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WORKING PAPER

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Agriculture, forestry and other land-use in the climate negotiations: a Latin American perspective

A perspective from Latin American and Caribbean think tanks on climate change issues Series

René Castro and Mario Chacón León (CATIE, Costa Rica)

This publication is part of a collection of papers that analyze several of the technical and political issues in the UN climate change negotiations, including those related to climate finance and to the international adaptation framework; and how to support and encourage low-carbon and climate-resilient development. This work series was led by IDDRI (Teresa Ribera, Celine Ramstein) and jointly prepared with experts from four Latin American think tanks: Maria Elena Gutierrez, Maria Paz Cigaran, David Garcia and Carolina Chambi (Libelula, Peru), Rene Castro and Mario Chacon Leon (CATIE, Costa Rica), Hernan Carlino (Fundacion Torcuato Di Tella, Argentina) and Renato Flores and Marina Drummond (Fundacao Getulio Vargas, Brazil), as well as from IDDRI (Alexandre Magnan, Teresa Ribera, Sebastien Treyer and Thomas Spencer).

The LAC region is at a crossroads: while its emissions are still relatively low compared to global emissions, they are changing quickly. The region will face tremendous impacts from climate change, while adaptation and mitigation policies could present many opportunities for strengthening regional integration. This collection has been prepared by think tanks in countries that belong to many different negotiating groups within the UNFCCC, as well as economic alliances, and therefore can play a key role to advance new ideas and find "bridges" between different positions.

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"The Agriculture, Forestry and Other Land Use sector (AFOLU) in Latin America and the Caribbean (LAC) represents an immediate climate mitigation and adaptation opportunity that should not be ignored. In order for the international community to reduce the negative impacts of climate change and avoid global warming above 2°C, there is a need for a satisfactory agreement to be reached during the next two United Nations Framework Convention on Climate Change (UNFCCC) Conferences of the Parties (COPs), to be held in Lima in 2014 and Paris in 2015. With an ambitious scenario of mitigation policies and actions that involve all sectors of the economy, it would be possible for LAC to reduce the region's emissions per capita, currently at 8 t CO2eq, to 2 t CO2eq in 2020 and to 0.7 t CO2eq in 2050. This effort is vital to ensure that the average temperature of the planet does not increase by more than 2°C, a rise that would have irreversible negative effects on the planet. The AFOLU sector in LAC has the potential to support the achievement of this goal; however it needs clear policies and financial resources to help it carry out early actions in preparation for the implementation of a post-2020 agreement."

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This collection of papers was written by a group of independent experts acting in their organization's capacities and who have not been nominated by their respective governments.

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This project has greatly benefited from the discussions held during the think tank workshop organized in Santiago, Chile on October 8th, 2014. We would like to thank the Economic Commission for Latin America and the Caribbean (ECLAC), the United Nations Environment Programme (UNEP), the EUROCLIMA programme and the Climate and Development Knowledge Network (CDKN), as well as the experts and negotiators who participated in this dialogue.

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René Castro and Mario Chacón León (CATIE, Costa Rica)

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FOREWORD

As part of its work on international climate coordination, IDDRI is animating a series of informal dialogues among negotiators from Latin America and the Caribbean (LAC), with the aim of contributing to the discussions ahead of the United Nations Framework Convention on Climate Change Conference of the Parties (UNFCCC COP 20) to be held in Peru in 2014, and of the UNFCCC COP 21 to be held in France in 2015. These dialogues are co-organized by the governments of Brazil, Chile and Peru, together with the Economic Commission for Latin America and the Caribbean (ECLAC) and the United Nations Environment Program (UNEP).

To infuse the discussions with innovative ideas and to involve key stakeholders, IDDRI organized a workshop on October 8, ahead of the negotiators' dialogue held in Santiago, Chile, on October 9 and 10, 2014, which gathered representatives from various think tanks and institutions from across the region and regional climate change negotiators. We would like to take this opportunity to express our sincere gratitude to the ECLAC and UNEP regional teams for their support during this project and for the organization of this workshop and dialogue, as well as CDKN for funding these dialogues.

In the months leading up to this workshop, ID-DRI worked with these think tanks to prepare background papers that analyze several of the technical and political issues in the UN climate change negotiations, including those related to climate finance, and how to support and encourage low-carbon and climate-resilient development. These background papers were discussed during the workshop by regional experts and negotiators. The authors of the final versions that are presented here have integrated into their texts the most notable comments that emerged throughout this process. We would also like to thank the workshop participants and the think tanks involved in the project who wrote the papers presented here, in particular Maria Elena Gutiérrez, María Paz Cigarán, David García and Carolina Chambi (Libélula, Peru), René Castro and Mario Chacón León (CATIE, Costa Rica), Hernán Carlino (Fundación Torcuato Di Tella, Argentina) and Renato Flores and Marina Drummond (Fundação Getulio Vargas, Brazil), as well as Gladys Hernandez (from the Centro de Investigaciones de la Economia Mundial) whose participation and comments during the workshop were extremely valuable. Thanks also to my colleagues at IDDRI who contributed to this publication: Céline Ramstein, Alexandra Deprez, Thomas Spencer, Alexandre Magnan, Sebastien Treyer, Michel Colombier, Sáni Zou and Pierre Barthélemy.

