



2023 Scenathon results

Pathways for food
and land-use systems
in the Rest of Central
and South America
region



FABLE
CONSORTIUM



About FABLE

The Food, Agriculture, Biodiversity, Land-Use, and Energy (FABLE) Consortium is a collaborative initiative to support the development of globally consistent mid-century national food and land-use pathways that could inform policies towards greater sustainability. The Consortium brings together teams of researchers from 24 countries and international partners from the UN Sustainable Development Solutions Network (SDSN), the International Institute for Applied Systems Analysis (IIASA), the Alliance of Bioversity International and CIAT, and the Potsdam Institute for Climate Impact Research (PIK). <https://www.fableconsortium.org/>

About the authors

The pathways for food and land-use systems in RCSA were developed by Andrea Sanchez (Alliance Bioversity International–CIAT - andrea.sanchez@cgiar.org)

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Countries in the “Rest of Central and South America” region

Bahamas, Belize, Bolivia (Plurinational State of), Chile, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay, Venezuela (Bolivarian Republic of).

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Our food and land-use systems are critical for staying within our planetary boundaries and the Earth’s system resilience. Among the six Transformations required to achieve the Sustainable Development Goals (SDGs), the fourth Transformation—focusing on food, land, and water—is crucial. This Transformation is key to achieving SDG 2 (Zero Hunger), SDG 6 (Clean Water and Sanitation), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action), SDG 14 (Life Below Water), and SDG 15 (Life on Land). Moreover, it significantly supports the remaining SDGs, underscoring its crucial role in fostering a sustainable future.

In this document, we present the results of the 2023 ‘Scenathon’, a modelling exercise by the FABLE Consortium exploring three alternative futures for national and regional food and land-use systems. The term ‘Scenathon’ stands for ‘a marathon of scenarios’ and refers to FABLE’s iterative process for ensuring that national and regional pathways have coherent trade assumptions and align with global sustainability targets (see the 2024 Sustainable Development Report for more information).

Through these long-term pathways, we can identify trade-offs and synergies between different goals and see the impact of various actions, as well as key levers for guiding sustainable development policies through 2030 and 2050. These results, together with our modelling tools and methods, are designed to support decision-making and the development of better policies and targets to drive the transformation of our food and land-use systems.

Countries in the “Rest of Central and South America” region: Bahamas, Belize, Bolivia (Plurinational State of), Chile, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay, Venezuela (Bolivarian Republic of).

Figure 1. Historical share of GHG emissions from Agriculture, Forestry, and Other Land Use (AFOLU) to total AFOLU emissions and removals by source in 2020

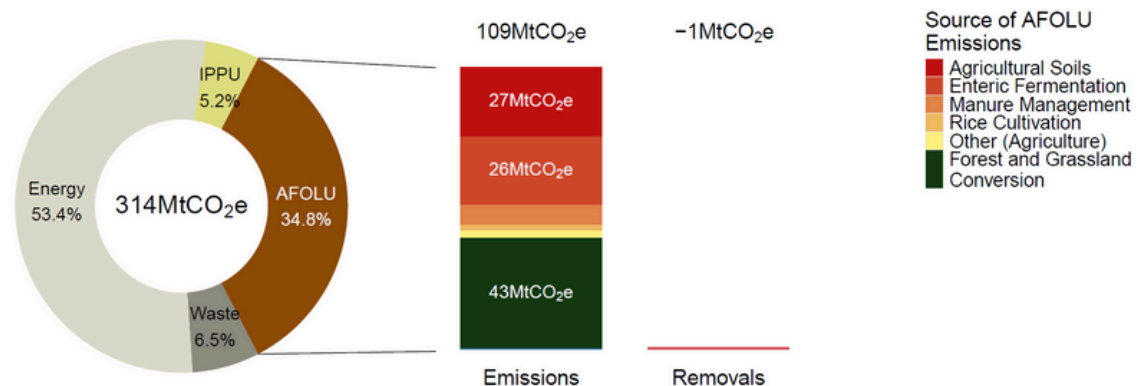
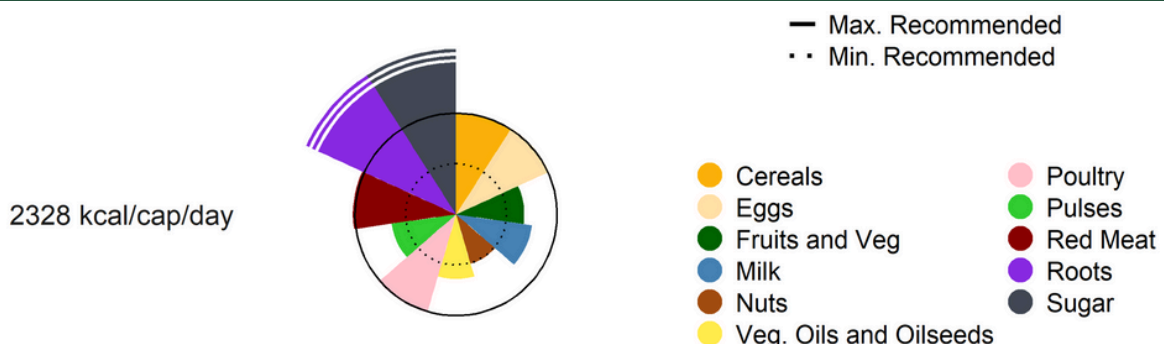






Figure 2. Daily average kilocalorie intake per capital per food category in 2020



This table summarizes regional targets for food and land use, derived from regional commitments, policies, and strategies. It provides an overview of the region's current ambitions to transform its food and land-use systems. If the region lacked quantitative national targets, we have estimated targets based on qualitative pledges.

SDG	Indicator	Regional Target
 2 ZERO HUNGER	Self sufficiency	Pillar 2: Timely and sustainable access to safe, adequate, sufficient, culturally relevant nutritious food for all people, especially the most vulnerable, in order for them to develop and fully maintain their physical and mental <u>faculties</u> . - Strengthen the development of family farming, building capacities for risk management as well as the adoption of improved technologies to increase agricultural and livestock food production throughout the region.
	Undernourishment	Achieve nutrition security and the eradication of hunger by <u>2025</u>
	Overweight / obesity	Halt the increment in current country prevalence overweight and obesity rates in children and adolescents by <u>2025</u>
	Diet-related diseases	<ul style="list-style-type: none"> • At least 25% reduction in premature mortality from Non-Communicable Diseases by 2025 • Substantial relative reductions in tobacco use (in 26 countries), harmful alcohol use (in 21 countries), unhealthy diet and physical inactivity (in 14 countries), raised blood pressure, diabetes and obesity by 2025 • Increased coverage for essential NCDs medicines and technologies by <u>2025</u>
	Other food-related targets	By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest <u>losses</u> .
 13 CLIMATE ACTION	Total GHG emissions reduction	Unconditional nationally determined contributions: 5% increment in emissions by 2030, compared to 2014 levels. Conditional nationally determined contributions: 8% reduction in emissions by 2030, compared to 2014 <u>levels</u> .
 15 LIFE ON LAND	Promote afforestation	At least 50% of the countries in the region are in the process of integrating ecosystem restoration in regional and national development policies, plans and programs by 2030 (Action plan for the decade). Protect and restore 7,500,000 hectares of natural habitats by 2030 (Belize, Bolivia, Chile, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Peru, Uruguay) (Initiative <u>20x20</u>)
	Reduce or halt loss of natural ecosystems	By 2030, Latin America and the Caribbean have significantly advanced in defining policies and plans and implementing projects in ecosystem restoration at a spatial scale relevant to revert the negative impacts of degradation and, as a result, ecosystems and natural habitats across the region are in process of being restored, protected and managed <u>sustainably</u> .

