CASE STUDY

# Shifting finance towards sustainable land use:

## A case study from Colombia

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SUSTAINABLE DEVELOPMENT SOLUTIONS NETWORK
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NICFI Norway's International Climate and Forest Initiative

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On behalf of:

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

of the Federal Republic of Germany

Shifting finance towards sustainable land use:
A case study from Colombia

For Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ)

**July 2021**

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## About the project

This report was developed in the context of a broader project on the practical policy challenges for 'Shifting finance towards sustainable land use' with five parallel workstreams. All project outputs are available on the web platform of the Food, Environment, Land and Development (FELD) Action Tracker, at www.feldactiontracker.org. The website also includes a dedicated section on "Shifting Finance" with a direct link through www.greytogreenfinance.org and an opportunity for individual download of the following five project reports:

A: Shifting finance towards sustainable land use: Aligning public incentives with the goals of the Paris Agreement

B: Climate-consistent finance flows in the agriculture, forest and other land use sector: A framework for reporting on Article 2.1(c) of the Paris Agreement

C: Shifting finance towards sustainable land use: Repurposing public support to agriculture

The focused analysis undertaken under this project and towards a proposed reporting framework were supported and complemented by two case studies for a closer look at the policy instruments employed in the land sector. These also include specific examples to illustrate the opportunities for policymakers to redirect existing finance flows to become more consistent and supportive of the Paris Goals.

D: Shifting finance towards sustainable land use: A case study from Colombia

E: Shifting finance towards sustainable land use: A case study on the European Union

## Project partners

**Climate Focus** is a pioneering international advisory company and think tank that provides advice to governments and multilateral organizations, non-governmental and philanthropic organizations, and to companies across the globe. We support our clients in shaping and navigating through international and domestic climate policies, accessing climate finance and evaluating climate policy and investments.

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**The United Nations Sustainable Development Solutions Network** (SDSN) mobilizes global scientific and technological expertise to promote practical solutions for sustainable development, including the implementation of the Sustainable Development Goals (SDGs) and the Paris Climate Agreement, working closely with United Nations agencies, multilateral financing institutions, the private sector and civil society.

The Food, Environment, Land and Development (FELD) Action Tracker is a strategic initiative under the Food and Land Use Coalition (FOLU), led by SDSN in cooperation with other partners, to support countries in their transformation toward sustainable food systems and land use.

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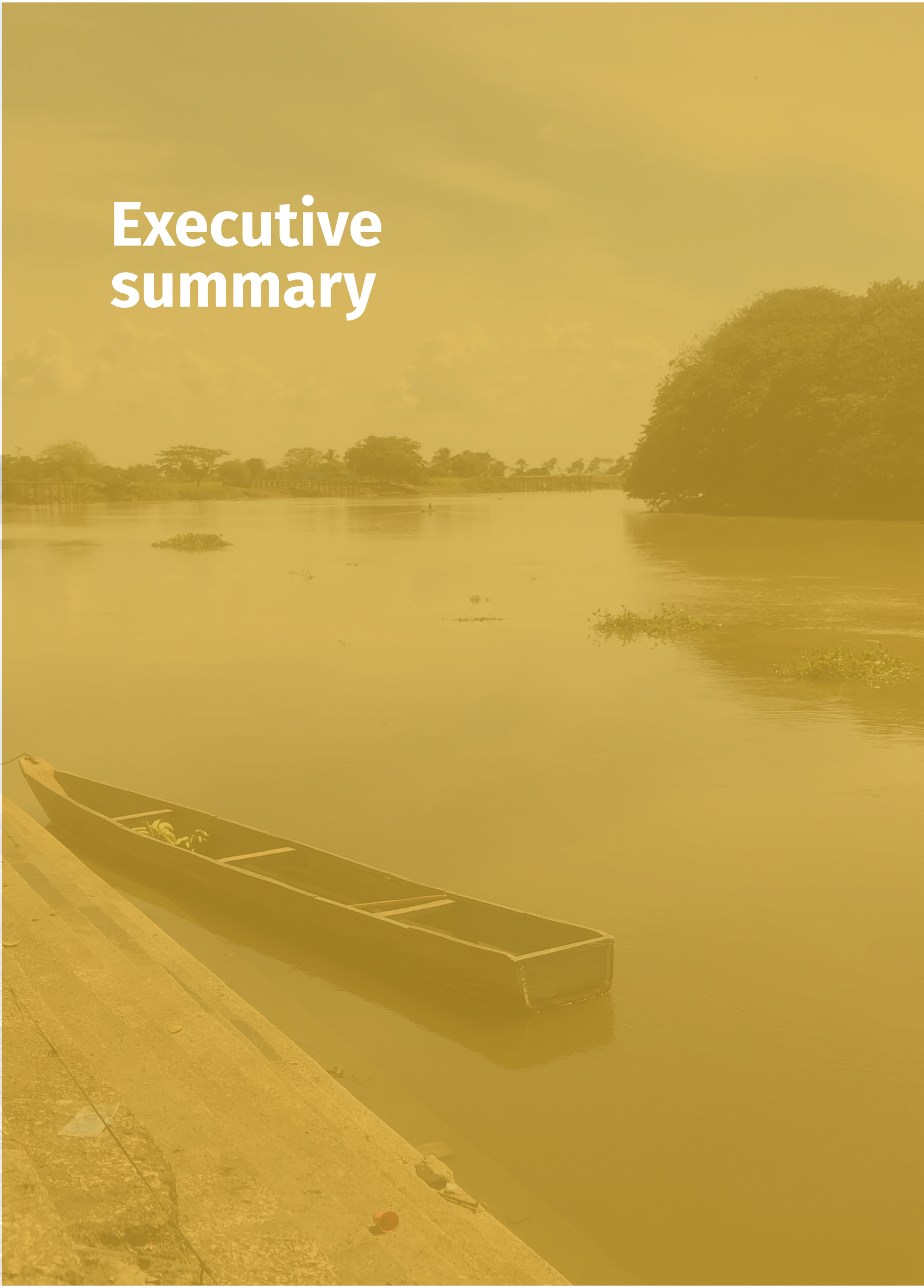
## Contents

# Executive summary



More than half of Colombia's greenhouse gas (GHG) emissions come from the land use sector. While deforestation is the primary contributor, accounting for 31 percent of these GHG emissions, agriculture is also a direct contributor, representing 17 percent of total emissions (from livestock and managed soils).

Recognising the importance of the land use sector as an emissions source, Colombia has committed to promote sustainable growth and the greening of the land use sector. In 2020, the government released an updated Nationally Determined Contribution (NDC). Using a 2015 baseline, Colombia pledged a 51 percent reduction in GHGs by 2030. Achieving this ambitious climate goal is by no means an easy feat. The transition to rural sustainable land use must be fair and consider the complex social context of the country. This involves ensuring that support for agriculture is climate-resilient, reaches low-income farmers and contributes to reducing unequal access to land, a matter closely related to the long-running armed conflict.

**How is public support for agriculture delivered?**
According to the Organization for Economic Co-operation and Development (OECD), between 2017-19, the total support provided to the agricultural sector averaged USD 3.65 billion per year. This corresponds to 1.13 percent of GDP, which is significanlty higher than the OECD average.

The Colombian government supports the agricultural sector mainly through market price measures such as tariffs and transfers from parafiscal funds. However, farmers receive very little direct budgetary support, and most of it covers the purchase of agricultural inputs such as seeds, pesticides and fertilisers.

How public support is delivered can influence a farmer´s decisions on whether to bring land into agricultural production, and how and what to farm. For instance, when public support for agriculture is delivered without consideration of where farms are located, it risks financing deforestation. Agricultural input subsidies can also be environmentally harmful when delivered in the absence of technical assistance on how to use inputs efficiently. Colombia has one of the highest rates of fertiliser overuse in Latin America, and approximately 70 percent of the nitrogen applied is lost. In other words, a large percentage of fertiliser subsidies are – quite literally – wasted. Furthermore, public support can influence farmers to produce certain commodities, and some of the support that farmers receive promotes the production of GHG-intensive commodities such as beef and milk.

This case study identifies opportunities for redirecting public support to agriculture to contribute to a development model that is climate resilient, socially inclusive and aligned with Article 2.1 (c) of the Paris Agreement.

**How to enable change?**
To guarantee the long-term sustainability of Colombia's land use sector, this report identifies five enabling conditions that address the main challenges for a sustainable redesign of public support:

1. **Promoting land access and land tenure formalization.** Formalizing land tenure – through efforts that promote property rights and the substitution of illegal crop production – can contribute to the long-term green development of the agricultural sector and help halt agrarian land expansion into forested areas.

2. **Strengthening institutional capacities and local participation.** Institutional capacities must be strengthened at regional and local levels. This includes implementing participatory governance approaches that allow local communities to validate and participate in decisions and actions. This helps to catalayse long-term changes in behaviour and build trust in government.

3. **Fostering investment in public goods and services.** It is vital to ensure that investment in public research, agricultural training and collective infrastructure reaches the rural farmers who require it most and aligns with Colombia's climate targets.

4. **Increasing support for women and youth.** Promoting programmes that support women in agriculture will create several benefits, including increased productivity, food sovereignty and low-carbon development.

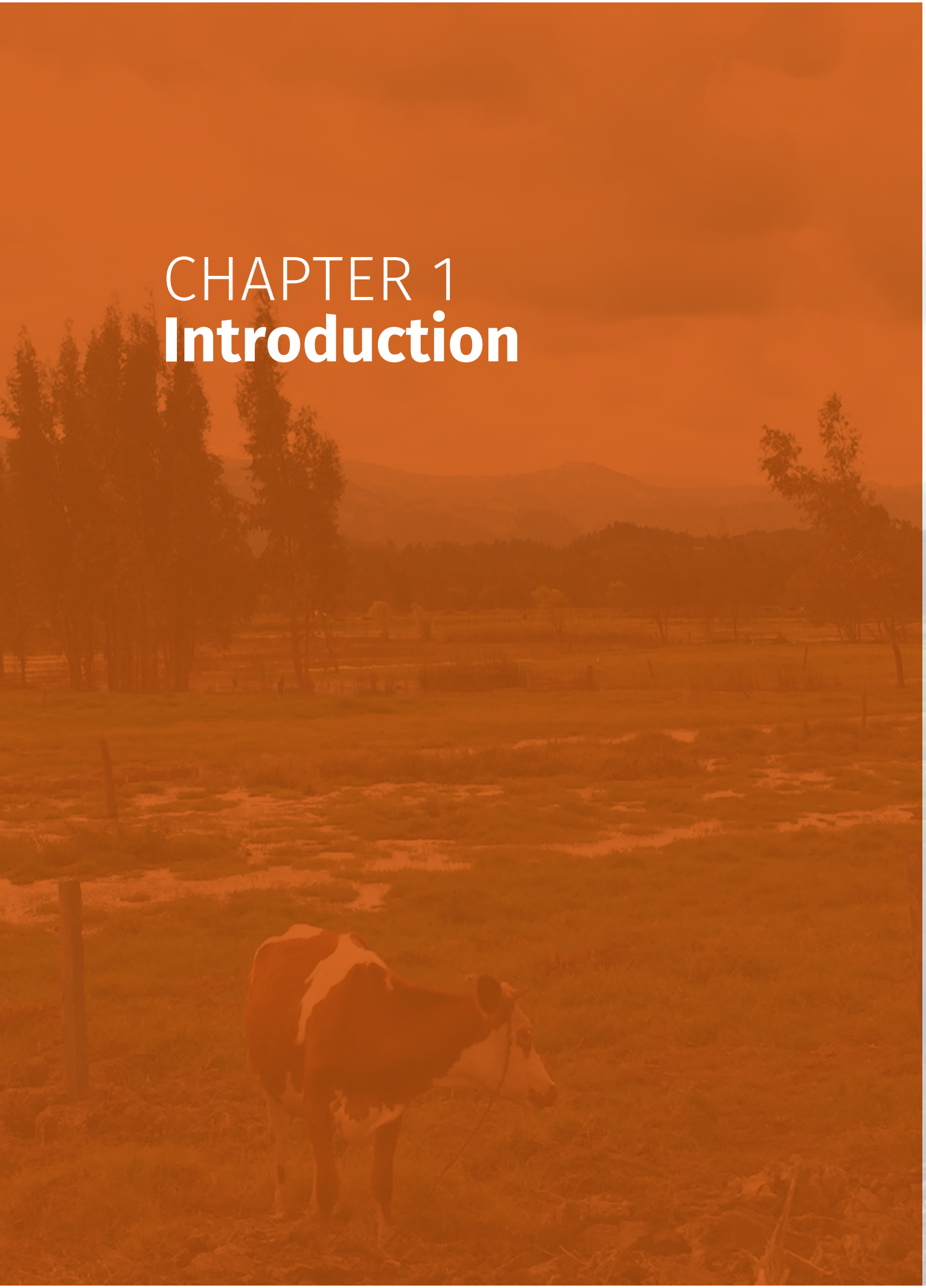
5. **Implementing further the climate change finance framework.** To achieve its ambitious NDC, Colombia needs to further develop the climate finance instruments that it has adopted (e.g., carbon pricing and payment for environmental services).