These papers are important regional contributions to the global debate leading up to COP 21, and our work on these dialogues gives a platform to these ideas and the voices of LAC countries, helping to build common perspectives. Coming directly from LAC, these contributions are particularly important for a number of reasons. First, despite the efforts of the Intergovernmental Panel on Climate Change (IPCC) and others, the literature on climate change is still somewhat dominated by researchers from North America, Europe and other Annex I countries. However, there is a vast amount of policy experience and research expertise that can be referred to in LAC, as these papers rightly demonstrate. Second, as the opening chapter outlines, the region has specific circumstances, which means that perspectives on policy and research coming from this region can be particularly innovative and valuable for discussion at the global level.

The results of this exercise went well beyond our expectations. We have been greatly encouraged and inspired by the concrete, pragmatic and innovative proposals formulated in the papers and the potential areas of consensus discussed during the workshop. Our hope is that this dialogue will help to address deadlocks in the negotiations in the coming months.

Teresa Ribera, director of IDDRI

Although IDDRI supports many of the views and recommendations presented here, each paper reflects the view of its authors.

SUMMARY

The Agriculture, Forestry and Other Land Use sector (AFOLU) in Latin America and the Caribbean (LAC) represents an immediate climate mitigation and adaptation opportunity that should not be ignored. In order for the international community to reduce the negative impacts of climate change and avoid global warming above 2°C, there is a need for a satisfactory agreement to be reached during the next two United Nations Framework Convention on Climate Change (UNFCCC) Conferences of the Parties (COPs), to be held in Lima in 2014 and Paris in 2015.

LAC countries have participated actively in the UNFCCC, as well as in the design and application of early actions in relation to the policy mechanisms that the Convention has developed (more than 50 countries are developing national REDD+ programs, and some have initiated Nationally Appropriate Mitigation Actions [NAMAs] in the agriculture sector). However, these mechanisms have been predominantly focused on mitigation in the forestry sector and in respect of land-use change, leaving to one side adaptation in the agriculture sector. It is necessary to establish how these UN-FCCC mechanisms can be applied to the agriculture sector and how they can achieve a support package for adaptation in the agricultural sector with the goal of providing food security and sustainable rural development. Furthermore, the foregoing should be subject to a transparent reporting and verification framework.

With clear guidance and financial resources, it is possible to generate international initiatives, such as those presented during the New York Climate Summit in 2014, where LAC countries committed to major efforts to stop deforestation, restore extensive areas of degraded land and implement climate-smart practices.

With an ambitious scenario of mitigation policies and actions that involve all sectors of the economy, it would be possible for LAC to reduce the region's emissions per capita, currently at 8 t CO_2eq , to 2 t CO_2eq in 2020 and to 0.7 t CO_2eq in 2050. This effort is vital to ensure that the average temperature of the planet does not increase by more than 2°C, a rise that would have irreversible negative effects on the planet. The AFOLU sector in LAC has the potential to support the achievement of this goal; however it needs clear policies and financial resources to help it carry out early actions in preparation for the implementation of a post-2020 agreement.

Despite the challenges it faces, the UNFCCC has provided a space for transparent discussion and the creation of policy guidelines that LAC countries have incorporated into national policy. The large number of early climate actions governments are implementing, the regional projects carried out by research centers, NGOs and the private sector, together with the current global inter-governmental working platforms, provide a favorable context for the Paris COP in 2015 to achieve firm post-2020 climate agreements. Moreover, these decisions will allow for the implementation of early actions, without the need to wait for more years to pass in order to carry out things that can be undertaken today.

1. INTRODUCTION

The Latin America and Caribbean region (LAC) represents an opportunity to reduce local and global impacts of climate change. LAC has extensive areas of land devoted to agricultural production and has significant carbon stocks held in forests that should be conserved; this is in addition to degraded areas that could be restored with mitigation objectives and which could provide multiple benefits, both social and environmental. More than 30% of the land in the region is forest (in many countries the figure is over 50%, FRA 2010), and it is estimated that there are some 550 million hectares of deforested and degraded land to be restored (FAO 2006). However, to avoid missing these opportunities and, moreover, to ensure they are expressly recognized in global and local mitigation and adaptation actions, there is a need to have clear policy at the international level.

