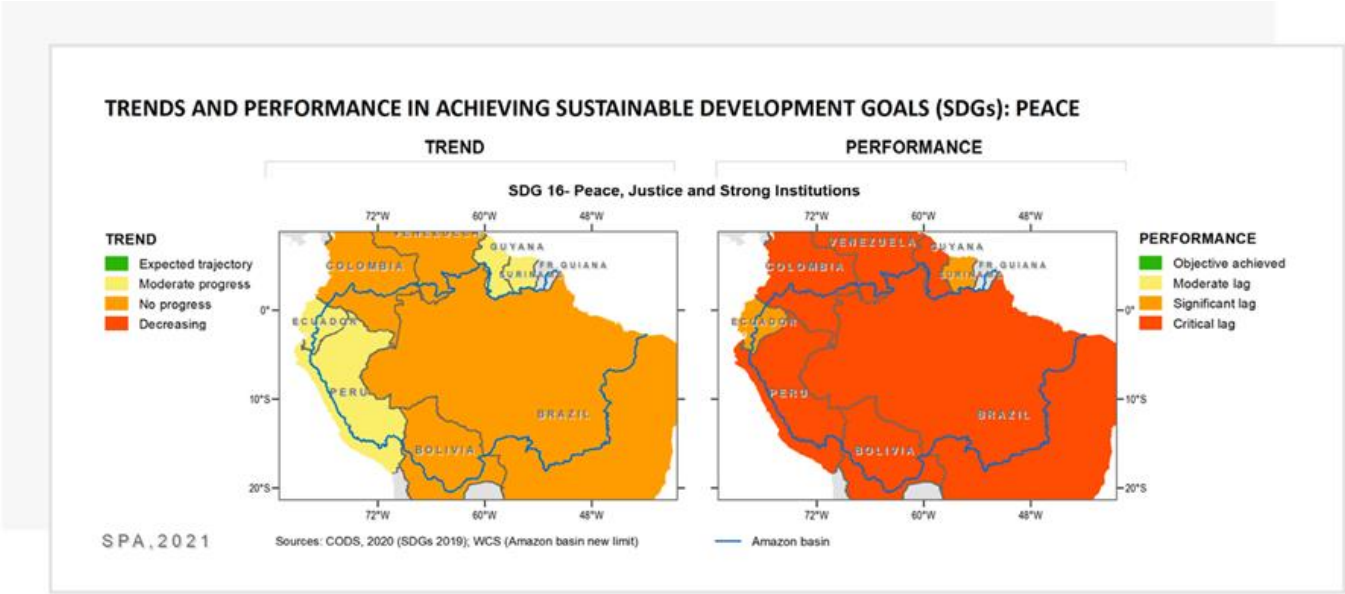

Figure 26.5 Performance and trends in achieving SDGs of the Peace dimension (based on 2019 Data CODS 2020).

lands from encroaching development and to propose a resilient and integrated urban/rural Amazon vision (see Chapters 14, 25, and 34).

26.2.4 Peace

The 2030 Agenda text for the Peace dimension states "We are determined to foster peaceful, just and inclusive societies which are free from fear and violence. There can be no sustainable development without peace and no peace without sustainable development". SDG 16 and its targets address peace, justice, and strong institutions. All countries in the Amazon have a significant or critical lag in indicators related to safety, perception of corruption, and rule of law, and only half of countries are making moderate progress on these indicators (Figure 26.5; for details on specific indicators, see Annex 26.1).

Corruption has historically been a hurdle for Latin America, undermining growth, democracy and governance, and the rights of millions (Simon and Aalbers 2020). The region remains one of the most violent on the planet, with Venezuela having the highest number of intentional homicides per 100,000 (56.3) and Suriname the lowest (5.5) (UNODC 2020). Violence is highest in poor urban neighborhoods and on the outskirts of cities, and poverty and inequality at the local level are strong predictors of violence. These are driven by rapid and unregulated urbanization, a dearth of quality jobs, limited capacities of law-and-order institutions, and a vicious cycle of worsening quality of life and increased insecurity (Alvarado and Muggah 2018). The production, trafficking, and distribution of drugs in LAC have also driven the increase in violence in recent years.

