

Second Assessment of the Impact of COVID-19 on Forests and Forest Sector in the Latin America region

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The sixteenth session of the UN Forum on Forests (UNFF16) in April 2021 requested the Forum secretariat, in collaboration with members of the Forum, CPF member organizations and stakeholders, to conduct an assessment of the challenges faced by countries, and the strategies, recovery measures and best practices for reducing the impact of COVID-19 on forests and forest sector, and to present it to the Forum at its seventeenth session in May 2022. To conduct this second assessment, the UNFF Secretariat commissioned a series of assessments in different regions and subregions.

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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Assessment of the Challenges Faced by Countries, and the Strategies, Recovery Measures and Best Practices for Reducing the Impact of COVID-19 on Forests and Forest Sector

Latin America Region

FINAL REPORT

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List of Symbols

%	Percentage
€	Euros
Apr	April
Aug	August
Dec	December
Feb	February
Ha	hectares
Jun	June
m ³	cubic meters
Nº	number
Oct	October
R\$	Brazilian currency Reais
S/	Peruvian Soles (Soles Peruanos)
Ton	Tonnes
USD	United States dollar
Var	Variation

List of Acronyms

ABIMCI	Brazilian Association of the Mechanically Processed Wood Industry (<i>Associação Brasileira da Indústria de Madeira Processada Mecanicamente</i>)
ADEX	Exporters Association of Peru (<i>Asociación de Exportadores de Peru</i>)
AFD	Development Finance Agency
ATP	Emergency Assistance Program for Work and Production (<i>Asistencia de Emergencia al Trabajo y la Producción</i>)
BMZ	Federal Ministry for Economic Cooperation and Development
BNDES	National Bank for Economic and Social Development (<i>Banco Nacional de Desenvolvimento Econômico e Social</i>)
BNF	National Development Bank (<i>Banco Nacional de Fomento</i>)
BPC	Base de Prestaciones y Contribuciones
CEDRO	Drug Abuse Prevention Education and Information Center (<i>Centro de Educación e Información para la Prevención del Abuso de Drogas</i>)
CEPAL	Economic Commission for Latin America (<i>Comissão Econômica para a América Latina e o Caribe</i>)
CNI	National Confederation of Industry (<i>Confederação Nacional de Indústria</i>)
CORMA	Chilean Wood Corporation (<i>Corporación Chilena de la Madera</i>)
CPF	Collaborative Partnership on Forests
CPI	Consumer Price Index
DADS	Directorate of Environment and Sustainable Development (Dirección de Ambiente y Desarrollo Sostenible/DADS Ministerio de Relaciones Exteriores y Movilidad Humana)
DOF	Document of Forest Origin (<i>Documento de Origem Florestal</i>)

FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign Direct Investment
FGTS	Government Severance Indemnity Fund for Employees (<i>Fundo de Garantia do Tempo de Serviço</i>)
FOGAPE	Small Enterprise Guarantee Fund (<i>Fondos de Garantía para el Pequeño Empresario</i>)
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
IBA	Brazilian Tree Industry (<i>Indústria Brasileira de Árvores</i>)
ICU	Intensive Care Units
IBGE	Brazilian Institute of Geography and Statistics (<i>Instituto Brasileiro de Geografia e Estatística</i>)
IDB	Inter-American Development Bank
IEDI	Institute of Studies for Industrial Development (<i>Instituto de Estudos para o Desenvolvimento Industrial</i>)
IFSA	International Forestry Students' Association
ILO	International Labor Organization
INDEC	National Institute of Statistics and Censuses of the Argentine Republic (<i>Instituto Nacional de Estadística y Censos de Argentina</i>)
INFOR	Forestry Institute (<i>Instituto Forestal</i>)
IOF	Tax on Financial Transactions (<i>Imposto sobre Operações Financeiras</i>)
IPC	Consumer Price Index (<i>Índice e Preços de Consumo</i>)
IPCA	Broad National Consumer Price Index (Índice Nacional de Preços ao Consumidor Amplo)
KfW	Bank Kreditanstalt für Wiederaufbau
MAATE	Ministry of Environment, Water and Ecological Transition (<i>Ministerio de Ambiente, Agua y Transición Ecológica</i>)
LA	Latin America
LAC	Latin America and Caribbean
OECD	Organization for Economic Cooperation and Development
OIT	International Labor Organization (<i>Organización Internacional del Trabajo</i>)
ONF	National Forestry Office (<i>Oficina Nacional Forestal</i>)
OSH	Occupational Safety and Health
OTCA	Amazon Cooperation Treaty Organization (<i>Organização do Tratado de Cooperação Amazônica</i>)
PAHO	Pan American Health Organization
PCA	Plot for annual cutting (<i>Parcelas de Corta Anual</i>)
PIS/PASEP	Social Integration Program/ Civil Servant Patrimony Formation Program (<i>Programa de Integração Social/ Programa de Formação do Patrimônio do Servidor Público</i>)
PPM	Monthly Provisional Payments
SMEs	Small and Medium-sized Enterprises
SFB	Brazilian Forest Service (<i>Serviço Florestal Brasileiro</i>)
UNFF	United Nations Forum on Forests



USAID United States Agency for International Development
WHO World Health Organization
WRI World Resources Institute

EXECUTIVE SUMMARY

The COVID-19 pandemic has had several negative effects in terms of industrial production, employment, income and public health in Latin America. The current scenario presents an uneven trend in terms of economic and employment recovery, with a more pronounced impact on women, young people, people with less education and the population in a situation of social vulnerability.

Forests contribute to economic development and human well-being, and their roles in providing income and livelihoods are critical, especially for rural communities, indigenous peoples, small farm owners and other forest-dependent communities. Therefore, it is important to assess the impacts of COVID-19 on forests and forest dependent people.

In this context, the UNFF Secretariat hired Dr. Ivan Tomaselli to conduct the sub-regional assessment of the challenges faced by the LA countries, the strategies, recovery measures and best practices for reducing the impact of COVID-19 pandemic on forests and the forest sector.

The approach used for this study was based on the collection, compilation and analysis of primary and secondary information. As for primary data and information gathering, a questionnaire was prepared by the Consultant, which was sent to relevant stakeholders identified. Secondary information consisted of a literature review, including published studies and reports, news, policy briefs and other relevant publications available.

Main challenges faced by countries

Among the main challenges that the pandemic brought to the countries of the LA region, stands out that to contain the spread of COVID-19, the main measure adopted was to suspend some economic activities, which led to a global economic crisis, with a devastating effect on Latin America, a region that already suffers from poverty and social inequality.

- **Impact of COVID-19 in LA Region**

The COVID-19 pandemic affected the region in a devastating manner, it is estimated that approximately 47.2 million were infected and 1.6 million of lives were lost to the COVID-19 up to December 2021 in LAC region.

- **Overview of main Macroeconomic Impacts**

In 2020, the economic decline generated an estimated drop of 7.1% of GDP in the LAC region. The contraction of economic activity also generated a significant increase in the unemployment rate, estimated at around 10.5%, a deep drop in participation in the labor market and a considerable increase in poverty and inequality. Industrial production presented a strong retraction, mainly in the second quarter of 2020. The economic crises also had an impact on prices increase and inflation in some countries, mainly in Brazil. The Foreign Direct Investment (FDI) in 2020 was 34.7% less than in 2019 in LAC region.

- **Impacts on forest sector**

The impacts of the COVID-19 pandemic on the forest sector were less evident when compared to other sectors of the economy and happened in a similar way in most LA countries. With the reduction in inspection activities, there was also an increase in non-compliance with legislation, an increase in deforestation and forest degradation caused by forest fires. Regarding sustainable forest management, the distancing measures and definition of essential activities were decisive on the impact of the pandemic in the forest sector. Government of some countries such as Argentina and Brazil considered forest production chain as an essential activity, on the other hand, Colombia,

Ecuador and Mexico had restrictions on forest production activities. One of the main impacts of the COVID-19 pandemic on the industrial sector of forest products and by-products was the increase in external demand and exports in some countries, mainly led by the currency depreciation, while in other countries there was a reduction in production and, consequently, in exports.

Key measures to mitigate the Covid-19 impacts

Social isolation was one of the main measures adopted by federal and state governments in the LA region to prevent the dissemination of COVID-19. However, each country and each state handled this measure differently. The establishment of essential services that could work during the emergency period was also one of the most used strategies among LAC governments to maintain the economy and try to control the COVID-19 dissemination. Between the health measures, governments of the region had to increase the capacity of their health care systems to deal with the crisis, together with facilitating access for all populations. Additionally, vaccination efforts are the result of some measures adopted by countries such as national immunization plans and agreements with laboratories in the vaccine manufacturing for the population. Among the economic measures, credit lines for small and medium-sized companies, reductions in prices and taxes for health and hygiene products, debt renegotiation, as well as direct payment assistance to low-income people are highlighted. Special funds for economic recovery and assistance to people in vulnerable situations were also created. Some programs were also created to maintain the existing jobs or create new ones.

Impacts of the measures adopted and recovery

An economic recovery of LA countries is expected for the next years. LA countries should have a growth of 5.2% in 2021, considering the advance of the vaccination schedule in most countries, the relaxation of mobility restrictions, the positive effects of advanced economies and the rise in commodity prices. It is important to highlight that, in addition to the prospect of economic recovery, there is a drastic reduction in the number of cases and deaths from COVID-19, reflecting the advance of vaccination in most countries. This is a key point for the population to resume their activities at a pre-pandemic level. Regarding forest sector specifically, a few government measures were taken to reduce the impact of the COVID-19 pandemic. In terms of economic recovery, the outlook for the forest sector is generally optimistic, partly because of the resumption of civil construction in the US, the main destination market for solid wood products of LA countries. Production and export levels have returned, or will most possibly return to pre-pandemic levels, for most countries of the region along the next few months in 2022. Considering the advance of vaccination, tourism and ecotourism will also present a recovery with the reopening of borders and resumption of activities in tourist spots.

Best practices identified

Among the health measures, highlights include the mandatory use of masks, in addition to hand hygiene, increased capacity for beds to care for more patients, and measures for the production and application of vaccines in the population. Among the economic measures, emergency credit lines stand out, especially for Small and Medium-sized companies in the production sector and rural producers as well as emergency aid to the population. Regarding social measures, most countries of the region created programs to ensure the maintenance of employment and income, which were essential to reduce the impact of COVID-19 on people's lives. Specifically for the forest sector, in most countries, forestry was considered as an essential activity, which to some extent reduced the impact of the pandemic on the sector.

1 – INTRODUCTION

1.1 – BACKGROUND

The COVID-19 pandemic brought a global crisis, which caused a change in the levels of production and consumption of several products, aggravated the levels of inequality in emerging countries, in addition to worsening existing environmental problems, such as deforestation and forest fires. COVID-19 brought impacts to society, reaching countless communities, including those farther away, affecting forests and forestry several ways.

Due to the broad range of vital services that forests provide for economic functioning and human wellbeing, as well as their roles in providing income, livelihoods, and well-being of people, especially rural communities, indigenous peoples, small farms holders, and other forest-dependent communities, it is important to assess the impacts of COVID-19 on forests and forest-dependent people.

In light of the above, the United Nations Forum on Forest (UNFF) Secretariat plans to conduct a global assessment of the challenges faced by countries, and the strategies, recovery measures and best practices implemented for reducing the impact of COVID-19 on forests and forest sector, through commissioning several regional assessments in each of the following five UN regions, namely, Africa, Asia-Pacific, Eastern Europe, Latin America and Caribbean, and Western Europe and Other Groups.

The results of the assessments will be discussed at a virtual UNFF global Expert Group Meeting (EGM), with participation of experts from Members of the Forum, Collaborative Partnership on Forests (CPF) member organizations, regional partners and major group representatives in January 2022. The key findings of these assessments and the outcome of expert group meeting will be incorporated in the official documents for consideration of UNFF17.

In this context, the UNFF Secretariat hired Dr. Ivan Tomaselli to conduct the sub-regional assessment of the challenges faced by countries, and the strategies, recovery measures and best practices for reducing the impact of COVID-19 pandemic on forests and the forest sector for Latin America sub-region. Also, the Consultant will produce a regional assessment report on the findings of the assessments of the Latin America and Caribbean region in collaboration with the consultant for the Caribbean sub-region.

This document is the Final Assessment Report, comprising the main findings of the assessment. The report begins with an analysis of the challenges facing countries in relation to the macroeconomic impacts of the pandemic, as well as impacts on forests and the forest sector. Next, the measures adopted by countries to mitigate the impact of COVID-19 on the economy and society are presented. Then, the possible impacts of the measures adopted on economic recovery and the forestry sector are shown, followed by an overview of the best practices adopted. Finally, the consultant analyzes the future of the sector after the COVID-19 pandemic.

