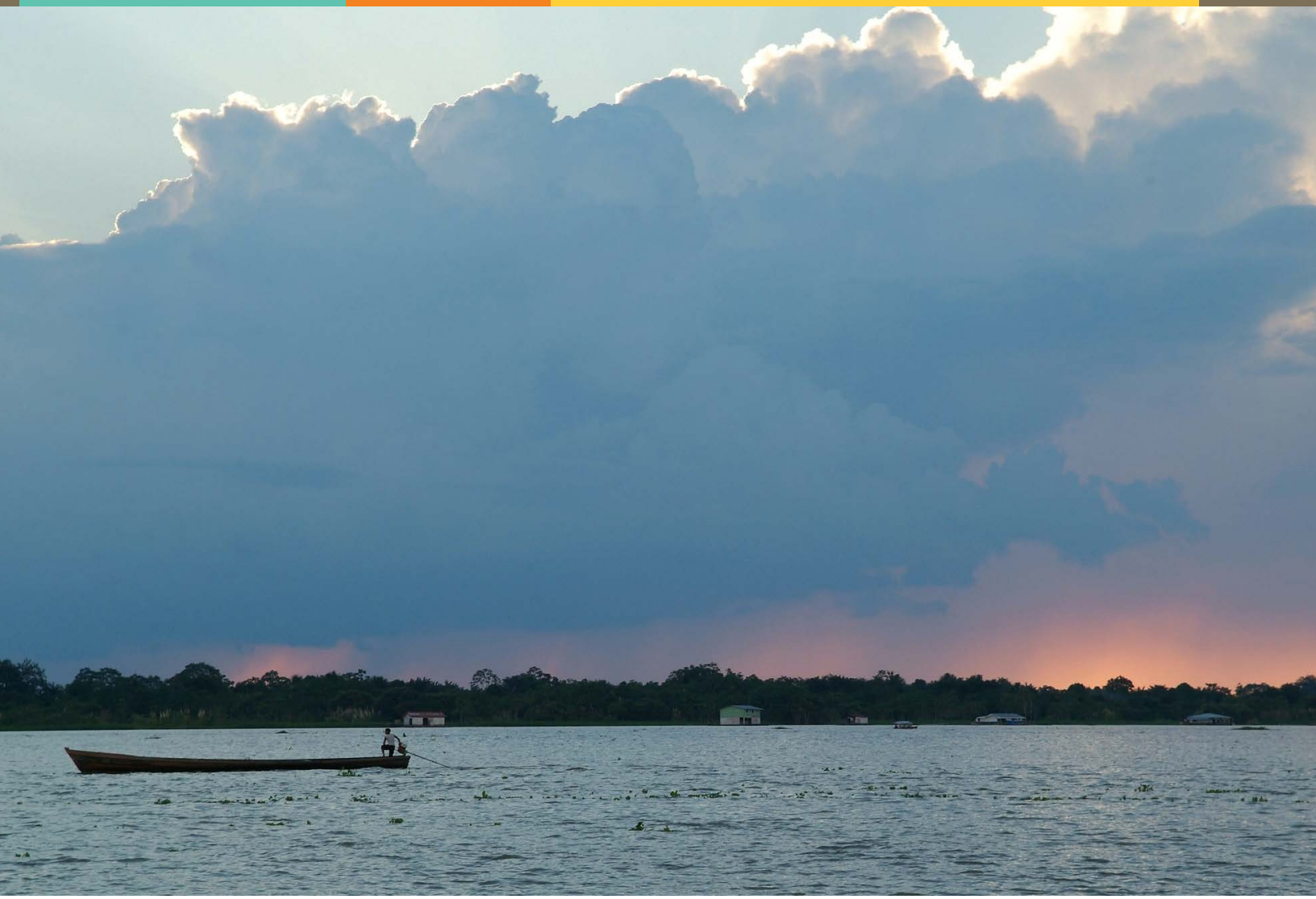

Inputs for an International Climate Fund Business-Case for DECC Investment in the Amazon Vision Program: Production Systems and Private Sector Involvement Component

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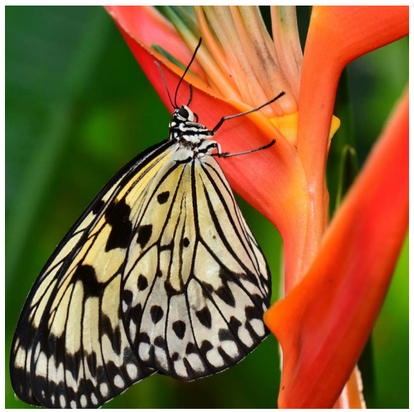

Inputs for an International Climate Fund Business-Case for DECC investment in the Amazon Vision Program: Production Systems and Private Sector Involvement Component

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Intervention Summary

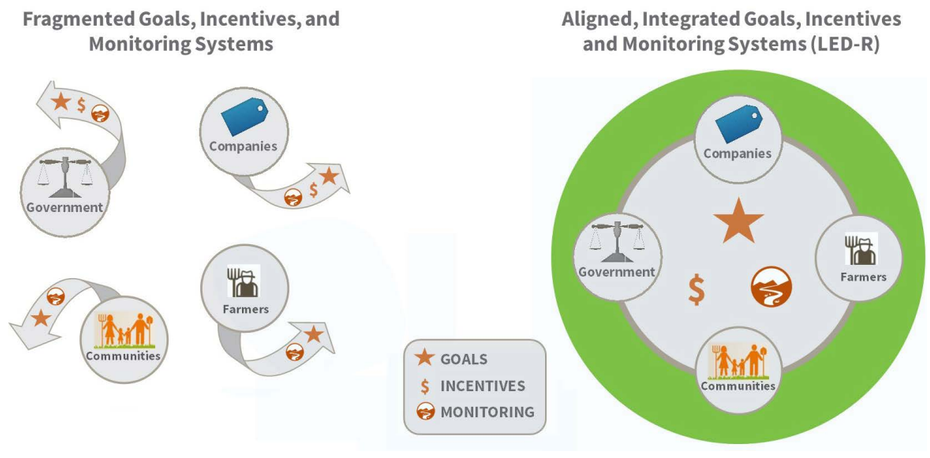
What is the purpose of the intervention?

Colombia is well-positioned to become a leader in addressing the pressing global challenges of climate change, tropical deforesation and food security. At the 2009 Conference of the Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC) Colombia announced an ambitious goal of reaching zero net deforestation in the Colombian Amazon by 2020[1]. To reach this goal, the national government is currently developing a comprehensive program called the "Amazon Vision". If successful, this strategy could avoid globally significant amounts of CO_2 to the atmosphere by 2020. These emissions reductions would be accompanied by substantial co-benefits in the form of improved smallholder farmer livelihoods, better air quality, biodiversity conservation and regulation of water flow in watersheds[2].

In order to achieve zero net deforestation in the Amazon region by 2020[3], Colombia must confront a number of critical challenges facing the region, including limited governance capacity exacerbated by decades of armed conflict, an illicit crop industry and populations isolated by inadequate infrastructure. Extensive cattle ranching is the single most important use of cleared land in the Amazon, with pastures occupying some 70% of deforested land. Transforming this dominant livelihood system to sustainable practices, such as intensive cattle ranching, silvopastoral or agroforestry systems that have the potential to improve livelihoods while reducing the need for cleared land, is one of the most critical challenges for Amazon Vision.

There is also the challenge of fragmentation. Governments, farm sectors, companies and communities have different goals and interests. At one level, the challenge and the opportunity of the Colombian Amazon Vision program is to foster a new "low-emission rural development" model in which governments, private sector, farm sector and communities become aligned and in agreement upon regional milestones for reducing deforestation, increasing production and improving livelihoods. For these shared milestones to be realized, they must be accompanied by incentive systems that drive changes in land-use systems and improvements in governance capacity, supported by monitoring platforms that track progress towards these milestones (Figure 1).

Figure 1. The challenge and the opportunity of the Colombian Amazon Vision program: to make the transition from the current state of fragmented goals and incentives to shared regional goals and incentives, supported by effective monitoring of progress towards these goals.



1 Forest cover was estimated to be 59,924 km^2 in 2012, 60% of which is found in the departments of the Colombian Amazon (Datos IDEAM, 'Forest-Non-Forest Map for the Period 2010-12).
2 Nepstad, D. C. *et Al* 2013. Addressing Agricultural Drivers of Deforestation in Colombia: Increasing Land-Based Production while Reducing Deforestation, Forest Degradation, Greenhouse Gas Emissions and Global Poverty: Report to the United Kingdom Foreign and Commonwealth Office and Department of Energy Climate Change, Forests and Climate Change Programme. 158. (London).
3 Zero net deforestation describes a forest frontier region in which the area of forest that is cleared over a given time period is equal to or less than the area of "new" forest that is regenerating or being anthropogenically restored during that same time period.

Why is Donor support required?

Colombia has an excellent opportunity to develop a strategy to reduce deforestation in the Amazon that is supported by the government, the private sector and civil society. The likelihood of success of this strategy will be enhanced through a sustained, orchestrated commitment from donor nations that helps maintain momentum across political election cycles and that provides a long term prospect for funding that could catalyze a regional shift in development strategies, laying the groundwork for a jurisdictional approach to sustainability, in which producers, private sector actors and governments work together to define territorial performance goals and align incentives to reach those goals. The proposed project focuses on three of the key challenges that Colombia faces as it strives to reduce deforestation caused by the agricultural sector: 1) insufficient technical support and financial incentives for producers to convert dominant land uses (extensive cattle ranching) to sustainable production systems, 2) low private sector investment in sustainable production systems due to insufficient competiveness of products and high investment risk, and 3) insufficient governance and governmental capacity within municipalities and departments to design and implement a regional blueprint to eliminate deforestation.

What support will the Donor provide?

The Donor will provide just over **£**50 million to be used over four years (2015-2018) to support sustainable production systems and sustainable supply chains in the Colombian Amazon.

Donor funds could support the implementation of three thematic components of the Amazon Vision Program: 1) sustainable production systems that reduce deforestation, 2) sustainable supply chains and private sector alliances committed to reducing deforestation and 3) improved governance capacity and incentives to support these production systems and alliances. These thematic components should be supported by a fourth component of coordination and administrative management that ensures complementarity of the interventions and oversees the processes of planning, follow-up and reporting on results of the interventions. A description of the three proposed thematic components follows.

Component 1 (**£31** million) will support producers with improved rural extension services (Investment 1) and credit access (Investment 2) for the establishment of sustainable production systems that: 1) do not depend on deforestation, promote the restoration of degraded lands and forest conservation within landholdings or other environmentally-friendly actions, and align with existing land-use plans; 2) contribute to food security, increase productivity and generate income at the local level; 3) include promising and suitable species for the Amazonian conditions (e.g. taking into account its soils and biodiversity and 4) help integrate producers into supply chains and support management practices that align with goals of zero-deforestation supply chains.

Component 2 (**£19** million) will benefit supply chain actors (including producers, producer associations, companies and processors) through strategies to increase competitiveness, reduce risks and implement best practices in support of the region's zero net deforestation goal. This component will promote multi-stakeholder platforms within priority supply chains (rubber, cocoa, coffee and cattle) in each department, support sector strategies including zero-net-deforestation goals (Investment 3) and identify and catalyze partnerships between producers and companies, while providing support to implement best practices and reach milestones (Investment 4).

Component 3 (**£2**93,000) complements governance strategies within the broader Amazon Vision program by seeking to align goals and incentives for producers, companies and regional governments under a "Green Municipalities" program (Investment 5). This program will promote multi-stakeholder dialogues for territorial management in support the Amazon's zero net deforestation goal. A territorial or jurisdictional performance approach[4] involves a participatory and collaborative definition of performance goals (i.e. reducing deforestation, improving productivity), the establishment of shared and measurable milestones towards performance goals, and integrated incentive systems that drive changes in producers, companies and governments to reach the performance goals. A central feature of this approach is a transparent monitoring system and supporting governance structure at the jurisdictional level to track progress towards milestones and implement or refine incentive systems.

4 Nepstad *et al*. 2014. More food, more forests, better livelihoods, fewer emissions. Carbon Management

What are the expected results?

Headlines:

- Donor financial support – and leveraged domestic public and private sector support – will reduce deforestation in Caquetá and Guaviare by replacing dominant deforestation-dependent land use practices with sustainable land management practices, potentially reducing greenhouse gas emissions associated with deforestation while enhancing CO2 removals from the atmosphere by restoring degraded pastures into natural forest systems at a scale of approximately 35.5 million tons of CO2 equilvalent over ten years.
- The adoption of sustainable production systems (including silvopastoral and agroforestry systems) is expected to transform almost 25,000 hectares of land into sustainable use.
- The intervention will directly benefit over 8,000 rural producers, improving rural livelihoods.
- The intervention will establish new and improved credit lines and financial incentives for rural producers (EcoAgro, Agrosostenible, AgroBosque).
- The intervention is expected to foster over 100 alliances between producers and companies within target supply chains.
- Municipal governments will establish time-bound performance goals to reach the 2020 zero-net deforestation goal within territorial management plans.