**How could Colombia redirect public support to agriculture?**

Redesigning Colombia's approach to supporting agriculture requires considering the challenges facing small farmers - low agricultural productivity and high poverty rates. It is crucial to ensure that the new measures do not put additional burdens on already struggling farmers, but instead supports them as they move to adopt sustainable practices. The recommendations summarized below focus on redesigning existing subsidies to provide incentives for efficient land use, low-emissions agriculture, and forest protection and restoration. The redesigned recommendations specifically aim to promote low-carbon land use without impinging on other policy objectives such as rural development, poverty reduction, food security and agricultural development. The recommendations also build on Colombia's existing commitments in the context of the Peace Agreement and take account of the challenges faced by smallholders in the aftermath of the coronavirus pandemic. In this way, the proposed redesign options aim to further low-carbon development in Colombia's land use sector without losing sight of other important policy objectives.

The recommendations presented in this report provide a good starting point for ensuring that existing policies and subsidies are aligned with climate mitigation. New policies and associated budgetary decisions should also be designed in a manner that minimises perverse incentives and provides green incentives around whether to bring land into agricultural production, which agricultural commodities to produce, and how to produce them.

| RECOMMENDATION | REDESIGN ELEMENTS |
|---|---|
| **Remove incentives to bring land into production** | • Make support conditional on farmers avoiding production within Colombia's protected areas.<br>• Monitor compliance through remote sensing or by requiring farmers to regularly report the GPS boundaries of their operations. |
| **Introduce conditionality to encourage low-emission farming** | • Make support conditional on a land suitability evaluation report.<br>• Introduce subsidies (e.g., specialized credit lines or direct transfers) for farmers to adopt climate-smart agricultural practices. |
| **Reform input subsidies to encourage low-emission farming** | • Introduce subsidies to improve access to low emission inputs and increase the efficiency with which traditional inputs are used.<br>• Replace fertiliser subsidies with technical assistance that supports farmers to maintain yields while reducing fertiliser input. |
| **Reform the provision of technical assistance to encourage low-emission farming** | • Embed climate change considerations in the technical assistance offered through the Plan Departamental de Extensión Agropecuaria (PDEA) (Departmental Extension Services Plan for Agriculture and Livestock), which features the planning of the provision of extension services.<br>• Introduce credit lines to cover the cost of high-quality extension services. |
| **Redirect finance from high-emission to low-emission commodities** | • Reform existing subsidies that promote business-as-usual agriculture to lower the emission-intensities of associated commodities.<br>• Introduce subsidies that encourage farmers to produce low emission commodities such as timber, tubers, grains and non-timber forest products.<br>• Put a price on agricultural emissions, either through a carbon tax or an emission trading system. |



# CHAPTER 1
# **Introduction**

Forests cover more than half of Colombia's land area.[1] These forests – which include Amazonian rainforests, Andean high-altitude forests, cloud forests, dry forests and mangroves – are carbon-rich and store hundreds of tons of carbon per hectare.[2] Colombia is also the second-most biologically diverse country on the planet and home to about 10 percent of the world's species.[3] Of Colombia's nearly 114 million hectares of land, forests cover 52 percent; cattle ranching (extensive) uses 31 percent; approximately 5 percent is used for crops such as coffee, oil palm, rice, bananas, cocoa and maize; while the remaining land is devoted to other land uses, including urban areas.[4]

Close to 10 million Colombians – which is 19 percent of the population – live in rural areas and depend largely on agricultural activities. Agricultural growth has stagnated in recent decades as a consequence of structural challenges such as insecure land tenure; limited access to productive assets; low agricultural productivity; and more than 60 years of armed conflict.[5] As a result, around 47 percent of inhabitants of rural areas are poor, and the incidence of poverty can be up to three times higher than in urban areas, particularly among indigenous and Afro-Colombian communities.[6] Optimizing land use to increase agricultural productivity and profitability is, therefore, an integral component of Colombia's rural development strategy.[7]

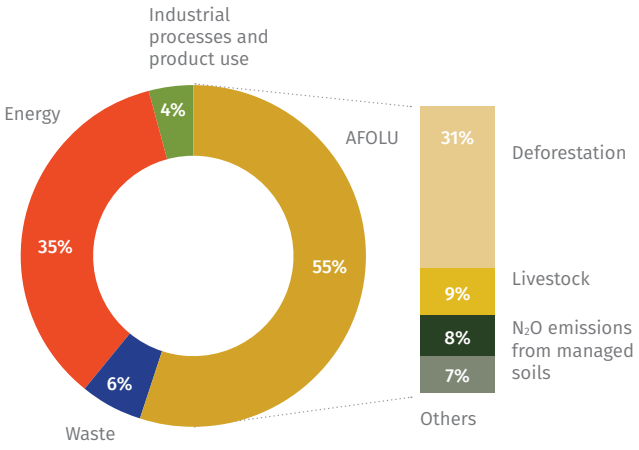
While land is one of Colombia's most valuable resources from both an environmental and socio-economic perspective, the country's land use sector is also its largest source of greenhouse gas (GHG) emissions (Figure 1). Together agriculture, forestry and other land use (AFOLU) emit 129.51 Mt $CO_2$eq annually, 55 percent of Colombia's total GHG emissions.

Deforestation accounts for the largest share of emissions (31 percent) driven largely by land grabbing, extensive cattle ranching, illicit crop production, illegal wood extraction and the construction of illegal roads.[8] Between 2000-19, a total of 4.7 million hectares of primary forests were lost, corresponding to 4 percent of Colombia's territory (a size equivalent to the area of Denmark). Agriculture is also a direct source of GHG emissions, with livestock farming accounting for 9 percent of emissions, including methane ($CH_4$) emissions from the digestive process of animals. Nitrous oxide ($N_2O$) emissions from managed soils (including excreta of grazing animals and fertiliser use) comprise 8 percent of total emissions. The agricultural commodities that emit the most GHGs in Colombia are livestock, rice, palm oil, maize and coffee.[9]

Colombia´s updated Nationally Determine Contribution (NDC) pledges to reduce 51 percent of GHG by 2030, from a 2015 baseline. For this purpose, the country has committed to reduce deforestation rates to 50,000 ha/year by 2030, down from 155,000 ha/year of deforestation expected in 2022. Overall, the country is aiming to achieve this goal by restoring degraded lands, establishing commercial forest plantations, and implementing more sustainable livestock management, amongst others. Together, these activities have an approximate mitigation potential of 101 Mt $CO_2$eq.[10] The country´s land use sector holds significant mitigation potential, higher than the potential calculated in the NDC. Colombia holds over 59 million hectares of natural forests which could be transformed from a net carbon source to a net carbon sink by applying cost-effective natural climate solutions and further restoring degraded lands.

However, capitalizing on the mitigation opportunities offered by Colombia's land use sector is by no means an easy task and will require reviewing the performance of existing land use policies based on their economic, social and environmental costs and benefits, while explicitly considering climate mitigation and adaptation. The agricultural sector receives significant public support, equivalent to USD 3.65 billion annually between 2017-19. There is an opportunity to redirect this finance away from activities that incentivise GHG emissions towards promoting more efficient use of land (e.g., sustainable intensification of livestock farming), the adoption of low-emissions practices (e.g., reduced fertiliser wastage), and forest protection and restoration. Such reorientation of finance must be coupled with the achievement of

FIGURE 1. Colombia's GHG emissions (2014)



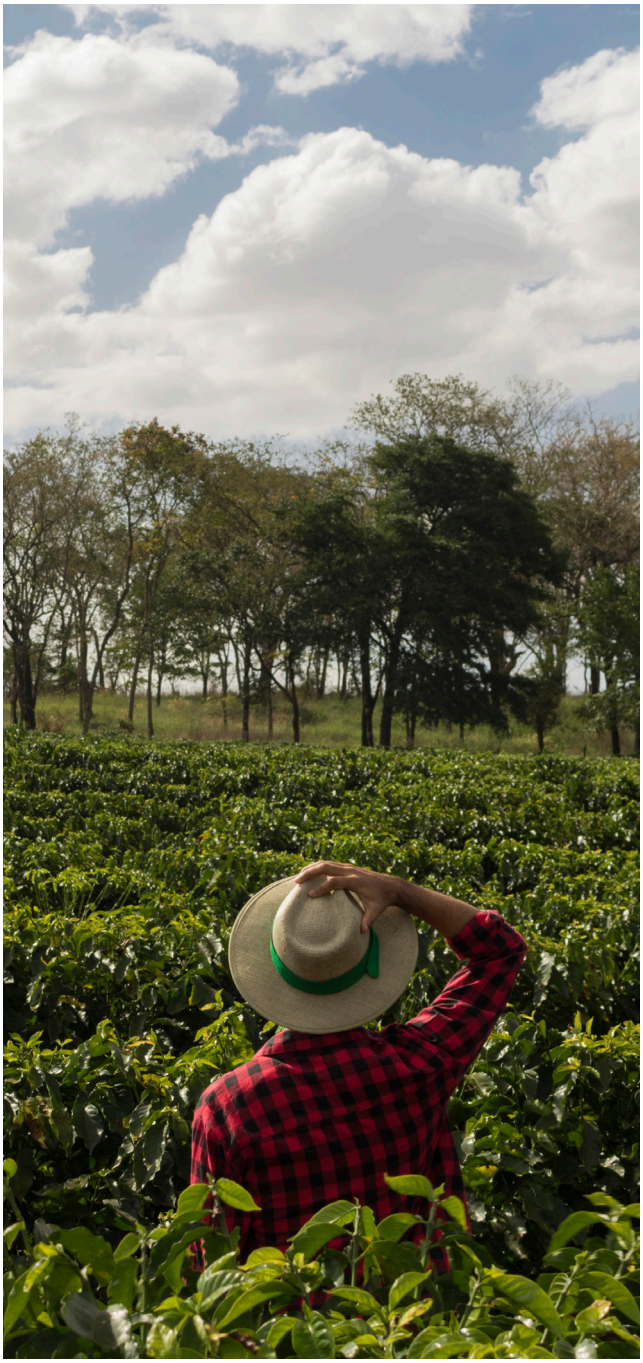

*Source: National Hydrology, Meteorology and Environmental Studies Institute (IDEAM) (2018).*

other important policy objectives such as supporting rural development and reducing poverty, achieving and maintaining food security, and developing the agricultural sector.

This case study aims to illustrate the measures the Government of Colombia can take to shift existing public support for agriculture towards sustainable and low-carbon land use. This will help the country to align its land use policies – specifically those related to agricultural subsidies – with Article 2.1(c) of the Paris Agreement. Article 2.1(c) aims to make finance flows consistent with a pathway towards low GHG emissions and climate-resilient development.[11] While resilience and adaptation are essential – especially given the vulnerability of Colombia's land sector to environmental variability[12] – we focus our discussion predominantly on climate change mitigation. In doing so, we provide practical examples of how Colombia could redesign its agricultural subsidies to ensure that all public finance that supports activities in the land use sector is fully aligned with low-carbon development.

The country analysis presented in this case study is based on an extensive literature review and interviews with representatives of the National Planning Department, the Ministry of Agriculture and Rural Development and the Ministry of Finance and Public Credit.

The case study is comprised of five chapters, including this introduction. Chapter 2 presents a set of conditions to guarantee the long-term sustainability of a climate-aligned productive land sector. Chapter 3 outlines how public support to agriculture is currently delivered and how this influences GHG emissions. Chapter 4 explores how Colombia can redirect its public support to agriculture to align finance with a low GHG emissions-development trajectory. The case study concludes with a set of concrete recommendations for repurposing Colombia's public support to agriculture.