1.2 – OBJECTIVES

In view of the above, and based on the Terms of Reference, the main objectives of the work are:

- *To conduct the sub-regional assessment of the challenges faced by countries, and the strategies, recovery measures and best practices for reducing the impact of COVID-19 pandemic on forests and the forest sector for Latin America (LA) sub-region; and*
- *To produce a regional assessment report on the findings of the assessments of the Latin America and Caribbean region in collaboration with the consultant for the Caribbean sub-region.*

1.3 – METHODOLOGY AND SOURCES OF INFORMATION

1.3.1 Geographic Coverage

The study covers the Latin America sub-region and partly the Caribbean sub-region since the recommendations as result of the assessment carried out for the Caribbean sub-region (prepared by other Consultant) will be consolidated in the final regional assessment.

The analysis in the LA sub-region is focused mainly on the countries with the highest concentration of forest production (e.g., Argentina, Bolivia, Brazil, Peru, Chile, Uruguay, other relevant countries).

1.3.2 Sources of Information

The information used in this product is from primary and secondary sources:

i) **Primary:**

Primary information includes contacts of UNFF Regional Focal Points provided by UNFF in order to obtain general information about COVID-19 in the forestry sector. Additionally, the consultant made contacts with main relevant stakeholders via application of a questionnaire to obtain targeted information

ii) **Secondary:**

It consisted of literature review, including published studies and reports, news, policy briefs and other relevant publications available.

1.3.3 Approach used to carry out the study

The approach used for this product was based on the collection, compilation and analysis of information. As for primary data and information gathering, a questionnaire was prepared by the Consultant, which was sent to relevant stakeholders identified. Until now, few responses were received. This version of the report is based on secondary information / literature and questionnaire responses.

As for literature review, it is noteworthy that not all countries analyzed have the same database. Therefore, the contents of information differ among the countries because each country provides information varying in the level of detail. Moreover, the period of analysis varied according to the data availability.

2 – CHALLENGES FACED BY COUNTRIES

The COVID-19 pandemic has brought several challenges related to public health, economy and market, industrial production, labor market and others. Therefore, people had to adapt to this new reality, working from home and changing their consumption patterns. Governments also had to take measures to contain the spread of the virus, reduce the impact of the pandemic on the economy, protect society from unemployment, hunger and misery.

This section describes the main challenges related to macroeconomic impacts and challenges on the forest sector faced by selected LA countries.

2.1 – Impact of COVID-19 in LA Region

The COVID-19 pandemic affected the region in a devastating manner. It is estimated more than 47.2 million infections and that 1.6 million of lives were lost to the COVID-19 up to November 2021 in LAC region. For a few months, Latin America was the epicenter of the pandemic, a scenario that has been improving with the advance of vaccination in many countries. The table below shows an overview of the pandemic in some countries in Latin America.

Table 1 – Cumulative confirmed COVID-19 cases and deaths in selected countries

Country	Cumulative Confirmed deaths (Dec/21)	Cumulative Confirmed cases (Dec/21) (in Million)
Argentina	116,771	5.36
Brazil	614,457	22.18
Chile	38,716	1,78
Colombia	129.163	5,10
Peru	201,770	2,25
Uruguay	6,145	0,41

Source: Our World in Data (2021).

There was an increase in poverty, unemployment, inflation, reduction of foreign investments and industrial production. All sectors were affected, with a major impact on unemployment, especially related to young people with less formal education, as well as women and socially vulnerable people.

The interruption of selected economic activity as a result of the social distancing measures applied by countries to mitigate or reduce the COVID-19 contagion curve and, in parallel, make health systems sustainable, had an effect on economic performance from all countries in the region.

2.2 – An Overview of Macroeconomic Impacts

The main macroeconomic impacts in Latin America during the pandemic period were examined. Latin America and the Caribbean will grow in 2021, although the pandemic remains present and the crisis has aggravated longstanding structural problems in the region: low investment and productivity, informality, unemployment, inequality and poverty. Therefore, recovering investment and employment, especially in environmentally sustainable sectors, is key to a transformative and inclusive recovery (ECLAC, 2021).

The health and economic crisis caused by the COVID-19 pandemic sustained an estimate of the largest GDP contraction worldwide since 1946, as a result of a generalized drop in economic activity. In the LA region, the crisis triggered a considerable contraction in international trade, strong

fluctuations in commodity prices and high volatility in financial markets. If different health, economic, social and inequality indicators are considered, it is likely that LAC is the region most hit by the pandemic among emerging countries, according to CEPAL (2020a).

Between the 2014-2019 period, the region already had a low economic growth, on average 0.3% and specifically in 2019 the growth rate was 0.1%. In 2020, the economic depression together with the need to implement measures of confinement, physical distance and closure of production activities, generated an estimated drop of 7.1% of GDP in the LAC region (ECLAC, 2021).

The regional growth projection for 2021 is 5.9% and warned that the region will experience a deceleration in 2022, with an estimated expansion of 2.9%. Growth in 2021 is mainly attributable to the low basis of comparison, after the contraction recorded in 2020, along with the positive effects arising from external demand and the rise in the price of commodities that the region exports, as well as to increases in aggregate demand (CEPAL, 2021d).

The contraction of economic activity also generated a significant increase in the unemployment rate, estimated at around 10.5%, a deep drop in participation in the labor market and a considerable increase in poverty and inequality (ECLAC, 2021).

Table 2 presents the GDP along the last three years, as reported by the World Bank. The data shows that the GDP in 2020 dropped drastically in all countries, particularly Argentina and Peru.

Table 2 – Comparative GDP of selected countries

Country	GDP Annual Growth Rate (%)		
	2018	2019	2020
Argentina	-2.6	-2.1	-9.9
Brazil	1.8	1.4	-4.1
Chile	3.7	0.9	-5.8
Colombia	2.6	3.3	-6.8
Peru	4.0	2.2	-11.1
Uruguay	0.5	0.4	-5.9

Source: World Bank (2021).

The COVID-19 pandemic also had an impact on price hikes and inflation in some countries. In Brazil, the Extended Consumer Price Index (IPCA) closed 2020 at 4.52%, the highest since 2016 (6.29%). This increase was mainly affected by the prices of soy oil (103.79%), rice (76.01%), housing (5.25%), electricity (9.14%), meat (17.97%) and others (IBGE, 2021). Information on the consumer price index of selected countries of the region is presented in Table 3.

Table 3 – Consumer Price Index of selected countries

Country	Consumer Price Index (%)	
	2019	2020
Argentina	53.8	36.1
Brazil	4.31	4.52
Chile	3	3
Peru	2.14	1.83
Uruguay	7.88	9.76

Sources: DATOSMACRO, STATISTA, IBGE (2021).

In 2020, LAC received 105.48 billion of Foreign Direct Investment (FDI), 34.7% less than in 2019. The natural resources and manufacturing sectors, with reductions of -47 % and -38%, respectively, were the most affected in 2020 (CEPAL, 2021).

In Bolivia, as in other countries worldwide, the impact of COVID-19 has been devastating for the national economy. During 2020 Bolivian economy decreased 12 points. Some regulations of the transitional government prevented basic services, including electricity, from increasing its price and suspension in the obligation to pay monthly consumption bills has been established. On the other hand, the inflation is under control (Bolivia Questionnaire, 2021).

In the case of Chile, its economy is going through one of the biggest economic crises in its history, with a 6% drop in GDP in 2020; the loss of more than a million jobs; and an increase in absolute poverty that, according to ECLAC forecasts, would be close to 4%. At the level of economic sectors, the most affected continue to be services, mainly those intensive in personal contact, tourism and domestic work, as well as other sectors such as civil construction and commerce. Inflation in Chile has been over 3% per year in recent months (3.6% in May/2021), and it remains within the tolerance range of the Central Bank. In terms of electricity price, it has shown an upward trend since the end of last year due to the rebound in petrol prices at the international level (Chile Questionnaire, 2021).

Furthermore, industrial production presented a strong retraction, mainly in the second quarter of 2020. In LAC this retraction was -24.2% in Apr-Jun/20 compared to the same quarter of the previous year, and -21.4% compared to the 1st quarter/20. This result was mainly due to the results of industries in Brazil (-22.1%), Argentina (-22.6%) and Mexico (-29.8%) (IEDI, 2020).

All LA countries were severely affected by the economic crisis caused by the COVID-19 pandemic in 2020. It is still early to quantify a long lasting impact, but with the progress of vaccination /immunizations and the resumption of economic activity, these indicators may be much more optimistic from 2021 onwards.

2.3 – Impacts on the Forest Sector

The impacts of the COVID-19 pandemic on the forest sector were less evident when compared to other sectors of the economy. For some countries such as Brazil, production and exports of products related to the pulp and paper chain increased between 2019 and 2020. The management of natural forests had its role reduced in some countries. These preliminary results will be detailed in the following items.

a. Forests and Sustainable Forest Management

The pandemic brought immediate challenges to the forest sector. One of them, by being recognized as an essential sector, led companies to have to deal with new health and safety conditions, changing production and market dynamics and, in some jurisdictions, reducing the availability of workers.

Forests and sustainable forest management can be considered essential mechanisms to reduce poverty, as they are important sources of income in countries with vast areas of tropical forests in Latin America. Despite its resilience, the forest sector has faced and faces challenges since the beginning of the COVID-19 pandemic.

The first concern was the loss of primary tropical forests due to deforestation and forest degradation in 2020. Brazil was the country that lost the most primary forests in 2020, with a 25% greater loss compared to 2019, an area equivalent to approximately 1.7 million hectares (WRI, 2021).

Other LA countries also had a considerable loss from deforestation, with emphasis on Bolivia, Peru, Colombia and Mexico. Information of deforestation of selected countries of the region is presented in Table 4.

Table 4 – Deforested area in 2020 in selected countries

Country	Deforested area in 2020 (1000ha)
Brazil	1,700
Bolivia	250
Peru	170
Colombia	165
Mexico	80

Source: WRI (2021).

In the case of Brazil, specifically in the Amazon, in addition to deforestation, a major cause of forest degradation was the increase of forest fire outbreaks. In 2019, most fires were identified in already deforested areas, unlike 2020, where a vast extension of forests suffered from fires, which spread due to dry weather and below normal rainfall (WRI, 2021). In addition to destroying vast areas rich in biodiversity, fires also pose a serious risk of economic loss by destroying areas of managed natural forest or plantation forests.

Forest fires also pose serious risks to people's health and lives, as they trigger the onset of chronic respiratory diseases, which usually affect mainly children and elderly people, the latter being a risk group for COVID-19. With hospitals full of COVID-19 patients, the risk of respiratory diseases caused by smoke from fires overload on public health, especially in areas with greater social vulnerability, usually small towns located in rural areas, areas with greater concentration of forestry activities.

The impact of the pandemic on forest management and related activities happened in a similar way in most LA countries. The distancing measures and definition of essential activities (which could or could not operate during 2020 and 2021) were decisive on the impact of the pandemic in the sector. In Argentina, for example, the national government, through Administrative Decision 450/2020, expanded the list of activities and services declared essential in emergency situations and included activities related to the production, distribution and commercialization of forest products, allowing these activities to keep working.

In Brazil, State and Municipal Governments determined the essential activities that could work during the pandemic period. Thus, the impact of the pandemic on the forest sector may have been different in each state. A court decision was identified that affected some states in the legal Amazon (Pará, Rondônia, Amazonas and Mato Grosso). In these states, any movement of wood registered the Brazilian National System for the Control of the Origin of Forest Products (SINAFLO) was limited, as well as obtaining the Document of Forest Origin (DOF). This decision was in force between May and June 2020, and affected the production chain of the tropical timber sectors (PORTAL AMAZONIA, 2020).

Also in Brazil, the production of pulp and paper, since the beginning of the pandemic, was considered an essential activity, which was allowed to operate normally during the emergency period, thus, the planted forests sector was less affected. Similarly, the governments of Chile and Uruguay also included forestry production activities as essential services, being able to operate during the emergency period, in some cases with restrictions (TOMASELLI, 2021).

In the case of Paraguay, sustainable forest management was less affected, taking into account that activities along the silvicultural chain did not come to a full stop. However, primary industrial activity had some limitations. IFSA Paraguay said that the forest sector in the country is going through a good moment with the perspectives of post-pandemic recovery. Sustainable forest management is a

frequent challenge in Paraguay, which is why the impacts generated by the pandemic have aggravated the sector's challenges (IFSA Paraguay questionnaire).