For the international community to prevent the most severe impacts of climate change and avoid global warming above 2°C, it will be necessary for a satisfactory agreement to be reached between the Parties. This agreement should secure full participation from countries, according to their capacities and responsibilities, as well as ensuring the integration of the distinct sectors of the economy, including agriculture, forestry and other land-use (AFOLU).

The AFOLU sector is of vital importance for the survival of the global population, however it is a highly vulnerable sector. In LAC, a 2°C global warming would severely damage the region's economy. For example, the impact in the agriculture sector could generate losses over US\$50 bn in this sector by 2050, in reduced production alone, negatively

impacting jobs and income (Parry et al. 2004, cited by Vergara et al 2014a). Mitigation and adaptation actions are fully necessary, with the difficulty that these could be extremely costly. It is estimated that the global mitigation of climate change will require long-term investments that could be around 1% (some \$700 bn) of annual global GDP (Stern 2007), and between 0.5% and 5% of GDP (the high figure being for the Caribbean) in LAC (CEPAL 2014). For adaptation alone, the annual cost is estimated at 0.17% of GDP (World Bank 2010)¹. The scale of the cost of climate change and its impact on agriculture helps to understand the enormous challenges, political and diplomatic, of achieving agreements which call for significant mitigation and adaptation objectives within the scope of the UNFCCC. However, at the same time, the AFOLU sector represents an opportunity to confront these challenges and to achieve positive cost-effective results in the short term.

Mitigation actions are being promoted in developing countries for the AFOLU sector, giving priority to forests while taking importance away from the role of agriculture. However recently, analysis

I. To put the immense cost associated both with mitigation and adaptation into perspective, it bears mentioning that the worldwide total amount earmarked for official development assistance is approximately 0.23% of annual GDP of the developed countries, and only some of these maintain and comply with the OECD objective of earmarking 0.7% of their annual GDP for aid. To give further perspective, in developing countries like Costa Rica, the annual investment in public university education (the cost of which is almost entirely borne by the state) is under 1.5% of annual GDP. Statistical examples from the Organisation for Economic Co-operation and Development (OECD) can be found at http://www.oecd.org/dac/stats/aid to poor countries slips further as governments tighten budgets.htm

has begun to be carried out of policy options that incentivize the adaptation of agricultural systems. There are still no concrete proposals, but it is urgent that for 2015 the international community draws up a policy framework containing mitigation and adaptation guidelines and mechanisms for the AFOLU sector, to allow countries to re-direct and improve efficiency in respect of the funds provided for this sector.

Given the need to efficiently use available funds and accelerate the decision-making regarding the design and implementation of mitigation and adaptation actions, this paper has two aims. On the one hand to analyze the state of the negotiations on the inclusion of the AFOLU sector under the UNFCCC, and on the other, show the relevance of LAC in terms of demonstrating that forests and the sustainable use of agricultural land are low cost options, which in addition in many cases can be qualified as "no regret options" when degraded land is recovered.

To meet the two objectives set out, this document will firstly present a brief description of the importance of the AFOLU sector in LAC, before analyzing how the sector is being dealt with under the UNFCCC. It will finish with a series of reflections on what results should be expected from the COP in Paris in 2015 in relation to the opportunity for success offered by LAC.

2. THE AFOLU SECTOR AND CLIMATE Change in Latin America: An Economic Driver with Potential For Mitigation and Adaptation

The AFOLU sector is vital for life on the planet, given that it provides ecosystem goods and services, such as the provision of water and food security for the population. The sector is of extreme economic and cultural importance in the LAC region, and the negative effects of climate change on this sector could give rise to major losses. That said, the AFOLU sector in the region can play an important role in helping to regulate the climate, immediately achieving the type of global effort that seeks to prevent global temperatures rising above 2°C over the coming decades.

2.1. Economic importance and the impact of climate change

In Latin America, the AFOLU sector provides ecosystem goods and services, such as food security, forestry goods, water protection, conservation of biodiversity and soils, as well as acting as a carbon sink. It is, furthermore, an important economic and cultural driver in the region's countries. It is estimated that globally the area of cultivable land that could be added is 445 million hectares, of which 28% is in LAC, a region where the agriculture and foodstuff sectors provide around 14% of employment, 23% of exports, and make up 10% of the world market, benefiting both local communities and national and international companies (World Bank 2013, Fischer and Shahger 2010). The forest area of Central America and the Caribbean represents over 30% of total land area, while in South America the figure is 49% (FRA 2012). Exports of forest products from the region total \$12 bn, equivalent to 7% of total world exports of such products (FAO 2012). However, the lack of technical capacity and the economic necessities faced by the LAC region, combined with climate change impacts, threaten the economic importance of the sector and its potential to reduce greenhouse gas emissions (GHG).