# CHAPTER 2
# Enabling environment for change

A sustainable, long-term shift in agricultural policy will require a holistic approach capable of fostering an enabling environment for low-GHG-emissions land use. Attempting to green Colombia's land sector without considering underlying issues and challenges would be difficult, if not impossible. Instead, Colombia will need to implement agricultural policies that address the sector's underlying issues by promoting land tenure formalization, strengthening governance institutions and improving the provision of public goods and services. This chapter discusses these enabling conditions for sustainable land use in Colombia.

## 2.1 Promoting land access and land tenure formalization

Colombia has one of the world's most unequal land ownership structures. Just 1 percent of farmers own as much as 81 percent of land; the remaining 99 percent of agricultural households divide up the remaining 19 percent of land[13] This unequal land distribution is the result of agrarian conflicts – which are closely related to the more than 60 years of armed conflict and forced displacements – coupled with low rates of land titling and land taxation.

In 2016, Colombia signed a Peace Agreement with the guerrilla group Revolutionary Armed Forces of Colombia (Fuerzas Armadas Revolucionarias de Colombia) FARC-EP, putting an end to the 60-year armed conflict. The agreement consists of six structural pillars. The first of these pillars – the Comprehensive Rural Reform (Reforma Rural Integral) – aims to transform rural areas through activities that work toward poverty eradication and promote social inclusion. The Comprehensive Rural Reform focuses on i) promoting access to land; ii) developing programmes with a territorial-based approach; and iii) developing national sectoral plans to provide rural public goods and services.

To promote access to land, the Comprehensive Rural Reform includes provisions for creating a land fund of at least three million hectares to be distributed to landless farmers. The fund will consolidate state-owned land (*baldíos*) suitable for agricultural use, including land that has been seized by the state for being illegally acquired. Despite some advances on land tenure formalization and the integration of over 500,000 hectares of land to the fund, the implementation of this element of the Peace Agreement has so far seen the lowest level of progress.[14] The land fund has not yet become operational, and no single piece of land has been adjudicated. It is imperative that the Government of Colombia scales up its efforts to operationalize the land fund, as it is a crucial component of the Peace Agreement and of eradicating rural poverty.

Additionally, the Government has committed to implementing land conflict resolution mechanisms as part of the Peace Agreement. Conflict resolution is also expected to contribute to the conservation of protected areas. Environmental zoning plans have been developed as a tool to address land conflicts by identifying areas where rural investment is needed and areas where deforestation monitoring needs to be enhanced.[15] To complement these plans, the Government of Colombia should strengthen institutions and develop procedures to address land conflicts among different land use categories (i.e., National Natural Park, Forestry Reserve, Smallholder Communal Lands, native communities lands, and land disputed for restitution) as well as among different land use actors (i.e., indigenous communities, ex-guerilla members, victims and private sector actors).

Colombia also needs to further its efforts to substitute illegal crops. So far, the Integrated National Plan for Substitution (*Plan Nacional Integral de Sustitución,* PNIS) has proven to be quite successful in the context of voluntary substitution.[16] It supports vulnerable families whose livelihoods depend on illegal crops by providing subsidies for developing alternative and legal farming systems. However, the PNIS does not cover all regions and in some cases has failed to deliver support to farmers in their transition to legal crop production.[17] For Colombia's rural sector to thrive sustainably and move away from illegal crop production, the Government should increase its investments in social infrastructure in rural areas, protect local communities and enhance security in remote areas.[18]

Colombia is also in the process of designing a multipurpose cadastre which includes information on property rights, zoning restrictions, current land use and geographical descriptions. The implementation of the system will take time and further financing, but the cadastre is expected to enable rural municipalities to improve their planning policies and ensure that support does not flow towards production taking place in protected areas. The information held in the cadastre can also guide financial institutions in their allocation of capital to the land use sector and can be a useful tool for the PNIS by providing transparency on both land ownership and use.

Formalizing land tenure – through efforts that promote property rights and the substitution of illegal crop

production – can contribute to the long-term green development of the agricultural sector and help halt agricultural land expansion. For instance, most of the smallholders supported by the PNIS are located on the agriculture-forest frontier, and some are farming in areas of environmental importance. By formalizing property rights in these areas, permissible behaviour becomes clear to farmers, and compliance with anti-deforestation regulation becomes easier to enforce.

## 2.2 Strengthen institutional capacities and facilitate local participation

To transition towards more sustainable land use, Colombia needs to strengthen its institutional capacities at the regional and local levels. Local participation in decision-making is incredibly important in catalysing long-term changes in behaviour and validating planning decisions.

Coordination among different authorities is essential for enforcing environmental laws. So far, the Government has not been able to guarantee a long-term institutional presence in all protected areas, which has allowed large scale land grabbing and contributed to deforestation and land degradation.[19] It is, therefore, imperative that the technical capacities of local authorities are strengthened across the country to enable these authorities to better contribute to planning and zoning. The Government should also provide information to support local authorities in their decision-making process. In this context, the Government should extend the support it provides to the National Hydrology, Meteorology and Environmental Studies Institute (IDEAM) – the entity that gathers and administers deforestation information – to increase its capacities for monitoring, reporting and verification.

In addition, participatory approaches can catalyse long-term change by allowing local communities to validate decisions and actions. Local communities are often vocal about their limited engagement with and participation in land use planning and governance decisions.[20] For instance, according to the local population in the Catatumbo Region, the territorial programmes developed for the region in accordance with the Peace Agreement were designed without sufficient local participation. The programme, thus, lacks legitimacy among local communities, which jeopardizes its success.[21] Creating opportunities to better engage with local communities and foster their participation in decision-making processes can contribute to building trust in government institutions.

## 2.3 The case for more investment in public goods and services

Fostering an enabling environment for low-carbon land use in Colombia requires investments in public goods and services that – while not flowing directly to agricultural producers – contribute to the resilience and sustainability of the sector. This includes investments in research and development, agricultural training and collective infrastructure.

Only 15 percent of agricultural producers in Colombia currently receive technical assistance.[22] It is common practice to over-apply fertilisers in an effort to increase productivity. This leads to wastage of fertilisers that are not taken up by crops, unnecessary GHG emissions and negative environmental impacts.[23] More efficient use of agricultural inputs can, therefore. reduce the GHG impacts of the sector while lowering input costs for producers without decreasing yields. This can be achieved through knowledge transfer programmes and well-developed extension services. In addition, investments in research and development can prove useful for both lowering the emission intensities of existing production models, and for developing new production models with low emission intensities.[24]

In document 3934 of 2018, the National Council for Economic and Social Policy (CONPES) presents the national policy for sustainable growth.[25] The Green Growth CONPES, recognises the importance of overcoming financial and institutional barriers for agricultural research and development, as well as the importance of investing in collective agricultural infrastructure.[26] Research by the Directorate of Sustainable Rural Development of the Ministry of Agriculture also acknowledges that investment in extension services is needed to overcome some of the sector's structural challenges such as low productivity, low profitability and high emission intensities. For example, technical assistance can help farmers lower the carbon intensity and improve the quality of their produce. Such investments also make long-term financial sense. Government investments in public goods and services to the agricultural sector – especially in technical assistance and extension services – can have a return of up to USD 10 for every dollar spent.[27]

The Government of Colombia has begun to consider the climate impacts of its policies, but this analysis has only been implemented in a patchwork manner to the agricultural sector. Many land use policies and budgetary allocations are misaligned with the country´s climate

change mitigation targets, and instead are aimed at increasing productivity and profitability. For example, the design of the Extension Services National Plan in 2019 did not consider views of climate change experts from either the Ministry of Agriculture or the Ministry of Environment. This was a missed opportunity – especially considering the increase in spending channelled to public goods and services over the recent decade (see Section 3.1). It is, therefore, important to ensure that support for public goods and services is fully aligned with climate change mitigation, and that these goods and services reach the rural farmers who require it most.

## 2.4 Increase support for women and youth inclusion in the sector

Rural women are the poorest demographic in Colombia.[28] Almost half the armed conflict victims are women, who have suffered from sexual violence, femicides, forced displacement and loss of assets.[29] Rural women face considerable barriers in accessing agricultural inputs, training and credit.[30] Colombia, by means of Law 731/2002, has implemented a general framework for gender equality in the rural sector.

However, policies have failed to adequately reflect the needs of women in agriculture, including promoting their economic independence, empowerment and right to land. For instance, rural women work on average 12 hours a day, but are paid for only 38 percent of this time– equivalent to about 5 hours – whereas men are paid for 76 percent of their working day.[31] Access to land is also an issue for women in rural areas, where land tends to be owned by men. Only one quarter of the land owners in Colombia are women. As a result of the conflict, many women are the sole heads of households today and millions have been displaced. Most of these women do not have formal marriage certificates, and thus struggle to assert their claim over land ownership.[32]

In order to assess the needs and roles of rural women and to successfully implement targeted initiatives, the Government of Colombia must – at the very least – collect and analyse its data disaggregated by gender. Promoting gender equality and women's empowerment through targeted programmes that support women in agriculture will increase the productivity of the sector and contribute to food sustainability and low-carbon development.[33]

In addition, violence, insecurity and reduced opportunities continue to drive the migration of youth to urban areas. The reduced number of young farmers threatens the future of the agricultural sector, especially with regards to innovation. While there are currently a handful of targeted efforts – such as special credit lines – that target young farmers, not enough is being done to increase the number of and support for young rural agricultural entrepreneurs.[34]

## 2.5 Further implement a climate change financing framework

Colombia has recently implemented a climate change finance framework, which includes carbon pricing mechanisms such as an emission trading system and a carbon tax. The availability of such climate finance for the land use sector is an important precondition for low-carbon agricultural development.

Through Law 1819 of 2016 (Tax Reform), the country enacted a carbon tax for fossil fuels that covers importers and producers. Decree 926 of 2017 allows the tax to be fully offset through the purchase of carbon credits. According to the Ministry of Environment, between 2017-20, 38 million tons of $CO_2$ were cancelled by means of the offsetting mechanism.[35] In the same period, the carbon tax collected over 1.2 billion Colombian pesos (approximately USD 330 million), which have so far not been used.[36] This carbon tax revenue represents considerable available resources that can be used to finance climate change mitigation and adaptation. Colombia's Climate Change Law (Law 1931 of 2018) also provides for the creation of an emission trading system (ETS). While the Colombian ETS is still being designed – and sectors to be included remain uncertain – once operational, the ETS could become an important resource for financing climate change mitigation initiatives.