Other countries had restrictions on forestry activities, such as Colombia, Ecuador and Mexico. In Mexico, the forestry sector was not considered an essential activity and was paralyzed for several months due to the pandemic. This led to a reduction in production, especially at the community level, where many people temporarily lost their jobs or had their wages reduced (TOMASELLI, 2021).

In Chile, the health crisis has slowed down the functioning of the various areas of society and has required the adaptation of a new work scheme in the midst of the crisis. Among the positive aspects, new opportunities emerged such as the design and implementation of how forest restoration will contribute to a green or sustainable reactivation of the country, generating new sources of employment and a valuation of the ecosystem services that will be generated by the areas to be restored. Additionally, sustainable forest management and nature-based solutions have the potential to contribute to green economies, from a landscape-scale restoration approach (Chile Questionnaire, 2021).

In Ecuador, forest management whose objective is timber processing for export, was less affected, since the forest producers continued with activities of harvesting, mobilizing and timber processing, different from companies whose processing is aimed at the domestic market, these were affected between the months of March-August 2020 (DADS Ecuador questionnaire).

In Peru, containment measures directly affected sustainable forest management, considering that the suspension of activities during containment period, when the season in which logging is allowed in Annual Cut plot (Parcelas de Corta Annual - PCA), known as “zafra”, has stopped for several months. Originally, it was scheduled between May and November. In addition, the forest concession areas were affected by the suspension of forest management activities (LA REPÚBLICA, 2021a). Also in Peru, another challenge stressed was transport logistics, due to the lack of availability of containers. As a result, ship owners are entering the land-based logistics business. Due to the initial quarantines, many forest engineers went back to their home regions, thus there was a reduction in the number of skilled workers. By the end of 2021, this scenario has somewhat been regularized, with annual certification audits being resumed in the country (ADEX Peru questionnaire).

In addition, some environmental agencies had their operation suspended or restricted service, which was the case in Brazil and Colombia. As a result, administrative deadlines for environmental agencies were suspended, as well as possible delays in issuing environmental licenses, management plans and monitoring in general. With this limitation of functioning by environmental agencies, there was possibly a failure in inspection, which may have resulted in an increase in illegal logging in tropical forests in LAC, in addition to an increase in forest fires (WRI, 2021).

b. Livelihoods of Forest Dependent People

The pandemic also brought several challenges for people who depend on the forest and may have critically affected the forest and agricultural production, involving mainly small farmers and family extractors. According to a survey carried out (IDB, 2021a), the main problems found were: the difficulty of obtaining inputs, access to labor and production flow problems, in addition to mobility restrictions.

In addition, the COVID-19 pandemic has had a devastating effect on many indigenous and tribal territories in the region. Not only has it infected thousands of dwellers, also many forest communities have lost markets for their forest products and tourism services, and government efforts to prevent invasions, forest fires and illegal logging in these territories have weakened. In the current pandemic context, these invasions not only threaten the forests, but also endanger the lives of the inhabitants (FAO, 2021).

Indigenous peoples are more vulnerable to epidemics due to worse social, economic and health conditions than non-indigenous peoples, which increase the potential for the spread of diseases. Particular conditions affect these populations, such as the difficulty in accessing health services, whether due to geographic distance or the unavailability or insufficiency of health teams (ISA, 2021).

Furthermore, a challenging point is that the livelihoods of many peoples create an exposure to infectious diseases that people in cities are not exposed to, as most indigenous peoples live in collective houses and, it is common among many of them to share utensils, such as gourds, bowls and other objects, which favors contagion situations (ISA, 2021).

From January 2020 to August 20, 2021, based on information available, around 600 thousand cumulative confirmed cases of COVID-19, including 15 thousand deaths, were reported in indigenous peoples or communities of 18 countries in the region (PAHO/WHO, 2021).

Among the focus countries of this study, the highest number of cases and deaths recorded are in Colombia (68,716), Chile (66,716) and Brazil (52,425) (PAHO/WHO 2021). Table 5 presents a summary of the registry of confirmed cases and deaths registered among indigenous people in some LA countries.

Table 5 - Number of confirmed cases and deaths from COVID-19 among indigenous people (by August/2021)

Country	Number of confirmed cases of COVID-19	Number of deaths by COVID-19
Argentina	2,993	100
Bolivia	28,764	556
Brazil	52,425	785
Chile	66,724	1.193
Colombia	68,716	1.975
Costa Rica	2,321	34
Ecuador	5,832	216
Mexico	21,046	3.253
Paraguay	482	56
Peru	30,720	670

Source: PAHO / WHO (2021).

c. Forest Industries and Demand for Forest Products and Services

The challenges faced by the forest-industrial sector caused by global health crisis had different impacts when it comes to natural or plantation forests. Although LAC's share in the global wood market has increased significantly over the last years, this growth was closely linked to the expansion of planted forests located mainly in Brazil, Chile and Uruguay.

One of the main impacts of the COVID-19 pandemic on the industrial sector of forest products and by-products was the increase in external demand and exports in some countries, while in others there was a reduction in production and, consequently, in exports.

In Argentina, the forest sector represented 1.1% of total country's exports in 2020. Its exports reached 606 million dollars and decreased 12.3% compared to the same period of the previous year. Almost half of the forest sector exports of the country (48%) corresponded to pulp and paper

products (mainly chemical pulp of coniferous wood, paper and cardboard) and the timber sector (pine sawnwood, profiled coniferous wood and log) contributed with 32% (INDEC, 2020).

In Bolivia, there are two phases in relation to the COVID-19 pandemic. The first phase is in 2020 when the pandemic outbreak coincided with a transitional government that was wise not to paralyze the production of goods and some services, without risking the population. This is the case of the forestry industry, which, throughout 2020, was authorized to work in the primary industry production and exports of stocks were allowed. Trade has been the most affected activity by COVID-19, followed by the secondary and tertiary industry. In the post-confinement phase of COVID-19, segments of secondary transformation were the most affected, such as production of plywood and veneers. These segments face other problems, including: a) illiquidity; and b) imports, especially the particleboard industry. Currently, exports are also significantly affected due to problems in international logistics, such as the lack of transport and containers (Bolivia Questionnaire, 2021).

For Brazil, the increase in exports stood out, this was probably driven by the depreciation of Brazilian currency (Real) and higher demand of forest products in the domestic market from other countries, such as the United States, China and Vietnam. Information on the country exports of selected forest products, pre and over the pandemic period, are presented in Table 6.

Table 6 – Exports of Brazilian of Selected forest Products

Product	2019	2020	Var.(2019-2020)	Projection 2021	Var. (2020-2021)
Tropical Plywood	89	102	15%	120	19%
Tropical Sawnwood	532	450	-15%	460	2%
Pine Plywood	2,06	2,46	19%	2,55	4%
Pine Sawnwood	2,46	3,03	23%	3,2	6%

Source: Tomaselli (2021)

In Chile, timber forest exports totaled almost USD 4.9 billion in 2020, which indicated a 12.6% decrease compared to the previous year, when USD 5,6 billion were exported, constituting the lowest result in the last five years (CORMA, 2021). Despite this decline in 2020, Chile's forest sector has shown a recovery. In July and August, exports of forest products registered the highest values of the year, with USD 590 million in July and USD 577 million in August, an increase over 30% in relation to its peers last year. With these numbers, the accumulated in the first eight months of the year registers an amount of around USD 3.8 billion, a 15.3% growth in relation to the same period of last year (INFOR, 2021).

Additionally in Chile, movement restrictions have impacted the transport of forest products from production sites to market centers, affecting the income of both, producers and sellers. The wood value chains were seriously affected by the COVID-19 pandemic, but the intensity of the impact were not homogeneous. The pulp and paper sector reported a positive impact, as it supplies products classified as essential, such as sanitary and hygiene products, and paper and cardboard for product packaging, in order to support the increase in trade demand electronic and delivery services since the lockdowns began (Chile Questionnaire, 2021).

In Ecuador, there was a stoppage in the timber supply between March and July 2020. The time when forest management plans were not implemented during this period was covered in the forest use licenses. Currently, according to the records of Ministry of Environment, Water and Ecological Transition (MAATE), there has been an increase in the use of the “balsa” (timber mainly used to

manufacture wind power turbine blades and boats) at national level, as a result of the high commercial value of the supply and demand that the national and international market has generated. The use of this species requires permits from the competent authorities that are granted according to the forest laws and regulations in force (DADS Ecuador questionnaire).

In the case of Peru, the export of wood products in 2020 totaled USD 94 million, the lowest figure in the last decade and that indicates a contraction of -24.7% compared to the previous year. In 2020, jobs related to wood exports totaled around 22 thousand, a negative variation of -23% compared to the previous year (LA REPÚBLICA, 2021). In 2020, Peruvian exports of wood frame totaled US\$ 13.6 million, a 6.3% growth compared to the previous year; and the exports of decking (floorings and tables for outdoors) is highlighted with an amount of US\$ 13.0 million and a 5.3% growth compared to the previous year (ADEX Peru questionnaire).

In Colombia, the National Federation of Timber Industries (FEDEMADERAS) monitored the performance of the forestry sector in Colombia to strengthen sectoral information. A summary of the information based on the survey involving responses from 73 forest-related companies¹ (FEDEMADERAS, 2021), is presented below:

- Performance and sales decline: 45 forest companies (62% of all companies interviewed) report that the COVID-19 pandemic have limited their operations during the first half of 2021. A total of 27 companies did not identify a drop in sales of forest products during 2021, compared to 2020. Out of 35 companies that identified a decrease in sales, 11 companies reported a decrease between 11% to 30% and 13 companies between 31% and 50%. It is concerned that 10% (7 companies) showed a decrease in sales by a percentage greater than 50%;
- Variation/change in demand: more than half (55%) of companies reflects positive results; 22 companies showed that their demand was maintained and 18 that increased, while 25 companies indicated a decrease in demand;
- Price variation: most of the companies (34) kept their prices constant, and 27 companies increased the prices of the products;
- Loss of competitiveness: the survey result shows a perception of the forest sector that 35 companies stated a loss of competitiveness, but 38 companies said the opposite;
- Expectation of economic performance: the responses reflect an optimistic view of the sector as 92% of the companies reported that the performance can be stable or positive
- Payroll variation: the behavior of the payroll reflected positive results for the forest sector, since 70% of the companies indicated that their payroll in the first half of 2021 was maintained or increased compared to the previous year, while 18 companies state that their payroll decreased, and require support and incentives for the sector. The companies state that the payroll decreased in 2021 as a result of Covid-19 (blockades and closures), with a significant impact on the demand of the wood market and the loss of potential customers due to access and mobility restrictions. A significant reduction in sales, production and operations was faced. For all this, there were cuts in personnel, suspension of contracts and the organizational structure itself of companies had to be streamlined.

¹ Companies include those that deal with: Forest plantations, forest plantation harvesting, commercialization/trade, primary and secondary processing mills, services, natural forest harvesting.

In Peru, the influence of the tourism and ecotourism sector on the country's economy stands out, this was mostly affected by the containment measures to combat COVID-19 pandemic. The pandemic has devastated the Peruvian tourism sector. From receiving 4.4 million foreign tourists and entering USD 4.7 billion in foreign exchange in 2019, it has gone on to receive 850 thousand between January and October 2020, a fall of 77% almost uniform across all source markets (IDB, 2021b).

In Uruguay, exports from the forestry (wood, timber products, pulp, paper and cardboard) reached USD 1.5 billion in 2020, which represents 18% of the country's total exported goods. In 2020, foreign sales of pulp alone totaled USD 1.1 billion, 28% lower than in 2019. In 2020 Uruguay's exports by-products reached USD 347 million, representing a 3% drop compared to 2019. On the other hand, other products such as sawnwood (7%) and wood-based panels (21%) showed an increase in their exported amounts, with the United States being the main destination for these products (GOBIERNO DE URUGUAY, 2021).

In Paraguay, sanitary restrictions were the main challenges for the forest industries. Considering production and demand for products and services, the sector recorded relatively low losses compared to other segments. The exports of Paraguayan forest products, for example, showed a significant increase. Paraguay's timber sector has an average of US\$ 100 million in shipments per year, however, it is estimated that in 2021 these exports will increase by around 70% (IFSA questionnaire).

The Covid-19 pandemic also caused disruption in the logistics of international trade. As a measure to prevent COVID-19, shipping companies began to adopt measures to mitigate losses due to the drop in demand, such as the cancellation of scale and transport services. On the other hand, the recovery of the economy in some countries led to an increase in orders for inputs and goods in foreign trade at levels above projections and the logistical capacity of ship owners and port terminals. This scenario had some effects on the international trade of products, such as jamming in ports, lack of containers, excessive high freight values and products accumulated in warehouses and ports (CNI, 2021).

d. Labor Market and Employment

According to the Economic Commission for Latin America and the Caribbean (CEPAL) and the International Labor Organization (OIT), in 2020, the pandemic triggered the biggest crisis experienced in the labor markets of LAC since 1950. Worldwide, the labor markets of the region were the most affected by the crisis generated by COVID-19, the number of employed fell 9.0% in 2020, and a recovery is expected along 2021 (ECLAC, 2021a).