SDG	Indicator	National Target
	Expand protected areas or 'Other effective area-based conservation measures' (OECMs)	30% of terrestrial and marine areas are protected by <u>2030</u>
	Expand cropland area under agroecological practices	<u>38%</u> increment in the area under organic certification between 2020-2030 from 6.794.843 to 9.391.705 hectares (Argentina, Bolivia, Brazil, Ecuador, Guatemala, Honduras, Mexico and Paraguay)
	Agricultural exports	Strengthen knowledge and create conditions for overcoming the obstacles and/or restrictions to intra-regional trade by <u>2025</u>
	Employment in the agricultural sector	Unemployment rate of around 3-5% by <u>2030</u>
	Farmers' income	End poverty in all its forms everywhere by 2025 By 2030, double the agricultural productivity and incomes of small-scale food <u>producers</u>

Model

Using the open-access [FABLE Calculator](#) and the FABLE decentralized modelling infrastructure, we have developed three alternative pathways —Current Trends, National Commitments, and Sustainable Pathway— to explore the impact of various practices and policies on achieving sustainability targets through 2050. We compare our results with targets across food security and nutrition, GHG emissions reduction, forest and biodiversity conservation, and sustainable use of water, nitrogen, and phosphorus.

For each of these pathways, we have established various assumptions regarding the evolution of several model parameters. These parameters include population growth, dietary patterns, food waste, food import and export levels, crop and livestock productivity, agricultural expansion, afforestation, livestock density, protected areas expansion, post-harvest losses, biofuel demand, urban expansion, agricultural practice coverage, and irrigation area expansion. These assumptions detail the extent to which these factors will drive changes in food and land systems from 2020 to 2050.

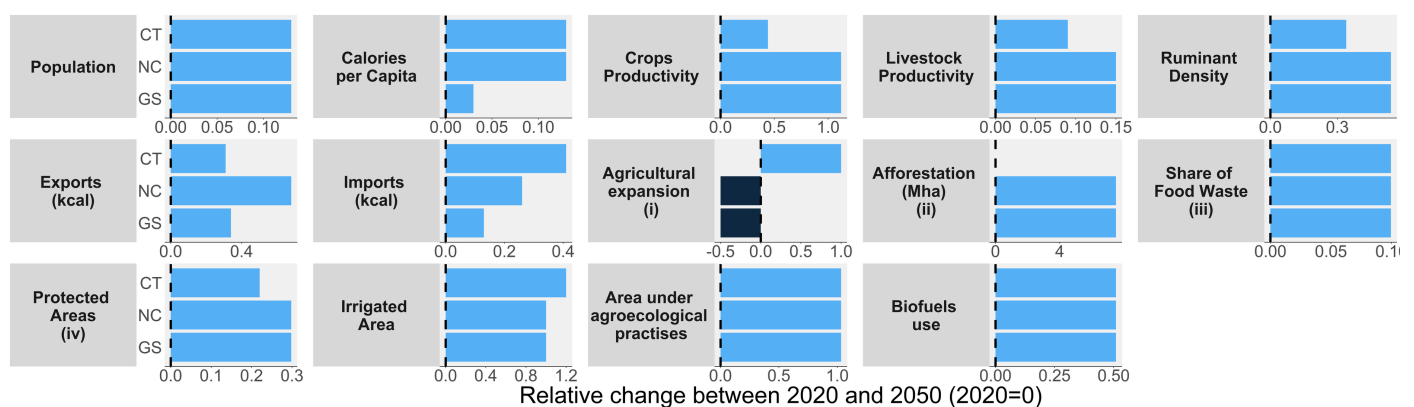
Pathway narratives

Current Trends: Represents a low-ambition trajectory primarily shaped by historical trends and existing policies, offering a glimpse into a future heavily reliant on the current level of implementation and enforcement.

National Commitments: Attempts to predict how food and land systems will evolve if national strategies, pledges, and targets concerning climate, biodiversity, and food systems are met. This is based on a review of policy documents that describe the national climate and biodiversity strategies, the UN food system pathway, the national dietary guidelines, and other relevant policy documents for food and land systems.

Global Sustainability: Identifies additional actions to help closing the gap between the collective outcome of the National Commitments pathway and the global sustainability targets. There may be large overlaps between the 'National commitments' pathway and the Global Sustainability pathway, depending on how ambitious country teams and local stakeholders think the current national commitments are.

Figure 3. Assumptions on the levers for change in each pathway



Notes: (i) Results are expressed in code, taking the value 1 for 'Free expansion scenario', -0.5 for 'No deforestation' and -1 for 'No Agricultural expansion'.
(ii) Results are expressed in a net increase rather than relative change.
(iii) Results are expressed % of consumption that is wasted.
(iv) Results are expressed in % of total land in 2050.