26.2.4.1 Environmental justice, human rights and peace in the Amazon

The United Nations has drawn attention to the challenges associated with the prevention, management, and resolution of natural-resource-induced conflicts that could come to define global peace and security in the 21st century (Ban Ki-Moon 2012). Across different time periods, military, religious, commercial, and industrial ventures have looked to profit from the abundance of resources in the Amazon (see Chapters 11 and 14). Historical booms such as for rubber and Brazil nut extraction have resulted in the displacement, annihilation, and enslavement of Indigenous people. Today, the Amazon is a region with significant national and international geopolitical relevance due to the pre-

sence of strategic resources, its environmental and cultural importance, and its status as a cross-border region. The dispute over the nature and richness of the Amazon's resources has been a major factor in the emergence and maintenance of conflict.

Illegal activities such as gold mining and trafficking of drugs, humans, and wildlife occur predominantly along national borders. For example, illegal gold mining takes place mainly in river basins shared by multiple countries, such as the Putumayo and Caquetá rivers between Brazil, Colombia, Ecuador, and Peru (Heck and Tranca 2014). Ilegal gold mining is linked to the militarization of environmental management. In Colombia, the concept of "environmental security" has been inserted into the National Development Plan 2018–2022. In Peru, the national government designed a plan against illegal mining in the Amazon region of Madre de Dios with the installation of three military bases within the framework of "Operation Mercury". On the other hand, Venezuela has established a "Military Economic Zone" in the Orinoco Mining Arc, in which the armed forces are in charge of controlling and directing mining exploitation. The weak presence of the state across large parts of the Amazon makes controlling illegal activities difficult; because of this, working with local governments, communities, and Indigenous peoples to increase territorial control is an effective strategy. Preventing the impacts of mining in areas hight in biodiversity and environmental value is of the highest priority, but given the extent and impact of mining across the Basin, engaging with small-scale artisanal miners to improve their capacity for implementation of environmental and social safeguards must be considered.

Thirty years ago, constitutional reforms across the region began to recognize the multiple cultural and ethnic characteristics of their countries (Van Cott 2010). Building on these reforms, Indigenous organizations have continued to demand political inclusion and minimization of the negative effects of development in their traditional lands. They have also been behind innovations in the legal recognition of the rights of nature. The relationship between peace and the environment has led to the construction and development of notions such as environmental peace, in which it is assumed that there are clear and multiple links between armed conflict and disputes over natural resources and the environment. For example, the link between nature and peace is immersed in the Colombia Peace Agreement, forming a fundamental part of it, and is associated with the new vision for the country, which "allows the achievement of a sustainable society, united in diversity, based not only on the cult of human rights but also on mutual tolerance, on the protection of the environment, and on respect for nature, its renewable and non-renewable resources and its biodiversity" (Gobierno Nacional de Colombia and FARC-EP 2016). This link is also recognized in the constitutions of Bolivia (2009) and Ecuador (2008) in the concepts of living well, or *Sumak Kawsay*, in an approach that recognizes the importance of nature and multiculturalism for peace (Hidalgo-Capitan *et al*. 2014). However, a lack of respect for Indigenous rights continues to be an obstacle for peace in the region and threatens the integrity of collective rights and the lives of individuals. Global Witness reported 98 murders of environmentalists in the Amazon in 2019, of which 40% were Indigenous leaders. Colombia has the highest number of murders of environmental defenders in the world (64), and number are extremely high across the region, including in Brazil (24), Venezuela (8), and Peru and Bolivia (one each) (Global Witness 2020). Peace in the Amazon will not be achieved without safeguarding the environment and Indigenous rights.

26.2.5 Partnerships

The 2030 Agenda states under the Partnership dimension "We are determined to mobilize the means required to implement this Agenda through a revitalized Global Partnership for Sustainable Development, based on a spirit of strengthened global solidarity, focused in particular on the needs of the poorest and most vulnerable and with the participation of all countries, all stakeholders and all people."