In Chile, quarantines and the prohibition to operate for commercial activities where the population is concentrated (e.g. restaurants) inevitably have a damaging effect on employment. Some of the economic activities can be done remotely, but many activities can only be carried out in person, especially those in the manufacturing sector, construction or transport. In those activities, employment was reduced of the longer quarantines. Some companies in the forest sector had difficulty managing the economic pressure caused by the pandemic and stopped hiring of personnel as a strategy. According to a study carried out by the Santiago Chamber of Commerce, in Latin America and the Caribbean, and including all productive sectors, Peru, Costa Rica and Chile were among the countries where unemployment rates increased the most between March and July 2020. Furthermore, despite the forestry sector's potential to promote growth and employment, work deficits have been worsened by the pandemic (Chile Questionnaire, 2021).

The International Labor Organization estimates that in 2020 approximately 39 million people in Latin America lost their jobs. The COVID-19 pandemic affects mainly low-skilled workers and also exacerbates high inequality of the region (IDB, 2021c). Colombia was the country presenting the

highest unemployment rate in 2020 (16.1%), followed by Peru (13.9%) and Brazil (13.5), according to S&P Global Ratings (2021), as shown in Table 7.

Table 7 - Unemployment Rate of LA Selected Countries

Country	Unemployment rate (%)	
	2019	2020
Argentina	9.8	11.9
Brazil	11.9	13.5
Chile	7.2	10.0
Colombia	10.5	16.1
Mexico	3.5	4.5
Peru	6.6	13.9

Source: S&P Global Ratings (2021).

The contraction in employment in 2020 was much deeper in sectors such as hotels (19.2%), construction (11.7%), commerce (10.8%) and transport (9.2%), which together concentrate close to 40% of employment in LAC. In turn, industry (8.6%) and other services (7.5%) also registered contractions; while in agriculture the loss of jobs was comparatively lower (2.4%) (CEPAL, 2021b).

Many workers, mainly informal, could not continue with their work and had to exit the market, which prevented them from generating income for their homes and acting in a counter-cyclical manner as in previous crises. Likewise, the closure of care services and schools implied a heavy workload within homes, which in general is distributed overloading unevenly, especially to women (CEPAL, 2021b).

e. Forest Financing and Investments

Latin America has possibly been the region of the world most affected economically by the pandemic. The region was already in a phase of slow growth before the pandemic, especially if we consider its status as an emerging middle-income region. As expected, the impact of the COVID-19 crisis led to a sharp drop in internationalization processes, with an estimated reduction of 80% in Foreign Direct Investment in 2020 compared to the previous year.

This drop was mainly associated with postponed investments of large companies' expansion programs, waiting for the uncertainties to dissipate. In addition, also during the pandemic, there were important investment operations abroad and some companies expanded internationally. This scenario may have been a little different in the forest sector. As demand for pulp and paper increased during the COVID-19 crisis period and most companies of this segment continued their expansion and investment plans. Chilean Arauco, which bought two factories in Mexico for USD 160 million, and Chilean company CMPC, which acquired the Brazilian SEPAC for USD 329 million (GLOBAL LATAM, 2020).

In Brazil, it is estimated that up to around USD 10 billion will be invested by 2024 in the country's forest-based industry, mainly from companies that use timber from forest plantations as raw material. These investments are concentrated in the states of Santa Catarina and Paraná, with the expansion of wood-based panel (Berneck) and paper / pulp plant (Klabin and WestRock), in Mato Grosso with the installation of Euca Energy pulp mill, expansion of the plant of Bracell in São Paulo, installation of a new Suzano factory in Espírito Santo and, finally, construction of a factory for the production of dissolving pulp in Minas Gerais (FOLHA, 2021).

In addition to investments in the forest-based industry, there is an increase in investments in green bonds in some LA countries. This type of investment is characterized by the issuance of debt

securities to finance projects that generate environmental benefits or mitigate the impact of climate change (SWISS INFO, 2021).

This type of investment had a significant increase in 2020 and 2021, which was leveraged by the climate crisis, aggravated by the COVID-19 pandemic. According to the Inter-American Development Bank (IDB) estimate, green bonds reached an amount of US\$12.5 billion in 2020 and US\$ 8.0 billion in 2021 in LAC. The region represents only 2% of the global green bond market, with Brazil, Chile and Mexico responsible for 85% of these investments (SWISS INFO, 2021).

In Paraguay, forestry financing and investments are always a challenge to the forest sector, but during the pandemic, the main challenge has been to obtain financing for the conservation or restoration of degraded areas (IFSA questionnaire).

f. Institutional Capacity

The pandemic resulted in the reduction of institutional capacity of countries of the LA region, mainly in the public sector.

In Brazil, for example, there was a reduction in IBAMA'S inspection performance, due to the adoption of measures to fight the COVID-19 pandemic, which included, among others, the reduction in the number of civil servants able to exercise of police power because they fall into risk groups. As a result, approximately 40% of the operations planned for the year were canceled (MMA, 2021)

Similar situation occurred in other countries of LA, where the Institutional capacity of agencies involved in monitoring, control, capacity building and other activities related to forest management were affected by the pandemic. Forestry and environmental agencies involved in monitoring and supporting forest-related activities were only partially operating, and restricted to office with reduced work hours, in response to the measures to prevent the dissemination of coronavirus (TOMASELLI, 2021).

In Paraguay, compliance with legislation is a challenge that was aggravated by the reduction in the institutional capacity of public agencies, a situation that was intensified by the emergence of some conflicts (IFSA Paraguay questionnaire).

g. International and Regional Cooperation

Regional and international cooperation projects could be considered as important allies to contribute to the development of strategies to deal with the impact of the pandemic on markets and the world economy. Some initiatives in the environmental and forestry sector aimed at mitigating the impacts of the pandemic were identified in LAC.

In Brazil, given the situation of the COVID-19 pandemic, the German Ministry for Economic Cooperation and Development (BMZ) carried out “Emergency Collaborative Actions” with projects that benefit indigenous peoples and traditional communities. These actions were carried out through the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and in cooperation with the Amazon Fund/BNDES (GIZ, 2020). On November 24, 2020, another agreement was signed with the German federal bank Kreditanstalt für Wiederaufbau (KfW), in the amount of € 25.5 million that will be donated to the project “Innovation in Agricultural Production Chains for Forest Conservation in Legal Amazon”. The project's objective is to expand and strengthen sustainable practices in the meat, soy and timber production chains in states in the Legal Amazon (CANAL RURAL, 2020).

Peru received support from the United States Agency for International Development (USAID). The USAID was announced a project to provide assistance, in partnership with the Peruvian non-profit organization CEDRO (Centro de Educación e Información para la Prevención del Abuso de Drogas), Rainforest Foundation US along with Microfinanzas Prisma and other private partners, for the Social and Economic Recovery of the Amazon starting in May 2020. The project will involve an investment

of US\$ 3 million. This alliance seeks to mitigate the impacts of the COVID-19 pandemic on vulnerable populations in Peru, particularly on indigenous communities and other areas of the Amazon. The Alliance also addresses economic recovery by providing business development assistance to micro, small and medium-sized entrepreneurs and expanding access to credit lines for business expansion. Also, in response to the COVID-19 pandemic, the *Programa Pro-Bosques* in Peru provided technical assistance to national and sub-national counterparts to prepare biosecurity guidelines for safe logging and provided guidance to beneficiaries on accessing public financing for forest sector activities, through Peru's economic reactivation initiative (USAID, 2021).

The crisis of health caused by COVID-19 was the focus in 2020 of international aid that Chile received from other nations or world organizations, which delivered about US\$ 10 million to the country to face the pandemic and also to implement cooperation projects. Within the total amount of aid received USD 4.2 million were from Germany, Japan, Adaptation Found, IDB, the World Bank, Switzerland and the European Union, for the implementation of initiatives in the area of the environment. Chile maintained a strong cooperation with Argentina, with projects developed from the Antofagasta Region to the Los Lagos Region, mainly in the areas of economic cooperation for development and the environment (EMOL, 2021).

3 – KEY MEASURES ADOPTED TO MITIGATE THE COVID-19 IMPACTS

The COVID-19 pandemic broke out in the LA region on February 26, 2020, when Brazil confirmed the first case in São Paulo and many more cases began to appear in other countries in the following weeks. The first cases observed in the region in late February and early March were mainly related to travelers returning to or arriving from Europe, Asia and North America regions.

In response, most countries in Latin America decided, during March, to close their borders, except for the return of citizens and residents. In addition, countries implemented measures to restrict the opening of public spaces and restrictions on social events. Some countries have applied stricter national measures such as curfews, targeted lockdowns and/or partial or total confinement rules.

3.1 – Limitation of social contacts

Social isolation was one of the main measures adopted by federal and state governments in the LA region to prevent the dissemination of COVID-19. However, each country and each state handled this measure differently.

In Argentina, the main social isolation measures adopted were (GOBIERNO DE ARGENTINA, 2021):

- ✓ Suspension of face-to-face classes in all schools in the country;
- ✓ Authorization and remote work for the public and private sector;
- ✓ Prohibition of non-resident foreigners entering the country;
- ✓ Special provisions for public transport, such as requiring buses to only run with seated passengers to avoid overcrowding;

More recently, in August 2021, the Argentine government determined new general preventive measures, strengthening social isolation, such as suspension of activities and gatherings in closed spaces, prohibition of recreational practice of any sport in closed places where more than 10 people participate, closed restaurants between 11 pm and 6 am, among others.

In Brazil, Federal Law No. 13.979/2020 established measures to deal with the emergency caused by COVID-19. This law provides for social isolation and quarantine as a way to avoid contamination. The situation in Brazil was unusual, as there were contamination peaks throughout 2020 and 2021, which occurred differently in the states. Thus, states and municipalities established specific decrees in periods of high rates of contamination, death and overcrowding of intensive care unit (ICU) beds in public and private hospitals. Some of the main measures adopted by the states during this period were:

- ✓ Closing of restaurants, shops, gyms and other services, except essential services;
- ✓ Restriction of social events in closed spaces;
- ✓ Curfew with restricted circulation in public spaces and streets at specific times
- ✓ Prohibition of access to beaches and other areas;
- ✓ Reduction in public transport capacity and others.

Social isolation in Brazil was partial, with a national average rate of 31% throughout 2020, reaching 50% along some periods of 2021 (VEJA, 2021).

The Government of Chile has decided for a strategy to control COVID-19 contamination which has been called strategic and dynamic quarantine, in which communities alternate social distancing/isolation depending on the epidemiological situation of that community/location, allowing the movement of people only in the case of essential services. Furthermore, Chile has taken other

more restrictive measures, such as prohibiting the movement of people between 10 pm and 5 am, closing of schools throughout the country and closing all borders. On September 27, 2021, the Chilean government decreed the end of the state of emergency in the country at a time when the country has already vaccinated more than 88% of its population against the COVID-19 (GOBIERNO DE CHILE, 2021; G1, 2021b).

Peru's government closed the country's borders at the beginning of the pandemic, instructed people to go out their homes only for essentials, such as buying food and medicine, and decreed curfews at different times in all cities. Failure to comply with the measures or posting false information about COVID-19 could lead to imprisonment.

However, according to BBC News (2021), maintaining isolation in Peru was a challenge due to some specific local conditions:

- ✓ About 71% of the workforce in Peru lives in the informal sector or works in commerce;
- ✓ Need to go out often to supermarkets, for example, as only around 22% of poor families in Peru have a refrigerator, not being able to store enough food;
- ✓ Supermarkets and banks were the main sources of contagion because they were always full;
- ✓ Around 12% of poor families in Peru live in overcrowded housing, making it difficult to maintain social distance at home.

Bolivia and Paraguay adopted similar measures of Peru (BBC News, 2021). The government of Uruguay did not decree mandatory quarantine; however, it closed the country's borders and suspended classes at schools and universities.

3.2 – Essential services/operation

The establishment of essential services that could work during the emergency period was one of the most used strategies among LAC governments to maintain the economy working and try to control the COVID-19 dissemination.

The Brazilian government defined, through Decree No. 10.282/2020, a broad list of essential services, including: all services related to health, public and private security, national and civil defense, transport, telecommunications and internet, electric energy and others. It is also noteworthy that the states of the federation were free to establish measures regarding the operation of essential services.