Figure 4. Computed daily average intake per capita over 2000-2050

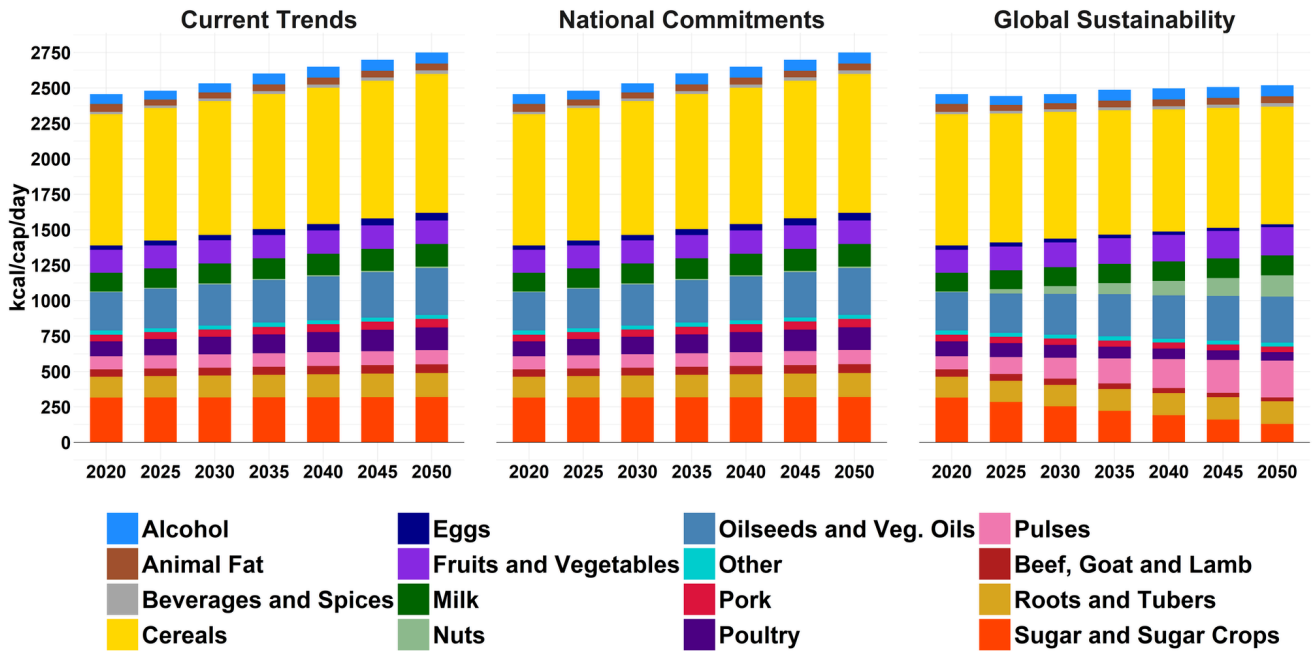


Figure 5. Comparison of the computed daily average kilocalorie intake per capital per food category across the three pathways and the prevalence of undernourishment in 2050

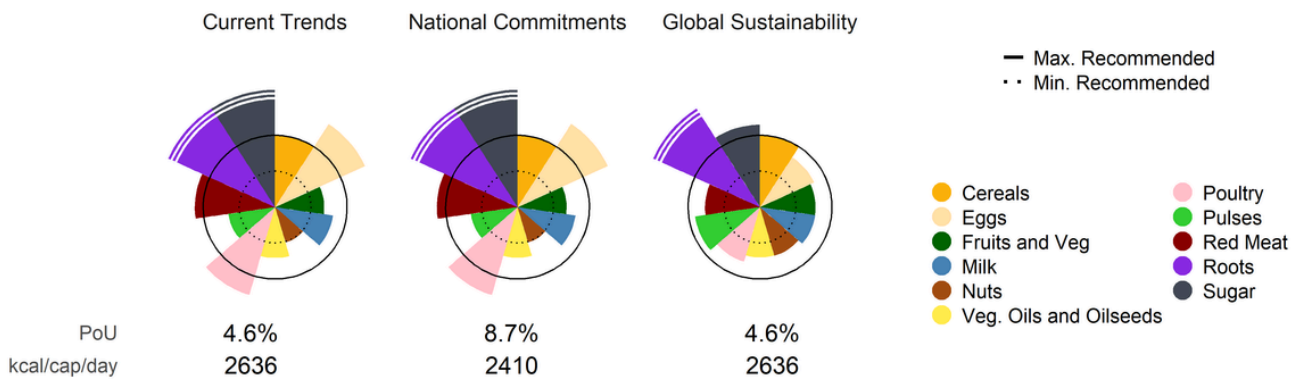


Figure 6. Evolution of land cover 2000-2050

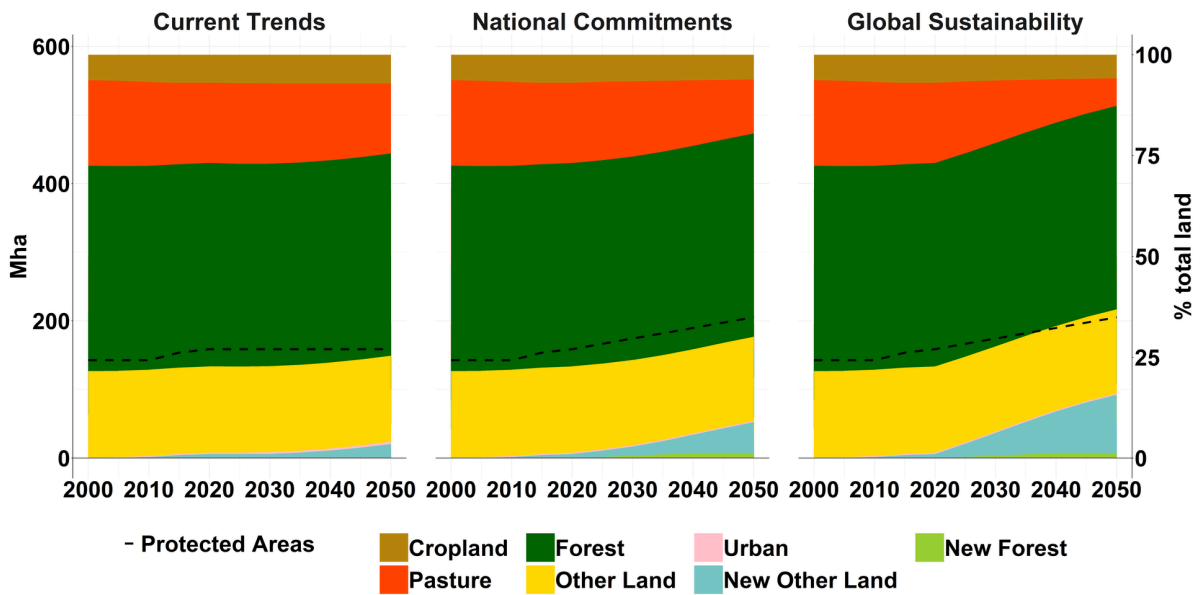


Figure 7. Evolution of the cropland composition 2000-2050

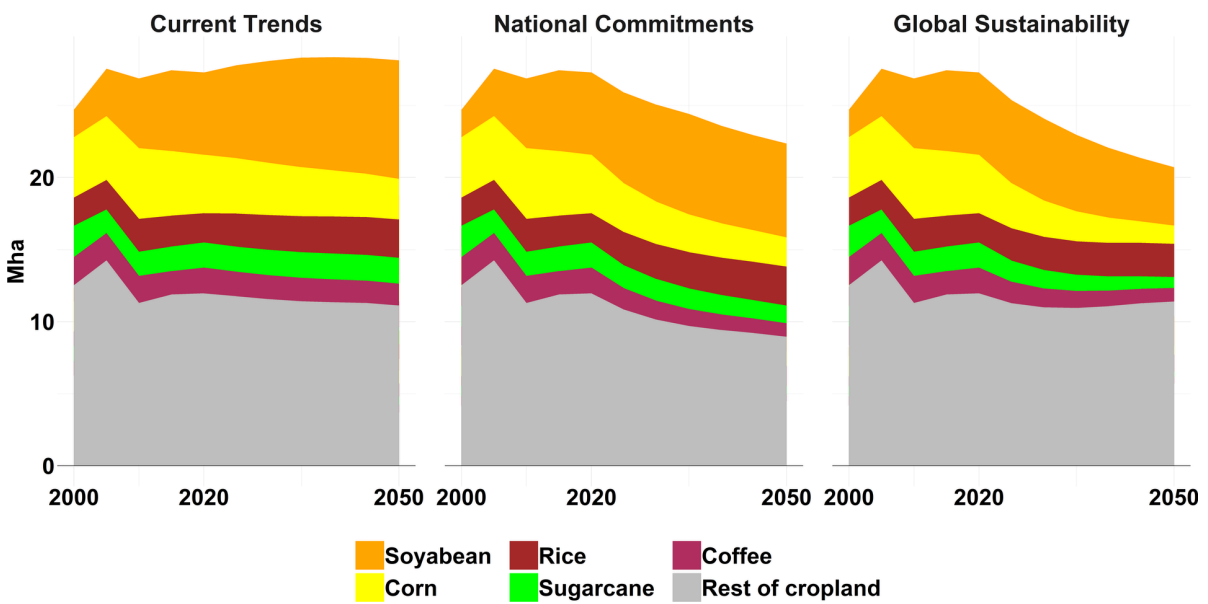


Figure 8. Projected AFOLU emissions and removals between 2020 and 2050 by main sources and sinks across pathways