What are the main risks and how to manage them?

The top three risks are:

1. Institutional:

- Insufficient institutional coordination, such that overlapping or competing programs undermine potential impact of proposed Donor investments, especially with regards to financial incentives.

Mitigation Action:

- Coordinate with other Amazon Vision initiatives, international cooperation agencies, and governmental programs such that intervention strategies are coordinated across sectors and agencies, and that similar criteria for monitoring performance are used across the board.

2. Market demand:

- Insufficient consumer demand for zero-deforestation products, either due to insufficient knowledge of products or unwillingness to pay price premiums.
- Insufficient perception of corporate risk associated with deforestation since Colombia has yet to be the target of international deforestation campaigns.

Mitigation Action:

- Include a marketing “buy sustainable” component in the Amazon Vision program
- Design integrated market incentives to reduce dependence on consumer choice: trade facilitation programs, market strategies, alliances between sector associations and buyers.
- Develop a value proposition focused on market access and risk management that raises private sector interest in the zero-net deforestation target for the Amazon region.

3. Governance, Violence and Illicit Activities:

- Insufficient capacity of departmental and municipal governmental to control illegal activities driving deforestation such as coca production and mining.
- Escalation of FARC and paramilitary activities under a scenario of weakening or failing peace talks, elevating risks to companies and undermining potential progress in developing governance capacity.

Mitigation Action:

- In conjunction with programs to promote alternative livelihoods to producers, provide financial incentives to municipalities linked to reductions in illegal activities, among other performance goals.

Business Case Contents

1. Strategic Case

1.1 Context and need for donor intervention

1.1.1 Wider Context and Colombia's Zero-Deforestation Goal for the Amazon

At the 2009 Conference of the Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC) Colombia announced an ambitious goal of reaching zero net deforestation in the Colombian Amazon by 2020[5]. The Amazon region reported the highest rates of deforestation for the whole of Colombia for the period 2010-2012 (IDEAM)[6], with especially high rates in the colonization frontiers of Caquetá, Putumayo, Meta, and Guaviare[7].

Faced with rising deforestation rates, persistent rural poverty and fragile governance systems undermined by years of armed conflict, the Colombian government developed the Amazon Vision Program[8] to help reach the government's zero-deforestation target. Amazon Vision defines four key strategies for conservation and development in the region; 1) improve governance; 2) strengthen legal and sustainable production activities; 3) strengthen the participation of indigenous communities; and 4) create conditions that support a vision of zero deforestation for the Amazonian region.

The proposed project focuses on three of the key challenges that Colombia faces to reduce deforestation in the agricultural sector: 1) insufficient technical support and financial incentives for producers to convert dominant land uses (extensive cattle ranching) to sustainable production systems, 2) low private sector investment in sustainable production systems due to insufficient competiveness of products and high investment risk, and 3) insufficient governance and governmental capacity within municipalities and departments to design and implement a regional blueprint to eliminate deforestation.

5 Forest cover was estimated to be 59,924 km^2 in 2012, 60% of which is found in the departments of the Colombian Amazon (Datos IDEAM, 'Forest-Non-Forest Map for the Period 2010-12)

6 Data provided by the Subdirección de Biodiversidad e Información del Instituto de Hidrología, Meteorología y Estudios Ambientales [Sub-department on Biodiversity and Information of the Institute of Hydrology, Meteorology, and Environmental Studies] (IDEAM).

7 The departments with the highest rates of deforestation for the 2010-2012 period are Caquetá (28,761 hectares), Meta (22,810 hectares), and Guaviare (16,159 hectares), representing 46% of the national deforestation.

8 The Amazon Vision Program is currently led by the Minister of Environment and Sustainable Development (MADS) with the participation of key governmental agencies and civil society organizations, including the Ministry of Agriculture and Rural Development (MADR), Sinchi Institute, IDEAM, and the Unit of National Natural Parks, among others.

The proposed investment strategy will work in concert with the Amazon Vision program to transform the region's economy from it's current high deforestation, high emission trajectory to one that reduces deforestation while improving livelihoods through a balanced suite of policies, initiatives and incentives targeted at various sectors (producers, governments, and private sector). Experiences in other countries, such as Brazil, demonstrate the potential for economic transformation with coordinated incentives for producers, private sector actors and governments (Nepstad *et al*. 2014).

1.1.2 Drivers of Deforestation

Cattle ranching is the single most important use of cleared land in the Colombian Amazon (Nepstad *et al*. 2013). Seventy percent of deforested area of the Amazonian region now supports cattle pasture; the area of forest conversion to transitional or permanent agricultural crops (i.e. palm or sugarcane) is small by comparison (Murcia *et al*. 2014). The predominant extensive cattle ranching systems are characterized by low stocking densities (0.5 Large Livestock Units/hectare) and inefficient pasture management, leading to a cycle of degradation, low productivity and then further deforestation for pasture expansion. Despite the low productivity of extensive grazing, cattle ranching continues to expand, driven, in part, by the subsistence and market utility of cattle for Amazon households and availability of credit for cattle.

While cattle ranching is the main use of cleared land in the Amazon[9], deforestation in the Colombian Amazon is facilitated by underlying and interrelated processes of violent conflict and political instability, disorganized colonization and illicit crop production. A history of armed conflict and forced displacement has resulted in one of the largest populations of displaced people in the world, with numbers estimated between 3 and 5 million (USAID). Forced displacement resulted in the abandonment of over 4 million hectares, while at the same time armed groups acquired over 4.5 million hectares between the 1980s and 2000. Insecurity in rural areas has contributed to the

9 1,463,647 ha of landpastures are already established in Caquetá, and 299,922 ha in Guaviare. Cocoa, rubber and coffee crops cover around 11,000 ha in Caquetá. Cocoa and rubber occupy less than 2,000 ha.

general absence of the state in the Colombia Amazon and the proliferation of illegal crop production, mining activities and disorganized colonization. Lack of clarity regarding land tenure and few, if any, regional development blueprints contribute to the disorganized dynamic of regional colonization (Blanco 2013). Settlers are drawn to the region by social inequity, poverty, and violence in other regions in conjunction with development policies promoting geopolitical stabilization vis-à-vis colonization of Colombia's hinterlands (Armenteras *et al*. 2013, Dávalos *et al*. 2011). New roads, usually built in the interest of illicit crop production, petroleum exploration or illegal extraction of minerals, serve as important conduits for new colonists seeking to convert forests to agricultural plots and pastures.

Coca production continues to permeate local economies, not only contributing to forest conversion for cultivation, but the continued marginalization of many rural producers who livelihoods fall in a gray area between illegal and legal production. There is significant overlap between areas of coca production and those with high deforestation rates in the Colombian Amazon- not only do forests provide apt conditions for coca cultivation, but the inaccessibility of many forested areas is attractive for this illicit activity (UNODC 2010, Dávalos *et al*. 2011).

In Colombia, land tenure is an unresolved problem, as evidenced by the fact that the State still owns nearly 28% of the territory. In Caquetá, 56% of the area belongs to the state (27% belonging to the Amazon Forest Reserve), with 23% registered as private property. In Guaviare, the vast majority (90.1%) is registered as indigenous territory, with just 7.3% of the area registered as private property. Many smallholders are located in state-owned areas and do not possess legal land titles, yet continue to clear forest for pasture and agricultural plots (Davalos *et al*. 2014). Without a clear title, smallholders face barriers in making long-term investments in the land and forming contractual and cooperative relationships with producers and suppliers. Further, illegality of land parcels, especially in forest reserves, presents even greater legal challenges to halting deforestation. In 1994 the Government instituted a land reform program that provided government subsidies for small producers to purchase land for productive use, but ultimately the program was plagued by continuing violence in the countryside and corruption (Taylor 2006). One major step is toward tenure security is the Victims and Land Restitution Law 1448 of 2011, which includes mechanisms to restitute victims of displacement and repossession of stolen lands. In terms of indigenous tenure, Colombia has made significant progress through official recognition of indigenous lands in the 1991 Constitution.

1.1.3 Sustainable Production Systems: Barriers and Opportunities

In the Colombian Amazon, regional economies are dominated by cattle ranching and illicit crop production. Agricultural production outside of these land uses plays a minimal role in regional economies and their contribution to Colombia's GDP. The Amazon region contributes in 1.1% to national Gross Domestic Product (GDP), with minimal contributions from the agricultural sector. In Caquetá, all agricultural related activities, including cattle ranching contributed just 18.2% to department GDP in 2012, and in Guaviare, the contribution was less than 0.03 % (DANE 2012). Beyond subsistence production, farmers cultivate crops such as cacao, coffee, rubber, and palm oil in Caquetá, while in Guaviare, production is more focused on cereal grains such as corn and upland rice ['arroz secano']. Average plot sizes for family producers range between 40-80 ha, whereas medium size producer plots may reach up to 200 ha.

To date, illicit crop (***Erithroxilum coca***) production remains one of the only viable alternatives to the traditional agricultural economies failing small-scale producers. Despite the fact that in recent years national aggregate figures show a decrease in the area under cultivation as a result of the policy of interventions (UNODC), coca cultivation persists in Caquetá and Guaviare with favorable environmental and political conditions (i.e. presence of illegal armed actors). While coca still permeates the economies of Caqueta and Guaviare, recent studies have noted an important trend, that the success and continuation of coca production is not so much related to the earnings of the illegal economy, but rather to the dismal performance of legal activities (MinJusticia and ODC 2014). This suggests an important potential tipping point for the region- financially competitive and technically viable production systems could shift production systems away from illicit crop production towards more sustainable livelihoods and could breakdown some of the economic and political barriers towards improved governance overall in the region.

Several known alternatives for sustainable production systems already exist. Forest-grazing systems are viable alternatives to extensive cattle ranching that have the potential to generate both environmental and economic benefits (González and Alcaráz 2013, Medina *et al*. 2011, Avila and Revollo 2014). Agro-Forestry Systems (AFS), including cash crops such as natural rubber "caucho", cacao and coffee production systems currently established in Caquetá and Guaviare, can improve food security, generate greater incomes, and reduce risks for farmers through diversified production systems while securing ecosystem benefits such as tree cover, efficient soil use and integrated pest management (Pavón *et al*. 2014, IDEAM 2011). While forest grazing and agro-forestry systems do not achieve the same ecosystem functions as native forests, they may complement conservation goals by conserving remaining forest fragments, recuperating degraded areas, and creating buffer zones and corridors that connect protected areas (Beer *et al*. 2003). Through the establishment of agroforestry plantations, these systems may maximize producers' income over the long term, with returns from the harvest of rubber, precious timber and other species that also help improve productivity in the short and medium term. However, implementation of these alternatives, especially those in which producers will not see returns in the short-term, will require financial incentives and technical assistance, and could require levels of labor input that surpass the capacity of many households.

Currently, Colombia's agricultural finance credit lines and incentives managed by the Fund for Agricultural Financing (FINAGRO) and offered via Banco Agrario and private banks amount to several billion US dollars. All FINAGRO credit and incentives are theoretically restricted to agricultural land that has not been recently deforested; in practice, this stipulation is rarely enforced. While credit and incentives programs could be used to support conversion to sustainable production systems, few Amazonian producers actually access these mechanisms. Amazonian producers are generally excluded from government credit and other rural assistance programs, in part due to their inability to meet criteria for loans (i.e. land titles) and in part due to a concentration of government technical assistance and finance programs outside of the Amazon region. For example between 2007-2012 Amazonian producers were loaned just 3.2% of all investments by FINAGRO's Incentivo a la Capitalización Rural (Incentive for Rural Capitalization) program. In addition to the program's regional bias, it also favors medium and large-scale producers who meet selection criteria. Similarly, a national subsidy program for sustainable forestry Forest Incentive Certificate (CIF, Certificado de Incentivo Forestal) focuses largely on commercial plantations of exotic species with well-established technological specifications (with the important exception of providing support for rubber harvesting in the 2 target departments), leaving sustainable natural forest management largely unsupported. In addition, the costs of applying for incentives such as CIF are prohibitively high for small producers with only a few hectares in production; and many of these programs are not well known in rural areas.

One promising initiative by the Colombia Ministry of Agriculture and Rural Development (MADR), the Proyecto de Apoyo a Alianzas Productivas [Support Project for Productive Alliances] (PAAP) is designed to link smallholder organizations to specialized markets through contract farming arrangements. The PAAP program has created 49 alliances across the Amazon, benefitting close to 50,000 people. Partnerships include a range of products, with the most prominent being coffee, cacao and rubber. Another instrument of the MADR is the Development Program of Investment and Capitalization Opportunities for Assets of Rural Microenterprises (Oportunidades Rurales) that provides support to rural micro-entrepreneurs organized into groups of 20 or more. However, to date the Amazon region has received just 6.2% of nationally disbursed PAAP funds and 7.8% of Oportunidades Rurales funds.