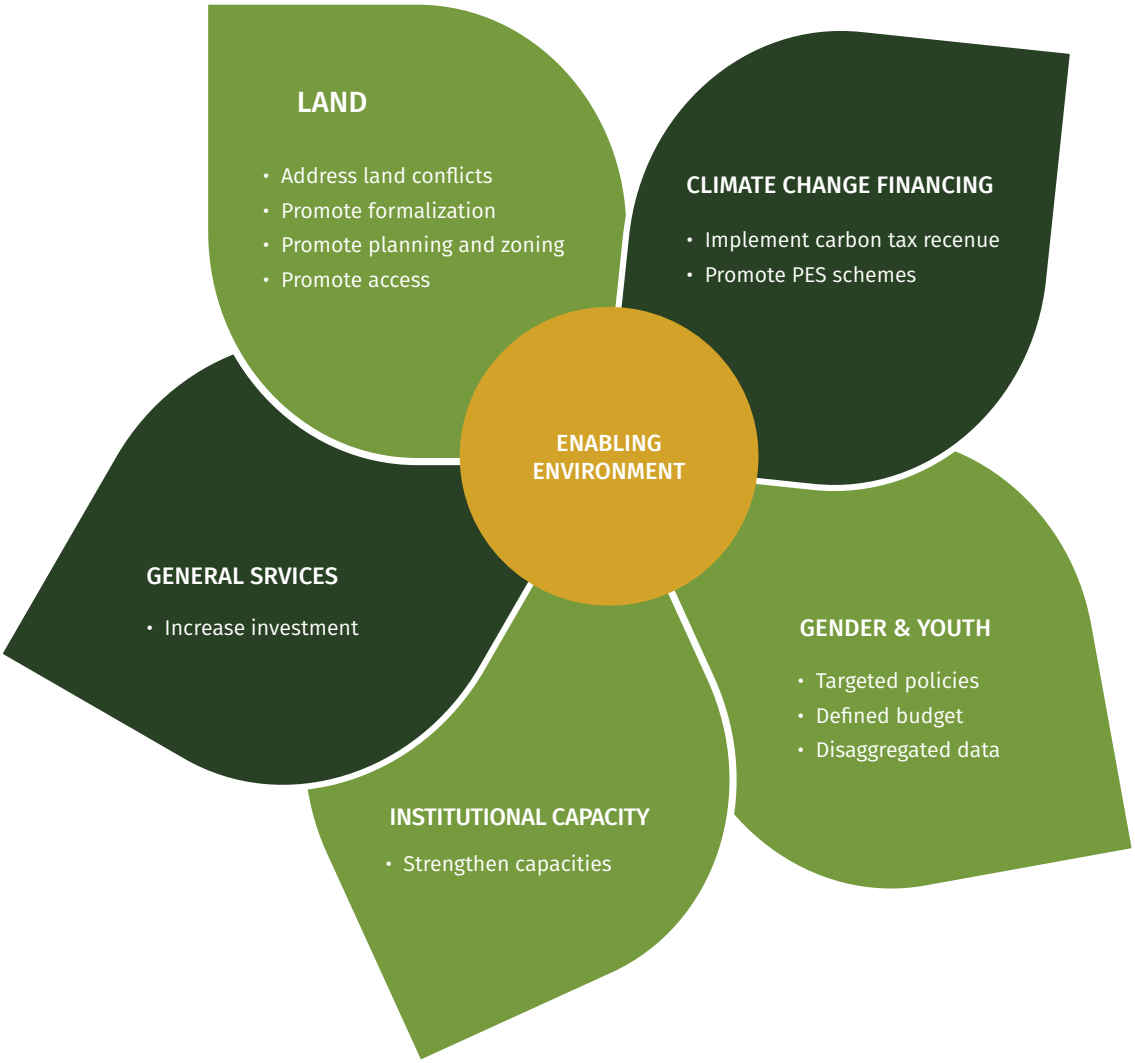
Colombia has also developed a Payment for Ecosystem Services (PES) framework, which is included in Decree 870/2017, CONPES 3886/2017 and Decree 1007/2018. The PES Framework grants payments for activities related to water provision in strategic ecosystems, conservation of biodiversity, and promotion of spiritual and recreational ecosystem activities. Overall, between 2016-19, over 219,000 hectares were covered by the PES schemes in 111 different municipalities. PES initiatives can contribute to greening the agricultural sector in Colombia and further the implementation of the Peace Agreement – and might be worth exploring as a source of financing for the transition to sustainable land use. For example, CONPES 3886 highlights that PES can be used as a financial mechanism in support of the PNIS to catalyse the voluntary substitution of 50,000 hectares of land currently used for

illicit crop production – in accordance with the target set for 2018-22 in the National Development Plan.[37]

Colombia aims to diversify its economy by promoting sustainable use of natural resources and implementing strategies for increasing innovation, research and development.[38] The current climate change policy framework confirms that Colombia is committed to sustainable growth, which has also been prioritized as a tool for economic recovery after the COVID-19 pandemic. CONPES 4023 of 2021 states that in order for the country to transition to a sustainable economy, it must efficiently and sustainably use its natural capital.[39] The post-COVID economic reactivation will, therefore, seek to further investments in environmentally sound development. In addition, the country will allocate 14 percent of the reactivation budget to finance over 30 projects focused on renewable energy and environmental restoration and protection.[40]

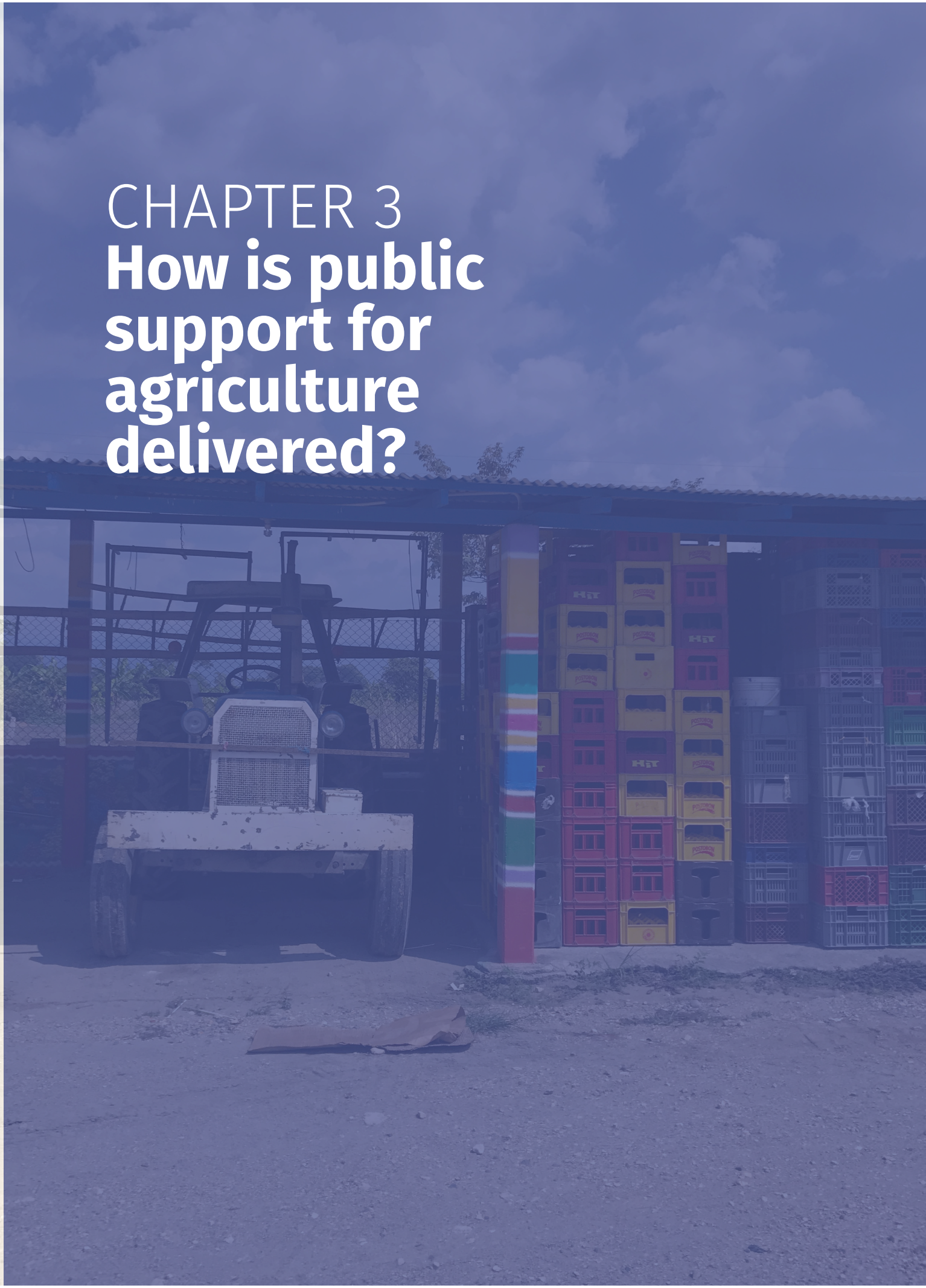
Despite these encouraging efforts for securing finance that can be used for mitigating climate change in the land sector, Colombia still needs to articulate climate change policies for its land use sector and identify additional sources of finance. In its recent NDC update, Colombia pledges to reduce its GHG emissions by 51 percent compared to a business-as-usual scenario. This ambitious mitigation goal can only be achieved if the

FIGURE 2. Enabling environment for Colombia's land use sector




country successfully addresses deforestation and reduces emissions from agriculture.[41] Thus, to achieve its ambitions and meet its international commitments, Colombia must also ensure that any public finance currently flowing to the land use sector is consistent with the objectives of reducing deforestation and reducing agricultural emissions.

Figure 2 summarizes the enabling environment needed for sustainable change in Colombia's land use sector. The remainder of this case study explores the extent to which current public finance is aligned with low-carbon land use and provides recommendations on how to fully align Colombia's land use finance with climate mitigation objectives.



# CHAPTER 3
# How is public support for agriculture delivered?

## 3.1 How much money is spent?

The Colombian Government provides relatively high levels of support to the country's agricultural sector. According to the Organization for Economic Co-operation and Development (OECD), the total level of support (TSE; total support estimate) provided to agriculture annually averaged USD 3.65 billion between 2017-19.[42] This corresponds to 1.13 percent of GDP and is significantly more for the same period than was provided by the following countries: Brazil (0.3 percent); Chile (0.3 percent); Mexico (0.5 percent); and Costa Rica (0.6 percent). It also is almost double the OECD average (0.61 percent). This suggests that agricultural support represents a significant cost to the Colombian economy and society as a whole, especially when compared to other countries.

Figure 3 shows the composition of public support provided to the agricultural sector between 2000-19.

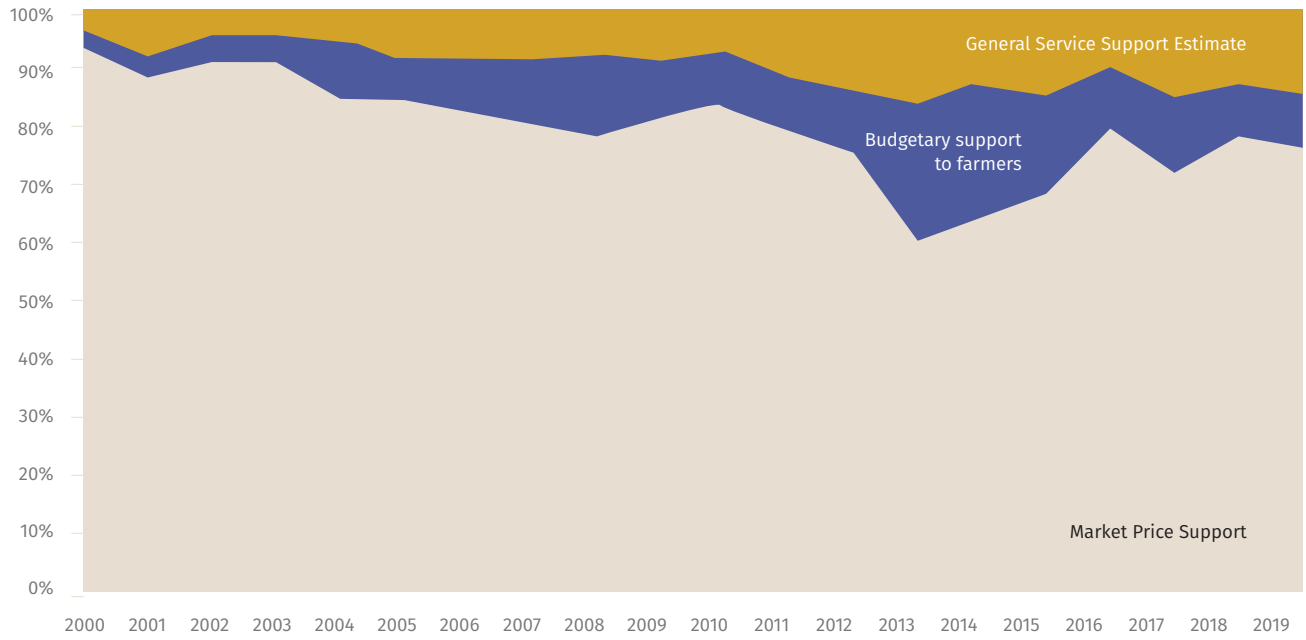
Between 2017-19, market price support (MPS) represented more than 90 percent of the total public support allocated to agriculture and approximately 77 percent of total support received by Colombian farmers.[43] This is much higher than the OECD average, of which MPS comprises roughly 30 percent of total agricultural support.[44] MPS is mainly provided through border measures – such as tariffs – and through transfers from parafiscal funds with the main objective of stabilising food prices. Together, these measures result in Colombian farm gate prices for agricultural commodities which are, on average, 12 percent higher than international prices.[45]

In comparison, the budgetary support given directly to farmers – which includes payments based on inputs, production area, animal numbers or non-commodity criteria – has been quite small, corresponding to approximately 10 percent of TSE. Budgetary support to farmers has predominantly been provided for the purchase of inputs such as seeds and fertilisers, but the Colombian Government has also provided subsidies for investing in on-farm irrigation infrastructure.[46] In addition, the agricultural sector is offered a number of tax benefits, such as VAT exemptions of agricultural inputs. Because these do not feature in direct outlays from the national budget, quantifying tax expenditures is difficult.