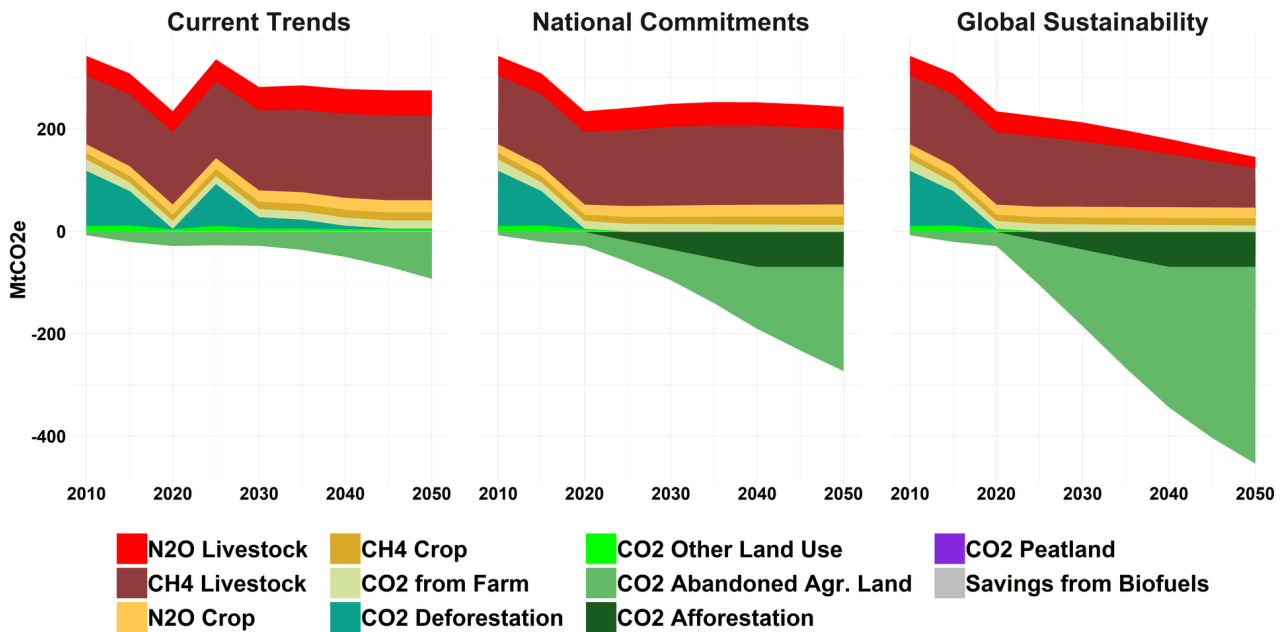


Figure 9. Share of cropland under agroecological practices

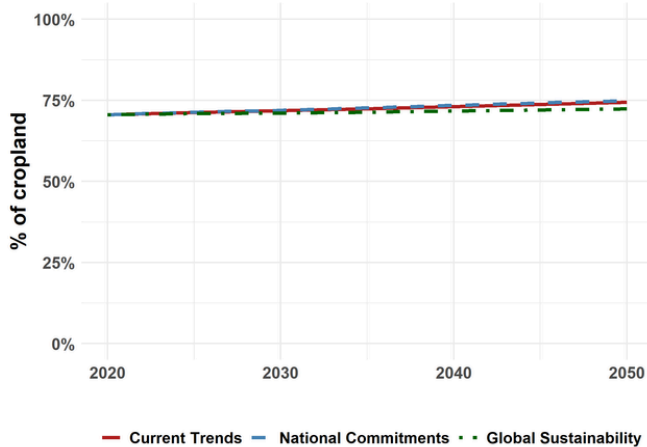
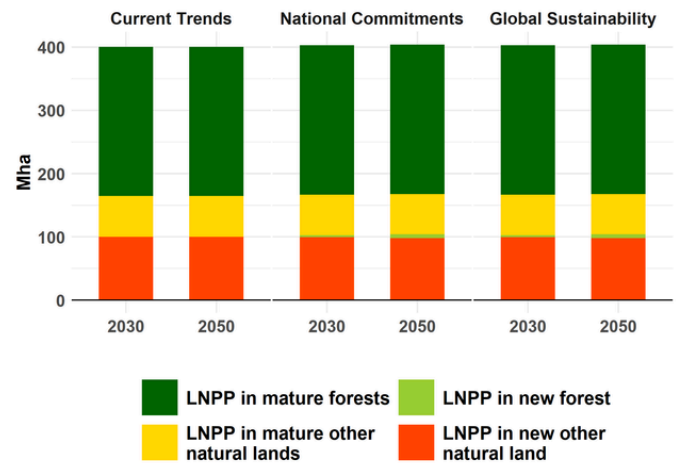


Figure 10. Total area of land where natural processes predominate (LNPP)



Agroecological practices included: Cover crops, cultivar mixtures, diversified farming systems, embedded natural, organic farming, no/minimal tillage.

Figure 11. Nitrogen application

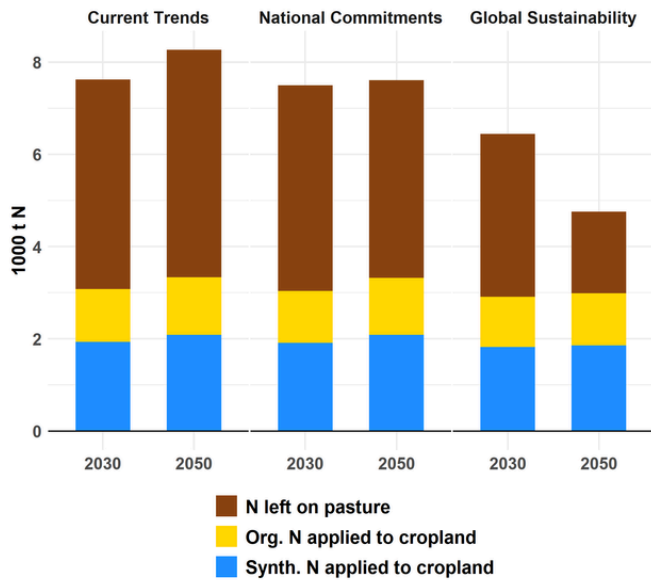
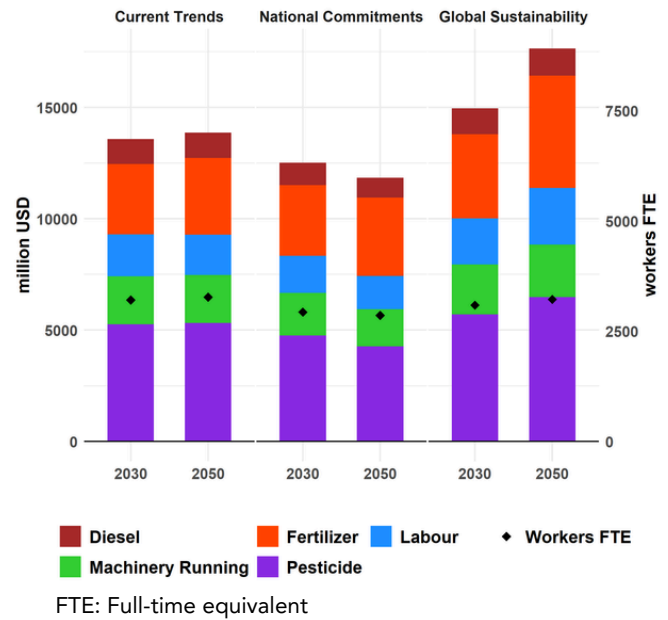