It is estimated that the effects of climate change, such as changes in temperature, lowered soil humidity, sea level rises and an increase in the concentration of atmospheric carbon dioxide (CO₂), could reduce production and provoke changes in the distribution of crops. It is estimated that the impact on agriculture in LAC could give rise to annual export losses of \$50 bn by 2050 (Vergara et al 2014a).

At the same time, GHG emissions due to deforestation are expected to continue -varying from country to country-, as is the case with emissions from the agriculture sector.

Total GHG emissions in LAC in 2010 reached 4.7 gigatons CO_2eq (Gt CO_2eq), representing 10.8% of total global emissions, with the majority of emissions coming from the AFOLU sector (Vergara et al 2014b). Recent analysis shows that the annual rate of deforestation in LAC for the period 2000-2010 was 0.46%, while emissions of CO_2eq in 2010 were 1.553 bn metric tons (t) (World Bank 2014). Global emissions from the agricultural sector increased from 4.684 t to 5.335 t, of which 26% were emitted in LAC; emissions that could continue to increase until 2030 (Tubiello et al 2014) where development follows a business-as-usual scenario. At a global level the AFOLU sector contributes close to 24% of GHG emissions (IPCC 2014).

Given this scenario, the management of the resources of the AFOLU sector at production and territorial scales that integrates forest use, agricultural use, and other land-use, represents a viable cost-effective alternative whereby climate change mitigation and adaptation actions fit local and national realities, ensuring a sustainable future (Guariguata, et al 2009, Locatelli et al 2011, Harvey et al 2013, Duguma et al 2014, Elias et al 2014).

2.2. Mitigation potential of the AFOLU sector in Latin America and the Caribbean and its potential to contribute to lowering the level of emissions per capita in the region

In recent years, the government of Costa Rica has voluntarily committed to being a carbon neutral country by 2021. To achieve this, the country has, among other efforts, implemented a national strategy for Reducing Emissions from Deforestation and Forest Degradation (REDD+) and drawn up NAMAs, which seek to improve production systems in the coffee and livestock industries with the aim of reducing GHG emissions from these sectors. Furthermore, as part of the road-map to carbon neutrality, the country has in place a technology transfer program for other sectors such as transport (electric vehicles) and alternative energies such as solar, thermal and wind power. With political will and clear incentives, Costa Rica went from having forest coverage of 21% of its territory in 1987 to 54.2% in 2013 (according to the latest study from the Cooperación Aleman²). The reversal in deforestation required new legislation, education programs and an investment of \$500 m between 1996 and 2013, of which 80% came from Costa Rican taxes on fossil fuels. The country estimated that it could increase forest coverage by an additional 6% over the next 15 years, incorporating agroforestry and silviculture programs. The historic cost of a ton of CO₂eq is \$5, without including the opportunity cost of the land. If the most recent estimate from the Fondo de Financiamiento Forestal de Costa Rica (FONAFIFO) of the opportunity cost of land is included, the cost increases three-fold, to give a unitary value of \$15 per ton of CO_2 eq (Vega 2013).

Many other countries in the region have committed themselves to driving unilateral GHG emissions reductions in the AFOLU sector, which could, eventually, be brought under the UNFCCC umbrella. Among these countries Chile, Mexico, Guatemala, Costa Rica, Peru and Colombia presented policy pledges during the UN Climate Summit in New York in September 2014³. Guatemala, for example, has announced an objective to restore 1.2 million hectares in areas of high vulnerability⁴. Panama, for its part, is committed to planting r million hectares of forest⁵. Similar actions have been presented in areas related to climate-smart agriculture. More countries have joined these types of campaigns, which, with international political support and additional injections of funds, could accelerate the reduction in GHG emissions that is urgently needed to stabilize the climate⁶.

At a regional level, and with an eye on future targets, studies estimate that without taking measures to mitigate climate change, the LAC region will emit close to 7 GtCO2eq by 2050, reaching total emissions of 9.3 t CO₂eq per capita compared to the current value of 8 GtCO₂eq. Therefore, in order to lower emissions per capita to 2 tCO₂eq, in line with recommendations to avoid global warming above 2°C, will require substantial action in all sections of the economy, among which the AFOLU sector could play a fundamental role. This sector's contribution could drastically reduce emissions and even reach net zero emissions by 2030, achieving a reduction in emissions of 0.67 GtCO2eq (Vergara et al 2014b). At a cost of between \$5-\$20 per tCO₂eq, a substantial number of AFOLU alternatives, with a high mitigation potential, could be implemented (e.g. 80% of the mitigation alternatives studied in Central America, at \$20 per tCO₂eq, Castro 1999).