It is also noteworthy that forest production aimed mainly at manufacturing pulp and paper was considered essential in most LA countries.

3.3 – Health Measures

Health care systems in most LA countries have significantly lower capacity than the OECD average, with lower health expenditure, fewer hospital beds and health professionals per capita, in addition to weak disease surveillance and tracking systems (OECD, 2020).

Faced with these challenges, governments of the region had to implement measures to increase the capacity of their health care systems to deal with the crisis, together with facilitating access for all populations. Some of the measures included building emergency hospitals in record time (e.g., Argentina), providing additional ICU beds (e.g., Colombia and Peru) and training health professionals to work in intensive care units (e.g., Brazil and Chile). Additionally, some governments made arrangements with private clinics to immediately increase the number of beds available (OECD, 2020).

Chile issued Decree No. 356 which determined that clinics should increase their ICU bed capacity by 20% in one week and 100% in one month. Some countries, such as Uruguay and Argentina, have also developed their own test kits with state-funded research from leading national universities, together with technology companies (OECD, 2020).

In Brazil government has zeroed import taxes on products for medical and hospital use. In addition, the Ministry of Economy, through Inter-ministerial Ordinance No. 12.683/2020, authorized the hiring over 5 thousand temporary professionals to strengthen the health area (GOVERNO DO BRASIL, 2021). Some companies of the forest sector operating in Brazil also made efforts and investments in health measures to combat COVID-19. Bracell, Cenibra, CMPC, Duratex, Gerdau, Ibema, International Paper, Klabin, Suzano, Veracel and Westrock invested at least R\$114 million in solidarity actions to purchase respirators, face masks, hand sanitizer, sanitary water, hospital gowns, gloves, in addition to investment and direct donation of materials in infrastructure or for the operation of 15 hospitals (IBÁ, 2020).

The government of Paraguay took as an emergency measure, together with the Ministry of Health, the purchase of medicines and health supplies in the amount of 530 billion Guarani, within an established timetable. In addition, the government of Paraguay prioritized the hiring of health professionals, with an additional staff of approximately 2,700 people (IFSA Paraguay Questionnaire).

Vaccination was one of the most important health measures adopted by countries in the LA region. There are important asymmetries between developed countries and middle-income countries, among those where most countries in LAC are found in the dynamics of vaccination. Vaccination efforts are the result of some measures adopted by countries such as national immunization plans and agreements with laboratories in the vaccine manufacturing for the population. Among the main measures of the countries, some stand out (CEPAL, 2021c):

- In Argentina, in November 2020, the Law on Vaccines Aimed at Generating Acquired Immunity against COVID-19 was enacted. In December 2020 the government approved Strategic Vaccination Plan against COVID-19, which provided for the supply of vaccines and supplies needed to vaccinate the target population and transfers to the provinces through different programs;
- In Bolivia, the public health measure created refers to the obligation to implement biosecurity measures, including the vaccination strategy (Bolivia Questionnaire, 2021).
- In Brazil the Ministry of Health launched the National Plan for the Operationalization of Vaccination against Covid-19 in February, 2021.
- In Chile the Vaccine Road began in May 2020, when the Government contacted the main and most promising laboratories that were studying and trying to discover a vaccine. Agreements and contracts have been signed with Pfizer / BioNTech, Sinovac, AstraZeneca-Oxford, Johnson & Johnson and Covax. Considering the great advances of the vaccination plan, which exceeds 11 million people with both doses' vaccination, and more than 23 million doses administered. It is expected that with and gradual opening up and the relaxation of mobility restrictions, the processes linked to investment will accelerate, as well as continue to bolster economic activity (Chile Questionnaire, 2021).
- Colombia created the national vaccination plan in February, 2021, defining the vaccination schedule and priority groups of the population.
- The government of Peru established a vaccination plan in October, 2020, including a schedule that prioritizes high-risk individuals.

Vaccination has advanced well in most LA countries. On 14 October, 2021, PAHO reported that 39% of the LAC population has a plan of vaccination against COVID-19. However, this advance of vaccination has been uneven across countries. For example, Uruguay has surpassed 80% of vaccination, while Paraguay and Bolivia have less than 40% of the population fully vaccinated.

The updated status of vaccination in Latin America is presented in Table 8, considering fully vaccinated population.

Table 8 - Status of COVID-19 vaccination in some countries of Latin America (as of November/2021)

Country	Share of fully vaccinated population (%)
Argentina	68.8
Bolivia	36.9
Brazil	65.8
Chile	85.1
Colombia	51.5
Costa Rica	65.5
Ecuador	67.1
Paraguay	38.4
Peru	60.2
Uruguay	76.5

Source: Our World in Data (2021)

3.4 – Economic Relief/Stimulus Measures

Most LA countries have adopted economic stimulus measures to help companies and individuals, especially those included in economically vulnerable situations, often with a focus on micro and small businesses.

In Argentina the main economic policies adopted by the government stands out (OECD, 2020):

- ✓ A credit line of € 43 million for SMEs from the Nation Bank (Banco Nación) at preferential rates, including € 36 million for companies producing food, medical supplies, personal hygiene and essential goods, for working capital and/or investments, and other € 7.2 million exclusively for telework;
- ✓ Flexible fiscal measures, such as minimizing personal and corporate taxes;
- ✓ Prices of food, personal hygiene, medicines and medical frozen products for 30 days;
- ✓ Public banks will support private companies with working capital for up to 180 days;
- ✓ Monetary policy easing.

The Brazilian government also established economic measures to combat the impacts of the COVID-19 pandemic (GOVERNO DO BRASIL, 2020). The most relevant were:

- ✓ Measures to facilitate the renegotiation of up to USD 690 billion in debt for companies and families to stimulate the economy;
- ✓ Low interest credit line for small and medium-sized companies;

- ✓ Government waived to collect the Tax on Financial Transactions (IOF) on credit operations during the crisis to stimulate economic activity;
- ✓ USD 6.1 billion program to subsidize the salaries of people in situations of contract suspension / reduced hours;
- ✓ Creation of emergency assistance in the amount of R\$ 600 for low-income or unemployed Brazilians;
- ✓ Provisional Measure that transfers R\$ 21.5 billion from the Social Integration Program/ Civil Servant Patrimony Formation Program (PIS/PASEP) to Government Severance Indemnity Fund for Employees (FGTS) and releases a withdrawal of R\$1,045 per worker.

In Chile, several government economic measures were taken, including:

- ✓ Launch of a US\$ 12 billion emergency plan for the Emergency Family Income Project, local governments, civil society organizations, increased unemployment protection and health services (OECD, 2020);
- ✓ The Ministry of Finance and the Internal Revenue Service, has suspended the monthly provisional payments (PPM) of the Income Tax of companies for three months (ILO,2020);
- ✓ The Central Bank of Chile reduced the monetary policy interest rate by 50 basis points, to 0.50% (ILO,2020);
- ✓ Law No. 21.225/2020 established a capitalization of the Bank of Chile for USD 500 million, which will be mainly destined to grant credit line to SMEs and to the persons (ILO, 2020).

The government of Colombia launched in July 2020 the post-COVID economic recovery plan focused on job creation and international e-commerce to reduce unemployment rate to 6% by the end of 2022. It also established specific tax-free days, such as VAT to promote consumption. In addition, it established economic recovery measures for SMEs (OECD, 2020).

As main economic measures, the government of Paraguay allowed the fractioning of the IRPJ in up to 5 interest-free installments with exemption from fines. The Central Bank of Paraguay also determined the reduction of the monetary policy interest rate, from 4% to 3.75%. To stimulate the commercial sector, a reduction in the import tariff on capital goods and e-commerce facilities was established, with an emphasis on the services sector (IFSA Paraguay Questionnaire).

Peruvian government implemented its Economic Plan to combat COVID-19, with approved measures equivalent to S/ 143 million soles. These resources are aimed at strengthening health services to control the impact of COVI-19, economic support for the most vulnerable families and measures to support small businesses (MEF PERU, 2020).

In Uruguay, an investment stimulus plan was launched with new tax breaks for large investments. Also, credit lines of approximately USD 50 million were issued to companies (OECD, 2020).

3.5 – Funding Programs

The Pan-American Health Organization (PAHO)/WHO created the PAHO COVID-19 Response Fund, in which donations are requested to support individual countries and territories in LAC to combat the pandemic. Several governments of LA countries have also created programs aimed to allocate funds to combat the impacts of COVID-19 on the economy and health of the population. Among the funds identified in the LA region, include:

In Brazil, the government allocated USD 100 billion in 2020 and R\$ 97.2 billion in 2021 for measures to fight the pandemic. Most of this resource was aimed at the Emergency Assistance Program for

people in vulnerable situations, which totaled USD 70 billion in 2020 and 2021 (GOVERNO DO BRASIL, 2021b).

In Peru, the Ministry of Economy and Finance expanded the coverage of the “Crescer Fund” credit by up to 90% for micro, small and medium-sized enterprises to reducing the economic impact of the COVID-19 (GOBIERNO DE PERÚ, 2020), and the government of Chile destined USD 12 billion as an emergency fund for the Emergency Family Income Project (OECD, 2020).

In Colombia, the Government increased the capital of the National Guarantee Fund with 70 billion Colombian Peso in loans for different sectors of the economy and protection of employment (PARLAMENTO ANDINO, 2021).

The Banco Nacional de Fomento (BNF) of Paraguay made available a special line of working capital for the production sector. Additionally, FONPLATA (Development Bank) granted the BNF a revolving credit line of USD 36 million, with a term of 8 years, whose resources can be applied to the financing of small and medium-sized companies that are part of the export-related value chains.

In Peru, the National Forest and Wildlife Service (SERFOR) of the Ministry of Agrarian Development and Irrigation, in coordination with different regional authorities in Cajamarca, Loreto, Ucayali and San Martín, has been working on a proposal for the preparation of a financing program to facilitate access of small non-timber forest producers under the AGROPERÚ Fund. This program seeks to promote the competitiveness of economic activities based on sustainable use of biodiversity (ADEX Peru questionnaire).

The World Bank has also supported LAC to respond to the impacts caused by COVID-19, through new operations and redirection of resources of existing projects (WORLD BANK, 2021b). The World Bank approved a USD 500 million loan for Argentina to strengthen the battle against COVID-19, through the purchase of vaccines for more than 30% of the population, as well as activities to support implementation of the national vaccination plan. In Uruguay, the World Bank approved a USD 20 million emergency loan to support the Uruguayan government's efforts to minimize the impact of the COVID-19 pandemic on the health system.

3.6 – Investment and Financing Measures

Some governments have created measures to boost the national economy and these initiatives include lines of credit and financing, mainly for small and medium-sized companies.

In Chile, measures related to financing and investments in the forestry sector include:

- FOGAPE-COVID - It strongly expands the small enterprise guarantee fund, increasing state guarantees by up to USD 3 billion, allowing companies to finance up to 1 million UF in annual sales (previously only up to 350 thousand UF). Over 283 thousand credits were issued, of which 97% were destined to small and medium-sized companies;
- Support through productive development programs, such as Solidarity and Social Investment Fund (FOSIS), Institute for Agricultural Development (INDAP) and Chilean Economic Development Agency (CORFO);
- New administrative services for entrepreneurship and recapitalization of SMEs.

According to the Ministry of Finance of Chile, the balance of loans with FOGAPE's guarantee, as of June/ 2021, the different financial institutions have granted over 113 thousand loans, of which 97% have been to SMEs (Chile Questionnaire). In addition, through Law 21.288 COVID-19 Transitory Emergency Fund, the federal government of Chile has allocated significant resources to reactivate the economy. In the case of the forestry sector, three measures were considered (Chile Questionnaire, 2021):

- Establishment of forest fire brigades: To date, 87 out of 89 brigade bases have been tendered and their work has begun. The remaining two are in the bidding process;
- Park Guard building project at the Torres del Paine National Park, which will improve the living conditions of the park rangers who work in the most isolated areas, and will increase security for more than 80 thousand people who visit the park all seasons;
- Economic Reactivation Program for small and medium-sized forest owners, including forest management, afforestation or recovering an area of 24 thousand hectares in two seasons 2021 (19,304 ha) and 2022 (4,826 ha), in both private and public forests, from the Coquimbo region to Magallanes to promote economic reactivation and job creation in the rural areas.

In relation to financing and credit, in some countries specific lines for financing aimed at the forest-based sector, as well as small producers and family farmers, have been identified.

In Brazil, the Amazon Plan, an initiative of three private banks (Itaú, Bradesco and Santander) has the objective of leveraging sustainable development in the region. In addition, the Brazilian Forest Service (SFB) decreed the postponement of the payment due date of the installments related to forest production of the first two quarters of 2020 to December in forest concession contracts. Argentina created the Forest Sustainability and Competitiveness Program IDB 2863 / OC-AR, and Peru has established a Direct Financing Program for Forest Plantations as well as a program for the forest out grower scheme and Sustainable Management of Forest Production with about 513 million soles in nine regions.