Existing financial incentives and technical assistance programs are insufficient for reaching and supporting Amazon producers, especially smallholders. At the same time, many of the programs, such as PAAP and ICR, could be modified or redesigned specifically for the Amazon to address the region's realities (i.e. lack of clear land titles for many producers), to catalyze low-deforestation production systems, and to integrate smallholders into sustainable supply chains and build organizational capacity among producer groups. In order to catalyze the adoption of low deforestation production systems, incentives must be bundled with technical assistance, finance, support for organizational capacity development, as well as broader governance reforms to tackle critical underlying factors, such as lack of tenure security and persistence of the illegal coca economy.

1.1.4 Limited Private Sector Investment in the Region

Globally, the private sector has been the focus of debate and controversy regarding expanding agricultural commodity production and deforestation. There is growing momen-

tum among companies to "decouple" their supply chains from deforestation, via voluntary agreements, certification, commodity roundtable standards, among other schemes. The Brazilian Amazon has demonstrated that private sector-led mechanisms can drive reductions in deforestation, while at the same time increasing productivity (Nepstad *et al*. 2014). In this case, private sector mechanisms worked in parallel with government-led policies and initiatives. For example, a 2009 Greenpeace campaign against a major beef processing company led to a voluntary "Cattle Agreement" in which major beef processors excluded producers from their supply chains who deforested after 2009. The Brazilian Government instigated the Rural Environmental Property Registry, making it a requirement for certain loans and government programs, which facilitated the traceability of the supply chain. The Critical Counties initiative further reinforced the commitment to reduce deforestation from the beef supply chain by blacklisting municipalities with high rates of deforestation and restricting government funds to those municipalities.

The profusion of private sector and public policy initiatives that drove Brazil's 76% decline in Amazon deforestation provides some important lessons for the Colombia agenda in the Amazon. Brazil has yet to deliver positive incentives or adequate technical assistance to its Amazon farmers, and is precariously dependent upon command-and-control approaches to deforestation. Colombia's Amazon strategy could be initiated with a robust plan for providing "carrots" and not just "sticks" to its land uses.

To date, private sector involvement in the Colombian Amazon is extremely limited due to high risk for investment and low competitiveness of Amazonian production systems. Decades of armed conflict, high levels of rural poverty and limited infrastructure pose risks for investors and constrain potential profitability (see Fedesarrollo 2007, Gravito 2012, Oxford Business Group 2014). The majority of private sector investment is geared towards petroleum and mining operations. Investment and innovation in the agricultural sector lags far behind, despite the potential of many sub-sectors such as coffee, rubber, cacao and milk to meet gaps between supply and demand at the national level.

Engaging the private sector in regional conservation and development strategies, such as Amazon Vision, has many advantages. First, private sector actors are able to respond nimbly to investment opportunities, and therefore may be well poised to engage and invest in innovative strategies for alternative production systems in the Amazon. Second, companies and investors may have a vested economic interest in the continued sustainability of resources as well as in developing innovative technology for production and processing. Thirdly, more and more companies are engaged in a race to the top to remove deforestation from their supply chains and reduce reputational risk from poor environmental practices. But beyond punitive measures, companies, like producers, are also responsive to incentives designed to make improvements to meet broader regional goals, such as Colombia's net-zero deforestation goal. Attracting the private sector to invest in sustainable production systems and supply chains will require a two-pronged effort that a) decreases investment risk by improving business conditions including productivity, efficiency, profitability, and rule of law (Mercy Corps 2012) and b) provides the right suite of incentives for the private sector. Incentives may include support for partnerships between companies and producers to improve production practices, product differentiation for "zero deforestation" products, as well as voluntary agreements by companies to eliminate deforestation from their supply chains as a means to access niche markets.

Many infrastructure and governance deficiencies must be tackled in order to address corporate risks systemically, attracting private sector investment. These deficiencies include legal security, clarity over land tenure, institutional capacity, as well as roads, electricity, among other structural improvements. Ideally, both government and the private sector work in conjunction towards regional-level goals to improve productivity and reduce deforestation. For example, private sector actors, through alliances with producers, can generate technical and organizational capacity, improvements in productivity and value-added processing, and overall increase profits to supply chain actors. Governments at departmental and municipal levels can create enabling conditions for private sector investment, as well as align incentives to meet territorial goals, such as the zero-deforestation for 2020.

1.1.5 The Policy Context for Reducing Deforestation in Colombian Amazon

Colombia is committed to rural development that increases production while slowing deforestation. However, most governance capacity lies outside of the Amazon forest regions and most of the main private sector innovation and transition to sustainability is taking place in the Piedmont and Llanos regions, far from the forest frontier. The Colombian government has demonstrated a strong commitment to reduce deforestation and a low-carbon development strategy, via the 2020 zero-deforestation goal, as well as key policies/initiatives. These include:

- National Climate Change System (CONPES 3700/2011): Includes four instruments: 1) the national climate change adaptation plan, 2) the Colombian low-carbon development strategy; 3) National Strategy to Reduce Emissions Derived from Deforestation; and 4) financial-protection against climate-related disasters. Within these instruments, climate change is framed as a cross-cutting social and economic issue that should be integrated in planning and development processes.
- Colombia Low-Carbon Development Strategy (2011): Five principal components include identification and assessment of "alternatives and opportunities in low carbon development", policy design, sector-specific low carbon development plans, improved governance, among others.
- National Development Plan (2010-2014): One important outcome of the NDP were mechanisms to regulate (or strengthen) the 1959 law (Law 2) for the Amazon Forest Reserve, which sought to establish land use zoning for the Amazon region, but has been undermined by illegal settlements, non-compliance with intended land use regimes, and general lack of clarity regarding tenure. Under the NDP, the Ministry of Environment and Sustainable Development's Resolution 1925 of 2013 defines the zoning and land-use planning of the Amazonian reserve for the departments of Caquetá, Guaviare, and Huila.
- The Forest Incentive Certificate- CIF (1996): objective to foster management of forest resources, remains a key initiative that can be leveraged to reduce deforestation. The CIF, administered by FINAGRO, compensates land owners for conserving forests within the landholding. One major limitation of this initiative is that to date, few producers have benefited from CIF in the Amazon and small-scale producers are often limited by selection criteria, such as secure land titles.

While these policies, programs and initiatives provide an extensive regulatory framework for environmental issues, Colombia's rural sector policies and dialogues are highly fragmented, undermining their ability to address the underlying drivers of deforestation in an integrated manner. Strategies for increasing the production of crops, livestock and biofuel are operating outside of strategies for ending deforestation or resettling hundreds of thousands of displaced farmers onto the land. The national strategy for mining is even further removed from the forests and farms agenda. As a result of this fragmentation, many programs and policies have the potential to undermine each other. To achieve better harmonization across divergent objectives, multi-sector dialogues at different scales that develop evidence-based, spatial land-use zoning plans, infrastructure plans, and strategies for increasing frontier governance capacity are needed.

A multi-stakeholder, territorial management approach, described above, is consistent with Colombia's decentralized spatial planning policy and holds great potential for diminishing conflict among rural development agendas. Several existing policies and initiatives provide a framework for this territorial approach, including Territorial Land-Use Plans, Watershed Use and Management Plans, Peasant Reserve Zones, and Relatively Homogeneous Zones, among others. These instruments offer opportunities to include goals of low-emission development and reduction of deforestation. The current land-use plan of the Department of Caquetá – "Government of Opportunities 2012-2015" – prioritizes deforestation as a department-level problem and describes strategies to address the problem, including policy design and implementation, raising citizen and environmental awareness, and implementing reforestation projects with native forest species. Further, the plan details sector-level activities to enable municipalities to reach their zero-deforestation goal while implementing sound environmental and social practices. The government of Guaviare's land use plan includes a strategic objective to construct a unified vision of sustainable development that seeks to reconcile economic, environmental, and social objectives. Also included in the department's plan is the launch of the ***Programa Guaviare Competitivo*** (Competitive Guaviare Program) that seeks to encourage production, transformation, and commercialization of agricultural products. These mechanisms, and others, could be harnessed to support

the development of regional performance targets and integrated incentive systems that could be implemented at the jurisdictional level. These include:

- 2011 Organic Law on Territorial Land-Use Planning: This national-level regulatory framework for land use planning promotes the decentralization of authority for planning, management, administration and resource allocation from central government to jurisdictional units. The law identifies "high priority" zones to reduce poverty through targeted investments from the *Fondos de Inversión de la Nación* [Investment Funds of the Nation]. While devolving authority to the jurisdictional level, the State retains authority to establish the general policy for territorial land-use planning in matters of national interest, particularly with regards to national parks and protected areas, large infrastructure projects, urban expansion, areas of historic and cultural significance, and, importantly, strategies to reduce deforestation.
- The proposed Law on Land and Rural Development, currently under consultation, defines 'rural development with a territorial approach' as "the process of productive, institutional, and social transformation of rural territories, in which local social actors have a predominant role and enjoy the support of public, private, or civil society agencies, or some or all of these, with the objective of improving the wellbeing of the inhabitants based on the sustainable use of biodiversity, in particular of natural renewable resources and ecosystem services. A result of this process should be the correction of regional imbalances regarding levels of development.

Recent initiatives, such as the National Climate System and Low Carbon Development strategy could strengthen Colombia's mandate for the development of alternative livelihood strategies. Further, policies could have an impact on reducing deforestation by offering incentives, such as is the case with the Forest Incentive Certificate; guiding land-use planning processes (e.g. Revisions to Law 2 of 1959 via the National Development Plan, Territorial Land Use Planning Law of 2011)

1.2 Rationale for ICF (donor) involvement and the potential for transformational impact

The proposed suite of investment strategies is well-aligned with ICF's mission to catalyze low-carbon development pathways. The project directly incorporates two of the three main priorities for ICF. Investments will promote the transition to a low-carbon emission rural economy in the Colombian Amazon, while stimulating new partnerships between the private sector, governments and producers to drive innovation and new alternatives for sustainable and climate resilient rural economies. By demonstrating proof-of-concept that 1) low-emission rural economies are viable and attainable, and 2) that the private sector can be a cutting edge actor in the transition to low-emission rural economies, the project will also contribute to ICF's third thematic strand of strengthening international negotiations around reducing deforestation and low-carbon development.

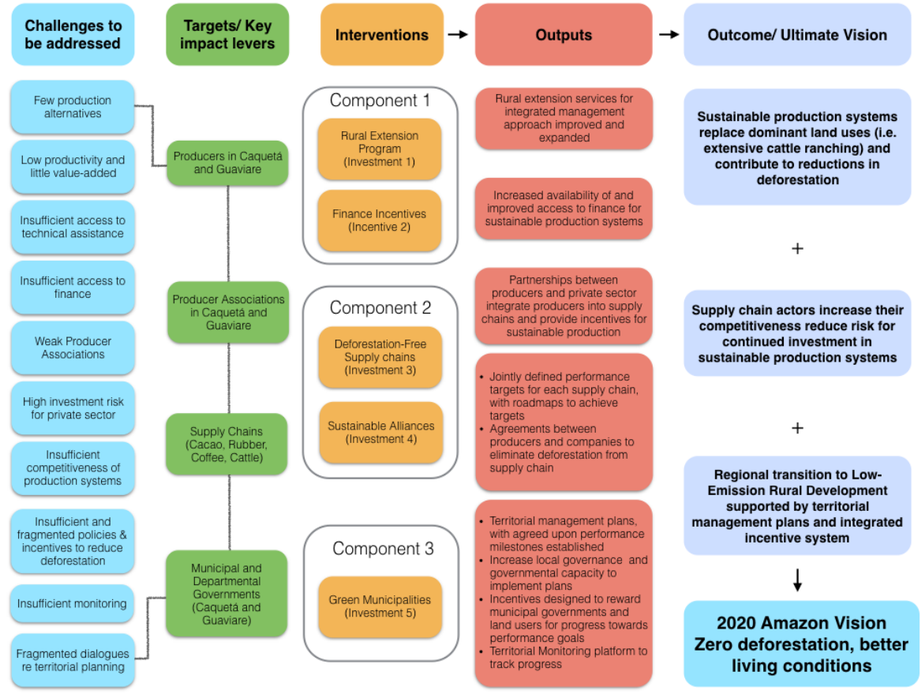
1.3 Theory of Change

The interventions being funded by this project involve multiple donors' contributions to the Amazon Vision Program. The investment portfolio of this program aims to deliver on eight strategies and four pillars taking into account their importance to the goal of curbing deforestation in the Amazon region of Colombia.

The theory of change tracks the relationship between the current status of production systems, sustainable supply chains and governance and how these conditions need to change in a way that sustainable production and private sector engagement could become important agents in achieving reduction deforestation goals in the Amazon.

The theory of change for the proposed intervention is detailed in Figure 2:

Figure 2. Diagram of the theory of change proposed for the actions that would be financed by the United Kingdom within the framework of the production systems component of the Amazon Vision Program.



Our theory of change summarizes the principle drivers of deforestation in the Colombian Amazon described in the previous sections as key challenges to be addressed by the project. We relate these drivers and market failures to the target beneficiaries of the project- producers, producer associations, and other supply chain actors (such as companies and processors) as well as municipal and departmental governments, who can act as critical agents of change in the region given the right suite of incentives.