Figure 12. On-farm production costs



For more detailed results and visual data, visit www.scenathon.org

Scenarios and assumptions

		CURRENT TRENDS	NATIONAL COMMITMENTS	GLOBAL SUSTAINABILITY	JUSTIFICATION (CURRENT TRENDS)	JUSTIFICATION (NATIONAL COMMITMENTS)	JUSTIFICATION (GLOBAL SUSTAINABILITY)
1. Macroeconomics	1.1) GDP per capita	SSP3: 1.6% growth per year to 2032	SSP3: 1.6% growth per year to 2032	SSP1: GDP >5% per year to 2030	In the medium term, per capita GDP is expected to rise by 1.6% per annum, to approach USD 10,500 per capita by 2032. This is only 6% higher than in 2014 and remains 21% below the global average of USD 13 342. Source: OECD-FAO Agricultural Outlook 2023-2032. OECD/FAO 2023	There is no strategy to increase GDP at the regional level. Same as the current trend.	Annual per capita GDP growth of 5% up to 2030 and a yearly reduction of 1.5% in the Gini coefficient (in this case as of 2021) would only reduce extreme poverty to 5.7%, which would miss the target established under SDG 1 (ECLAC. 2020. The 2030 Agenda for Sustainable Development in the new global and regional context Scenarios and projections in the current crisis.
	1.2) Population	SSP1: 0.7 per year by 2031	SSP1: 0.7 per year by 2031	SSP1	The Latin America and Caribbean region are home to about 8.5% of the global population, growing at 0.7% per annum by 2031 Source: OECD-FAO AGRICULTURAL OUTLOOK 2022-2031. OECD/FAO 2022	There is no strategy to increase population at the regional level. Same as the current trend.	
	1.3) Inflation	Current	Current	Average	In June 2022, 12-month inflation in the economies of Latin America and the Caribbean stood at 8.4% as a regional average; and, while it has since eased, average inflation was still 6.5% in late 2022 —3.6 percentage points above the December 2019 level. The slacker pace of inflation since June 2002 suggests	There is no strategy to reduce inflation at the regional level. Same as the current trend.	Policymakers in the region should continue to use the full range of instruments at their disposal to ensure macro-financial stability and avoid an excessive focus on certain variables, such as interest rates. The monetary authorities should also strengthen coordination with other policy areas, in particular

Scenarios and assumptions

		CURRENT TRENDS	NATIONAL COMMITMENTS	GLOBAL SUSTAINABILITY	JUSTIFICATION (CURRENT TRENDS)	JUSTIFICATION (NATIONAL COMMITMENTS)	JUSTIFICATION (GLOBAL SUSTAINABILITY)
					<p>that the worst is over. However, inflation rates in most of the region's economies remain well above pre-pandemic levels; and their future trends remain highly dependent on the behavior of food and energy prices on international markets. Moreover, the heavy fiscal burden of food and energy subsidy programs in several of the region's countries makes it unlikely that these programs can be sustained for much longer, which could herald a resurgence in inflation.</p> <p>Source: Economic Commission for Latin America and the Caribbean (ECLAC), Halfway to 2030 in Latin America and the Caribbean: progress and recommendations for acceleration (LC/FDS.6/3/Rev.1), Santiago, 2023</p>		<p>fiscal policy, so that measures aimed at reducing inflationary pressures and exchange rate volatility do not narrow the fiscal policy space further by increasing financing costs. The monetary and fiscal authorities need to coordinate their efforts to ensure that anti-inflationary policies do not crowd out financing for investment, especially in activities such as agriculture and agribusiness, where product prices have surged, and also in higher productivity activities that make it possible to create quality jobs.</p> <p>Source: Economic Commission for Latin America and the Caribbean (ECLAC), Halfway to 2030 in Latin America and the Caribbean: progress and recommendations for acceleration (LC/FDS.6/3/Rev.1), Santiago, 2023</p>
	1.4) Inequalities				1.5% reduction in the Gini coefficient and 3% growth in GDP per capita will	End poverty in all its forms everywhere by 2025 (Food and nutrition security and	End poverty in all its forms everywhere by 2030

Scenarios and assumptions

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					<p>reduce poverty to 8.4 by 2030</p> <p>Source: Economic Commission for Latin America and the Caribbean (ECLAC), The 2030 Agenda for Sustainable Development in the new global and regional context: scenarios and projections in the current crisis (LC/PUB.2020/5), Santiago, 2020.</p> <p>The disruptions of the past three years reversed years of progress in reducing poverty and hunger in the region. During the subsequent period of rising food prices, the prevalence of under-nourishment increased further and in 2021, reached levels last seen in 2006. In 2022, the persistently high global food prices, which were exacerbated by Russia's war against Ukraine, combined with high general inflation, left little room for improvements in affordability and consequently food security, particularly in a region where the cost of healthy eating is the highest of those covered in this</p>	<p>the eradication of hunger CELAC 2025</p>	

Scenarios and assumptions

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					chapter (FAO, IFAD, PAHO, UNICEF and WFP, 2023) Source: OECD-FAO Agricultural Outlook 2023-2032. OECD/FAO 2023		
2. Land	2.1) Constraints on agricultural expansion/deforestation	FreeExpansion	NoExpansion	NoDefor2030	<p>The agriculture bias in the region's export structure is increasing, at the expense of forest ecosystems.</p> <p>Bárcena et al. Quadrennial report on regional progress and challenges in relation to the 2030 Agenda for Sustainable Development in Latin America and the Caribbean.</p>	<p>EU Deforestation-free Regulation. To respond to market forces for reduced-emission agricultural products, new WBG support for deforestation-free, low-carbon agricultural value chains and associated certification systems is a priority in Brazil, Colombia, Paraguay, Peru, and Uruguay, which are among the countries likely to be most affected by the proposed EU regulation on deforestation-free agricultural products.</p> <p>Under the proposed EU regulation, operator companies are obligated to conduct due diligence to ensure only deforestation-free products are allowed into the EU market. Companies must show that commodities were not produced on any land deforested or degraded after 31 December 2020. Commodities must also have been produced legally.</p>	<p>By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally (SDGs 2030)</p>