In Bolivia, no specific measure to financing and investments for the forest sector were identified. However, in terms of production, the government made available a credit line to companies. But that have not been very effective due to the excessive bureaucracy for its access (Bolivia Questionnaire, 2021).

Other national initiatives were identified in Paraguay and Mexico. In Paraguay, a credit incentive for sustainable forest production in the country through the National Development Bank (BNF) and the Financial Development Agency (AFD) was developed and in Mexico the incentive was created through the National Financing for Agricultural, Rural, Forest and Fisheries Development 2020-2024.

3.7 – Social and Employment-related Measures

The governments of LA countries have established social measures related to the maintenance of employment and income, especially for people in a socially vulnerable situation. These measures include expanding existing programs or creating new ones to reach the population not covered by existing programs.

In Argentina, the Emergency Assistance Program for Work and Production (ATP) was created by Decree 332/2020 (BO 04/01/2020) to provide immediate economic relief to those companies and workers directly affected by the fall in the economic activity after the contingency measures implemented during the Health Emergency. The Program consists of (GOBIERNO DE ARGENTINA, 2021):

- ✓ Postponement or reduction of up to 95% of the payment of employer contributions to the Argentine Integrated Social Security System;
- ✓ Complementary salary paid by the federal government for male and female workers dependent on the private sector;
- ✓ Zero Rate loans for people abide by the Monotax (monotributo) for independent workers (monotax borrowers), a comprehensive unemployment benefit system.

In Bolivia, the government established the labor order measure related to employment tenure, that is, the workers covered by the employment tenure (job immobility) during the pandemic may not be dismissed, impaired or transferred without just cause. No specific measure related to forest-dependent people has been established (Bolivia Questionnaire, 2021).

In Brazil, the government adopted measures to support people in vulnerable situation, workers and employers (GOVERNO DO BRASIL, 2021), including:

- ✓ “Bolsa Família” is a program aimed at family household units in poverty and extreme poverty, financial aid changes from R\$ 89 to R\$178 per month during the pandemic;
- ✓ Payment of Emergency Assistance of R\$ 600 per month to people in vulnerable situations;
- ✓ Prohibition of electricity cuts due to payment default by residential consumers and providers of essential activities between March 25, 2020 and 31 July,2020;
- ✓ Emergency Program for Maintenance of Employment and Income, where employers can make individual or collective agreements with their employees, lasting up to 120 days and reduce working hours and wages or suspend employment contract.

The government of Chile has created the following social related measures:

- ✓ The Employment Protection Law for COVID-19 (Law 21.288/2020), which establishes that workers with a contract affiliated with unemployment insurance who comply with the conditions established by the law can have an indefinite contract, a fixed term or by work or task. It also applies to domestic workers. The rules do not apply to women using maternity leave of absence (BCN, 2021);
- ✓ The Emergency Family Income (IFE), an economic aid for households that received insufficient informal and formal income and these resources diminished because they could not work due to COVID-19. The amount of the benefit depends on the number of people in the household and the socioeconomic situation of the family in the state of emergency;
- ✓ COVID-19 Emergency Bonus, a special bonus that is part of the Government's Economic Emergency Plan, which aims to support the most vulnerable families in the health contingency due to Covid-19;
- ✓ Special benefit for independent workers aimed at workers who faced a decrease of at least 30% of their income from salary compared to the average income in the last 12 months. If the taxpayer registered an average monthly income, between April 2019 and March 2020, equal to or less than \$ 320,500 Chilean Peso, the benefit could reach up to 70% of the amount of the monthly drop in their income. If the average monthly income was higher than \$ 320,500, the benefit was calculated proportionally to the decrease in income (GOBIERNO DE CHILE, 2021).

In Peru, the following social related measures were identified (PARLAMENTO ANDINO, 2021b):

- ✓ Creation of temporary jobs through the transfer of S/ 150 million Peruvian Soles; Agroperú Fund with S/ 440 million soles to directly finance small agricultural producers; and Agrobanco with S/ 100 million soles to finance credit at low interest rates;
- ✓ Operation of the Peru Jobs platform, through which citizens can access different job offers in the pandemic period;
- ✓ Allocation of a bonus corresponding to S/ 380 soles for households living in poverty or extreme poverty;

- ✓ Bonus of S/760 soles to benefit more than one million households that are part of the rural sector.

In Uruguay, the main measures were (GOBIERNO DE URUGUAY, 2021b):

- ✓ Payment of the subsidy of 1.5 Base of Benefits and Contributions (BPC) per month, during a quarter, to 19,000 workers in the sectors most affected by the pandemic;
- ✓ Special subsidy for partial unemployment until June 30, 2021;
- ✓ Flexibility in the use of unemployment insurance and right to use it for a shorter time and even part-time, to contemplate the sectors affected by the partial stoppage of their activities.

In Paraguay, the Ministry of Labor, Employment and Social Security promoted four (4) Policies (MTESS, 2021):

- ✓ Sustaining Employment: Protection Plan for Formal Workers; compensation for suspension of employment contracts, compensation for vulnerability and others.
- ✓ Reactivation of Employment: job intermediation and guidance services; Paraguay Poguapy Plan, which benefited 131 MSMEs with training, technical assistance and capital goods.
- ✓ Formalization and Social Security: Promotion of the Regulation and Legislation of teleworking, the Unemployment Insurance Law, the Regulation of the Suspension of Employment Contracts, the Emergency Law and its regulations, and the Law of extension of the validity of the Emergency Law
- ✓ Occupational Health and Safety: design and application of occupational health and safety protocols to maintain healthy work environments to prevent the spread of COVID-19.

4 – IMPACTS OF THE MEASURES ADOPTED AND RECOVERY

4.1 – General Assessment

Despite the immeasurable impact of the pandemic on the economy and on people's lives, a recovery is expected for 2021 and 2022. This economic recovery may occur differently among countries and economic sectors, as a result of economic measures and fiscal stimulus implemented by some governments.

The World Bank perspectives (2021) estimate that LA should have a growth of 5.2% in 2021, considering the advance of the vaccination schedule in most countries, the relaxation of mobility restrictions, the positive effects of advanced economies and the rise in commodity prices.

Also, according to the World Bank (2021), the following perspectives stand out (World Bank, 2021):

- ✓ Brazil's economy is expected to grow 4.5% in 2021, supported by a new round of emergency payments to families and by good domestic and international credit conditions;
- ✓ Mexico's economy is expected to grow 5% in 2021 as the manufacturing and services sectors will be benefited from the growing export demand associated with strong USA growth;
- ✓ Growth in Argentina is expected to recover 6.4% in 2021.
- ✓ Colombia's economy is expected to expand by 5.9% in 2021,
- ✓ Chile's and Peru's are expected to grow by 6.1% and 10.3%, respectively.

The dynamics of economic growth from 2021 onwards are subject to uncertainties resulting from the uneven progress in vaccination processes and the ability of countries to reverse the structural problems behind the low-growth course they showed prior to the pandemic.

For the International Monetary Fund, the three key issues and how these issues will be addressed starting in 2021 will have an impact on economic growth. First, it is important to know how short-term restrictions will affect resumption before vaccines begin to provide effective protection to the entire society. Furthermore, how public policies and vaccination campaigns can boost economic activity. Finally, how financial conditions and raw material prices will evolve. The latter will be critical for South American countries whose economies depend to a great extent on exports (El País, 2021).

Employment rates in some Latin American and Caribbean countries experienced a relative recovery in 2021, although for the most part they are well below pre-pandemic levels. The quality of available jobs has also declined, as well as the number of hours of paid work per week. For the LAC region, in 2021, the employment rate stood at around 62%, almost 11 percentage points below the pre-pandemic level. In addition, formal employment dropped 5.3% in the region, while self-employment grew 5.7%, and the proportion of workers in small companies increased 8% (ISTOÉ, 2021)

Along with the prospects for economic improvement, a great advance is already recognized in terms of a reduction in the number of new cases and deaths from COVID-19 in the region. Table 9 shows a summary on the reduction in the number of daily deaths from COVID-19 in selected LAC.

Table 9 – Comparative number of daily deaths from COVID-19 in selected countries in Latin America

Country	Dec/2020	Dec/2021
Argentina	163	31
Brazil	964	301
Chile	18	4
Colombia	161	51
Peru	120	54

Source: Our Word in Data (2021).

When comparing daily deaths in December 2021 and in the same period in 2020, the reduction in all analyzed countries is remarkable. This reduction reflects the advance and effectiveness of vaccination and containment measures used.

Regarding the labor market, ILO (2021) estimates that the recovery of the LA economy is still insufficient to recover the jobs lost during the COVID-19 pandemic. This situation resulted in a labor market characterized by a high unemployment rate and a strong predominance of informal jobs. About 70% of the jobs generated from mid-2020 to the first quarter of 2021 are informal jobs. In the first quarter of 2021, about 76% were considered self-employed/ independent workers and just over a third was informal workers.

4.2 – Forest Sector

Few government measures were taken to reduce the impact of the COVID-19 pandemic on the forest sector and forest industry. The main measure adopted by some countries was the inclusion of forest production activities as an essential service during the pandemic, which may have positively impacted the production and trade of forest products. In Brazil, the forest sector was able to operate normally in most states, while other countries, such as Colombia, Ecuador, Paraguay and Peru had restrictions on forest activities.

As for more specific measures related to the forest sector, the Brazilian Forest Service postponed the payments of the installments of forest production that the concessionaires pay quarterly to the government, seeking to guarantee the maintenance of jobs and financial health of companies.

The Peruvian government implemented an economic stimulus package called the “Reactiva” 1 and 2 Program to boost the private sector recovery during the COVID-19 crises. This stimulus guarantees the lowest interest rate (1.1 % for loans under the Program) offered to companies. In Bolivia, no specific measure related to Sustainable Forest Management or industrial production or market / trade of forest sector was created to mitigate the impact of the pandemic (Bolivia Questionnaire, 2021).

Also in Chile, the Economic Reactivation Program for small and medium-sized forest owners, including forest management, afforestation or recovering an area of 24 thousand hectares, involving private and public forests, bolster the local economy. This is promoting economic reactivation and job creation in the rural areas. Among the expected results, it is indicated that this project will improve the direct income condition of more than 2 thousand families and the generation of around 31 thousand direct jobs. This will directly contribute to the restoration of the economic income of this target group and the revitalization of local economies. To date, activities in 15 thousand hectares have been carried out on 814 properties (Chile Questionnaire, 2021).

In terms of economic recovery, the outlook for the forest sector is generally optimistic, partly because of the resumption of civil construction in the US, the main destination market for solid wood products of LA countries. Production and export levels have returned, or will most possibly return to pre-pandemic levels, for most countries of the region along the next months.

The population's consumption patterns have changed. They started to consume more hygiene and cleaning materials, whose raw material comes, in large part, from pulp. In addition, with the fact that restaurants and shops have closed temporarily, the population started to use more food delivery services and on line acquisition of goods, increasing the demand for paper packaging.

Additionally the work format also has changed, with many companies migrating to the home office modality, thus, people started to invest to reform houses and to acquire modern and comfortable wooden furniture, increasing the demand of forest products such timber, veneer, plywood and other wood-based panels.

This is a trend that will possibly continue in the future. In Brazil, for example, the production and apparent consumption of pulp, paper and wood base panels are already higher than were in 2020 and 2019, as shown in Table 10 (IBÁ, 2021).

Table 10 - Production and apparent consumption of pulp, paper and wood-based panels in Brazil (2019-2021)

Product	Item	Unit	2019	2020	Variation (19-20)	2021*	Variation (20-21)
Pulp	Production	1,000 ton	19,691	20,953	6%	22,340	7%
	Consumption	1,000 ton	5,218	5,510	6%	7,172	30%
Paper	Production	1,000 ton	10,535	10,184	-3%	10,625	4%
	Consumption	1,000 ton	5,458	5,236	-4%	5,512	5%
Wood-based panels	Consumption	1,000 m ³	6,695	7,138	7%	8,197	15%

*Estimated data for 2021, based on preliminary results.

Source: IBÁ (2021).

The Argentina forest sector has shown a recovery in 2021, considering that total exports in the first semester of 2021 totaled 376 million dollars and increased 28.3% compared to the same period of the previous year (INDEC, 2021).

In Chile, the trend is similar, wood exports totaled US\$ 581 million in July 2021, a 34% increase over the same month in 2020, with a cumulative total of around US\$ 3.2 billion in the first seven months of the year, representing an 13% increase over the same period in 2020 (CORMA, 2021).