There are three main intervention components aimed to reduce deforestation and generate better living conditions in the Colombian Amazon; these include 1) sustainable production systems that do not depend on deforestation, 2) sustainable supply chains and private sector alliances committed to reducing deforestation and 3) improved governance capacity to support these production systems and alliances. The intervention strategy is highly synergetic and designed to be implemented as a package. The proposed intervention strategies will build upon one another to drive a regional transition to low-deforestation development. It begins at the producer level, where improved and expanded rural extension programs will promote integrated land management, providing services such as technical assistance, capacity building and monitoring to replace dominant land uses with sustainable land use practices. Rural extension complements new and improved financial incentives to support the adoption of new land management practices. The second component, focused on supply chain actors, will catalyze new partnerships between producers and companies and improve conditions for the private sector's investment in sustainable production systems. And lastly, component 3 complements governance strategies within the Amazon Vision program by seeking to align goals and incentives for producers, companies and regional governments under a "Green Municipalities" program for territorial management (Investment 5).

1.3.1 Expected Results

The global benefit expected from the proposed intervention is reduced deforestation and improved living conditions for rural Amazonian producers.

Direct benefits expected from the proposed intervention include:

A reduction in deforestation in Caquetá and Guaviare by replacing dominant deforestation-dependent land use practices with sustainable land management practices, potentially reducing greenhouse gas emissions associated with deforestation while enhancing CO2 removals from the atmosphere by restoring degraded pastures into natural forest systems at a scale of approximately 35.5 million tons of CO2 equilvalent over ten years.

- The adoption of sustainable production systems (including silvopastoral and agroforestry systems) is expected to transform almost 25,000 hectares (ha) of land into sustainable use.
- The intervention will directly benefit over 8,000 rural producers, improving rural livelihoods.
- The intervention will establish new and improved credit lines and financial incentives for rural producers (EcoAgro, Agrosostenible, AgroBosque).
- The intervention is expected to foster over 100 alliances between producers and companies within target supply chains.
- Municipal governments will establish time-bound performance goals to reach the 2020 zero-net deforestation goal within territorial management plans.
- Beyond these direct impacts that are accounted for and included in the cost benefit analysis of the investment portfolio (elaborated in the Appraisal Case), donor support will increase the likelihood of collective action to move entire jurisdictions towards low-emission rural development through integrated incentives for reductions in deforestation and improved governance capacity to monitor and implement incentives. Furthermore, medium to long-term impacts of the intervention include:
- Greatly enhanced capacities and knowledge of sustainable agroforestry and silvopastoral production systems among both rural extension agents and producers themselves. This capacity will be sustained for many years beyond the length of the program and will very likely result in a dominance of such production system in these departments and nearby areas (e.g., Meta) and perhaps even more broadly, if there is attention and resources put into broader dissemination nationally.
- Realigned finance or new financial mechanisms implemented in Colombia by both public and private actors that will continue to provide financial support to sustainable agroforestry and silvopastoral production systems.
- Real examples of zero-deforestation supply chains that can inform the creation of such supply chains in other departments and/countries.
- The implementation of a Green Municipalities program outside of Brazil that can provide its useful experience to other departments and states in and beyond Colombia and lead to the creation of such programs elsewhere.

The following table presents the potential impacts of each investment (and assuming 25% leakage rates across all investments – see Appraisal Case for more information on the cost-benefit analysis).

Table 1. Expected outcomes of Investments

Investments	Beneficiaries				Hectares	
	Unique Producers	Total Service providers	Producers' associations	Transformed into sustainable production systems	Avoided deforestation	Total hectares of forests conserved
1. Rural extension program	2,387	450		7,161	1,842	41,184
2. Finance incentives	2,809			8,426	2,098	48,461
3. Zero Deforestation supply chains*						
4. Sustainable alliances	3,159		105	9,478	2,303	54,513
5. Design of a Green municipalities program	20 municipalities across 2 departments				90,295	6,593,101
Total	8,319	450	106	24,958	6,217	

* Beneficiaries and hectares overlap with Investments 1, 2 and 4 and are thus not included here.

1.3.1.1 Capacity building for the implementation of sustainable production practices

Donor finance will be used to support a rural extension program that will promote the transformation of 7,161 ha into sustainable production and benefit 2,387 producers

The establishment of a rural extension program will support farmers in the implementation of sustainable production practices that do not rely on deforestation, including improved pasture management and agroforestry systems.

A rural extension program will promote sustainable production systems with an integrated approach. A major priority is to increase the intensity and productivity of cattle ranching for meat and milk production through improved pasture management, including the adoption of silvopastoral systems, and improved breeds. There are several initiatives underway that seek to promote silvopastoral systems and the focus here should be on ensuring that all farmers have access to the technical assistance they need to adopt these innovations so as to reduce and eventually eliminate deforestation from livestock production, while increasing economic returns to farmers.

This investment aims to implement a rural extension program to support rural producers in Caquetá and Guaviare so they can make the transition to new or renovated low-emission farming systems that reduce deforestation through adoption of sustainable crop and livestock production, fully integrated into regional supply chains.

- Establish a decentralized rural extension system linked to Secretaries of Agriculture of Departments and funded by private sector producer associations, rural extension national organizations, universities and research institutions that achieves the scale required for the regional transformation of smallholder farming and forest management systems.
- Develop the organizational capacity of smallholder organizations so they can provide basic services for members and represent them in negotiations with government agencies and companies.
- Develop and begin implementation of a program to train local technicians to work with farmers via regional demonstration farms and farmer-to-farmer exchanges.
- Develop a participatory monitoring network integrated into extension system that links producers to regional research institutions monitoring platforms.

Based on calculations in the Appraisal Case, an estimated 2,387 producers will benefit from the program and could potentially: transform 7,161 ha into sustainable production systems; conserve more than 41,233 ha of forest on their land; and avoid 1,842 ha of deforestation. The proposed rural extension program expects to train 450 local service providers[10] to support producers in the sustainable management of their farms.

1.1.3.2 Credit access for producers interested in implementing sustainable production practices:

Donor financial support will be used to support financial mechanisms that will promote the transformation of 8,476 ha into sustainable production systems and benefit 2,809 producers.

Producers have limited access to existing financial mechanisms and there is absence of incentives to promote sustainable production or reduce deforestation. In this context, there is a great opportunity to offer better access to, terms of credit and other financial incentives targeted to those producers interested in implementing sustainable and high-quality production systems and contributing to reduce deforestation in the Amazon region.

The goal of this investment is to support the transformation of current production systems into non-deforesting sustainable production systems through the provision of special finance to local producers, including via producer associations. Activities of the investment will focus on supporting local producers with needed finance for the establishment, monitoring and maintenance of new or renovated sustainable production systems.

Access to credit and other financial mechanisms would incentivize the transformation of production systems for those producers willing to commit to zero-deforestation agreements. The donor will support the design of a package of financial mechanisms with the goal of providing credit and financial incentives to farmers and producer associations interested in establishing sustainable production systems. This includes the design and implementation of two new financial incentives – Agrobosque and Ecoagro[11] – which are based on existing incentives in Colombia (the Rural Capitalization Incentive and the Forestry Incentive

10 Currently companies and sector associations provide rural extension services according to their needs. There are not many local technicians trained to provide rural extension services and support local farmers in the transition to sustainable production systems. This program will invest in training service providers in order to generate capacities at local level and cultivate specialized teams that can be counted on to support the institutions involved in the rural extension program and other actions related to this portfolio of investments.

11 Possible names of these new incentives are included for clarity.

Certificate, both of which are described further in the Appraisal Case) and modified to better serve the conditions of Amazon beneficiaries and sustainable production systems. In addition, a new fund – Agrosostenible – will be designed and implemented to invest via debt or equity into sustainable production in the Amazon.

Based on the assumption that these mechanisms will provide finance to 2,098 producers in three years, they will: transform 8,426 ha into sustainable production systems; conserve 48,461 ha of forest; and avoid 2,098 ha of deforestation.

1.1.3.3 Zero-Deforestation supply chains

Donor finance will support investments in the production, processing and commercialization of cocoa, coffee, rubber and cattle by fostering producer-private sector alliances, as well as strengthen sector-specific organizations and the establishment of performance targets through multi-stakeholder dialogues.

The donor will support key actions to strengthen priority supply chains in Caquetá and Guaviare (milk, beef, cocoa, coffee and rubber). Increased capacities for processing and accessing markets more effectively will reward supply chains that commit to reducing deforestation and improve management practices along the supply chains. Action plans for each supply chains will be developed and actions implemented through specific partnerships between sector associations and private sector companies. Also, this intervention will importantly help to build markets for zero-deforestation, Amazonian products for these supply chains.

The supply chains in Caquetá and Guaviare are still in the process of being consolidated; therefore, interventions that develop or strengthen multi-stakeholder platforms within target municipalities and supply sheds will enable the development of partnerships, quality management, traceability, and greater access to markets. Building stronger supply chains will depend on both the provision of technical assistance to producers as well as alliances among producers, businesses and public sector institutions (i.e. technical assistance providers, rural development programs).

It is assumed that all producers participating in Investments 1, 2 and 4 (Rural Extension, Financial Mechanisms and Sustainable Alliances) will benefit from Zero Deforestation Supply chains, so no new beneficiaries are assumed for this component of the intervention. However, it is important to note that this component is critical in the overall investment package so the beneficiaries of other investments will have markets into which to sell their products.

1.1.3.4 Sustainable alliances

This investment seeks to transform current production systems into non-deforesting sustainable production systems by supporting critical partnerships between businesses and local producers' associations that reduce the investment risk of – and provide incentives for – sustainable production, landscape management, and more sustainable processing. It also seeks to support other needed investments into improved transportation, logistics, refrigeration, etc., that allow producers to get higher quality and quantity of products to markets.

The national Support Program for Productive Alliances (PAAP) has been successful in fostering partnerships between buyers and products by improving the organization and technical capacity of producer associations and their members, integrating small producers into supply chains, and providing access to credit via revolving funds. To date, implementation of PAAP in the Colombian Amazon has been relatively limited compared to other regions. In order to build on the successes of this program and increase its impact in the Amazon, we propose a new Sustainable Alliances program that will similarly foster relationships between producer associations and companies to increase certainty around supply and demand, as well as to achieve quality standards needed by buyers. In addition, Sustainable Alliances will foster producer-and-buyer defined best practices and performance milestone related to Colombia's zero net deforestation goal, as well as provide technical and financial support to partnerships to reach performance milestones and implement medium to long term sustainable financing strategies.

The donor will support Sustainable Alliances between local production associations and buyers, which will be supported by local public institutions such as offices of mayors and governors (similar to PAAP currently), Ministry of Environment, Ministry of Agriculture, local environmental authorities, research institutes, among others. These alliances will be fostered based on concrete, shared objectives regarding production, quality, sustainability, and commitments to zero deforestation.

This investment will support 105 alliances in three years. Based on the assumption that 3,159 producers and 105 producer associations would benefit, some 9,478 ha could be transformed into sustainable production systems. 54,513 ha of forest could be conserved, and 2,303 ha of deforestation could be avoided.

1.1.3.5 Incentives to reward municipalities and their farm sectors that achieve better performance in reducing deforestation

Donor finance will support the design of a "green municipalities program" for Caquetá and Guaviare to provide incentives to those municipalities that achieve better performance in reducing deforestation.

The long-term sustainability of supply chains and zero-deforestation commitments by businesses and producers will depend on local capacity for providing technical assistance, creating and implementing incentives, as well as for controlling and overseeing unsustainable practices that lead to forest degradation and deforestation. This will require engaging local governments and institutions to adopt strategies in support of low-emission rural development, as well as research institutions and universities, who can provide long-term monitoring and institutional support. The objective of this investment is to ensure that Caquetá and Guaviare and the municipalities within them have the long-term capacity that enable them to work hand-in-hand with the producers to accomplish the goals of sustainable production systems and zero deforestation.[12]

Colombia could design a program that rewards farmers, settlements, and governments in municipalities that are lowering deforestation. This program could initially focus on Caquetá and Guaviare Departments (priority regions under the current study) and expand to the Llanos/ Orinoco and other regions. This program could also engage companies through a matching fund or other mechanism that allows companies to increase their investments in their supply chains by linking to public funds (AgroSostenible, others).

12 The Consortium is analyzing the current regulatory framework with the objective of identifying mechanisms that connect institutional services or policy proposals that strengthen the development of strategies to reduce deforestation.

1.4 Summary of Assumptions and Risks

1.4.1 Assumptions

Expected impacts and results are estimated based upon assumptions of institutional coordination, political interest, technical capacity, and interest on the part of the production-related actors to change their production systems:

- Viable alternative production systems exist that: 1) are regionally appropriate, 2) reduce deforestation, 3) capture/store carbon, 4) restore landscapes, 5) are semi-intensive or intensive, 6) optimize production, and 7) improve producer livelihoods.
- The Amazon Vision Program provides a framework for institutional coordination to achieve the goal of reducing deforestation in the Amazon.
- Institutional interest and stability exist in the medium and long term that permit the development of the proposed initiatives through inter-sectoral coordination.
- Knowledge and technical capacity exist for promoting and establishing sustainable production systems.
- There is interest on the part of producers in accessing certain markets, lines of financing, incentives, and mechanisms of product differentiation (i.e. certifications).
- The public sector, academia, and research institutions have the credibility to effective engage with and exchange knowledge and information with private sector actors regarding sustainable production systems in the Colombian Amazon.