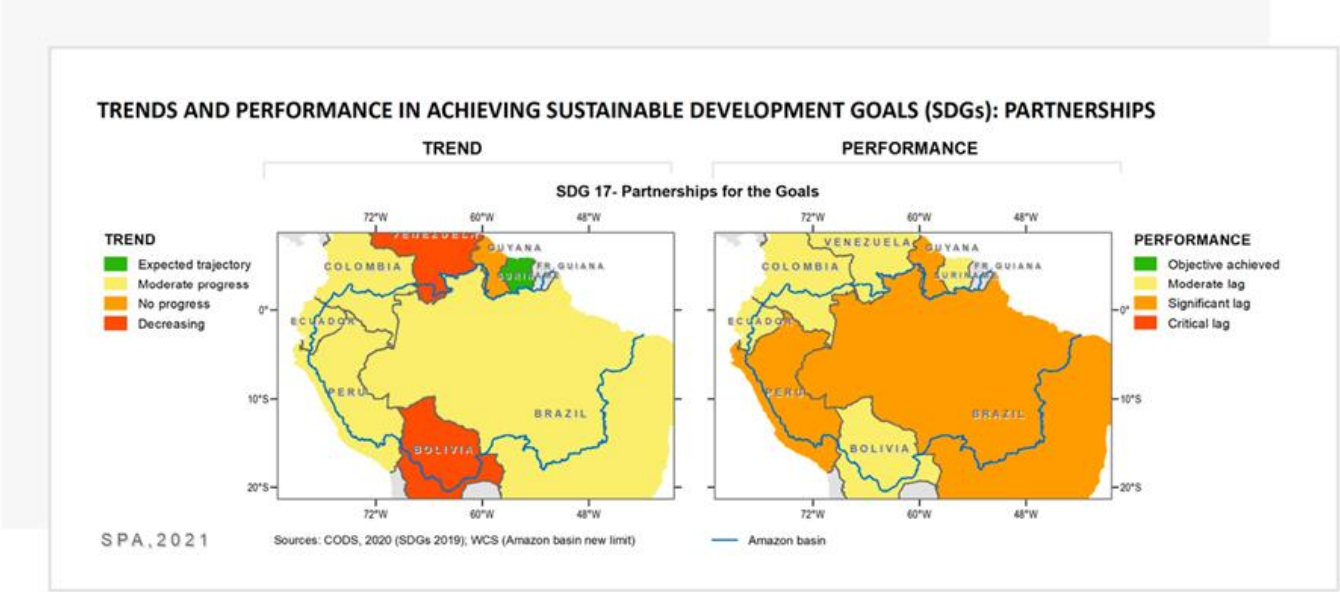

Figure 26.6 Performance and trends in achieving SDGs of the Partnerships dimension (based on 2019 Data CODS 2020).

The targets related to Partnerships aim to strengthen the means of implementation and revitalize global cooperation for sustainable development through national and international resource mobilization; develop fairer and integral policies to address national external debt and promote investment to support SDG implementation in the least developed countries; capacity building and technological cooperation and transfer through enhanced information and communication technology in support of developing countries; and equitable trade and market access. These targets also address systemic issues such as policy and institutional coherence for global macroeconomic stability, sustainable development and poverty alleviation; multi-stakeholder partnerships including public, private, and civil society to share knowledge, expertise, technology, and financial resources; and enhanced capacity for monitoring and accountability, including new indicators of progress disaggregated data by age, gender, ethnicity, and other relevant characteristics to complement existing measurements such as gross domestic product. Overall, the region shows moderate to significant lags in performance. Prior to the COVID-19 pandemic, only Suriname was on track to achieve the goal by 2030, and all the other countries were following trends that would result in moderate progress, no progress, or decreasing performance (Bolivia and Venezuela; Figure 26.6; for details on specific indicators see Annex 26.1). The impact of the COVID-19 pandemic on the economy of Suriname (Khadan 2020) is likely to have a negative impact on progress in this dimension.