One action that has received widespread political support and that may help to reach the target of reducing the emissions per capita by 2 tCO₂eq is the 20x20 Initiative, under which countries in the region, with the participation of the World Resources Institute (WRI), and under the framework of the Bonn Challenge, seek to improve the condition of degraded land in Latin America (IICA 2014).⁷

http://www.minae.go.cr/index.php/actualidad/ anuncios/37-cobertura-forestal-del-pais-alcanza -el-52-38

^{3.} http://www.un.org/climatechange/summit/

http://www.gt.undp.org/content/guatemala/ es/home/presscenter/articles/2014/09/24/inter venci- n-de-guatemala-/

^{5.} http://www.elnuevoherald.com/noticias/mundo/ america-latina/article2824652.html

^{6.} Another interesting case is that of Ecuador. The country included the concept of ecosystem services in the Constitution of 2008 and also hoped to receive payment from the international community for the opportunity cost of not exploring a petrol rich zone in the Yasuni forests. The case provoked interest, but did not achieve the support it deserved. http://yasuni-itt.gob.ec/inicio.aspx

^{7.} The WRI and organizations including the Centro Agronómico de Tropical de Investigación y Enseñanza (CATIE) and the Unión Mundial para la Naturaleza (IUCN) consider the plan viable and are already carrying out actions with the aim of recovering natural forests and establishing agro-forests and silvopastures over some 20 million hectares between 2015 and 2020 in Latin America. To date this has been carried out through voluntary programs under various governments, creating, moreover, synergies with adaptation actions to make more efficient use of the available resources. CATIE has built up decades of experience investigating and promoting sustainable actions in the management of forests and agriculture, that also allow for mitigation

The COP in Paris in 2015 must provide a policy framework that clearly and integrally recognizes the importance of the AFOLU sector. LAC has demonstrated that clear policy frameworks are helpful in this regard. Therefore the provision of flexible implementation mechanisms and the necessary financial resources to put these into operation, through the appropriate frameworks and with the generation and diffusion of low carbon practices and technology for the AFOLU sector by 2020, should be facilitated.

3. THE AFOLU SECTOR WITHIN THE UNFCCC NEGOTIATIONS: THE RESPONSE OF LAC AND CONSIDERATIONS FOR COP 21

Low carbon practices and technologies exist in the AFOLU sector, however, for these to be put into practice as part of countries' development it is vital to have policy guidelines and financial resources such that these practices are fomented and implemented on a large scale. In this, the UNFCCC can play an important role, however it is still necessary for COP 21 in Paris 2015 that decisions are taken to finally define the existing mechanisms and, if necessary, to create new mechanisms that bolster the opportunities that the AFOLU sector brings as well as reinforcing the actions that governments in LAC have already started.

However, in order for COP 21 to produce a policy framework with clear guidelines, backed by the necessary financial resources, there are still questions that need to be accurately answered. To start with, it will be important to finally define how to implement existing mitigation mechanisms for the forestry sector and forests. It will also be necessary to consider more seriously the capacity of agriculture to reduce emissions, and that guarantees that adaptation aspects within the AFOLU sector in general will be included. All of the above should be done in an integrated way, given that negotiations on forests and agriculture are still carried out separately. For example, it should be noted that currently under the UNFCCC, the sector is brought within the group of activities: "Land Use, Land-Use Change and Forestry" (LULUCF), while agriculture is considered separately.

However, since 2006 the IPCC GHG Inventories guidelines include agriculture, forestry and other land-use sectors (AFOLU) in one single block. Moreover, under the UNFCCC, the sector has been considered from the point of view of reporting emissions and absorption of GHG and through the creation of mechanisms to incentivize mitigation activities, but focused above all on the forestry sector and Land-Use Change. Little has been done in the agriculture sector; it was not until COP 17, in 2011, that agriculture was included as an official item on the agenda of the Subsidiary Body for Scientific and Technological Advice (SBSTA).

The discussions under the Convention have evolved in such a way that the forestry sector now has three mitigation mechanisms created for it, while agriculture is treated as being almost on a voluntary basis, and is still without technical guidelines. The first mechanism to cover forestry projects was the Clean Development Mechanism (CDM) under the Kyoto Protocol, which is currently the only way to formally recognize mitigation action implemented up to the end of the Protocol's second commitment period in 2020. It only includes local projects of afforestation and reforestation, and where agriculture is included, it is for the reduction of gases other than CO2. The second mechanism deals with activities relating to reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks (REDD+), a mechanism that in principle has to be implemented at national level. The third model applicable to the forest sector, with a more flexible format than either CDM or REDD+, allows these sectors to be considered in the context of NAMAs. This latter option has begun to be used by some countries, which are developing NAMAs for their forestry and agriculture sectors (Ecofys 2014).