Scenarios and assumptions

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						The regulation applies to cocoa and chocolate, coffee, soy, palm oil, cattle and beef, wood and rubber (World Bank Group. A Roadmap for Climate Action in Latin America and the Caribbean 2021-2025) Source: EUDR – EU Deforestation-free Regulation	
	2.2) Afforestation, and forest plantations targets	NoAffor	BonnChallenge	BonnChallenge	BonnChallenge and 20X20 initiative: Protect and restore 5,000,000 hectares by 2020. Bonn Challenge	BonnChallenge and 20X20 initiative: Protect and restore 5,000,000 hectares by 2020 and 7,500,000 hectares of natural habitats by 2030 (Belize, Bolivia, Chile, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Peru, Uruguay). Latin American and Caribbean Forestry Commission - restoration of forests and other ecosystems Initiative20x20 Bonn Challenge	BonnChallenge and 20X20 initiative: Protect and restore 35 million hectares by 2020, and 50 million hectares of forest farms, pasture, and other landscapes by 2030 Latin American and Caribbean Forestry Commission - restoration of forests and other ecosystems Initiative20x20 Bonn Challenge
	2.3) Urban and settlements area	SSP2	NoChange	NoChange	Cities of more than 5 million inhabitants, historically the main poles of development, have experienced relative	The region has set for itself the following goals: 3.5 Achieve a compact, connected, integrated, safe	The region has set for itself the following goals: 3.5 Achieve a compact, connected, integrated, safe

Scenarios and assumptions

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					stagnation in the past two decades. It is estimated that cities with fewer than 300,000 inhabitants (small) and 1 to 5 million inhabitants (medium-sized) will grow the most in the coming years (DESA, 2015) within the context of a continuous but low rate of urban population growth. The new urbanization phase in the region, characterized by a slowdown of urban population growth (Habitat III Regional Report Latin America and the Caribbean Sustainable Cities with Equality, 2017)	and inclusive urban form through urban and territorial planning and design tools and instruments. 3.5.4 Mechanisms that prevent urban expansion and require the incorporation of unurbanized land in a planned and connected way, considering the coherent distribution of land use and activities (Regional Action Plan for the implementation of the New Urban Agenda in Latin America and the Caribbean 2016-2036)	and inclusive urban form through urban and territorial planning and design tools and instruments. 3.5.4 Mechanisms that prevent urban expansion and require the incorporation of unurbanized land in a planned and connected way, considering the coherent distribution of land use and activities (Regional Action Plan for the implementation of the New Urban Agenda in Latin America and the Caribbean 2016-2036)
	2.4) Protected areas	NoChange	PAExpansion: 30%	PAExpansion: 30%	LAC has the highest biological diversity in the world. Forests and green corridors, such as the Mesoamerican Biological Corridor, play an essential role in carbon sequestration globally. However, deforestation, pollution, overexploitation and illegal trafficking of species, and urban sprawl and densification exert continued pressures on the natural environment, causing habitat loss and	The region has set as a target 30% of terrestrial and marine areas are protected by 2030 (Lima declaration 2019)	The Global Biodiversity Framework target of the CBD aims to effectively conserve and manage 30% of the national territory including terrestrial, inland water, and coastal and marine areas by 2030.

Scenarios and assumptions

		CURRENT TRENDS	NATIONAL COMMITMENTS	GLOBAL SUSTAINABILITY	JUSTIFICATION (CURRENT TRENDS)	JUSTIFICATION (NATIONAL COMMITMENTS)	JUSTIFICATION (GLOBAL SUSTAINABILITY)
					<p>fragmentation, and a degradation of ecosystem services. Biodiversity as measured by the Red List Index is declining at twice the rate observed across OECD countries. This in turn undermines the ability of ecosystems to provide a shield against growing climate-related risks and reduces their resilience to impacts of climate change. The region progressed in taking measures to protect its biodiversity and landscapes. In 2022, it had 24% of its land area and 21% of its Exclusive Economic Zones, designated as terrestrial and marine protected areas, respectively. Although many of these areas are designated under the least stringent protection objectives, the region as a whole achieved the 2020 Aichi targets. Further efforts are needed to reach the Global Biodiversity Framework target of the CBD to effectively conserve and manage 30% of the national territory including terrestrial, inland water,</p>		

Scenarios and assumptions

		CURRENT TRENDS	NATIONAL COMMITMENTS	GLOBAL SUSTAINABILITY	JUSTIFICATION (CURRENT TRENDS)	JUSTIFICATION (NATIONAL COMMITMENTS)	JUSTIFICATION (GLOBAL SUSTAINABILITY)
					and coastal and marine areas by 2030 (OECD (2023), Environment at a Glance in Latin America and the Caribbean : Spotlight on Climate Change, OECD Publishing, Paris.		
3. Productivity and management	3.1) Crop productivity for the key crops	HighGrowth	HighGrowth	HighGrowth	<p>Between 2020 and 2050, crop productivity increases:</p> <ul style="list-style-type: none"> - soybean: from 2.90 t/ha to 3.48 t/ha = 20%; - wheat: from 3.49 t/ha to 4.34 t/ha = 24%; - rice: from 4.95 t/ha to 6.07 t/ha = 23%. <p>Source: Food and agriculture projections to 2050 (BAU scenario)</p> <p>Productivity growth between 2000-2010:</p> <ul style="list-style-type: none"> - soybean: 15% - wheat: 3% - rice: 13% <p>Source: FAO stat</p>	<p>Between 2020 and 2050, crop productivity increases:</p> <ul style="list-style-type: none"> - soybean: from 2.76 t/ha to 3.15 t/ha; - wheat: from 3.34 t/ha to 3.98 t/ha; - rice: from 4.78 t/ha to 5.64 t/ha <p>Source: Food and agriculture projections to 2050 (BAU scenario)</p> <p>For major crops such as maize and soybeans, yields improved by 23% and 13%, respectively, over the past decade. This trend is expected to continue, with average yield gains of around 10% projected by 2031 for most major crop commodities. This enables continued improvement in the net value of crop production per hectare of land, which is already the second highest amongst the regions in this Outlook and</p>	By 2030 double the agricultural productivity (SDGs)

Scenarios and assumptions

		CURRENT TRENDS	NATIONAL COMMITMENTS	GLOBAL SUSTAINABILITY	JUSTIFICATION (CURRENT TRENDS)	JUSTIFICATION (NATIONAL COMMITMENTS)	JUSTIFICATION (GLOBAL SUSTAINABILITY)
						set to rise by a further 1.2% p.a. over the coming decade. The region is an intensive user of fertiliser, second only to the Developed and East Asia region, and imports large quantities, suggesting that sharp increases in fertiliser costs, exacerbated by the war could potentially constrain yield growth and output in the short term. (OECD-FAO Agricultural Outlook 2022-2031)	
	3.2) Cropland under agroecological practices	Mixed: - organic: 1.1 %	- Mixed: - organic= 20%, - no/minimum tillage=10%, - Embedded natural=30%	- Mixed: - organic= 30%, - no/minimum tillage=10% - Embedded natural: 30%	1.1 percent of the total agricultural land in Latin America and the Caribbean is under organic production. FIBL & IFOAM – Organics International The World Of Organic Agriculture - statistics & emerging trends 2020	BonnChallenge: restore~7,600,000 hectares of degraded agricultural land by 2030 (Belize, Bolivia, Chile, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Peru, Uruguay). PERU: 20% increase in the share of certified organic crop area 2021-2030 Source: Decreto Supremo que aprueba el Plan Nacional Concertado para la Promoción y Fomento de la Producción Orgánica o Ecológica - PLANAE 2021-2030	SDG 2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain 2.4.1 Proportion of agricultural area under productive and sustainable agriculture PAGE 9 ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.