Global recognition of the value of biodiversity, cultural diversity, and the environment of the Amazon Basin has led to significant international support for the region. As an example, between 2013 and 2015, approximately US $1.07 billion were invested in environmental protection, mostly by bilateral (e.g., Germany, Norway, USA) or multilateral (e.g., Global Environment Facility, Interamerican Development Bank, European Union) institutions, the Gordon and Betty Moore Foundation, Fundo Vale, and WWF (Strelneck and Vilela 2017). However, these investments are made in the context of much larger investments in unsustainable infrastructure and energy projects that drive deforestation. For example, economically unjustified road projects require an investment of US $7.6 billion and would result in the loss of 1.1 million hectares across the Amazon (Vilela *et al.* 2020). According to Fair Finance International *et al.* (2020), from 2015 to 2020, 33 major European-based financial institutions invested a combined

total of US $20 billion in companies directly involved in deforestation in Brazil. These investments are made within an extractive economy responding to demands from external markets, while generating a cycle of ecosystem degradation, poverty, and reduced resilience within the Amazon.

To address these inconsistencies, a global partnership for a Living Amazon must be established and consider the critical role of the Amazon in global climate regulation. It must also consider stakeholder needs across different geographic scales and generations.

Landscape- and sub-basin-level plans represent the best opportunity to establish place-based management that considers multiple objectives and time scales. Implementation of place-based territorial plans will require partnerships between all legitimate rights holders to reach consensus around a shared vision of ecosystem integrity. Rights holders have differentiated rights and authority and may include Indigenous people on collectively held lands, agricultural communities, private natural resource management concessions, protected areas, and local governments.

At the national scale, it is vital for urban stakeholders with greater political power to support local efforts to maintain ecosystem integrity, resilient livelihoods grounded on nature-based economies, and strong participatory governance for social justice (see Figure 25.2, Chapter 25). Urban stakeholders can shift their consumption to reduce their environmental impact, support responsible markets, and exert their civil rights to demand government policies that halt deforestation and degradation and promote transparency, justice, and human rights. Government plans must also guide and support local landscape- and sub-basin-level plans to bolster human rights, including those of future generations, providing information, essential services, and resilient infrastructure. They should also promote innovation and provide incentives for sustainable — and disincentives for unsustainable — economic activities. Partnerships between different countries, such as the Leticia Pact, are parti-cularly important to address the environmental costs of infrastructure and extractive projects across borders, and in particular across watersheds. Currently, environmental permitting mechanisms fail to incorporate landscape- and watershed-scale impacts, as well as indirect and cumulative impacts.

Partnerships are also important to address the impacts of environmental degradation on human rights and climate change, and to mobilize international resources that are commensurate with the local costs of conservation in the Amazon and the local, regional, and global benefits it generates. However, the implementation of an agreement for conservation in the Amazon will require a paradigm shift that empowers and leverages multi-cultural partnerships and those between local stakeholders, defined by cultural, terrestrial, and aquatic connectivity, within and across national borders. Progress at the bioregional level must be scaled and supported by multilevel governance at the national and Amazon Basin level in order to distribute effective application of law enforcement, policy, and financial resources. Finally, partnerships at different scales, including between the private sector, research institutes, and civil society organizations, are required to support investment, science, innovation, and research that leverages biological and cultural diversity in the region.

All countries need to recover from COVID-19. Instead of scaling back their ambitions to achieve the SDGs, the crisis can be an opportunity for transformative investment towards a more sustainable and fair future (Lancet COVID-19 Commission 2021). Access to internet connectivity for the entire Amazonian population is critical to foster innovation to achieve the SDGs.

26.3 Conclusions

The devil is in the details. Just as the 2030 Agenda highlights complementarity between different sustainable development objectives, progress in the implementation of one objective can lead to negative impacts on another (Katila *et al.* 2019). At

present, policies to address hunger, access to energy, job creation, economic growth, and infrastructure can fulfill SDG targets while having a catastrophic impact on the Amazon's natural capital and, as a result, on the sustainability of these investments. In fact, the biggest threats to a resilient future in the Amazon include lowland dams, which are counted as contributing to the provision of affordable and clean energy (SDG 7); and road infrastructure (SDG 8) which fuels agricultural expansion (SDG 2). Similarly, there can be trade-offs or synergies between life on land (SDG 15) and decent work and economic growth (SDG 8).