As yet no working mechanism or agreement has been developed in respect of agriculture. The CDM takes into account some initiatives at local level; within REDD+ it is seen indirectly as a cause of deforestation, while under NAMAs there are still no guidelines clearly established, in spite of the fact that some countries have started to take it into consideration. From the point of view of adaptation, agriculture has also lacked clear operational mechanisms, and the COP has taken nearly 20

and adaptation at local and regional levels. Currently, CATIE is implementing regional projects, among them the Regional Climate Change Program, financed by USAID, with the additional participation of other partners such as IUCN, CARE and Terra Global. This program helps all the countries of the region with the development of their REDD+ strategies, promotes the reforestation of degraded land at large scales, reduces the vulnerability to climate change and supports the countries formulating climate change mitigation and adaptation policies. It is an example of how international cooperation and local governments. supported by academia, work tirelessly on climate change issues in LAC. The region has the necessary potential to support, at both global and local level, climate change mitigation and adaptation actions.

years of discussions for the issue to be taken seriously. The inclusion of agriculture on the official agenda of the SBSTA in 2011 will allow for the adoption of policy guidelines to promote adaptation, while supporting rural development and food security⁸. Currently, in this context, countries can present their views and proposals to the COP for their consideration in regards to the preparation of the new policy framework in Paris 2015.

The UNFCCC has set out actions for the AFOLU sector that LAC has taken extremely seriously. 19 countries from the region are implementing REDD+ strategies with the support of the World Bank and the UN REDD Program⁹, while a growing number of countries, among them Costa Rica, Chile and the Dominican Republic are implementing NAMAs in agriculture and in relation to forests (Röser et al 2014). However, the COP needs to quickly establish the part agriculture has to play in the mitigation of climate change, as well as giving guidance on how the CDM, REDD+ and NAMA mechanisms can simultaneously support the AFOLU sector and promote adaptation actions along with the goals of protecting vulnerable ecosystems, developing food security and incentivizing rural development. This is a difficult challenge, even more so taking into account the risk of parallel discussions being carried on in the negotiation process. What could happen is that there are discussions on the one hand on mitigation and adaptation policies, on the other the participation of forests and agriculture, while at the same time a parallel analysis is carried out of the distinct requirements for developed and developing countries (Parker et al 2014). The negotiations need to be less divided.

The member countries of UNFCCC should accelerate the pace of technical decision making in relation to implementation mechanisms, and far less miss the opportunity that LAC offers, or fail to take into account the experiences it has garnered. A framework of clear and coherent policies that, subsequent to the COP in Paris, had available financial resources for its application would be a clear signal to the world that the situation is on the right track.

4. WHAT RESULTS SHOULD BE OBTAINED AT THE COP IN PARIS 2015?

4.1. Implementation mechanisms

From a technical point of view, it is to be expected from Paris that the governments of the countries reach agreement on ambitious targets for the reduction of emissions that take into account the AFOLU sector, giving a similar weight to the agriculture sector as has been given to the forestry sector. On this basis, it will be necessary to resolve the future of the CDM in respect of forests, once the second commitment period of the Kyoto Protocol is over in 2020. If the CDM is maintained, it will need to be resolved how to integrate it with the REDD+ and NAMA mechanisms. This should be done in the knowledge that the implementation of these three mechanisms represents in turn an opportunity to create synergies between actions in the forestry and agricultural sectors. All the experience generated by REDD+, under the UNFCCC, should be used to guide the inclusion of agriculture within the mitigation objectives the countries put forward.

Another pending issue, and one which is starting to become ever more relevant as negotiations advance and the understanding of the subject deepens, is the creation of synergies between mitigation and adaptation, as well as social and environmental co-benefits. Many countries and the scientific community have called attention to the fact that mechanisms such as REDD+ (Elias et al 2014) can create this type of synergies at different scales. However, as yet there have been few experiences on the ground that show how mitigation and adaptation can work together, at the same time as ensuring other co-benefits such as water management or bio-diversity conservation. More resources will be required to promote the implementation of pilot projects that can generate the information necessary to design concrete policies under the UNFCCC. These projects can be implemented as of now, so as to prepare the countries for the implementation of the post 2020 policy framework.

For the current convention mechanisms to be implemented efficiently it will be necessary for LAC countries to have the necessary financial resources. However, the lack of political will, together with the financial difficulties suffered by some member states of the UNFCCC, makes it difficult to make headway in bringing in new funds for climate change. Developed countries agreed at COP 15 in Copenhagen, Denmark, to invest \$100 bn annually by 2020, in mitigation and adaptation projects, a figure that is far less than the 1% of global GDP estimated as the necessary annual

^{8.} FCCC/SBSTA/2014/INF.2

http://www.un-redd.org/Partner_Countries/ tabid/102663/Default.aspx, https://www.forest carbonpartnership.org/redd-countries-I

investment in mitigation. The funds destined for adaptation are even scarcer, causing uneasiness for the poorest, most vulnerable countries.