Approximately 90 percent of support provided directly to producers is tied to single commodities. Figure 4 shows the 10 commodities for which producers receive the most Single Commodity Transfers according to OECD data. Between 2016-19, the majority of this support was tied to the production of rice (28 percent), milk (25 percent), pork and lamb (10 percent), chicken (10 percent), and maize (8 percent).

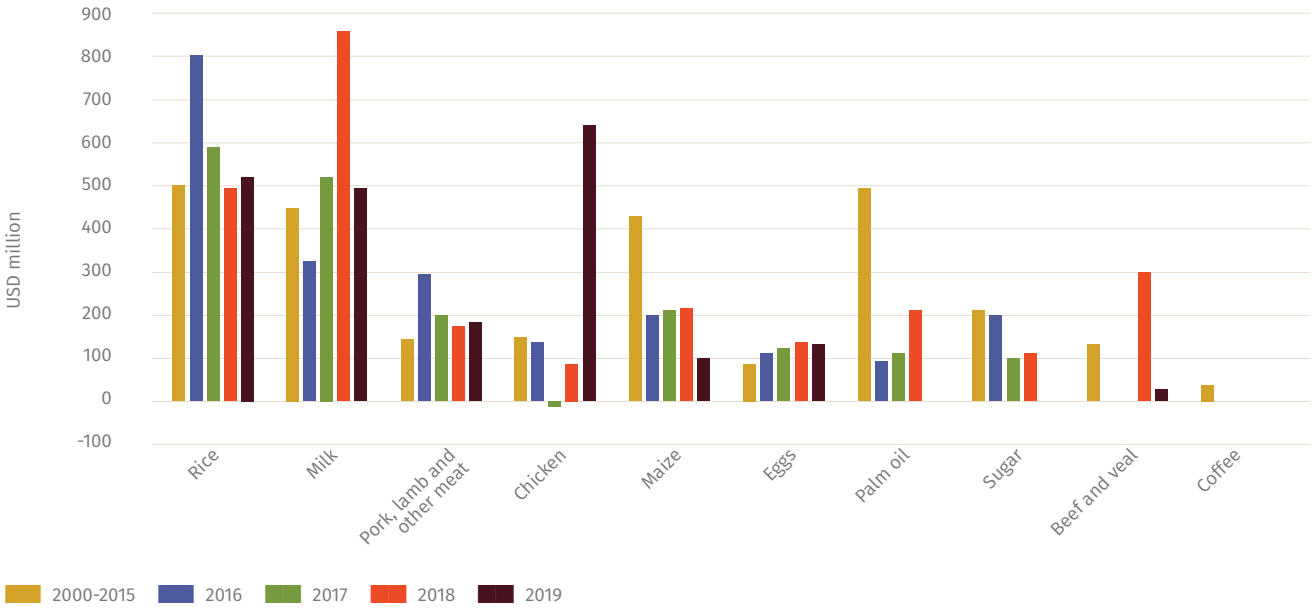
Finally, investments in general services – such as infrastructure, extension services, and inspection and control – averaged around 10 percent of TSE between 2000-19. Public spending on these services almost tripled during this period - increasing from 5.7 percent of total support for agriculture between 2000-02 to 14.4 percent between 2017-19.[48]

FIGURE 3. Composition of total support estimate provided to agriculture in Colombia between 2000 and 2019




*Source: OECD (2020)*

FIGURE 4. Ten commodities receiving most producer Single Commodity Transfers between 2000-19




*Source: Based on data from Agricultural support estimates - Edition 2020, OECD (2020)[47] Note: The data for 2000-2015 is the annual average over that time period.*

## 3.2 What is public support financing?

Colombia´s agricultural policy has three main objectives: increase productivity and production; alleviate poverty; and comply with commitments under the Peace Agreement. More recently, subsidies have been introduced to support smallholders and safeguard food security during the COVID-19 pandemic.[49]

Agricultural production is often unprofitable, and many rural farmers struggle to thrive, requiring government assistance to support their livelihoods. For instance, productivity in the dairy sector is amongst the lowest in the region, mainly due to high input prices, poor transport infrastructure and a high number of intermediaries.[50] Only a few crops are actually economically viable. The cocoa yield, for example, is among the highest in the region.[51]

Overall, farmers lack access to public goods and services that could increase profitability. In addition, according to the 2011 Quality of Life Survey, out of the four main productive assets – land, technical assistance, credit, and irrigation systems – 63 percent of farmers had none.[52] Low productivity is mainly due to soil depletion coupled with unsuitable land use and production in small productive units.[53] Another issue, apart from the inefficient use of land, is the unequal access to infrastructure and extension services.[54] For this purpose, Colombia has introduced subsidies to improve access to productive assets, either by providing direct transfers for purchase of productive assets or through special credit lines with subsidised interest rates.

Public support provided to agriculture is aimed at reducing poverty in rural areas, where poverty is 2.3 times higher than in urban centres.[55] High input costs are an important driver of poverty and low agricultural productivity. According to the Directorate for Agricultural Value Chains of the Ministry of Agriculture, inputs can represent up to 80 percent of costs in some value chains.[56] Therefore, subsidies tend to focus on reducing the costs of inputs, such as fertilisers and pesticides, but do not prioritize extension services that improve management practices, reduce the need for inputs, or promote circular economies at the farm level.

As discussed in the previous chapter, one of the main goals of Colombia's agricultural policy is to formalize land tenure and provide secure land right for rural farmers. As commitments under the Peace Agreement, this has included direct transfers for land purchase, assistance for land restitution,[57] land tenure formalization and funding for the voluntary substitution of illegal crops.

Figure 5 summarizes the main drivers for public support to agriculture in Colombia.

## 3.3 How is public support influencing GHG emissions from agriculture?

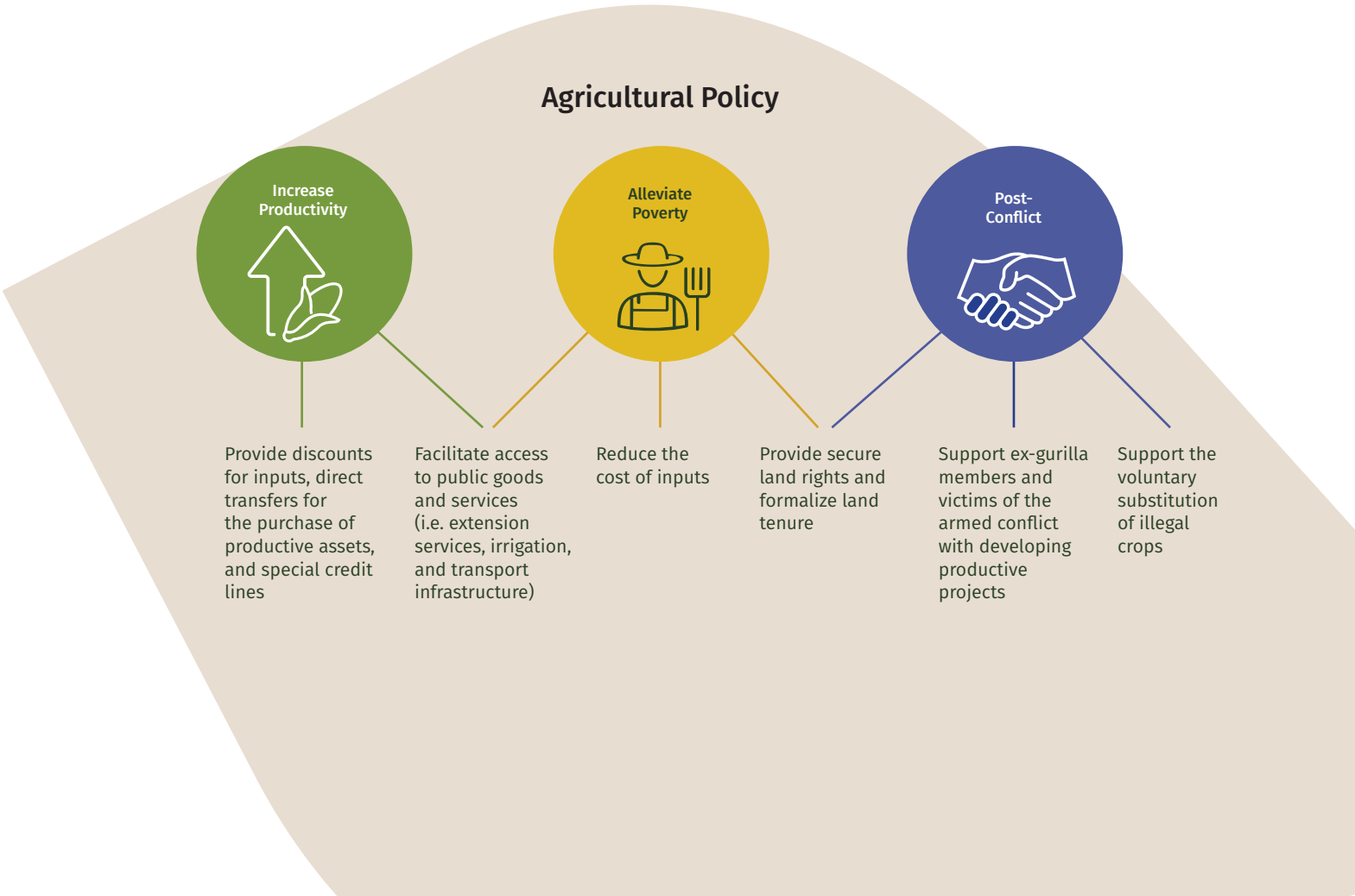
Public support to agriculture influences farmers' decision-making in ways that impact GHG emissions. The following section highlights key policies that influence the decision-making of farmers regarding:

- whether to bring land into agricultural production (i.e., causing deforestation or degradation of other natural ecosystems);
- how to produce commodities (e.g., efficiency of land use and use of agricultural inputs such as fertilisers);
- what to produce (including GHG-intensive commodities).

### Policies influencing whether to bring land into production

Agricultural subsidies can influence farmers' decisions over whether to bring land into agricultural production. More specifically, there is a risk that public support encourages farmers to adopt practices that require extensive land use – such as cattle farming or inefficient extensive crop production – and thereby incentivise agricultural land expansion and resulting deforestation and degradation. Subsidies that increase agricultural profitability can also encourage farmers to increase production and claim more land.[58] For example, policies that promote agricultural intensification can – paradoxically – drive land use expansion if they increase the profitability of agricultural production and, thereby, also increase demand for agricultural land.[59] This is called the 'rebound effect' of land intensification. Thus, without appropriate safeguards against deforestation, policies that both encourage farmers to adopt intensive practices as well as policies that promote extensive land use run a risk of increasing demand for land and stimulating agricultural land expansion.

Figure 5. Policy drivers for agricultural support in Colombia



These risks are of special concern to Colombia, where deforestation rates are high, and land is often used inefficiently. Deforestation is usually driven by land grabbing, where farmers cut forests and use cattle as a way to claim land titles. The productive use of land through pastures can justify land claims to recently deforested and increasingly valuable land, while providing a small but constant cash flow.[60]

The Colombian Government has several policies in place that potentially incentivise agricultural land expansion and encourage deforestation, most notably tax benefits. The tax relief scheme for companies operating in Areas Most Affected by the Conflict (ZOMAC for their acronym in Spanish), was established in 2017 in the context of the Peace Agreement. The scheme will be in place for 10 years starting in 2017, and it aims to repair some of the damages to victims of the conflict and promote social security in the most affected regions.[61] As part of the scheme, new companies that have initiated economic activities as early as 2016 in any of the 344 municipalities categorized as ZOMAC benefit from a discounted corporate income tax (CIT) rate. The concession prioritizes micro and small businesses. For example, between 2017-21, micro and small businesses were fully exempted from paying CIT.