1.4.2 Risks

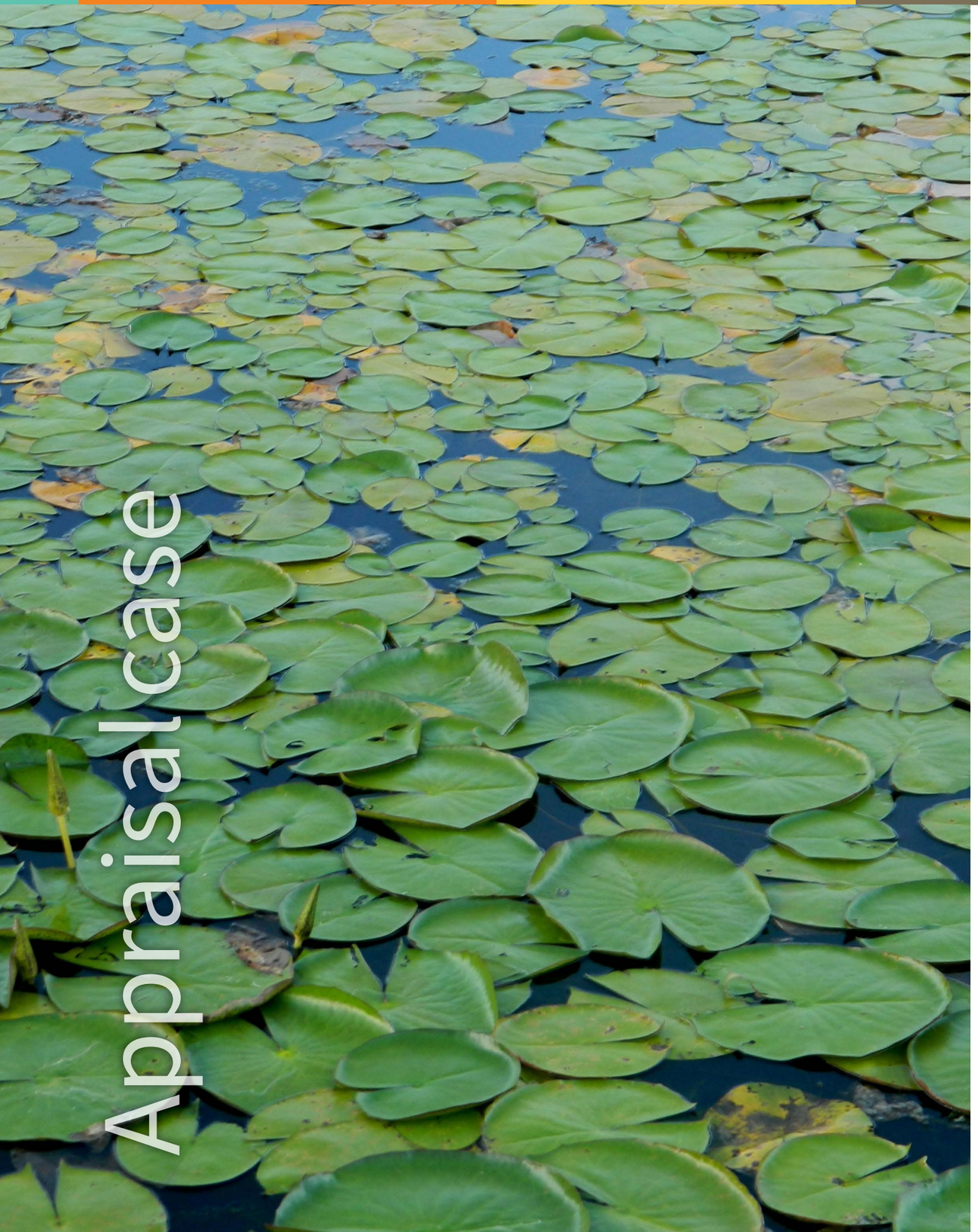
In Table 2 below, the principal risks to the success of the investment package are identified and mitigation measures are identified.

Table 2. Principle risks and mitigation measures

Risk description	Risk level	Mitigation actions	Residual risk
Institutional capacities and governance			
Insufficient institutional coordination, such that overlapping or competing programs undermine potential impact of proposed investments, especially with regards to financial incentives.	Medium	Coordination with other Amazon Vision initiatives, international cooperation agencies, and governmental programs such that intervention strategies are articulated across sectors and agencies, and those similar criteria for monitoring performance are used across the board. Institutions are already in a dialogue to coordinate strategies and activities, but in the short term, a greater leading role is needed in order to ensure inter-institutional coordination.	Low
Lack of credibility of the implementing institutions from the perspective of the local population and private sector	Medium	Provide support to existing initiatives or modifications of existing initiatives such as financial mechanisms or PAAP that could generate impacts in the short term. As investments are designed according to the characteristics of Amazonian producers and expectations of the private sector, is expected that this will build trust with local actors as the strategy is implemented. Awareness campaigns for rural extension and financial incentives programs will broadly disseminate information about the programs and build credibility from the beginning of implementation (and according to the target population). It has been documented that Amazon producers do not access many programs, projects and incentives because, in part, they do not know about them. Institutions fail to disseminate information about their services, especially to remote regions. Therefore, it is a manageable risk.	Low
Political cycles will jeopardize sustainability of governance reforms, alliances between producers, private and public sector, and LED-R strategies at municipal and department level	High	Involvement of civil society actors, such as research institutions, universities and NGOs, will provide institutional memory and long-term monitoring to weather political cycles. This is why the proposed interventions have been built based on the experiences of local actors and related sectors. Furthermore, the Amazon Vision program is already included in the National Development Plan 2014-2018, and it is expected that it will become an integrated approach and a common vision in the long term led by national government. In either case, there are some larger political and economic interests that are beyond the implementing institutions' control.	Medium
Weak capacity of local authorities (for example, due to lack of human resources) to guide businesses in the implementation and monitoring of regulations	High	Strengthen the capacity of authorities and local organizations to provide technical assistance. Promote alliances between the public and private sectors in order to achieve common goals. The investments focus on working closely with local authorities – e.g., in the rural extension program and associated monitoring, where local authorities will play an important role in developing producers' skills, reaching more rural areas and producers, and learning about local businesses – and this is designed to help actors see authorities as technical guides who can help them meet regulations rather than just deploying punitive measures if they are not in compliance with such regulations.	Medium

Risk description	Risk level	Mitigation actions	Residual risk
Market access and risks for private sector investments			
Fluctuations in market demand increase risks to producers and companies	Medium	Define market access strategies jointly with private sector actors and dedicate resources to supporting strategies that help open up markets to products from the region that are characterized by their sustainable land use and/or their contribution to reducing Amazonian deforestation. Commodities like rubber, cocoa and Amazon coffee are demanded both nationally and internationally. The interventions are designed to make sure local supply meets market requirements. The Ministry of Environment has planned a campaign promoting green or environmentally-friendly products.	Low
Prices of key commodities could raise or fall significantly	Medium	Prices of commodities are determined by international markets, therefore this not a risk that can be controlled. However, Investment 3 will promote adding value to products so local production can reach more markets.	Medium
Informal and insecure land tenure hinders the development of production initiatives due to limited access to credit and high investment risks for businesses	High	Develop regulatory proposals that offer opportunities for small producers to secure formal land tenure, whether via property deeds or other schemes that promote land tenure especially if producers are using the land sustainably. There is room to explore various approaches to legal access to land. Authorities at different levels are looking for alternatives to past approaches, especially under a post-conflict scenario.	Medium
Insufficient consumer demand for zero-deforestation products, either due to insufficient knowledge of products or unwillingness to pay price premiums	High	Design integrated market incentives: trade facilitation programs, market strategies, alliances between sector associations and buyers, etc. As mentioned above, the Ministry of Environment has planned a campaign promoting green or environmentally-friendly products. Through this campaign, the demand for those products should increase, and it will be possible to market Amazon products in ways that can capture niche markets.	Low
Insufficient infrastructure in the Amazon region limits competiveness of supply chains	High	To improve business enabling conditions such as road and power infrastructure is beyond the scope of these investments; however, through sustainable partnerships and supply chains, supply can be planned so that issues like poor quality decreases, value is added to products at the farm level, etc., and thus businesses will be less affected by these conditions. Also, through supply-chain dialogues, plan production according to the conditions of the region and limitations imposed by certain periods of the year.	Medium
Little local capacity to process commodities that can add value to raw materials	High	Strengthen processes to generate value-added products in accordance with market requirements and characteristics of demand. The investment portfolio has activities focused on developing producers' skills and strengthening capacities in processing/transformation, according to the improvement plan designed between supply chain actors. Thus, this risk is manageable if dialogue within supply chains is robust and market demand and quality specifications are addressed.	Low
Armed conflict, illegal mining, and illicit crop cultivation that could interfere with project implementation, discourage participation of local producers, and/or undermine public order	High	Work in a coordinated manner with local actors to jointly identify the actions that are necessary for preventing negative effects of these activities. This is not a directly manageable risk. However, by focusing on helping legal businesses become more profitable and sustainable, and also generating or strengthening economic opportunities for local people, this risk is indirectly addressed via the investment proposal.	Medium

Risk description	Risk level	Mitigation actions	Residual risk
Social conditions			
Illegal practices (trafficking in timber, wildlife species, coca cultivation) compete with the project's production options	High	Close coordination with other programs to combat illegal practices and promote integrated strategies. Strengthen governance processes at the local level and identify viable alternatives to illegal activities. The strategy could support production systems to become more profitable and sustainable, and generate new opportunities for local people. Promotion of sustainable production systems, as well as financial and market incentives, will create opportunities for vulnerable populations that have been affected by armed conflict.	Medium
Regulatory gaps and lack of capacity for management and processing of biodiversity-based products	Medium	Review regulatory framework and identify laws and regulations that promote private sector investment. Close coordination with environmental authorities, universities and research institutes (as providers of basic research and knowledge in order to meet the necessities of producers and private sector) will lead to enhanced local capabilities to improve protection of biodiversity and establish better control and regulation of biodiversity-based products.	Medium



2. Appraisal Case

This Appraisal Case evaluates the options for investment and the implementation strategy needed to assure a transformational impact.

2.1 Investment options

A multi-criteria analysis (MCA) was developed to evaluate seventeen investment options to achieve the five expected results described in the Strategic Case. These options were evaluated based on a set of strategic (7) and operational criteria (5) as presented in Table 3 below. The evaluation was performed by scoring each of the criteria on a scale of 1 to 3, in which 1 means that the option evaluated makes a small contribution to the criteria, 2 is a medium-level contribution, and 3 is a significant contribution. The weight assigned to Strategic Criteria and Operational Criteria is 50%.

Table 3. Key Strategic and Operational Criteria within the Multi-Criteria Analysis

	Attributes	Score		
		1	2	3
Strategic Criteria	1. Strengthens local capacities	Doesn't contribute to strengthening capacities at local level	Contributes to strengthening capacities of some actors	Contributes to strengthening capacities of local authorities, private sector and local producers
	2. Potential to engage the private sector in REDD+ and Low-Emissions Development activities	Doesn't promote private sector engagement in REDD+/LED activities	Promotes private sector involvement in the implementation of some REDD+/LED activities	Encourages/relies on private sector leadership and collaboration with local actors in REDD+/LED activities
	3. Diversification of production alternatives and incomes	Doesn't promote new production alternatives	Includes the promotion of some new production alternatives	Offers opportunities to promote an integrated approach and support new supply chains
	4. Promotion sustainable practices / reduction of deforestation	Option doesn't include promotion of good practices or actions to reduce deforestation	Option includes promotion of good practices but no clear how to reduce deforestation	Option includes promotion of good practices and agreements to reduce deforestations
	5. Potential for transformational impact at the regional or national level	Specific to a particular area/ initiative, not many options for regional-level impact	Option offers opportunities for transformational impact in a specific territory or supply chain	Option with transformational regional impact. Offers opportunities to scale up, replicate at regional and/or national level
	6. It is an incentive that could be linked to performance based system	Option does not provide an incentive(s) to promote good practices and reduce deforestation	Option does provide an incentive(s) to promote good practices and reduce deforestation	Option does provide an incentive(s) to promote good practices and reduce deforestation and could be linked to a performance system
Operational Criteria	7. Existing experiences relevant to guide and inform implementation	There are no experiences or projects that can contribute to the design and implementation of the program	There are experiences/ projects/ funding that can contribute to the design and implementation of the program at national level	There are experiences/projects/ funding that can support implementation in the short term at local level
	8. Existing institutional capacities for administration/ implementation of a program	There are no local capacities or potential partners interested at local level	There are institutions with local or potential partners that could support the implementation	There are institutions with local or potential partners that could support the implementation of the project and run similar programs
	9. Potential to encourage government and private sector co-funding	Is highly dependent on international cooperation	Even though this option depends on international funding in the first stage, it has the potential to attract government and private sector funding in the medium term	This option has the potential to attract government and private sector funding during its first stage
	10. Readiness to start activities 2015	Implementation requires a long process of design or additional processes of consultations with actors, delaying implementation for a year or longer	Needs a short process to complete its design and (if current program exists) to adapt the current program to achieve the intervention's desired impact	It is an existing program that could start activities as soon funds available

Seventeen options were analyzed related to 5 investments needed to achieve results proposed in the strategic case. Based on the results of the MCA, it is recommended that the donor invest in the following investments:

1. Design and implementation of a rural extension program with an integrated approach;
2. Design and implement new finance mechanisms in conjunction with medium-term public and/or private vehicles for deployment;
3. Support existing supply chains in developing collaborative strategies that improve competitiveness and market access, while at the same time aligning with the goal of zero deforestation;
4. Develop Sustainable Alliances based on PAAP and more comprehensively supporting productive partnerships in the Amazon in sustainability and other goals; and
5. Design of Green Municipalities programs in Caquetá and Guaviare.