COP 21 in Paris, therefore, is the subject of greater expectation than the conferences of recent years, firstly because a policy framework sufficient to meet humankind's requirements is being aimed for, and secondly because the scarcity of funds creates a need to develop mechanisms that maximize the funds that are available. In this context, within the AFOLU sector there is the possibility of undertaking immediate actions while domestic and global interests are still converging, progressing on mitigation and adaptation at the same time.

Within LAC a growing number of countries will join the 20x20 initiative, as new funds become available and clear rules are promulgated (consistent with the Declaration on Forests and the Global Alliance for Climate-Smart Agriculture, presented in New York during the Climate Summit). It should be emphasized once again that the region is ready and has a direct interest. Given the context, COP 21 should establish, unambiguously, that AFOLU is a priority sector for the next decade, thus ensuring the promotion of early pre 2020 actions, so that each country advances their domestic mitigation and adaptation programs.

4.2. The means of financing the actions

The outcomes from Paris should also include policy guidelines that will guarantee and speed up the transfer of funds that permit early actions to be implemented (before 2020) and that assure full implementation of an agreement post 2020. These policies should raise countries' official development assistance commitments, support the creation of domestic policies of financing for climate action and analyze the option of using other sources of finance, such as national and international emissions reduction markets.

Currently, official development assistance is too small to meet all the requirements countries have in facing climate change, however aid will continue to be highly useful in implementing early actions and pilot projects in developing countries. Member countries of the Organisation for Economic Co-operation and Development (OECD) have still not established how they will provide the support pledged. It should be noted that the average amount dedicated to international aid by these countries is 0.23% of their GDP, and according to optimistic estimations, at least 1% of global GDP is required for mitigation and another 1% for adaptation. This is an enormous difference and it is not clear how it will be resolved; the results of Paris 2015 may serve to solve this funding gap. As an example, if, of the \$700 bn equivalent to 1% of global GDP, some \$3.5 bn was earmarked for LAC, this could achieve the implementation of AFOLU projects on a massive scale in the region. Furthermore, if 10% of these funds were set aside for AFO-LU projects over the whole of the tropical region this would mitigate between 15-20% of total GHG emissions. The net benefit and also the benefitcost ratio give positive results, providing evidence that this is a good opportunity.

In terms of policy and domestic financing mechanisms, countries such as Mexico, Chile, Ecuador and Costa Rica, have Payments for Ecosystem Services. Only Chile and Costa Rica base these on earmarked taxes; the former recently established a tax per ton of CO_2 and Costa Rica introduced a tax on fossil fuels in the country's 1996 Forestry Law.

Other mechanisms worth analyzing are the emissions reduction markets or carbon markets. The international carbon market has been subject to huge upheavals and currently lacks credibility. However, once the countries present their roadmaps, it is likely that carbon markets may recover. Since the initial studies, it was clear that the existence of international markets would lower the costs of mitigation. Equally, the other side of the equation has become apparent: being limited to domestic markets increases costs for everyone. For example, some EU models suggest that operating on an international market would give unit costs close to \$20 per tCO2eq, whereas if each party was limited to domestic markets the unit cost would be closer to \$70 (Castro 1999). This despite the fact that one of the painful experiences connected to CDMs was transaction costs reaching up to \$1 per tCO₂eq, which seriously damaged small projects. Domestic markets will be important for participants to reach objectives at national level.

4.3. Transparency of actions

One area that should not be left to one side is the issue of clarity and transparency tied to the mitigation objectives or commitments of countries. In this area the Convention has advanced substantially, to the extent that there are now guidelines for establishing monitoring, reporting and verification systems, (MRV) and safeguard information systems for REDD+, which can be adapted and improved in the case of NAMAs or any other mechanism created under the Convention. These guidelines or procedures to ensure transparency should generate political and technical confidence in the manner in which countries set up their reference levels and established baselines, in the manner in which the accounting is carried out in respect of emissions reductions in each sector, and in the consultation processes and respect for rights, local communities and indigenous populations. It is also clear that transparency and credibility in the MRV systems should be implemented by joint efforts between investing countries and those in receipt of funds¹⁰.