While the instrument also supports non-agricultural activities (such as infrastructure development, services and commerce), it mostly benefits farmers, as the zones affected by the conflict are largely rural, and those applying for the concession likely establish agricultural activities.[62] The tax relief scheme also risks incentivizing agricultural expansion in previously forested areas, as environmental safeguards are not part of the requirements that applicants must fulfil for the concession. This is especially worrisome as deforestation levels are high in the regions that were affected by the conflict.[63]

Colombia's Unified Property Tax (*Impuesto Predial Unificado*) is a municipal-level tax levied on real estate. Each property's taxable base is calculated on its total land area rather than only on the share of land that is used for production. This creates an incentive for farmers to bring more land into agricultural production, as non-productive areas (e.g., those covered by trees) incur costs but provide no financial benefits. In this way, it is more profitable for farmers to apply minimal-effort, minimal-return activities, such as extensive cattle ranching, than to leave land in a forested state. This property tax, therefore, foregoes a valuable opportunity to influence farmers' decision-making. If, instead, the tax was only levied on land used for productive purposes, farmers would have an incentive to leave as much land as possible in a non-productive state, thereby reducing their Unified Property Tax bill.

In addition to these policies, which risk encouraging farmers to bring more land into production, Colombia also has a number of policies in place that contain appropriate safeguards against agricultural land expansion and deforestation. For example, to qualify for Colombia's comprehensive land access subsidy, producers must demonstrate that the land they are interested in is classified as suitable for agricultural use (Box 1).

### BOX 1. COLOMBIA'S LAND ACCESS SUBSIDY THAT DOES NOT PROVIDE INCENTIVES TO BRING ADDITIONAL LAND INTO AGRICULTURAL PRODUCTION

The comprehensive land access subsidy (Subsidio Integral de Acceso a Tierras) was one of the commitments established in the Peace Agreement signed in 2016 with the demobilized Revolutionary Armed Forces of Colombia (Fuerzas Armadas Revolucionarias de Colombia - FARC). The commitment aimed to provide rural population with property rights over productive land. This subsidy was recently regulated through Decree 1330 of 2020, which establishes a maximum value per subsidy of USD 24,000 for the purchase of land and up to USD 7,700 for the development of productive projects in the acquired land.[64] Between August 2018 and December 2020, subsidies totaling USD 7.68 million have been granted for the purchase of land to 515 families.[65]

To qualify for the land access subsidy, land must be classified as suitable for agriculture and comply with various suitability criteria set by the Rural Planification Unit (URPA). Compliance with these requirements will be checked and recorded in a Rural Property Registry (Registro de Inmuebles Rurales). These safeguards are crucial in Colombia, where rural development and climate mitigation must be pursued against a backdrop of high deforestation rates.

**Policies influencing how to farm**

When producer support is applied to agricultural inputs without coupling them with training on best agricultural practices, it risks incentivizing GHG emissions.[66] For example, subsidies on fertilisers can incentivize GHG emissions by encouraging farmers to use these inputs more intensively and less efficiently.[67] This is an especially relevant concern in Colombia, which has one of the highest rates of fertiliser use in Latin America – with as much as 70 percent of the nitrogen applied being lost and wasted.[68] As only 15 percent of farmers in Colombia receive technical assistance, many farmers lack the knowledge to properly apply fertiliser and typically apply too much with the belief that it will contribute to productivity.[69]

The Colombian Government provides several direct and indirect subsidies for agricultural inputs, which risk encouraging farmers to use these inputs less efficiently.

Together for Agriculture (*Juntos por el Campo*) was introduced in 2020 to address the negative impacts of COVID-19 on agricultural production and safeguard food security in Colombia. The programme promotes access to inputs by providing a 30 percent discount on fertilisers – including chemical fertilisers such as urea, calcium nitrate and superphosphate – as well as animal feed and supplements. Only smallholders producing fruit, tubers, plantains, vegetables, beans, cocoa, cattle, dairy, chicken and eggs, pork, fish and sheep are eligible.[70] While a technical committee must approve smallholders' registration, there is no further guidance on how to efficiently use the inputs. No extension services are provided as part of the programme.

According to the fiscal reform act of 2018, taxpayers in the agricultural sector can deduct the 19 percent of VAT paid on inputs used for agricultural production from their income tax. A recent bill regulating this law for the agricultural sector specifies that all inputs meant for land use, agricultural production and fisheries are exempted from paying input VAT.[71]

Alongside these input subsidies – which encourage inefficient farming practices and their associated GHG emissions – Colombia also has a number of policies in place that encourage agricultural producers to adopt low-

BOX 2. SUSTAINABLE COLOMBIA PROGRAM

The Sustainable Colombia programme, financed through the Interamerican Development Bank (IDB), aims at promoting conservation and sustainable agricultural projects in zones highly affected by the internal conflict. The programme has four main objectives: i) promote conservation and sustainable use of biodiversity; ii) further low-carbon, resilient rural development; iii) strengthen capacities in violence impacted areas; and iv) include climate change in the development agenda.[72]

Over the first five years of the initiative, USD 1.9 billion will be invested in sustainable production projects. The Fund is managed in close collaboration with the private sector, and around 40 percent of the beneficiaries are women. The first USD 7 million were disbursed in December 2018. Of that amount, 42 percent was aimed at consolidating the national monitoring, reporting and verification system for the land use sector; 48 percent was aimed at Reducing Emissions from Deforestation and Forest Degradation (REDD+) in Indigenous and Afro-Colombian communities; and 10 percent was aimed at restoration and conservation.[73] In 2019, the programme financed projects covering over 40,000 hectares and benefiting 11,500 families, promoting peace while focusing on environmental sustainability.[74]

carbon farming practices. Currently, Colombia provides subsidized credit on a number of green loans to encourage sustainable investment. In addition, the Sustainable Colombia programme, which was created as part of the implementation framework of the Peace Agreement, leverages large volumes of finance to encourage low-emissions land use (Box 2).

**Policies influencing which commodities to produce**

When agricultural subsidies and tax concessions are linked to specific commodities, they can influence the decision-making of farmers with regard to which commodities to produce. Here, there is a risk that agricultural subsidies incentivize the production of GHG emission-intensive commodities. Much of the agricultural support provided to farmers in Colombia is attached to the production of specific commodities, including GHG-intensive commodities such as dairy and meat, making this risk especially relevant.

Most public support to agriculture is delivered through MPS. MPS is mainly provided through border measures applied through the Andean Community's Price Band System (APBS). The APBS applies import tariffs and variable levies to stabilize import prices for commodities such as rice, milk, sugar and pig meat. When import prices fall within an agreed price band, only the standard import tariff applies, whereas variable levies are applied to correct import prices and maintain them within the agreed price band. Although the objective of the APBS is to stabilize import prices for consumers in the respective countries of the Andean Community, the policy directly influences the decision-making of Colombian producers who wish to export within the Andean Community, as they must take account of the variable levies charged through the APBS. Specifically, Colombian producers benefit from a guaranteed minimum price for certain commodities when exporting throughout the Andean Community, which can incentivize the production of these commodities.

In addition, Colombia has seven commodity Price Stabilization Funds (Fondos de Estabilización de Precios, FEPs) in place that cover beef, milk, cotton, cocoa, coffee, palm oil and sugar cane. While the FEPs are mandated by the Government, they are typically managed by farmer associations and funded by farmers themselves. When farmers receive farm gate prices that are higher than an agreed maximum, they must contribute to FEPs. In turn, when farmers receive farm gate prices that are lower than an agreed minimum, they receive a contribution from the FEPs. FEPs can, therefore, also influence the decision-making of farmers, who are guaranteed a certain minimum price for specific commodities.

MPS has a number of undesirable characteristics, including distorting trade and influencing production decision-making. Specifically, MPS incentivizes farmers to produce more of a particular commodity in order to qualify for support. This is particularly harmful in the case of GHG-intensive commodities such as milk and beef. These commodities were associated with annual support totaling USD 545 million (25 percent) and USD 82 million, respectively, between 2016-19 in Colombia.[75]

Special credit lines and support for borrowed capital are the most common forms of direct agricultural support in Colombia. This support is managed and implemented by FINAGRO (Box 3). The Incentive to Rural Capitalization

### BOX 3. OVERVIEW OF THE AGRICULTURAL SECTOR FINANCING FUND

The Agricultural Sector Financing Fund (FINAGRO) is the national development bank for the agricultural sector that disburses resources through intermediaries such as cooperatives, banks and micro-credit institutions. FINAGRO implements policies enacted by the National Agricultural Credit Commission (CNCA). FINAGRO´s main source of funding is Agricultural Development Bonds, which are issued when commercial banks do not meet their obligation of allocating 15 percent of commercial credits to the sector.

While FINAGRO does not consider climate change in a holistic and transversal manner, it does consider environmental sustainability to some extent. For example, FINAGRO is party to Colombia's Green Protocol (Protocolo Verde), which aims to facilitate the deployment of sustainable finance in Colombia. In line with this, FINAGRO offers a number of sustainable credit lines to different agricultural sub-sectors. Notwithstanding, these only comprise a small portion of FINAGRO's credit lines.

(*Incentivo a la Capitalización Rural,* ICR), consists of a payment towards the balance of a credit, and aims to incentivize investment in the agricultural sector. Smallholders can reduce their loans by up to 40 percent of the value of the investment.[76] The ICR covers investments in machinery, investments to make land suitable for production, and investments in late performance crops.

Special Credit Lines (*Línea Especial de Crédito*, LEC) with subsidized interest rates and favorable instalments are designed to address the needs of separate producer segments.[77] Sustainability considerations are not transversal for every LEC. For instance, the Government recently enacted a LEC for investing in silvo-pasture, agroforestry projects and sustainable initiatives in 180 municipalities with the highest rates of deforestation.[78] At the same time, an LEC is provided to promote cattle breeding by providing inputs for cattle ranchers to increase their number of animals.[79] Increasing the productivity of the cattle sector – which is currently typified by extensive production models that drive deforestation – should be a crucial component of climate mitigation in Colombia. It is important, however, that policies that aim to achieve this objective do not promote the proliferation of extensive cattle ranching and associated deforestation. Yet, the LEC promoting cattle breeding does not involve any environmental conditionality.

Tax concessions can also lead to favored commodities that contribute to GHG emissions. For instance, subsidized

### BOX 4. COLOMBIA'S FORESTRY INCENTIVE CERTIFICATE SUPPORTS COMMERCIAL FORESTS

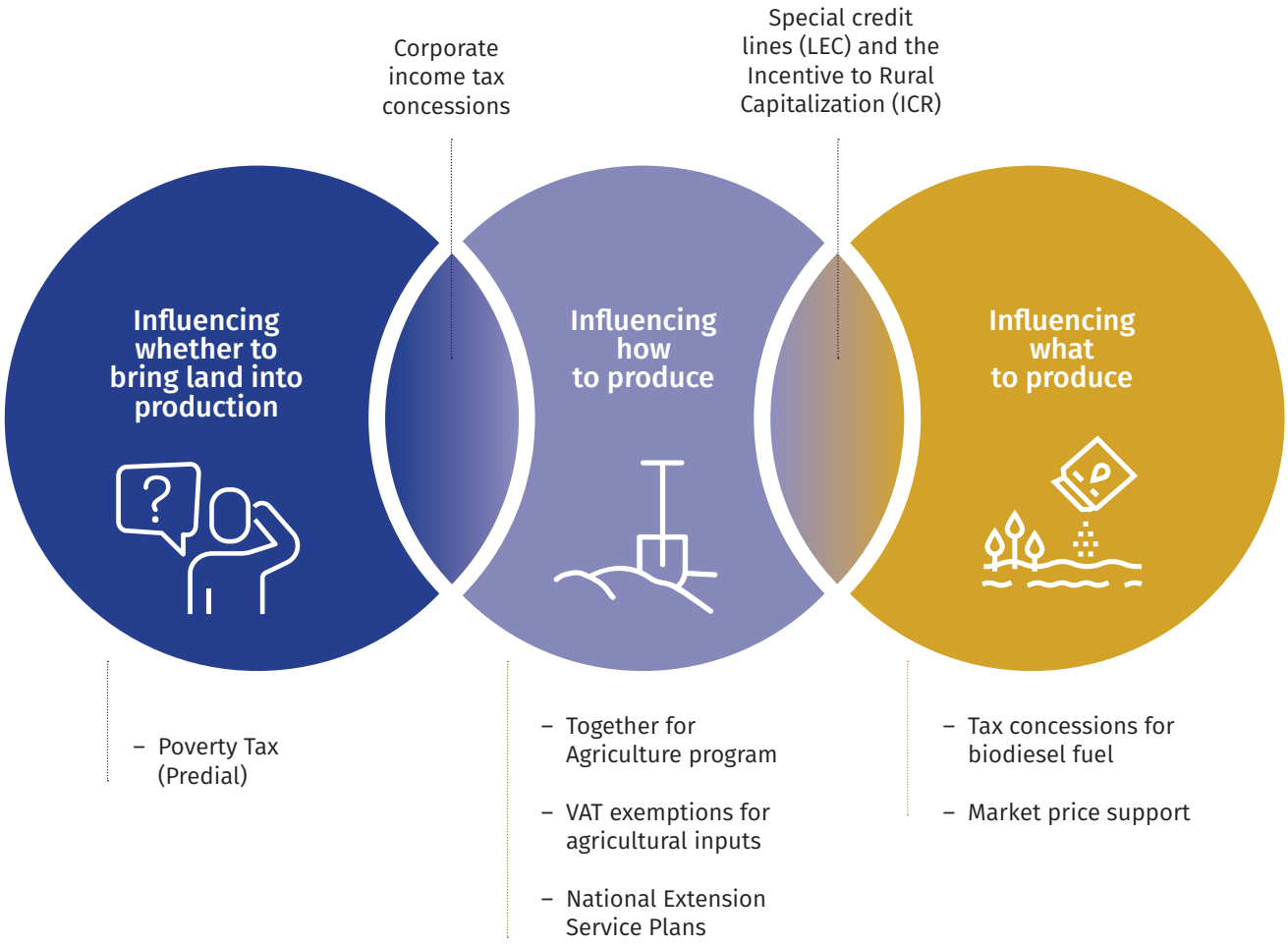
The Forestry Incentive Certificate (Certificado de Incentivo Forestal, CIF) was introduced in 1994 to promote the establishment of commercial forest plantations to produce raw material for furniture, triplex, pulp, paper, etc. The CIF provides an economic incentive to farmers for establishing and maintaining forest plantations. To be eligible, farmers must demonstrate that they are not producing on deforested land. Between October 2018 and October 2019, more than USD 800,000 have been disbursed in support of 13,136 hectares of forest plantations.[84]