In Peru, in the third quarter of 2021, wood exports totaled US\$ 86 million, 34.5% more than in the same period in 2020. The largest shipments were molded wood (US\$ 22 million, + 140.6 %), slats and non-assembled parquet floorings (US\$12 million, +4.2%) and other tropical woods (US\$12 million, +32.8%). The recovery of wood shipments in the first 10 months of 2021 compared to 2019 was promoted by France and USA, which increased their demand by 175.3% and 60.6%, respectively. The high percentages are due to a statistical effect in view of the situation caused by the pandemic in 2020. National wood consumption increased, due to restrictions and remote working. Many had to buy furniture, desks, chairs and other products. This trend was worldwide, so prices increased, reducing the availability of wood. Added to this was the decrease in wood from Chile (*Pinus Radiata*), since prices have favored selling its wood to other markets (ADEX Peru questionnaire).

It is also noteworthy that tourism and ecotourism have a strong participation in the economy of LA countries, especially Argentina, Brazil, Peru and Chile. Considering the advanced vaccination phases in these countries and the recovery of the economy, it is very likely that people will start to travel more and tourism and ecotourism activities will be boosted by this recovery.

5 – BEST PRACTICES IDENTIFIED

All countries have implemented financial support measures to uphold businesses and individuals, most often with a special focus on the vulnerable population. It is still too early to say which of these practices were in fact effective in reducing the impact of COVID-19 on the economy, and were sufficient to mitigate the social impact. Some of the best practices identified are highlighted below.

- Health measures

The health measures adopted by countries of the region were essential to combat COVID-19, save lives and re-establish public health. Despite being a challenge in many countries with very specific local conditions, social isolation is the main sanitary measure to control COVID-19, together with the use of face masks and hand hygiene helped to reduce the dissemination of the pandemic.

In general, countries of the LA region significantly increased capacity of hospitals to treat infected people, and specially the availability of ICU beds. Measures related to vaccination were put in place, such as national immunization plans and agreements with laboratories involve the production of vaccines for the population.

- Economic measures

Development of emergency credit lines, especially for Small and Medium-sized companies in the production sector and rural producers, were made available in most countries of the region. Other initiatives such as fiscal measures, tax reduction or exemption were also implemented by a majority of the countries, and help to mitigate the economic impact of the pandemic.

Measures to facilitate access to credit and debt renegotiation, involving small, medium and even larger companies, were also important to maintain operations and employment. Emergency aid in the form of direct transfer to the population, especially low income and poor family, created a condition to boost consumption and reactivate the economy.

- Social measures

Most countries of the region created programs to ensure the maintenance of employment and income, involving among other the direct transfer of financial resources to support vulnerable population. Other social measures involved the non-suspension of electricity supply and other services due to non-payment.

In some countries companies were encouraged to retain workers, based on a more flexible working legislation, including individual or collective agreements between employers and employees, and creation of temporary jobs regulation, with government subsidy. This avoided dismissals of employees and closing companies. Programs also included a temporary unemployment benefit and adjustment of labor laws to facilitate the use of unemployment insurance.

- Specific measures for the forestry sector

The forest sector as a whole was in general benefited from the general measures put in place by governments of the region to mitigate the social and economic impact of the pandemic.

In any case, the forest sector benefited, in most countries, from the fact that it was considered as an essential activity. This was extremely important to mitigate the impact of the COVID-19 pandemic in the forest and forest industry operations.

Other initiatives supported the forest sector, such as postponement of the payment of installments of forest production in forest concessions areas, and economic stimulus package to boost the recovery of forest-based companies. Nevertheless, only a few countries of the region have adopted the initiatives to support specifically the forest sector.

6 – PREPARING FOR THE FUTURE POST-COVID

The COVID-19 pandemic has been lasting for nearly two years and continues to create significant challenges for society and several business segments. Since the beginning, the forest sector has quickly adapted their operation and behavior to meet health and safety requirements.

The forest-based sector proved to be an important segment to face the challenges imposed by the COVID-19 pandemic. It supplies several products, such as pulp, which is the basis for the manufacture of hygiene and health materials and packaging paper. In addition, wood products have been used to supply people's house, who have adapted to a new modality of work from home environment.

In the short to medium-term this trend is expected to continue and become a new pattern. This is a leverage opportunity for the forest sector, with the growing demand for wood and pulp products, with the resumption of the Chinese market and the civil construction industry in the United States, major consumers of forest products from LA countries.

The pandemic could become an opportunity for countries to become greener and more inclusive societies and economies. The forest sector has great potential for this, as it can effectively help reduce poverty, generating employment and income, showing its resilience to structural changes.

However, to be included in these opportunities, the sector needs to face some challenges, such as deforestation and competition with illegal logging, forest fires, lack of inspection and compliance with environmental laws, in addition to changes in supply and demand in the market.

It is essential to integrate small farmers, traditional communities and small and medium-sized forest companies in sustainable supply chains, including the value chains of timber and non-timber forest products in recovery measures and strategies. It is also essential to include REDD+ mechanisms, payments for environmental services and the carbon market in this green recovery, in order to value not only forest products, but also environmental services.

In this context, it is important to create and implement policies, programs, strategies and partnerships for national and international cooperation, aimed mainly at:

- Monitoring and inspection of forests to prevent deforestation and forest fires;
- Implementing incentive mechanisms to encourage sustainable production, whether from natural or forest plantations;
- Proposing creation of credit lines with low interest rates, specific for forest production of wood and non-wood products;
- Promoting trade and consumption of sustainable and legal forest products, supporting national production.

REFERENCES

ASSOCIAÇÃO BRASILEIRA DA INDÚSTRIA DE MADEIRA PROCESSADA MECANICAMENTE – ABIMCI (2020). Balanço das exportações 2020. Available at: <<https://abimci.com.br/balanco-das-exportacoes-2020/>>

BBC News (2020). Coronavírus: o mapa interativo que mostra as medidas e tipos de isolamento adotados na América Latina. Available at: <https://www.bbc.com/portuguese/internacional-52248493>

BBC News (2021). Cuarentena en Perú: 5 factores que explican por qué las medidas de confinamiento no impiden que sea el segundo país de América Latina con más casos de covid-19. Available at: <https://www.bbc.com/mundo/noticias-america-latina-52748764>

BIBLIOTECA DEL CONGRESO NACIONAL DE CHILE – BCN (2021). Ley de protección al empleo por COVID-19. Available at: <https://www.bcn.cl/leyfacil/recurso/ley-de-proteccion-al-empleo-por-covid-19>

CANAL RURAL (2020). Amazônia: Alemanha doa 25 mi de euros para produção sustentável de carne, soja e madeira. Available at: <https://www.canalrural.com.br/noticias/brasil-acordo-alemanha-conservacao-amazonia/>

COMISSÃO ECONÔMICA PARA AMÉRICA LATINA E O CARIBE – CEPAL (2020a). Pandemia de COVID-19 levará à maior contração da atividade econômica na história da região: cairá -5,3% em 2020. Available at: <https://www.cepal.org/pt-br/comunicados/pandemia-covid-19-levara-maior-contracao-atividade-economica-historia-regiao-caira-53>

CEPAL (2020b). Balanço Preliminar das Economias da América Latina e do Caribe. Available at: https://repositorio.cepal.org/bitstream/handle/11362/46606/1/S2000882_pt.pdf

CEPAL (2021a). Em meio à crise da COVID-19, a América Latina e o Caribe receberam em 2020 o menor valor de investimento estrangeiro direto da última década. Available at: <https://www.cepal.org/pt-br/comunicados/meio-crise-covid-19-america-latina-o-caribe-receberam-2020-o-menor-valor-investimento>

CEPAL (2021b). Coyuntura Laboral en América Latina y el Caribe. Available at: https://repositorio.cepal.org/bitstream/handle/11362/46955/1/S2100277_es.pdf

CEPAL (2021c). COVID-19 Observatory in Latin America and the Caribbean. Available at: <https://cepalstat-prod.cepal.org/forms/covid-countrysheet/index.html?country=ARG>

CEPAL (2021d). A América Latina e o Caribe crescerão 5,9% em 2021. Available at: <https://www.cepal.org/pt-br/comunicados/america-latina-o-caribe-crescerao-59-2021-refletindo-arrasto-estatistico-que-se-moderara>

CONFEDERAÇÃO NACIONAL DA INDÚSTRIA – CNI (2021). Fretes Internacionais e Disponibilidade de Contêineres: Efeitos da Pandemia Briefing do Setor Privado. Available at: https://static.portaldaindustria.com.br/portaldaindustria/noticias/media/filer_public/8c/00/8c000b7b-3b93-4da8-8622-851dff50e40/cfb-fce_gt-comexlogistica_fretescntrs_infograficoconsultaagendapropostas.pdf

CORPORACIÓN CHILENA DE LA MADERA - CORMA (2021a). Exportaciones forestales cayeron in 12,6% en 2020, resultado más bajo del último quinquenio. Available at: <<https://www.corma.cl/corma-exportaciones->

DATOSMACRO (2021a). IPC de Argentina. Available at: <https://datosmacro.expansion.com/ipc-paises/argentina>

DATOSMACRO (2021b). IPC de Chile. Available at: <https://datosmacro.expansion.com/ipc-paises/chile>

ECLAC - Economic Commission for Latin America and the Caribbean (2021b). Economic Survey of Latin America and the Caribbean. Available at: https://repositorio.cepal.org/bitstream/handle/11362/47193/10/S2100607_en.pdf

El País (2021). FMI melhora cenário e estima recuperação econômica de 4,1% para a América Latina e o Caribe. Available at: <https://brasil.elpais.com/economia/2021-01-26/fmi-melhora-projecao-e-estima-recuperacao-economica-de-41-para-a-america-latina-e-o-caribe.html>

EMOL (2021). Ayuda internacional en pandemia: Chile recibió US\$ 10 millones para enfrentar el covid-19 y ejecutar proyectos de cooperación. Available at: <https://www.emol.com/noticias/Nacional/2021/05/26/1021982/Ayuda-Internacional-Pandemia.html>

FEDEMADERAS (2021). Reporte de Resultados – Encuesta Forestal Semestral, Agosto 2021. Available at: https://fedemaderas.org.co/wp-content/uploads/2021/09/20210909_EncuestaFedemaderasVC.pdf

FOLHA (2021) Indústria florestal deve investir R\$ 53,5 bilhões até 2024. Available at: <https://www1.folha.uol.com.br/seminariosfolha/2021/05/industria-florestal-deve-investir-r-535-bilhoes-ate-2024.shtml>

FOOD AND AGRICULTURE ORGANIZATION - FAO (2021). Los pueblos indígenas y tribales y la gobernanza de los bosques. Available at: <http://www.fao.org/3/cb2953es/cb2953es.pdf>

G1 (2021). Brasil deve ter a 14ª maior taxa de desemprego do mundo em 2021, aponta ranking com 100 países. Available at: <https://g1.globo.com/economia/noticia/2021/04/11/brasil-deve-ter-a-14a-maior-taxa-de-desemprego-do-mundo-em-2021-aponta-ranking-com-100-paises.ghtml>

G1 (2021b). Com 88% da população vacinada, Chile anuncia fim do estado de emergência para Covid-19. Available at: <https://g1.globo.com/mundo/noticia/2021/09/27/com-88percent-da-populacao-vacinada-chile-anuncia-fim-do-estado-de-emergencia-para-covid-19.ghtml>

(GIZ, 2020). Cooperaç o com o Fundo Amaz nia/BNDES. Available at: https://www.giz.de/en/downloads/Factsheet_Fundo_Amaz%C3%B4nia_PT_2020.pdf

Global LATAM (2020). Series Inversi n Extranjera. Available at: https://issuu.com/segibpdf/docs/global_latam_2021

GOBIERNO DE ARGENTINA (2021):  Qu  medidas est  tomando el gobierno? Available at: <https://www.argentina.gob.ar/coronavirus/medidas-gobierno>

GOBIERNO DE CHILE (2020). Ministro de Salud informa sobre casos recuperados y estrategia de cuarentena din mica. Available at: <https://www.minsal.cl/ministro-de-salud-informa-sobre-casos-recuperados-y-estrategia-de-cuarentena-dinamica/>

GOBIERNO DE CHILE (2021). Ingreso Familiar de Emergencia (IFE). Available at: <https://www.chileatiende.gob.cl/fichas/78385-ingreso-familiar-de-emergencia>

GOBIERNO DE M XICO (2021). Medidas econ micas. Available at: <https://www.gob.mx/covid19medidaseconomicas>