Scenarios and assumptions

		CURRENT TRENDS	NATIONAL COMMITMENTS	GLOBAL SUSTAINABILITY	JUSTIFICATION (CURRENT TRENDS)	JUSTIFICATION (NATIONAL COMMITMENTS)	JUSTIFICATION (GLOBAL SUSTAINABILITY)
						<p>URUGUAY: The National Plan for the Promotion of Production with Agroecological Bases promotes the implementation of agricultural systems such as ecological or organic agriculture, biodynamic agriculture, permaculture, agroforestry systems, integrated agricultural and livestock systems, rotations, cover crops, polycultures. Source: Plan Nacional Para el Fomento de la Producción con Bases Agroecológicas.</p> <p>LAC: 38% increment in the area under organic certification between 2020-2030 (fully transition) from 6.794.843 to 9.391.705 hectares (Argentina, Bolivia, Brazil, Ecuador, Guatemala, Honduras, Mexico and Paraguay) (Comision Interamericana de Agricultura Organica (CIAO). Plan Estratégico para el fomento y Control de la producción orgánica al 2030, en los países Miembros de la Comisión</p>	

Scenarios and assumptions

		CURRENT TRENDS	NATIONAL COMMITMENTS	GLOBAL SUSTAINABILITY	JUSTIFICATION (CURRENT TRENDS)	JUSTIFICATION (NATIONAL COMMITMENTS)	JUSTIFICATION (GLOBAL SUSTAINABILITY)
						Interamericana de Agricultura Orgánica-Ciao.	
	3.3) Livestock productivity for the key livestock products	HighGrowth	HighGrowth	HighGrowth	Livestock production in the region is projected to expand by 28% from 2022-2021. Poultry production will account for more than 55% of growth in meat production by 2031, with bovine and pork production accounting for 29% and 16%, respectively. Despite short-term pressure in the early years of the outlook, meat-to-feed grain price ratios will be favorable over the medium term, boosting the expansion of poultry and pork production, both of which rely on intensive use of feed in production. Bovine meat expansion will result from productivity gains, increased carcass weights, and a 3% expansion of herd numbers by 2031 to yield growth of 10.8%. (OECD-FAO Agricultural Outlook 2022-2031)	Livestock production in the region is projected to expand by 28% from 2022-2021. Poultry production will account for more than 55% of growth in meat production by 2031, with bovine and pork production accounting for 29% and 16%, respectively. Despite short-term pressure in the early years of the outlook, meat-to-feed grain price ratios will be favorable over the medium term, boosting the expansion of poultry and pork production, both of which rely on intensive use of feed in production. Bovine meat expansion will result from productivity gains, increased carcass weights, and a 3% expansion of herd numbers by 2031 to yield growth of 10.8%. (OECD-FAO Agricultural Outlook 2022-2031)	Global agenda for sustainable livestock production Projected increases in animal protein demand and consumption are likely to maintain livestock's position as one of the fastest growing sub-sectors in agriculture for the foreseeable future, particularly in low-income and emerging economies. But the following areas need attention: - Reducing waste and losses, including production, harvest, and processing losses. - Increase efficiency. * Enhance livelihoods and human well-being. - Protect resources. * Increase resilience. - Improve governance.
	3.4) Pasture stocking rate	HighGrowth	HighGrowth	HighGrowth	Animal numbers are predicted to grow in Latin America by 5% to 413	There is no strategy to reduce pasture stoking rate at the regional level. Same as the current trend.	Higher livestock densities for cattle increases nitrogen balances; this is supported by recent empirical work undertaken by the OECD

Scenarios and assumptions

		CURRENT TRENDS	NATIONAL COMMITMENTS	GLOBAL SUSTAINABILITY	JUSTIFICATION (CURRENT TRENDS)	JUSTIFICATION (NATIONAL COMMITMENTS)	JUSTIFICATION (GLOBAL SUSTAINABILITY)
					million head from 2019 to 2029. Source: OECD. Making Better Policies for Food Systems		which found a 1% increase in cattle density resulted in a 0.3% increase in the nitrogen balance (OECD, 2019[61]). Source: OECD. Making Better Policies for Food Systems
	3.5) Forest management	-	-	-	-	-	-
4. Trade	4.1) Share of consumption which is imported for key imported products (%)	I1: increased imports for maize and wheat	I2: stable imports for maize and wheat	I2: stable imports for corn and wheat	With the exception of MERCOSUR countries, all other LAC countries are net importers of cereals, often sourced from within LAC. Agricultural and food imports in these countries will continue to grow in the next decade. LAC wheat imports, for instance, are projected to increase by 3.5 Mt by 2028, and maize imports will increase by almost 7 Mt, reaching 40.3 Mt in 2028. Source: OECD Library : Chapter 2. Latin American Agriculture : Prospects and Challenges	The Caribbean countries Members of the Caribbean Community (CARICOM) are working to reduce their dependence on imports, with the goal of reducing them by 25 percent by 2025 , by giving special attention to priority crops and products such as poultry, corn, soya, meat (Goat, Sheep, Beef), rice and niche vegetables which are highly imported products in the region wheat, maize, and sunflower oil. Line of Action 2: Facilitating Intra-regional Food Trade. Strengthen knowledge and create conditions for overcoming the obstacles and/or restrictions to intra-regional trade: tariffs	The Caribbean countries Members of the Caribbean Community (CARICOM) are working to reduce their dependence on imports, with the goal of reducing them by 25 percent by 2025 , by giving special attention to priority crops and products such as poultry, corn, soya, meat (Goat, Sheep, Beef), rice and niche vegetables which are highly imported products in the region wheat, maize, and sunflower oil

Scenarios and assumptions

		CURRENT TRENDS	NATIONAL COMMITMENTS	GLOBAL SUSTAINABILITY	JUSTIFICATION (CURRENT TRENDS)	JUSTIFICATION (NATIONAL COMMITMENTS)	JUSTIFICATION (GLOBAL SUSTAINABILITY)
						(negotiation margins); non-tariff measures (exchange and harmonization of national rules to stimulate production, phytosanitary measures, food safety, technical standards, etc.) and operational measures (funding, infrastructure, transportation, logistics, private/public administration, etc.), so that the commercial exchanges between the states and the operators is fluid and facilitates the creation of trade flow (The CELAC plan for food and nutrition security and the eradication of hunger 2025)	
	4.2) Evolution of exports for key exported products (1000 tons)	E3	E2	E3	<ul style="list-style-type: none"> - Maize: 72688.17 thousand tons (in 2023) – 84297.1 thousand tons (in 2031). - Soybean: 103667.31 thousand tons (in 2023) - 109 208.47 thousand tons (in 2031). - Bovine meat: 5161.46 tons, carcass weight equivalent, thousands (in 2023) – 5658.33 tons carcass weight equivalent, thousands (in 2031) - Poultry meat: 4570.75 tons ready to cook, 	The region has become the largest exporter of agricultural commodities in the world and is expected to further reinforce this position in the coming decade. Source: OECD-FAO Agricultural Outlook 2019-2028	The agriculture bias in the region's export structure is increasing, at the expense of forest ecosystems. Modernizing agricultural and livestock production processes would increase production, generate income and create employment while limiting their environmental impacts