Table 4. MCA Reveals Best Investment Options

Invest.	Options	Strategic criteria (weight 50%)[13]						Operational criteria (weight 50%)				Subto-tal		Total
		1	2	3	4	5	6	7	8	9	10	SC	OC	
Rural extension program	1 Design and implementation of a rural extension program with an integrated approach	3	3	3	3	3	3	2	3	3	2	9	5	14
	2 Support rural extension programs leaded by private sector associations of priority supply chains	2	2	1	3	2	3	3	3	3	3	6,5	6	12,5
	3 Do nothing	1	1	1	1	1	1	1	1	1	1	3	2	5
Financial incentives	1 Realign existing MADR/FINAGRO finance and incentives	1	1	2	2	3	2	2	3	2	1	5,5	4	9,5
	2 Develop new mechanisms and realign MADR/FINAGRO finance	3	2	3	3	2	3	2	3	2	2	8	4,5	12,5
	3 Develop new mechanisms and medium-term public and/or private vehicles for deployment	3	3	3	3	3	3	2	3	2	2	9	4,5	13,5
	4 Do nothing	1	1	1	1	1	1	1	1	1	1	3	2	5
Deforestation-free supply chains	1 Multi-stakeholder Dialogues/Roundtables of Supply Chain Actors of priority supply chains in each department	2	2	2	3	3	1	2	2	2	2	6,5	4	10,5
	2 Engagement of companies in the implementation of good practices and zero deforestation goals in their supply chains	2	2	2	3	3	3	2	2	3	2	7,5	4,5	12
	3 Support existing supply chains in improving competitiveness while committing to reduce deforestation and improve production practices, involving market strategies for amazon products	3	3	3	3	3	3	3	3	3	3	9	6	15
	4 Do nothing	1	1	1	1	1	1	1	1	1	1	3	2	5
Sustainable alliances	1 Develop new program to support productive partnerships in sustainability and other goals	3	3	3	3	3	3	2	2	3	1	9	4	13
	2 Modify PAAP to better support productive partnerships in sustainability and other goals	3	3	3	3	3	3	2	2	3	2	9	4,5	13,5
	3 Do nothing	1	1	1	1	1	1	1	1		1	3	1,5	4,5
Incentives to reward municipalities and their farm sectors	1 Design of Green municipalities programs in Caquetá and Guaviare	3	3	3	3	3	3	2	2	2	1	9	3,5	12,5
	2 Support existing planning processes and promote a departments in the implementation of plan to control deforestation	2	1	1	1	3	1	3	3	1	3	4,5	5	9,5
	3 Do nothing	1	1	1	1	1	1	1	1		1	3	1,5	4,5

Next, the evaluation of possible Intervention options is described in more detail.

13 Weighting: 50% for Strategic Criteria and 50% for Operational Criteria.

2.1.1 Intervention Options for Investment #1 – Rural Extension Program

Option 1. Program of technical assistance with an integrated approach**:** Under this option, donors would invest in the design and implementation of a rural extension program targeted to producers associations and local producers interested in managing their farms sustainably. The program will promote an integrated approach involving assistance with: 1) land-use planning at the farm level, 2) sustainable production practices, 3) sustainable forest management for timber and non timber forest products (NTFP), 4) quality and post-harvest management, and 5) entrepreneurial skills and farm business management.

Option 2. Support rural extension programs of priority supply chains**:** Under this option, donors will support existing supply chains by strengthening existing rural extension programs.

Option 3. Do nothing**:** This is the current scenario without intervention of Donor. Technical assistance will depend on the existing international cooperation programs, support of supply chains and projects of institutions such as Universidad de la Amazonia, Corpoamazonia or Sinchi Institute.

Table 5. Intervention options for Investment 1 – Rural Extension

Interven-tion	1. Design and implementation of a rural extension program with an integrated approach	2. Support rural extension programs leaded by private sector associations of priority supply chains	3. Do nothing
Benefits (Strategic Criteria)	• Integrated approach, not linked to one supply chain, would provide range of production activities and management practices tailored to producers' needs. • Generate institutional capacities for rural extension involving good practices at different levels (farmers, service providers, institutions, sector organizations). • Private sector support in the design of rural extension programs, informed by their experiences. • New approach could be replicated in other departments. • Eventually, rural extension program could be an incentive linked to performance.	• Targets private sector associations. • Supports existing rural extension programs of sector associations. • Builds organizational capacity of sectoral associations to deliver improved rural extension services and integrate low-deforestation practices. • Promotes impacts on specific supply chains by including good practices and promoting zero-deforestation agreements. • Support to private sector could be an incentive based on performance.	• Adoption of low- deforestation practices would depend of interest of farmers in response to changes in buyers' criteria or other external factors.
Operational opportunities and constraints (operational criteria)	• To date, low institutional capacity for rural extension and no programs in place. • Insufficient articulation between existing government and international cooperation programs. • Experiences at national and local level could inform program design. • Potential for long-term sustainability of the program after international donor funds end if sufficient capacities are built within government institutions for continued management.	• Private sector actors may be more nimble and able to innovate rapidly in response to business opportunity. • Potential for fast delivery relatively high. • Focus would be on select supply sheds, broader impacts uncertain. • Long-term sustainability highly dependent on private sector actors' continued interest and funding .	• Without adequate support and promotion of livelihood alternatives, producers most likely will continue implementing unsustainable practices, including forest-clearing techniques to establish new production areas. • Existing business models, unsustainable production practices and lack of capacities would continue driving. unsustainable processes in the Amazon region.
Overall assessment	While Option 2 has greater potential for private sector involvement and delivery in 2015, it has fewer benefits in terms of capacity building, institutional strengthening and greater risk for long-term program sustainability and broader regional impact. Even though Option 1 will require more time from design to implementation, it is chosen given the higher potential impact on promoting articulation among organizations to ensure long-term program sustainability and in generating capacities at local level for to implement alternative, low-deforestation practices with an integrated approach.		

2.1.2 *Intervention options for Investment #2 – Financial incentives*

Option 1. Realign existing Colombian agricultural MADR/FINAGRO finance and incentives to better support sustainable production systems. Under this option, donors will invest in the design and implementation of *modifications to existing mechanisms* to better support sustainable agricultural production in the Amazon. This will include: 1) better terms of credit and incentives, with special attention paid to the needs of small producers and the productive life cycles of Amazon tree and crop species, 2) easier access to existing credit and incentives that sidestep land tenure and credit history issues, and 3) a focus on integrated land management that encompasses more productive, quality systems that also achieves on-farm sustainability (including restoration of degraded land).

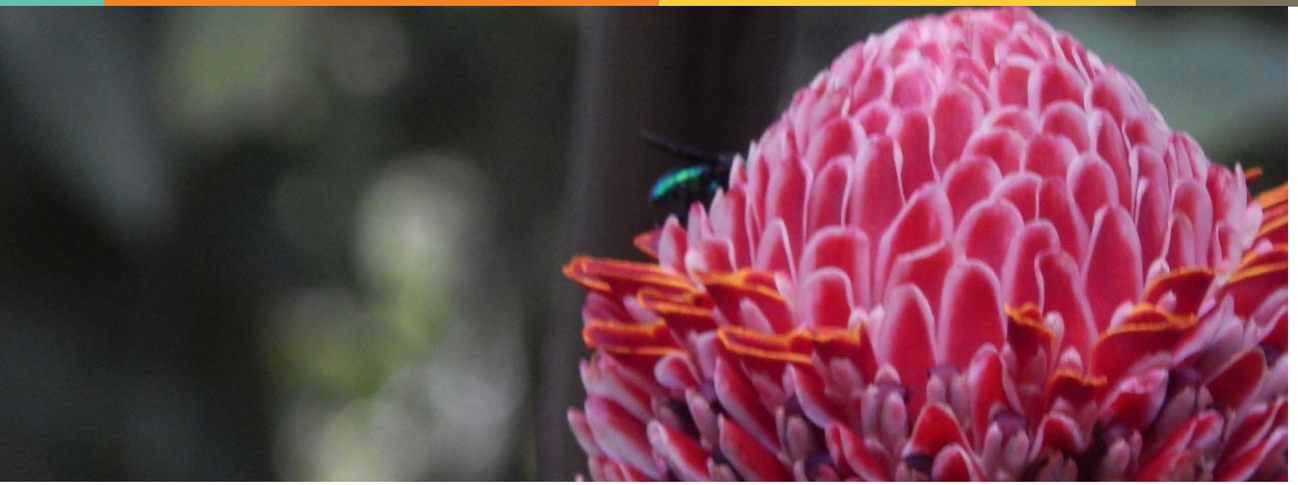
Option 2. Develop new finance and incentives to support sustainable production systems in the short term and develop medium-term modifications to Colombian agricultural MADR/FINAGRO public finance. Under this option, donors will invest in the design and implementation of *new mechanisms* to better support sustainable agricultural production in the Amazon in the short-term while also working with stakeholders to *realign existing agricultural finance*. This will include: 1) better terms of credit and incentives than now exist, with special attention paid to the needs of small producers and the productive life cycles of Amazon tree and crop species, 2) easier access to existing and new credit and incentives that sidestep land tenure and credit history issues; and 3) a focus on integrated land management that encompasses more productive, quality systems that also achieves on-farm sustainability (including restoration of degraded land).

Option 3. Similar to Option 2 but with a focus on developing sustainable production systems in the short term and developing medium-term opportunities to deploy financial incentives through both/either public MADR/FINAGRO finance and/or private or nonprofit institutions. Under this option, donors will invest in the design and implementation of *new mechanisms* to better support sustainable agricultural production in the Amazon in the short-term while also working with regional and local stakeholders to strengthen existing agricultural finance, improve local capacities and develop channels through which finance can be deployed in the medium-term (both public and private vehicles). The finance and incentives will include: 1) better terms of credit and incentives than now exist, with special attention paid to the needs of small producers and the productive life cycles of Amazon tree and crop species, 2) easier access to existing and new credit and incentives that sidestep land tenure and credit history issues; and 3) a focus on integrated land management that encompasses more productive, quality systems that also achieves on-farm sustainability (including restoration of degraded land).

Option 4. Do nothing. No new finance will be offered to support agricultural production in the Amazon.

Table 6. Intervention options for Investment 2 – Financial Mechanisms

Intervention	1. Realign existing MADR/FINAGRO finance and incentives	2. Develop new mechanisms and realign MADR/FINAGRO finance	3. Design and implement of new finance mechanisms in conjunction with medium-term public and/or private vehicles for deployment	4. Do nothing
Benefits (Strategic Criteria)	• Leverages current US billions of agricultural finance in Colombia and existing delivery mechanisms. • Pioneers new ways to increase access to credit and incentives for sustainable agriculture in the Amazon Region. • Opportunity to include a territorial approach on government financial mechanisms, replicable regionally and nationally.	• Utilizes existing delivery mechanisms while also pioneering new ways to increase access to credit and incentives for sustainable agriculture in the Amazon Region. • May also test which financial mechanisms are preferred by producers implementing sustainable agriculture and provide recommendations to adapt existing mechanisms. • Generate capacities locally and nationally for formulation of projects (service providers). • Linked to monitoring systems to evaluate performance.	• Strengthens existing delivery mechanisms and local capacities while also pioneering new ways to increase access to credit and incentives for sustainable agriculture. • May also test which financial mechanisms producers implementing sustainable agriculture would prefer. • Like Option 2, this option generates capacities and is linked to monitoring systems, but promotes specific activities to adjust national financial mechanisms and generate instruments to get private partners.	• No possibility that increased agricultural credit or incentives lead to increased deforestation.
Operational opportunities and constraints (Operational Criteria)	• Agricultural finance system in Colombia is national and is limited in its ability to support regional initiatives; also difficult for national system to sidestep land tenure issue. • This would heavily utilize existing agricultural dollars and only require donor funds for the design of the realignment and modifications to existing mechanisms (likely a 2:1 or higher match). • More time would likely be required (at least one year) to achieve political buy-in to modify existing financial mechanisms.	• Requires new financing by Colombia as co-investment with donors; new mechanisms tested outside of the national ag finance system may not influence medium-term existing agricultural credit and finance as hoped; fewer beneficiaries reached than Option #1. • New funds for these mechanisms may be hard to find and the match with donors is likely to be 1:1. • Design of new mechanisms is possible in 2015, with likely implementation in late 2015 or early 2016; realigned mechanisms likely in 2016.	• Requires new financing by Colombia as co-investment with donors; new mechanisms may not influence MADR/FINAGRO or private finance as hoped; fewer beneficiaries reached than Option #1. • New funds for these mechanisms may be hard to find and the match with donors is likely to be 1:1. • Design of new mechanisms is possible in 2015, with likely implementation in late 2015 or early 2016; realigned mechanisms likely in 2016. • Modification of existing mechanisms will require more time to get experiences for the new mechanisms and achieve political buy-in.	• Producers may use inexpensive forest-clearing techniques to establish mediocre production systems that keep them in poverty, degrade land, and lead to more deforestation. No new finance needed. Nothing to be undertaken.
Overall assessment	While Option 1 has greater cost-efficiency and potential impact, it also has higher barriers to implementation and lower feasibility of delivery in 2015. In particular, any changes to the terms of FINAGRO agricultural credit or related incentives require a law or regulation change (which would be time- and energy-intensive) and such a process must be led/guided by the National Commission for Agricultural Finance (which is a diverse group from MADR, MADS and other ministries). Option 4 is most cost-effective but poses the greatest risk to achieving deforestation and sustainability goals. Options 2 and 3 are similar and have the same short-term activities but different medium-term goals (Option 2 is focused only on MADR/FINAGRO finance while Option 3 allows for public and/or private options to be developed). Given the desire for greater private sector involvement in financing sustainable production systems and agricultural credit in general, as well as a strong interest by donors in short-term implementation and with the critical goal of informing and leading to overall realignment of existing mechanisms to better support zero-deforestation production, Option 3 is chosen.			