GOBIERNO DE PER  (2020). MEF ampl  cobertura de cr ditos del Fondo Crecer hasta 90% para las micro, peque as y medianas empresas a fin de reducir el impacto econ mico del coronavirus COVID-19. Available at: <https://www.gob.pe/institucion/mef/noticias/108921-mef-amplia-cobertura-de>

[creditos-del-fondo-crecer-hasta-90-para-las-micro-pequenas-y-medianas-empresas-a-fin-de-reducir-el-impacto-economico-del-coronavirus-covid-19](#)

GOBIERNO DE URUGUAY (2021). Sector Forestal en Uruguay. Available at: <https://www.uruguayxxi.gub.uy/uploads/informacion/a29771e03cc49e42fe516c01b0d271dc0fcf4cbe.pdf>

GOBIERNO DE URUGUAY (2021b): Medidas del Gobierno para atender la emergencia sanitaria por coronavirus (COVID-19) en materia de Trabajo. Available at: <https://www.gub.uy/presidencia/politicas-y-gestion/medidas-del-gobierno-para-atender-emergencia-sanitaria-coronavirus-covid-19-2>

GOVERNO DO BRASIL (2021). Enfrentamento à Covid-19. Available at: <https://www.gov.br/pt-br/noticias/financas-impostos-e-gestao-publica/2-anos/2-anos-1/enfrentamento-a-covid-19>

GOVERNO DO BRASIL (2021b). Monitoramento dos Gastos da União com Combate à COVID-19. Available at: <https://www.tesourotransparente.gov.br/visualizacao/painel-de-monitoramentos-dos-gastos-com-covid-19>

INDÚSTRIA BRASILEIRA DE ÁRVORES - IBÁ (2020). Empresas do setor florestal investem R\$114 milhões para auxiliar os brasileiros no combate à COVID-19. Available at: <https://iba.org/empresas-do-setor-florestal-investem-r-114-milhoes-para-auxiliar-os-brasileiros-no-combate-a-covid-19>

INDÚSTRIA BRASILEIRA DE ÁRVORES - IBÁ (2021). Estatísticas da Indústria Brasileira de Árvores / 2º trimestre de 2021. Available at: https://iba.org/datafiles/publicacoes/cenarios/66cenarios_2.pdf Access on:

[INTER-AMERICAN DEVELOPMENT BANK - IDB \(2021\). Retos para la agricultura familiar en el contexto del covid-19: Seguimiento tras 6 meses de crisis. v. 1, 25 p. Available at: <https://publications.iadb.org/publications/spanish/document/Retos-para-la-agricultura-familiar-en-el-contexto-del-COVID-19-Seguimiento-tras-6-meses-de-crisis.pdf>. Access on:](#)

INTER-AMERICAN DEVELOPMENT BANK - IDB (2021b). Evolución del turismo en Perú 2010-2020, la influencia del COVID-19 y recomendaciones pos-COVID-19. Available at: <https://publications.iadb.org/pt/publications/spanish/document/Evolucion-del-turismo-en-Peru-2010-2020-la-influencia-del-COVID-19-y-recomendaciones-pos-COVID-19-nota-sectorial-de-turismo.pdf> >.

INTER-AMERICAN DEVELOPMENT BANK - IDB (2021C). Informalidad en los tiempos del COVID-19 en América Latina: implicaciones y opciones del amortiguamiento. Available at: <https://publications.iadb.org/pt/publications/spanish/document/Informalidad-en-los-tiempos-del-COVID-19-en-America-Latina-Implicaciones-y-opciones-de-amortiguamiento.pdf> >. Access on:

INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA – IBGE (2021). Inflação acelera em dezembro e chega a 4,52% em 2020, a maior alta desde 2016. Available at: <https://agenciadenoticias.ibge.gov.br/agencia-noticias/2012-agencia-de-noticias/noticias/29871-inflacao-acelera-em-dezembro-e-chega-a-4-52-em-2020-a-maior-alta-desde-2016>

INSTITUTO NACIONAL DE ESTADÍSTICA Y CENSOS – INDEC (2020). Complejos exportadores. V. 5, n 38. Available at: https://www.indec.gob.ar/uploads/informesdeprensa/complejos_03_21311B84F340.pdf >

INDEC (2021). Complejos exportadores. V. 5, n 159. Available at: https://www.indec.gob.ar/uploads/informesdeprensa/complejos_09_216C11F7ABA3.pdf >

Instituto Forestal – INFOR (2021). Las Exportaciones Forestales registran un crecimiento de 15,3% en los ocho primeros meses del año. Available at: <https://wef.infor.cl/bannerdestacados/2021/161/destacado_161.php>

INSTITUTO DE ESTUDOS PARA O DESENVOLVIMENTO INDUSTRIAL – IEDI (2020). O Impacto da Covid-19 na indústria mundial Available at: https://iedi.org.br/cartas/carta_iedi_n_1034.html

INSTITUTO SOCIOAMBIENTAL - ISA (2021). COVID-19 e os Povos Indígenas. Available at: <<https://covid19.socioambiental.org/>>.

INTERNATIONAL LABOR ORGANIZATION (ILO, 2020). CHILE Y CRISIS DEL COVID-19: POLÍTICAS DE RESPUESTA. Available at: https://www.ilo.org/wcmsp5/groups/public/---americas/---ro-lima/---sro-santiago/documents/genericdocument/wcms_743071.pdf

ILO (2021). OIT: América Latina e Caribe enfrentam recuperação insuficiente do mercado de trabalho com predomínio de empregos informais. Available at: https://www.ilo.org/brasilia/noticias/WCMS_819030/lang--pt/index.htm

ISTOÉ (2021). Emprego na América Latina teve recuperação, mas segue abaixo do pré-pandemia. Available at: <https://www.istoedinheiro.com.br/emprego-na-america-latina-teve-recuperacao-mas-segue-abaixo-do-pre-pandemia-2/>

LA REPÚBLICA (2021a). Perú aprovecha menos del 20% de sus bosques de producción permanente desde la pandemia. Available at: <<https://larepublica.pe/economia/2021/03/16/peru-aprovecha-menos-del-20-de-sus-bosques-de-produccion-permanente-desde-la-pandemia/>>

MINISTERIO DE ECONOMÍA Y FINANZAS - MEF PERU (2020). Plan económico del Peru frente al COVID-19. Available at: <https://www.mef.gob.pe/planeconomicocovid19/>

MINISTÉRIO DO MEIO AMBIENTE - MMA (2021) Plano Nacional para Controle do Desmatamento ilegal e Recuperação da Vegetação Nativa 2020-2023. BALANÇO DE ATIVIDADES 2020. Available at: https://www.gov.br/mma/pt-br/assuntos/servicosambientais/controle-de-desmatamento-e-incendios-florestais/copy3_of_Balano2020DocumentoCompleto.pdf

MINISTERIO DE TRABAJO, EMPLEO Y SEGURIDAD SOCIAL (MTESS) | Gobierno de Paraguay (2021). Informe de Gestión. Available at: <https://www.mtess.gov.py/noticias/ministra-bacigalipo-realizo-informe-de-gestion-esta-manana>

OECD (2020). COVID-19 in Latin America and the Caribbean: An overview of government responses to the crisis. Available at: <https://www.oecd.org/coronavirus/policy-responses/covid-19-in-latin-america-and-the-caribbean-an-overview-of-government-responses-to-the-crisis-0a2dee41/#section-d1e688>

Our World in Data (2021). Coronavirus (COVID-19) Vaccinations. Available at: https://ourworldindata.org/covid-vaccinations?country=OWID_WRL

PARLAMENTO ANDINO (2021). Principales medidas adoptadas por el gobierno colombiano frente a la emergencia provocada por la COVID-19. Available at: <https://www.parlamentoandino.org/images/actualidad/informes-covid/Colombia/Principales-medidas-adoptadas-por-el-gobierno-colombiano.pdf>

PARLAMENTO ANDINO (2021b): Principales medidas adoptadas por el gobierno peruano frente a la emergencia provocada por la COVID-19. Available at: <https://www.parlamentoandino.org/images/actualidad/informes-covid/Peru/Principales-medidas-adoptadas-por-el-gobierno-peruano.pdf>

Portal Amazônia (2020). Suspense desde maio, manejo florestal sustentável é liberado pelo TRF1. Available at: <<https://portalamazonia.com/economia-na-amazonia/manejo-florestal-sustentavel-liberado-pelo-trf1>>

S&P Global Ratings (2021). Panorama económico para América Latina 2021: Pese a mejora en crecimiento, las debilidades pre pandémicas persisten. Available at: https://www.spglobal.com/_assets/documents/ratings/es/pdf/2021-03-25-panorama-economico-para-latam-2021-pese-a-mejora-en-crecimiento-las-debilidades-prepandemicas-persisten.pdf

STATISTA (2021a). Evolución anual de la tasa de inflación en Perú desde 2015 hasta 2026. Available at: <https://es.statista.com/estadisticas/1190212/tasa-de-inflacion-peru/>

STATISTA (2021b). Evolución anual de la tasa de inflación en Uruguay desde 2015 hasta 2026. Available at: <https://es.statista.com/estadisticas/1190233/tasa-de-inflacion-uruguay/>

SWISS INFO (2021). La inversión verde crece en Latinoamérica como plan de supervivencia. Available at: <https://www.swissinfo.ch/spa/d%C3%ADa-medioambiente-latinoam%C3%A9rica-la-inversi%C3%B3n-verde-crece-en-latinoam%C3%A9rica-como-plan-de-supervivencia/46678874>

TOMASELLI, I. (2021) Initial Assessment of the Impact of COVID-19 on Sustainable Forest Management Latin American and Caribbean States. Available at: <https://www.un.org/esa/forests/wp-content/uploads/2020/12/Covid-19-SFM-impact-LAC.pdf>

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT - USAID (2021). COOPERACIÓN DEL GOBIERNO DE LOS ESTADOS UNIDOS AL PERÚ EN RESPUESTA AL COVID-19. Available at: https://www.usaid.gov/sites/default/files/documents/USG_COVID-19_Peru_FS_Spanish-July_2021.pdf

VEJA (2021). Covid: Brasil nunca fez o mínimo de isolamento social para deter o vírus. Available at: <https://veja.abril.com.br/blog/maquiavel/covid-brasil-nunca-fez-o-minimo-de-isolamento-social-para-deter-o-virus/>

WORLD BANK (2021). Perspectivas Económicas Globais: América Latina e Caribe. Available at: <https://thedocs.worldbank.org/en/doc/600223300a3685fe68016a484ee867fb-0350012021/related/Global-Economic-Prospects-June-2021-Regional-Overview-LAC-PT.pdf>

WORLD BANK (2021b). Respuesta del Banco Mundial a la COVID-19 (Coronavirus) en América Latina y el Caribe. Available at: <https://www.bancomundial.org/es/news/factsheet/2020/04/02/world-bank-response-to-covid-19-coronavirus-latin-america-and-caribbean>

WORLD HEALTH ORGANIZATION - WHO (2021). Actualización Epidemiológica, Enfermedad por coronavirus (COVID-19). Available at: <https://iris.paho.org/bitstream/handle/10665.2/54717/EpiUpdate21August2021_spa.pdf?sequence=2&isAllowed=y>

WORLD RESOURCES INSTITUTE Brasil (2021). Perda de florestas tropicais primárias aumenta em 12% de 2019 a 2020 no mundo. Available at: <<https://wribrasil.org.br/pt/blog/florestas/perda-de-florestas-tropicais-primarias-aumenta-em-12-de-2019-2020-no-mundo>>.

ANNEX 1 - LIST OF CONTRIBUTORS BY COUNTRY (as of December 17, 2021)

COUNTRY	INSTITUTION	CONTACT
Bolivia	CBF – Camara Forestal de Bolivia (<i>Forestry Chamber of Bolivia</i>)	Mr. Jorge Ávila
Chile	CONAF – Corporación Nacional Forestal (<i>National Forestry Corporation</i>)	Ms. Constanza Daniela Troppa Tapia
Colombia	FEDEMADERAS – Federación Nacional de Industriales de la Madera (<i>National Federation of Wood Industry</i>)	Ms. Alejandra Ospitia
Ecuador	Dirección de Ambiente y Desarrollo Sostenible/ Ministerio de Relaciones Exteriores y Movilidad Humana (<i>Ministry of Foreign Affairs and Human Mobility</i>)	Mr. Walter Schuldt
Paraguay	IFSA – Asociación Internacional de Estudiantes de Ingeniería Forestal (<i>International Forestry Student's Association</i>)	Mr. Steve Guzmán G.
Peru	ADEX – Asociación de Exportadores de Peru (<i>Peruvian Exporters Association</i>)	Mr. Erik Fischer



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