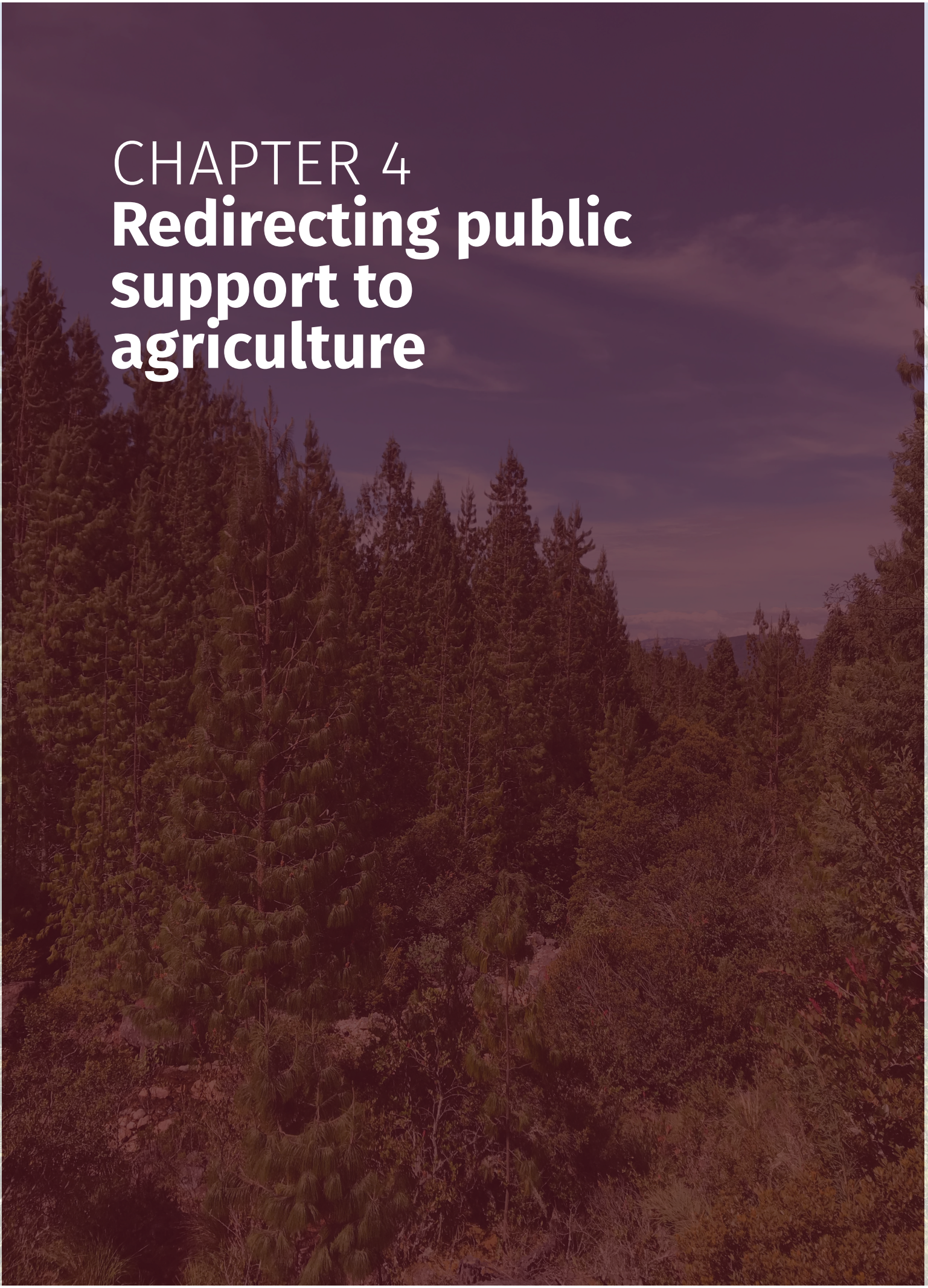
credit and tax exemptions, for such things as the biodiesel sales tax  and producers' income tax , have resulted in an expansion of the land area under palm oil cultivation. The expansion of this crop has led to overuse of water resources and degradation of natural ecosystems in some areas.

At the same time, Colombia has policies in place that encourage farmers to produce commodities that have a low emission intensity, for example through the establishment of commercial forest plantations (Box 4).

Figure 6 includes a summary of the classification of each policy tool according to how it influences production.

FIGURE 6. Influence of agricultural subsidies on land use decisions





# CHAPTER 4
# Redirecting public support to agriculture

Colombia's agricultural subsidies need to be redirected to promote low-emission and climate-resilient development. At the same time, redesign must consider the low agricultural productivity and high poverty rates among small farmers in Colombia. Reform should, therefore, be implemented in a way that does not put additional burdens on already struggling farmers but rather supports them to adopt practices that mitigate climate change and improve profitability.

Redirecting any type of public support to agriculture is difficult. This is especially true when the groups benefiting the most from support have strong collective representation and tight political links to government and congress, such as the cattle industry in Colombia. Policy design must, therefore, account for the many synergies and tradeoffs among policy tools. Redesign must be clearly defined and come with a robust communications strategy, emphasizing the many benefits that sustainable value chains provide to farms and agribusinesses. In addition, redesign should involve the inclusive consultation and participation of local communities in decision making and land use planning. Finally, reforms should include grandparenting clauses and, if possible, be implemented in different phases to allow gradual adjustment of land use systems.

The following recommendations on redirecting public support to agriculture in Colombia are based on our country analysis and informed by the study by Galt et al. (2021) on 'Shifting finance towards sustainable land use: Aligning public incentives with the goals of the Paris Agreement'.

## 4.1 Remove incentives to bring land into production

Deforestation is responsible for the largest share of GHG emissions from land use in Colombia.[85] It is, therefore, important that agricultural subsidies do not provide incentives to farmers to bring additional land into production. In 2018, Colombia clearly defined and mapped the Frontera Agrícola (the country's agricultural frontier), providing clarity on what falls within and outside of the frontier and hence where production should and should not happen.[86]

A first and crucial step in reforming agricultural subsidies in Colombia is, thus, to make support conditional on farmers producing only within agricultural areas. As the agricultural areas have been clearly mapped, a check against this requirement can be readily and cost-effectively implemented before support is granted.

Compliance with this condition can also easily be monitored through remote sensing or by requiring farmers to report regularly on the GPS boundaries of their operations.[87] The zero-deforestation agreements in cocoa, beef and milk all reference the agricultural frontier, suggesting a commitment by large players and respective ministries to move in this direction.[88]

Despite these commitments, subsidies have not yet been made conditional on compliance with the Frontera Agrícola. While some policies require farmers to demonstrate that the proposed land use aligns with land suitability plans (see e.g., Box 1 above), none of the agricultural support schemes introduced in response to COVID-19 reference the agricultural frontier. This money may very well be incentivizing deforestation. In addition, ranchers operating within national parks and outside the agricultural frontier remain eligible for Government-subsidized bank loans to improve and extend production.[89] Ensuring that all subsidies – including credit lines – flow to activities taking place within the agricultural frontier should, therefore, be a priority for redesign. Recently, the Agrarian Bank implemented an information system that allows officials to check the cadastre code and verify that land is not located in a protected area.[90] This is a very important step towards zero deforestation financing and should be implemented across all public (and private) land use finance institutions and instruments.

## 4.2 Repurpose incentives to encourage low-emission farming practices

In addition, the Colombian Government should repurpose its agricultural subsidies to encourage farmers to adopt low-emission practices. As farming practices can have a significant impact on the extent of GHG emissions, such reform holds much potential to reduce emissions.[91] The recommendations provided below involve i) making subsidies conditional upon farmers adopting low-emission practices; ii) reforming input subsidies to encourage the efficient use of fertilisers; and iii) reforming the provision of technical assistance to consider climate mitigation.

**Introduce conditionality**

Much like introducing conditionality to ensure that farmers comply with the agricultural frontier, agricultural support could be made conditional on farmers producing in a sustainable way. In other words, Colombia can reform or introduce public support that require farmers to demonstrate that they have adopted emissions-reducing practices to qualify for support.

Currently, Colombia encourages sustainable investment by providing subsidized credit on a number of green loans (see e.g., the Sustainable Colombia programme, discussed in Box 2 above). Yet these green subsidies comprise only a small fraction of agricultural support provided in Colombia. More ambitious reductions in emissions can be achieved – without changing the amount of finance provided – by introducing conditions that encourage farmers to adopt emission-reducing practices.

One cost-effective reform option is conditioning agricultural support on a land suitability evaluation report. This ensures that support does not flow to activities or practices that contribute to soil degradation or depletion, or otherwise occurs in unsuitable environments. Currently, the Rural Planification Unit (UPRA) conducts evaluations to determine the suitability of land for different productive practices based on soil, climate and socio-economic criteria.[92] Introducing conditionality to ensure that land is used productively and according to its most suitable use holds much potential to reduce emissions in Colombia, as there is a significant mismatch between the most suitable use of land and the actual production taking place (Table 1), and 16 percent of land is overexploited.[93]

In addition to providing safeguards against environmentally harmful production practices, conditionality should be implemented to encourage farmers to adopt practices that reduce GHG emissions.[95] Specifically, subsidies should be applied preferentially (or exclusively) to climate-smart agricultural practices. This can be done by providing preferential credit, as is the case in the Brazilian ABC programme, or through programmes like those being designed by the European Union (EU) that pay farmers who adopt emission-reducing practices (Box 5). Climate-smart agricultural practices need to be tailored to the local context with an eye on reducing emissions while decreasing production costs and increasing productivity and farmers' incomes.[96]

Conditional subsidies that promote the adoption of climate-smart agricultural practices would be especially well-spent in Colombia's livestock sector. Extensive cattle farming is both the dominant land use – and an important environmental problem - in Colombia, despite receiving relatively little Government support. Shifting extensive cattle farming practices to mitigate climate change will require well-designed subsidies tailored to the local context and containing appropriate technical assistance. Box 6, below, contains a case study on the GANSO programme, which can serve as an instructive example of how to transform Colombia's entire livestock sector.

Overall, conditionality was singled out by interviewees from the National Planning Department (DNP), Ministry of Agriculture and Ministry of Finance as the most feasible and relevant redesign option. Conditionality does not affect farmers' incomes, is easy to implement and can be enforced in a cost-effective manner.