5. THE RESULTS OF PARIS 2015 AND SUPPORT FOR THE ROLE OF THE AFOLU SECTOR IN LAC

In conclusion, the LAC region presents a good opportunity for the COP in Paris 2015 to produce results that indicate to civil society that the UNFCCC is finally moving from simple written commitments on paper to real actions carried out on the ground. It is not even necessary to wait until 2020 for the work to start. The AFOLU sector can reduce greenhouse gases immediately with costeffective actions, at the same time as local adaptation actions are implemented. This would give time for the transition required by sectors such as transport and industry to make use of cleaner energy. LAC has reacted positively by commencing early actions and in preparing for the implementation of mechanisms such as REDD+ and NAMAs. The governments of the countries of the region continue to play a key role in implementing global initiatives, as has been shown at the Climate Summit 2015 and with the 20x20 initiative.

5.1. 2020 project for land restoration in Latin America and emissions neutrality for the AFOLU sector by 2030

With the aim of contributing to overall land restoration and the Bonn Challenge, organizations such as WRI, CATIE and IUCN, among others, together with various governments in the region, are backing the commitment to restore 20 million hectares of a total of 200 million hectares of degraded land across the entire LAC region. The initiative is vital for the region, where it is estimated that net some 4 million hectares were lost annually from 2000 to 2010 (FRA 2010).

From a climate point of view, the proposal is well defined: recover 20 million hectares of degraded land in LAC by 2020, which together with the efforts made to reduce emissions from deforestation and forest degradation and agricultural activities, will maximize the returns on efforts made so that LAC, in an aggressive scenario where joint actions are implemented, could lower its annual emissions per capita to 2 tCO₂eq and lower them further to 0.7 tCO₂eq by 2050 (Vergara et al 2014b). Realizing the goal of reforesting 20 million hectares by 2020, stopping deforestation by 2020 and supporting the use of climate-smart agriculture, could mean the AFOLU sector is carbon neutral by 2030.





Source: World Bank 2010¹¹,* estimation based on national statistics.

It may seem an impossible challenge, but with sufficient will and clear policies it can be done, as Costa Rica has shown. To make a comparison, it can be seen that the average global emissions per capita is 4.9 tCO₂eq per annum, while in the United States of America, for example, the emissions per capita is four-times that average (figure 1). On the other hand, it can be seen that many countries in LAC are below the global average. Given their low level of emissions in comparison with the US, these countries, with aggressive emission reduction objectives, could manage to lower their annual emissions per capita to 2 tCO₂eq by 2020. Costa Rica appears to be demonstrating that this is possible. In 2010 Costa Rica had annual emissions per capita of 1.7 tons and managed to lower these to 0.87 tons in 2014. The country is continuing with its ambitious objective to be carbon neutral by 2021, in accordance with national policy.

^{10.} More detail on the subject of transparency can be found in Estrada et al 2014 and Parker et al 2014.

II. http://data.worldbank.org/indicator/EN.ATM.CO2E.PC

However, if we look at the models produced by Vergara et al (2014), the huge effort required to stop deforestation would only represent 13% of the objective set out in the previous paragraph for 2030. Taking additional steps and combining actions in an agriculture sector better adapted to climate change, together with natural forest regrowth and forest plantations, as well as completely stopping deforestation would turn this 13% into a contribution of 26%. However, it is important to emphasize yet again that to reach a level of 2 tCO₂eq per capita by 2020 it will be necessary to combine the climate change opportunities in the AFOLU sector with even greater mitigation actions in other sectors of the economy.

5.2. Repeating the actions from LAC across the tropics

Finally, promoting the existing national and regional climate change initiatives in which LAC countries are actively participating would be an historic achievement that would drive the replication of these efforts over the whole tropical zone of the planet. Various global co-ordinating inter-governmental platforms currently exist that are working on policy guidelines and implementation. These platforms see a range of countries, developing and developed, joining interests and resources in support of stopping deforestation and making better use of forest resources with the aim of mitigating climate change. Two of these platforms are the Coalition for Rainforest Nations¹², which has includes nearly 50 countries and the REDD+ Partnership, with 76 partner countries¹³. The countries that make up these platforms come from LAC, Asia, Africa and Oceania, and in the case of the REDD+ Partnership, also includes countries such as Germany, Denmark, France, Spain, Norway and the USA, among others.

Governments, civil society and academia, the private sector, local communities and indigenous peoples have been working for a number of decades on analyzing how agriculture, forests and land-use change can provide climate benefits. Despite its weaknesses, the UNFCCC has provided a space for transparent discussion and the creation of policy guidelines that the LAC countries have incorporated to an extent dependent on their national circumstances. It is now time to move from talk to action. The large number of early climate actions that governments are implementing, the regional projects carried out by research centers, NGOs and the private sector, together with the current global inter-governmental platforms, provide an opportune context for the COP in Paris in 2015 to achieve firm post-2020 climate change agreements. All of this will allow for the implementation of early actions, without the need to wait any longer to carry out something that can be undertaken today.

^{12.} http://www.rainforestcoalition.org/nations.aspx

^{13.} http://reddpluspartnership.org/73857/en/

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