The future of Amazonian countries and other countries around the world ultimately depends on the availability of global natural resources and biodiversity, and on the sustainable use of these resources within the Basin. In 2019, United Nations Deputy Secretary-General Amina Mohammed opened a senior-level meeting of the Global Partnership for Effective Development Cooperation, in New York, by recognizing that there is a long way to go to achieve the SDG targets due to siloed approaches, making a call for new approaches. Amazonian countries can propose a new approach to development that maintains ecological integrity and diversity, social justice and rights, and economic prosperity and equity (see Chapter 25). This transformation towards a Living Amazon requires international financial support and regional partnerships. However, implementation occurs at a landscape or watershed level, where disaggregated information can reduce trade-offs and leverage synergies of the needs of different genders, ethnicities, and generations. Leveraging local knowledge and agency at the landscape or watershed scale also ensures ownership and accountability.

International and national policies that provide incentives for sustainability standards in the private sector can also help minimize trade-offs and maximize synergies amongst the different SDGs. National policies and investments also have severe impacts, and regional and global agreements must include clear and binding agreements to prevent negative consequences.

In order to respect the ecological limits to disturbance of the Amazon Basin, 80% of forest cover must be maintained in a matrix where pristine or near-pristine landscapes hold the greatest environmental and cultural values and include protected areas, Indigenous territories, and fiscal lands that require policies to secure their management and guarantee their existence in perpetuity. The costs of conserving these areas must be recognized, based on their role in conserving a healthy planet. On the other hand, these pristine or near-pristine areas are surrounded by areas with different levels of degradation. Incentives must be shifted from an extractive-based economy to a nature-based economy, supporting restoration and management in ways that are consistent with sustainable production to reduce the pressure of the farming and ranching frontier into healthy ecosystems (see Chapters 25, 27–30). Equally important is reducing subsidies for the palm oil, timber, soy, beef, and biofuels sectors. Payment programs and land-use taxes on agricultural land can be effective and less costly than command-and-control interventions (Souza-Rodrigues 2019). There is an urgent need for an integrated public policy response in Amazonian countries to overcome the COVID-19 pandemic with a sustainable and equitable recovery; this includes fostering intersectoral public action, regional integration, and international solidarity and cooperation to achieve the 17 SDGs, placing the most vulnerable at the center of the policy response (León and Cárdenas 2020).

In the post-pandemic future, it is imperative to think about opportunities to build more effective, equitable, and resilient health, environmental, economic, and social systems. Energy transitions towards renewable sources and reduction in the consumption of fossil fuels, sustainable mobility with inclusive urban policies, universal access to digitalization, development of the healthcare manufacturing industry, development of a sustainable bioeconomy, promoting a circular economy, and sustainable tourism are strategic

sectors that have the potential to support a greener, more inclusive, and transformative recovery (ECLAC 2021b). Advancing the 2030 Agenda requires long-term investments, the recapture of employment with digital change, implementation of policy to support innovation and technology, promotion of sustainable consumption patterns, and resilient, impact-based value chains that offer a social, economic, and environmental response at the personal, local, and regional level to address the climate change, biodiversity, and pandemic crises (Gonzalez-Perez *et al*. 2021).

26.4 Recommendations

- Establish a Global Partnership for a Living Amazon to channel financial and technical resources that are commensurate with the global importance of the Basin for climate change, regional hydrological systems, and a healthy planet.
- Localize goals, targets, and indicators to implement the 2030 Agenda at a landscape and watershed scale, including self-determined Life Plans.
- Ensure alignment of international finance and markets with the 2030 Agenda for a Living Amazon by establishing and enforcing standards of true cost accounting of development projects, and measure and mitigate the material footprints of countries that receive resource flows from the Amazon.
- Promote a green, inclusive, and transformative post-COVID-19 recovery, placing the most vulnerable at the center of an integrated policy response based on rights, incentives, digitalization, innovation, technology, and sustainable production and consumption.

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CONTACT INFORMATION

SPA Technical-Scientific Secretariat New York
475 Riverside Drive, Suite 530
New York NY 10115
USA
+1 (212) 870-3920
spa@unsdsn.org

SPA Technical-Scientific Secretariat South America
Av. Ironman Victor Garrido, 623
São José dos Campos – São Paulo
Brazil
spasouthamerica@unsdsn.org

WEBSITE theamazonwewant.org
INSTAGRAM @theamazonwewant
TWITTER @theamazonwewant