2.1.3 *Intervention options for Investment #3 – Deforestation-free supply chains*

Option 1. Establish commodity roundtables within key supply sheds in each department. This investment option aims to establish and facilitate commodity roundtables in Caquetá and Guaviare for a) cacao, b) cattle, c) rubber and d) coffee in order to define environmental standards (i.e. zero-deforestation agreements within the supply chain) and establish a governance system for the supply chains. Each roundtable would seek niche market access based on compliance with sustainability standards. Roundtables could link with existing regional planning processes and zero-deforestation commitments, however, roundtable standards would not be guaranteed to link with other incentive systems.

Option 2. Engage private sector companies directly. This investment strategy aims to directly engage private sector companies in identifying and managing risks from deforestation in the Colombian Amazon, promoting this sector's participation in the jurisdictional transitions to low-emission rural development.

Specifically, the strategy seeks to expand private sector investments in Amazon supply chains for a) cacao, b) cattle, c) rubber and d) coffee while promoting sustainable land use practices to reduce deforestation and building capacity for value-added processing, quality assurance, traceability and product differentiation among supply chain actors.

Option 3. Establish multi-stakeholder dialogues of supply chain actors, led by existing commodity federations, to develop strategies to improve production and meet deforestation reduction goals. This strategy aims to establish and facilitate multi-stakeholder dialogues within priority supply chains in Caquetá and Guaviare for a) cacao, b) cattle, c) rubber and d) coffee in order to define (in a participatory manner) sector-specific strategic plans to increase competitiveness and reduce risk for private sector investment. Strategies would seek to increase sustainable production, improve supply chain competitiveness, and catalyze zero-deforestation commitments among supply chains actors. Plans could include strategies to improve productivity, value-added processing, quality assurance, traceability, and product differentiation and marketing. Rather than focus on standards and certification for commodities that may actually increase barriers to smallholder integration into supply chains, multi-stakeholder dialogues would focus on establishing performance goals to reduce deforestation and linking those goals to incentive systems, including jurisdiction-wide performance systems, such as the proposed Green Municipalities program (Investment 5), and finance mechanisms to support sustainable land use practices (Investment 2). Sector federations active and/or producer's organizations in the region would lead dialogues (i.e. Confederación Cauchera, FEDEGAN, FEDECACAO and FEDECAFÉ).

Option 4. Do nothing. Under this business as usual scenario, private sector investment continues along its current trajectory, in essence, providing few incentives for sustainable land use practices, with little value-added processing and few opportunities for product differentiation.

Table 7. Intervention options for Investment 3 – Zero Deforestation Supply Chains

Intervention	1. Multi-stakeholder Dialogues/ Roundtables of Supply Chain Actors of priority supply chains in each department	2. Engagement of companies in the implementation of good practices and zero deforestation goals in their supply chains	3. Support existing supply chains in developing collaborative strategies that improve competitiveness, while at the same time align with goal of reducing deforestation	4. Do nothing
Benefits (Strategic Criteria)	• Low-deforestation practices within supply sheds could result from standard setting within each roundtable. • Private sector could receive recognition for efforts to reduce deforestation within supply chain via certification schemes or other roundtable mechanism. • Niche market access at global scale via roundtable standard setting. • Increases monitoring at supply chain level. • Facilitates network learning within each supply chain. • Promotes private sector commitments and leadership.	• Individual companies can be more nimble and able to take action relatively quickly. • Standards and criteria may be more easily established and implemented for one company's supply chain, rather than multiple companies. • Promote monitoring systems at company level to evaluate provider's performance.	• Strategies developed within each supply chain would provide incentives for sector associations, producers associations and companies to improve the competitiveness, access to markets and reduce deforestation. • Promotes market access strategies and differentiation as an incentive to improve environmental management. • Promotes production efficiency and competitiveness. • Generates capacities for performance-based monitoring that can link to finance mechanisms for broader transition to LED-R (linked to Investment 5). • Promotes market access strategies and differentiation as an incentive to improve environmental management. • Promotes production efficiency and competitiveness. • Promotes involvement of relevant stakeholders related to the supply chains and create capacities at local and national level. • Promotes network learning. • Links environmental and zero-deforestation milestones to regional and national processes	• Supply chains develop strategies focused on productivity and market access. • Implementation of low deforestation practices without incentives unlikely, given the number of market and processing constraints.
Operational opportunities and constraints (Operational Criteria)	• Commitment to implement best practices, reduce deforestation and monitoring could be limited as market access for sustainable products from the Amazon is limited and supply chains are not competitive. • Supply chain dialogues will require investment of time and resources without immediate payoffs. some potential beneficiaries may not have patience or long-term vision. • Potential risk that roundtable efforts are not sustainable in the long run if not linked to broader regional processes. • Establishment of multi-stakeholders dialogues may require a significant front-end investment without immediate payoffs.	• Private sector influence in Caquetá and Guaviare is limited as perceived risk is still high. • Risk conditions, high production costs and low quality limit companies' engagement. • Questionable long-term sustainability: lack of broader transformations and buy-in from multiple companies, efforts may not have long term impacts. • No guarantee of the longer term impacts without direct links of private sector to regional processes. • High costs of monitoring and technical assistance to producers. • Commercial/production goals could be prioritized over zero-deforestation and sustainability goals.	• Existing capacities at local and national level to design and implement strategies. • Limited capacity to implement traceability systems needed for certification. Additional efforts need to be done to promote monitoring and reporting systems. • Benefits of being part of the multi-stakeholders dialogues and platforms need to be evident for producers. • Preparatory activities are needed to design sector strategies and define zero-deforestation goals. • Donor and private sector funding will support the implementation of strategies and sector associations will be in capacity to manage the strategies and get additional funding.	• Supply chains operate with their own funding and efforts to get international cooperation.
Overall assessment	Option 3 has the greater potential for transformational impact at the jurisdictional scale. Sector strategies promoting zero-deforestation goals, in which performance milestones are agreed upon by multiple actors within supply chains, reinforced by jurisdictional governments and incentive systems, and monitored through adequate platforms, have the potential to tip rural development towards a low-emission model, as experiences in Brazil suggest. An integrated effort from public and private sector will help catalyze the broad systemic changes in both production and consumption necessary to halt deforestation in the Colombian Amazon.			

2.1.4 *Intervention options for Investment #4 – Sustainable Alliances Program*

Option 1. Develop a new Sustainable Alliances program to provide support to partnerships between producer associations and one or more of their buyers. Under this option, donors will invest in the design and implementation of a new program that includes support to partnerships in the quest for sustainability such as: 1) co-financing of new projects that the partnership wishes to undertake to increase sustainability, quantity and/or quality of products (e.g., modification of a processing facility to provide higher quality products, certification, etc.), and 2) technical assistance related to sustainable agricultural production methods, management of the association, financial training, and entrepreneurial growth.

Option 2. Modify the Program of Assistance for Productive Alliances (PAAP) to provide more comprehensive support to partnerships between producer associations and one or more of their buyers. Under this option, donors will invest in a redesign of PAAP for the Amazon to become the Sustainable Produce Alliances Program, which would utilize PAAP's successes and lessons learned to provide enhanced support to partnerships aimed towards sustainability such as: 1) co-financing of new projects that the partnership wishes to undertake to increase sustainability, quantity and/or quality of products (e.g., modification of a processing facility to provide higher quality products, certification, etc.), and 2) technical assistance related to sustainable agricultural production methods, management of the association, financial training, and entrepreneurial growth.

Option 3. Do nothing. No new finance will be offered to support partnerships.

Table 8. Intervention options for Investment 4 – Sustainable Alliances

Intervention	1. Develop new program to support productive partnerships in sustainability and other goals	2. Modify PAAP to better support productive partnerships in sustainability and other goals	3. Do nothing
Benefits (Strategic Criteria)	Gives program complete creative license to develop a program that is designed to best support such partnerships; will not be associated with any failures of existing program.	Utilizes the successes and lessons learned from PAAP to develop a new program to better support partnerships in achieving sustainability. Leverages existing delivery mechanism while also pioneering new ways to support partnerships Provides incentives based on performance, including more specific goals related to sustainability, deforestation. Private sector will lead initiatives to reduce deforestation and support inclusion of local farmers into existing or new supply chains.	"Business-as-usual" means that there are limited or not funds for partnerships. Limits integration of producers into supply chains and does nothing to promote sustainable practices.
Operational opportunities and constraints (Operational Criteria)	May be difficult to "start over", given that PAAP is viewed by many as a successful program and one program that reaches poor and displaced peoples throughout the country. New funds for this program may be hard to find and the match with donors is likely to be 1:1. More time would likely be required (at least one year) to develop a completely new program.	Given government's concern with deploying national funds or programs unevenly geographically, keeping this modified program as an extension of PAAP may be difficult. The alternative is for donors to fund all of "extra investment" into the program. If PAAP is continued and Government of Colombia (GOC) commits to funding half of the new support too – its funding will exceed a 1:1 match. If PAAP is discontinued – new funds for the program may be hard to find and the match with donors is likely to be 1:1. Modifications to PAAP are possible in 2015, with likely implementation in late 2015 or early 2016.	Producer associations may become even weaker, and members may become disillusioned and resort to other means of generating income, including via illicit crops and inexpensive forest clearing for production. No new finance needed.
Overall assessment	While Option 1 allows for greatest flexibility and creativity in the new program design, it has lower feasibility of delivery in 2015. Option 3 is most cost-effective but poses the greatest risk toward deforestation and sustainability goals. Taking this into account, Option 2 is chosen for short-term implementation and to build from the successes and lessons learned from PAAP implementation over the last 12 years.		

2.1.5 *Intervention options for Investment #5 – Green Municipalities program*

Option 1. Design of Green Municipalities program in Caquetá and Guaviare. Donors will invest in designing a long-term program to reduce deforestation, improve environmental management and strengthen governance led by Departments. Incentive systems would be designed to favor municipalities and their farm sectors with low deforestation rates and better territorial performance.

Option 2. Support existing planning processes and support departments in the implementation of plans to control deforestation. Donors will invest in supporting departments and municipalities in implementing existing territorial management plans, including low-emissions rural development goals and strategies to control deforestation.

Option 3. Do nothing. No plans or strategies to reduce deforestation leaded by territorial entities are promoted.