Scenarios and assumptions

		CURRENT TRENDS	NATIONAL COMMITMENTS	GLOBAL SUSTAINABILITY	JUSTIFICATION (CURRENT TRENDS)	JUSTIFICATION (NATIONAL COMMITMENTS)	JUSTIFICATION (GLOBAL SUSTAINABILITY)
					<p>thousands (in 2023) – 5066.54 tons, ready to cook, thousands (in 2031).</p> <p>Source: OECD-FAO Agricultural Outlook 2022-2031</p>		
5. Food	5.1) Average dietary composition	FatDiet	FatDiet	EATLancetAverage	<p>At present, the region exceeds the global average, with the FAO estimating a caloric supply of 3,069 calories per person per day in the 2014-2016 three-year period, or 15% more than in 1990-1992. Food grains were the main source of calories in the region in the 2009-2011 three-year period: 36% of the total caloric supply (Food and nutrition security and the eradication of hunger CELAC 2025).</p> <p>By 2050, the average daily calorie consumption per capita is 3004 kcal (table 4.2 BAU - The future of food and agriculture – Alternative pathways to 2050) and composed as: 605 kcal animal product consumption (table 4.3 BAU - The future of food and agriculture – Alternative pathways to 2050); 158 kcal fruit and vegetables</p>	<p>The region is not on track to meet the 2025 target of the World Health Assembly to halt the rise in obesity Source: FAO, IFAD, PAHO, UNICEF and WFP. 2023. Regional Overview of Food Security and Nutrition – Latin America and the Caribbean 2022: towards improving affordability of healthy diets. Santiago.</p> <p>Most national food guidelines recommend reducing consumption of sugar, salt, processed food, fried food; increase consumption of fruits, vegetables, pulses, include at least one portion of dairy products. An important point to highlight is that the guides usually use ambiguous terms such as “increase”, “moderate” or “decrease” the consumption of certain foods, without specifying</p>	<p>EAT–Lancet: By 2050, the average daily calorie consumption per capita is 2500 kcal and composed as: 811 kcal of whole grains, 39 kcal of tubers or starchy vegetables, 78 kcal of vegetables, 126 kcal of fruits, 153 kcal of dairy foods, 151 kcal of animal protein sources, 575 kcal of plant source protein, 450 of added fats, 120 added sugars.</p>

Scenarios and assumptions

		CURRENT TRENDS	NATIONAL COMMITMENTS	GLOBAL SUSTAINABILITY	JUSTIFICATION (CURRENT TRENDS)	JUSTIFICATION (NATIONAL COMMITMENTS)	JUSTIFICATION (GLOBAL SUSTAINABILITY)
					consumption (table 4.4 BAU - The future of food and agriculture – Alternative pathways to 2050; 38% cereals, roots and tubers (FAO STAT)).	quantities or portion sizes, which makes it difficult for the population to understand exactly the recommended amount and, therefore, put them into practice. Source: FAO El estado de las guías alimentarias basadas en alimentos en América Latina y el Caribe It is recommended that the Calorie intake includes between 10 and 15% of proteins, between 55 and 75% of carbohydrates and between 15 and 30% fat, and that the sugar intake does not exceed 10% of calories totals (América Latina y el Caribe Panorama de la seguridad alimentaria y nutricional)	
	5.2) Share of food consumption which is wasted at household level	Current	Reduced	Reduced	Almost the same: 12.2 % of food loss in 2016, 14.52 % of food loss in 2021 (FAO stat). In Latin America, 34% of food for human consumption is lost or wasted: 13.4% of losses occur during production; 7.5% during post-harvest; 5% during preparation and packaging; 4.1% during	By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses (Food and nutrition security and the eradication of hunger CELAC 2025)	Sustainable Development Goal Target 12.3. SDG 12.3 aims to “by 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.”

Scenarios and assumptions

		CURRENT TRENDS	NATIONAL COMMITMENTS	GLOBAL SUSTAINABILITY	JUSTIFICATION (CURRENT TRENDS)	JUSTIFICATION (NATIONAL COMMITMENTS)	JUSTIFICATION (GLOBAL SUSTAINABILITY)
					distribution; and 3.7% at the point of consumption. (Food and nutrition security and the eradication of hunger CELAC 2025)		
6. Biofuels	6.1) Targets on biofuel and/or other bioenergy use	NoChange	OECD_AGLINK	OECD_AGLINK	Geothermal energy, biofuels and coal are seen remaining about the same on average from 2016 to 2040. (Source: The energy path of Latin America and the Caribbean/ Rigoberto Ariel Yépez-García, Yi Ji, Michelle Hallack, David López Soto 2018)	With a starting point of 2019, achieve a regional target of at least 70% renewable energy penetration in Latin America and the Caribbean by 2030 (RELAC). Massive electrification of economic activities through the use of electric vehicles, electric boilers and heating systems for industrial and residential uses and, where this is not possible, replacing fossil fuels with carbon-free fuels such as hydrogen and sustainably produced biofuels. (De estructuras a servicios: el camino a una mejor infraestructura en América Latina y el Caribe. 2020)	OECD_AGLINK
	6.2) Targets on other non-food use	-	-	-	-	-	-
7. Water	7.1) Irrigated crop area	7 % increment in irrigated crop land BY 2050	NoChange	NoChange	2.012: 20,701,608.61 ha of irrigated arable land; 2050: 25,385,451.23 of irrigated arable land (Business as usual FAO and agriculture 2050 data portal)	- Promote integrated water, soil and energy management and its relationship with ecosystems as heritage that feeds productive	SDG: 6.4 by 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to

Scenarios and assumptions

		CURRENT TRENDS	NATIONAL COMMITMENTS	GLOBAL SUSTAINABILITY	JUSTIFICATION (CURRENT TRENDS)	JUSTIFICATION (NATIONAL COMMITMENTS)	JUSTIFICATION (GLOBAL SUSTAINABILITY)
						<p>agricultural activities, energy generation and life in human settlements. Through watercourses, waste is returned to the nature. The integrated approach promotes common intersectoral goals reflected in policies, plans and projects which highlight that without water security there cannot be food security or food sovereignty.</p> <p>- Recover ancestral food production and water-use practices that are sustainable and aligned with nature-based solutions.</p> <p>(CEPAL Regional Water Action Agenda 2023 Latin America and the Caribbean).</p>	<p>address water scarcity, and substantially reduce the number of people suffering from water scarcity</p>