**Reform input subsidies**

Colombia should also reform its agricultural input subsidies. Rather than subsidizing input use, subsidies should focus on improving access to low emission inputs and increasing the efficiency with which traditional inputs are used. In addition, input subsidies should focus on technical assistance to train farmers on how to apply inputs efficiently.

It is common practice in Colombia to over-apply fertilisers.[101] Overuse is both a source of emissions and a waste of money. Yet, if these subsidies are removed without efforts to improve the efficiency of input use, this can negatively impact the profitability of agricultural production without significantly reducing nitrogen leakage. It is, therefore, important that input subsidies are replaced with technical assistance that supports farmers to maintain yields while reducing fertiliser input.

TABLE 1. Mismatch between the most suitable use of land and its current use across different categories

| | MOST SUITABLE LAND USE | CURRENT LAND USE |
|---|---|---|
| **Crop production** | 19.3 percent | 4.6 percent |
| **Livestock production** | 13.3 percent | 30.6 percent |
| **Plantation forestry** | 4 percent | 0.4 percent |

*Source: URPA, 2014.*[94]

**Reforming the provision of technical assistance**
Investments in technical assistance have the potential to both increase productivity and lower GHG emissions and can do so while driving agricultural innovation. Yet, technical assistance in Colombia has been promoting business-as-usual practices instead of sustainable land use.[102] Furthermore, technical assistance currently does not guarantee sustained support to farmers over a longer period of time, which is required to make possible a transition to better farming methods.

As the Extension Services National Plan was designed without consulting climate change experts from either the Ministry of Agriculture or the Ministry of Environment, money to finance the plan could be better spent if sustainability and mitigation are considered. Specifically, it is important to further embed climate change considerations in the technical assistance offered through the PDEAs.

Overall, credit lines should be introduced that cover the cost of high-quality extension services. Currently, some commercial banks are designing special credit lines that include, and are conditional on, the provision of extension services. However, if this practice is not extended throughout all financers – including public sector banks and FINAGRO – success might be challenging since the interest rates of LECs are typically much lower.

## 4.3 Redirect finance from high-emission to low-emission commodities

Finally, agricultural subsidies provide a valuable opportunity to encourage farmers to produce commodities that are less GHG-intensive. While Colombia already provides some incentives for sustainable forestry (see e.g., CIF in Box 4 above) much more can be done. Subsidies that perpetuate business-as-usual agriculture should either be reformed with the aim of lowering the emission-intensities of associated commodities or be replaced with support for commodities with a generally low emissions profile (such as timber, tubers and grains). Alternatively, putting a price on agricultural emissions – either through a carbon tax or an emission trading system – can encourage farmers to produce commodities at a lower emission intensity.

There are various ways in which subsidies can be redesigned to incentivize farmers to produce commodities that have a generally low-emissions profile. Firstly, Colombia can reform tax concessions to encourage farmers to maintain some of their land as forest. This can be done by taxing land that is covered with trees at a lower rate than land that is used to grow crops.

Secondly, farmers can be compensated for emission removals from tree growth under PES schemes. Such schemes were first introduced in Costa Rica in 1994 and have since been adopted in many Latin American countries and throughout the world. They offer useful models and lessons for Colombia.[104] Costa Rica currently has over one million hectares of forest in the PES programme, which benefits Indigenous communities and areas with low social development.[105] The scheme is also helping to formalize land tenure and update property registries aimed at increasing tax collection. In 2011, Brazil

### BOX 5. EXAMPLES OF AGRICULTURAL SUBSIDIES THAT ARE CONDITIONAL ON FARMERS ADOPTING LOW-EMISSION PRACTICES

Colombia could learn from the Brazilian Low Carbon Agriculture strategy (ABC). The ABC aims at promoting the implementation of climate-smart technologies and providing technical assistance to small and medium-sized producers that are more vulnerable to climate change.[97] A relevant element from the ABC is that it includes particular actions at the national, federal and municipal level.[98] The plan is implemented through six programmes: direct planting, soil restoration, silvo-pastoral activities, commercial plantations, nitrogen biological fixation and animal residue treatment. Each programme has its particular goals, indicators and GHG emission-reduction targets.

At the time of writing, the EU is reforming its Common Agricultural Policy developing eco-schemes whereby farmers qualify for different levels of support when they adopt different farming practices.[99] Each member state will maintain flexibility to define the farming practices that are most likely to lower emissions in their jurisdictions, and the support that farmers receive for complying with these conditions is additional to other payments under the EU CAP. While the eco-schemes are still being designed at the time of writing, critics are optimistic about their potential to encourage ambitious emission reductions.[100]

### BOX 6. GANSO: A CLOSER LOOK AT PROMOTING CLIMATE MITIGATION FOR COLOMBIA'S LIVESTOCK SECTOR

Cattle ranching is a key economic activity for many rural households in Colombia. In fact, most agricultural land in Colombia is used as grazing land despite the fact that only a minor portion has potential for livestock (Table 1). Cattle rearing in Colombia is characterized as low-tech and extensive, averaging less than one head of cattle per hectare. A number of structural and systemic barriers hinder the transformation of Colombia's livestock sector, including:

- lack of access to financing capital
- limited technical capacities
- inadequate technical assistance
- limited administrative and managerial capacities at farm level
- difficult access to markets and prices
- difficulties related to land tenure

In order to overcome these structural barriers and reduce the GHG emission of the sector, GANSO was established by the International Center for Tropical Agriculture (CIAT) and Climate Focus.[103] GANSO aims to offer an integral, privately focused solution to support the transition to sustainable land use by taking a farm-by-farm approach. GANSO takes the bovine livestock sector in the Orinoquia region as its starting point and aims to i) provide technical assistance; ii) build value chain alliances; and iii) facilitate market access for sustainable beef.

GANSO provides technical assistance and financial support to farms who wish to intensify their livestock production and diversify it through the establishment of forest plantations and agricultural crops. The technical assistance is focused on increasing productivity and improving pasture management, and advice is tailored to each farm.

GANSO builds alliances throughout the value chain to develop a coherent organization of and articulation between value chain actors, including the public and private sector and civil society representatives. Generating dialogue and coordination spaces – such as the ones created within the realm of the Tropical Forest Alliance platform – are at the centre of GANSO's approach and have proved to be useful to redirect public financial and non-financial incentives and overcome structural barriers in the livestock sector. Public sector investments in scientific research tied to market studies, extension services and training are necessary to define adequate production models keyed to each region's specific soil, climactic and socio-economic conditions. Analysis produced by the Government's rural planning unit (UPRA) can be used as input for this.

In Colombia, beef is sold at prices that do not represent production quality. GANSO has created the *Aval GANSO de Sostenibilidad,* which, in partnership with retailer Grupo Exito, is promoting a market price differentiation that incentivizes good production practices at the farm level. It also aims to avoid the intervention of commercial intermediaries that distort prices and limit the possibilities for producers to obtain a fair market price for its produce. Intermediaries exist in various segments of the value chains due to a lack of adequate infrastructure, informality and other market barriers created by, for example, security issues surrounding the long internal conflict and the low regularization of land. Private sector companies, such as retailers that guarantee the direct purchase of production and aim for value chain formalization, could receive tax incentives as anchor companies promoting sustainable land use.

GANSO provides a valuable starting point of best practices on how to couple technical assistance to adequate financing and appropriate market access for sustainable production. Giving continued support to farm owners in their transition from low-tech extensive cattle ranching to more intensive livestock practices – as well as encouraging farmers to shift towards production systems with low emission intensities such as tree crops and forestry – should be a priority for reorienting public finance for the livestock sector.

103 More information available at http://ganso.com.co/

implemented the PES scheme Bolsa Verde as part of a broad poverty alleviation policy. The programme provides payments for the adoption of environmental practices and technical assistance to support beneficiaries in achieving conservation commitments.[106]

While PES schemes hold much potential to reduce emissions, the crucial question is how to finance them – or who should pay for these services.[107] Costa Rica's PES programme, for example, is financed by polluters paying a carbon tax.[108] As mentioned in Section 2.5, Colombia's carbon tax has collected significant resources that have not yet been implemented and can constitute an important financing source for PES.

In addition to incentivizing emission reductions, the Colombian Government should support economic activities around timber and non-timber forest products with low emission intensities. The National Plan to Promote the Production Chain of Socio-Biodiversity products (PNPSB) in Brazil, which aims at promoting sustainable value chains for Amazonian fruits, is a good example of such initiatives. The PNPSB provides special credit lines, technical assistance and MPS for small producers of açai, natural rubber and Brazil nut.[109] Colombia could also promote similar initiatives that have an international profitable market and could lift many families out of poverty. For example, the Price Stabilization Funds for high emission commodities can be removed and replaced with similar funds for non-timber forest products.

# CHAPTER 5
# **Recommendations**

Colombia's land use sector is the country's largest source of greenhouse gas emissions. Transitioning to low-carbon land use is, therefore, a crucial component of mitigating climate change in the country. This will require a careful recalibration and repurposing of existing public support to agriculture.

The recommendations for repurposing agricultural support are summarized in Table 2 below. These recommendations are multi-dimensional and holistic in nature and focus on redesigning existing subsidies to provide incentives for efficient land use, low-emissions agriculture, and forest protection and restoration. The redesign recommendations specifically aim to promote low-carbon land use without impinging on other policy objectives such as rural development, poverty reduction, food security and agricultural development. The recommendations also build on Colombia's existing commitments in the context of the Peace Agreement and take account of the challenges faced by smallholders in the aftermath of the coronavirus pandemic. In this way, the proposed redesign options aim to further low-carbon development in Colombia's land use sector without losing sight of other important policy objectives.

These recommendations should be implemented gradually and without putting additional burdens on already struggling farmers. Reform will benefit from an extensive consultation and a participatory decision-making process, especially if it is expected to have a disproportionate effect on a specific segment of the population. Finally, reforms should be accompanied by robust communication strategies that can address misinformation and support any claims of benefits with clear evidence.

A long-term transition to low-carbon land use will require more than simply well-designed public support for agriculture. The Government of Colombia must also foster an enabling environment for sustainable land use. This should include efforts to i) formalize land tenure; ii) facilitate the participation of local communities and authorities in land use planning; iii) provide rural public goods and services; iv) promote the inclusion of youth and women in the land use sector; and v) further climate change financing for the sector.

Going forward, Colombia should translate its current climate change framework – which has recently been implemented at a very high-level – to all new and existing policy design and budgetary allocations in the land sector. The recommendations presented in this report provide a good starting point for ensuring that existing policies and subsidies are aligned with climate mitigation. New policies and associated budgetary decisions should also be designed in a manner that minimises perverse incentives and provides green incentives around whether to bring land into agricultural production, which agricultural commodities to produce, and how to produce them.

TABLE 2. Summary of green redesign recommendations for public support to agriculture

| RECOMMENDATION | REDESIGN ELEMENTS |
|---|---|
| **Remove incentives to bring land into production** | • Make support conditionalon farmers avoiding production within Colombia's Agricultural Frontier.<br>• Monitor compliance through remote sensing or by requiring farmers to report regularly on the GPS boundaries of their operations. |
| **Introduce conditionality to encourage low-emission farming** | • Make support conditional on a land suitability evaluation report.<br>• Introduce subsidies (e.g., specialized credit lines or direct transfers) for farmers to adopt climate-smart agricultural practices. |
| **Reform input subsidies to encourage low-emission farming** | • Introduce subsidies to improve access to low emission inputs and increase the efficiency with which traditional inputs are used.<br>• Replace fertiliser subsidies with technical assistance that supports farmers to maintain yields while reducing fertiliser input. |
| **Reform the provision of technical assistance to encourage low-emission farming** | • Embed climate change considerations in the technical assistance offered through the Plan Departamental de Extensión Agropecuaria (PDEA) (Departmental Extension Services Plan for Agriculture and Livestock).<br>• Introduce credit lines to cover the cost of high-quality extension services. |
| **Redirect finance from high-emission to low-emission commodities** | • Reform existing subsidies that promote business-as-usual agriculture to lower the emission-intensities of associated commodities.<br>• Introduce subsidies that encourage farmers to produce low emission commodities such as timber, tubers, grains and non-timber forest products.<br>• Put a price on agricultural emissions, either through a carbon tax or an emission trading system. |

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