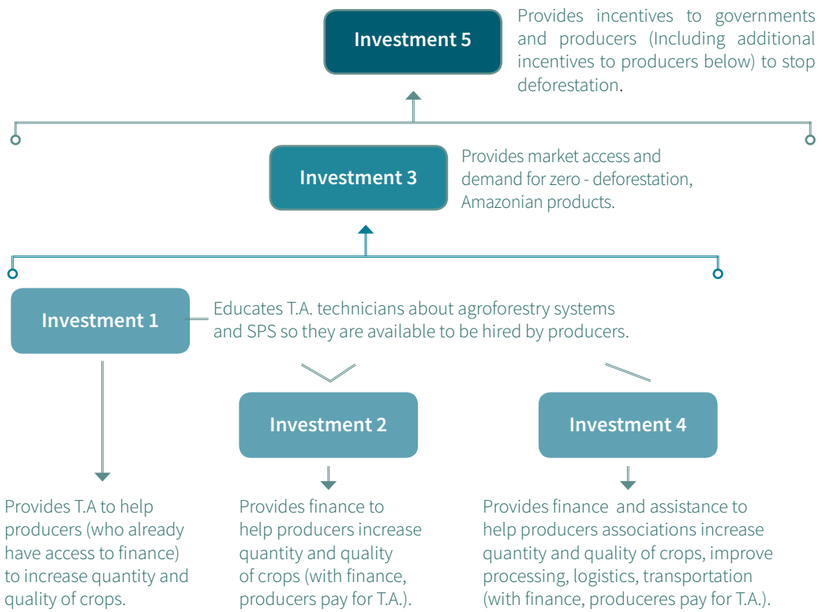
Table 9. Intervention options for Investment 5 – Green Municipalities

Intervention	1. Design of Green municipalities programs in Caquetá and Guaviare	2. Support existing planning processes and promote a departments in the implementation of plan to control deforestation	3. Do nothing
Benefits (Strategic Criteria)	Design of a new program to strengthen institutional capacity of municipal and departmental governments. Leadership of local governments to combat deforestation would increase. Investments would generate capacities that become self-perpetuating. Territorial performance monitoring, in conjunction with increased institutional capacities, would help promote climate-smart investments. Private sector would be engaged in REDD+ and Low-Emissions Development activities. Experience could be replicated and applied/scaled up to other departments of the Amazon region. Incentives will be implemented with a jurisdictional approach linked to performance.	Existing plans would be improved including REDD+ and low emissions development activities. Municipalities would increase capacities to develop plans based on existing institutions. Municipalities would promote agreements to reduce deforestation among relevant stakeholders.	Decisions on programs and initiatives to reduce deforestation at taken at national level. Local governments actions depend on existing capacities. No benefits or incentives linked to reduction of deforestation or environmental management at jurisdictional level. Little involvement of private sector and civil society in deforestation reduction actions.
Operational opportunities and constraints (Operational Criteria)	• Program would have to build on experiences outside of Colombia, since it would be a national pioneer. • Regional experiences in monitoring and land use planning could inform design. • Program design would be a participatory process, allowing input from multiple stakeholders. • Incentives need to be identified/defined and mechanisms to link to existing incentives. • Process of design could start in 2015 and implementation of the program 2017 depending on donor and government decisions. • Highly integrated with other investments- such that these could be linked as performance incentives.	• This option will rely on existing capacities and may not build sufficient institutional capacity at municipal and departmental levels to impact deforestation. • Plans may not have impact on other development sectors resulting in a little private sector involvement. • Activities could start in 2015 depending on institutional capacities and existing opportunities to adapt existing land planning instruments. • Political buy-in to formulate new land planning instruments or strategies may require more time.	• Producer associations may become even weaker, and members may become disillusioned and resort to other means of generating income, including via illicit crops and inexpensive forest clearing for production. • No new finance needed.
Overall assessment	Even though option 1 implies the design of a new program, experiences in Brazil demonstrate that a green municipalities program is effective in reducing deforestation, increasing leadership of local authorities and generating local capacities and mechanisms in the long term. Option 2 also generates capacities and promotes agreements to reduce deforestation but lack of incentives, monitoring or private sector involvement are relevant constraints to achieve territorial goals. Option 1 is recommended.		

2.2 Goals and Activities of Recommended Investment Options

This Investment portfolio of 5 Investments is an integrated, multi-faceted portfolio that is best positioned to achieve the benefits set out in the Strategic and Appraisal Cases only if all investments are undertaken together. Discarding one or more of the investments would substantially hinder the success of the other investments. To participate in any of the Investments, producers must commit to stop deforestation on their land (thus conserving the 17.25 hectares on average that they have in forest) and restore a small amount of land to natural systems (0.5 ha per producer). Figure 3 graphically depicts how the investments relate to and support each other.

Figure 3. Investments as they support and reinforce each other



- Investment 1 – **Rural Extension** – has direct beneficiaries (producers) who receive its technical assistance, and its activities also benefit the producers included in Investment 2 and 4: in particular, its training of trainers program for rural extension and financial acumen/assistance, as well as its demonstration farms, very importantly build the capacity of local technicians to provide necessary assistance to producers and producer associations included in Investment 2 and 4.
- Investment 2 – **Financial Incentives** – has direct beneficiaries who will have greater access to better financial mechanisms in the short term to transform their production to more sustainable agroforestry and/or silvopastoral systems (SPS), with the enhanced T.A. provided in Investment 1 and the market access provided in Investment 3, this investment will also critically inform the realignment of current finance and/or the design of new financial mechanisms to be incorporated into Colombia's financial system in the medium term (these potential benefits are not included in the cost-benefit analysis but are important to keep in mind; more on this below).
- Investment 3 – **Zero Deforestation Supply Chains** – will benefit all producers involved in Investments 1, 2 and 4 who are working to produce higher quantities and quality products and to get those products to markets. Investment 3 is key to the success of Investments 1, 2 and 4 because it will critically provide access to markets for such products by working with private companies to promote and market zero-deforestation, Amazon-produced goods. Additionally, Investment 3 will also benefit some/all producers included only under Investment 5 (i.e., the other 1/3 of cattle ranchers in Caquetá and Guaviare not directly helped by Investments 1, 2 or 4), since reducing deforestation at the municipal level will allow their products to be marketed as low or zero-deforestation and access markets that value such products. Without Investment 3, there is a substantial risk that this greater quantity of product would not have a large enough market to absorb it and these products would be wasted or would drive down market prices.
- Investment 4 – **Sustainable Alliances** – will benefit producer associations and their members directly by providing financial assistance to associations that have a commitment from a buyer to purchase their products and that have an economically-viable investment proposal that will increase the income of the members. It is anticipated that producer associations will focus their proposals on productive investments (e.g., planting new agroforestry systems or SPS or renovating current plantations/pastures), methods to improve quality via better production or harvesting systems or through better processing, and/or logistics or transportation investments that allow them to get their product to processing or refrigeration venues (e.g., milk must reach refrigeration systems within 3 hours) or to the right final markets. These producers will benefit from the technical assistance capacities developing in Investment 1 and access to markets provided by Investment 3.
- Investment 5 – **Green Municipalities** – will benefit/retract benefits from producers in all of the above investments ***and all other producers within Caquetá and Guaviare*** according to whether deforestation targets are met per municipality. The program will also provide incentives/retribution to municipal governments according to whether deforestation targets are met in their municipality, furthering the potential impact of this Investment. Investment 5 will focus on the ***design*** of the Green Municipalities program, which will enable the launch of said program in 2017 or 2018 under the Amazon Vision's governance pillar (more on this below).

Main Assumptions for Cost-Benefit Analyses

For all the cost-benefit analyses, it is assumed that benefits accrue for 10 years (assuming benefits extend beyond 10 years is tenuous). This limits the benefits in particular for rubber agroforestry systems, which do not produce rubber until Year 6 or 7 and continue producing rubber for the trees lifetimes of 20-30 years. However, other systems are productive within that timeframe (7, 10 and 10 years for SPS, cocoa and coffee, respectively).

It is assumed that not all expected benefits will be achieved, so a conservative leakage rate of 25% is applied to the intervened hectares, producers benefitting, etc.

The costs are primarily estimated in Colombian Pesos (COP) and, at times, US dollars (US$), and exchange rates were calculated using the average exchange rates over the last 12 months (using the Oanda currency converter on April 2, 2105). Exchange rates can vary substantially over days or months – as has been the case this past year – so averaging them over several months or a year or more is often used to smooth these fluctuations. Using average exchange rates can protect the integrity of the calculations somewhat because it prevents a particularly high or low exchange rate from being used to convert currencies. The following exchange rates were used to convert these currencies:

- COP to UK£ – 0.000296667
- COP to US$ – 0.000479167
- US$ to UK£ – 0.621127917

For the carbon benefits, carbon calculations for various types of systems (e.g., natural forest, degraded pastures, SPS, etc.) in the Colombian Amazon were used - Amézquita *et al*. (2008) and Moreira *et al*. (2009). For ecosystem benefits, general ecosystem valuations were used from past UK business cases. To estimate the carbon and ecosystem benefits of systems that will accrue more of these benefits over time (e.g., restoration of degraded pastures to natural systems sequester a little carbon in year 1, more in year 2, etc.), a yearly average benefit was assigned to such systems with the assumption that maximum carbon or ecosystem value is achieved in Year 15. Since these benefits are only modeled for a maximum of 10 years (per the assumption above that benefits cannot be assumed to accrue beyond 10 years), this is assuming that 2/3 of the carbon and ecosystem value are captured by the system in the first ten years of growth. Amézquita *et al*. (2008) shows that 15-year-old forests have about 82% of the total carbon in 40-year-old forests, so it is fairly reasonable to assume that 60% of the carbon accrues in the first 10 years.

Specifically, carbon sequestered by new agroforestry or silvopastoral systems (assuming 50% of each type are implemented) per year is 8.55 tCO2e/ha; carbon sequestered by more productive, higher quality agroforestry system per year is assumed to be 0 tCO2e/ha; emissions avoided by saving forests from being converted to extensive pasture/degraded pasture systems is 314.64 tCO2e/ha; carbon sequestered by restoring degraded pastures to natural systems (80% forest) per year is 12.35 tCO2e/ha. The ecosystem value for conserved forests is UK£ 524.40, and the average ecosystem value for degraded pastures that are being restored to natural systems per year is UK£ 14.48.

For all costs and benefits, a discount rate of 10% is applied (per DIFD convention). For carbon, a discount rate of 3.5% is applied (per Green Book).

The expected deforestation rate for Caquetá and Guaviare in 2013+ is 0.540231%. This was calculated using IDEAM's data for the amount of Natural Forest in 2012 and the area deforested 2012-2013. While imperfect (it is common to calculate historic deforestation rates over 10 years, for example, to create a baseline deforestation rate and against which to measure future deforestation), this is the only deforestation data obtained for Caquetá and Guaviare and thus the one used to assume future yearly deforestation in the two departments.

The average property in Caquetá and Guaviare is assumed to be 85.42 hectares in total, with the following number of hectares per land use: 48.33 ha in pasture; 17.25 in forest; 11.68 in ***rastrojos*** (former pastures that are abandoned and in which have started to grow secondary forests); 4.94 ha in agriculture; and 3.23 ha in other uses. These averages were calculated across six zones in Caquetá and are based on Sinchi (2014) research; and it is assumed that properties in Guaviare encompass the same land use types and in the same proportions.

It is assumed that all producers in Investments 1, 2 and 4 will plant new or restore current systems on 3 hectares of their land. This is based on feedback from producers that changing more than 3 hectares at a time is difficult because there is a limited amount of laborers available in these rural areas, production and financial risks increase with more area, etc.

The estimated investment costs, prices, and yield information for the three types of agroforestry systems (rubber, cocoa and coffee) and SPS are primarily taken from PAAP models for these systems in Caquetá, although assumptions were made at times when no information was available. For example, the maintenance costs for "normal" plantations (non-agroforestry or SPS) were not included in the PAAP models.

Thus, these costs were estimated as being the same proportion of agroforestry or SPS maintenance costs as the "normal" yield versus "possible" yield for each of the four products (cocoa, rubber, coffee and beef/milk).

The costs of deforestation/clearing forest and possible associated revenue are not included in the CB analyses because no strong evidence has been presented that these are important factors for producers when deciding to clear forest; instead, running cattle on previously-forested land is documented as a main driver of deforestation in the Amazon region, and thus the missed revenue from these extensive cattle systems is included in the analyses.[14]

In addition to donor investment, it is assumed that the Government of Colombia (GOC) will match the donor contribution at a rate of 25% (i.e., for every pound that the donor invests, GOC will invest 25 pence). It is anticipated that the private sector will likewise co-invest across the investment portfolio; their rate of co-investment varies per activity (and is described further below).

Unless otherwise specified, the administration and management costs for each Investment are assumed to be 15%, and monitoring and evaluation costs are assumed to be 5%.

Cost-benefit analyses were completed for the following combinations of investments:

- Investment 1, with a portion of Investment 3's costs
- Investment 2, with a portion of Investment 1 and 3's costs
- Investment 4, with a portion of Investment 1 and 3's costs
- Investment 5

The goals, beneficiaries, activities, and main assumptions and results of the cost-benefit analyses for each of the Investments are presented in the next section.

14 If any additional research were to be undertaken to strengthen the CB analyses, it would be wise to include an investigation into the potential costs and revenue that forest-clearers can earn from deforestation.

2.2.1 Investment 1 – Design and implementation of a rural extension program with an integrated approach

2.2.1.1 Goal

Design and implement a rural extension program to provide technical assistance services and training programs to rural producers in Caquetá and Guaviare so they can make the transition to low emission farming systems that reduce deforestation through adoption of sustainable crop and livestock production, fully integrated into regional supply chains. This will include:

- Establishing a decentralized rural extension program linked to Secretaries of Agriculture for the two departments and supported by private sector associations, rural extension national organizations, universities and research institutions that will allow the program to achieve the scale required for the regional transformation of farming and forest management systems.
- Developing and begin implementation of a training of trainers program to form local technicians to work with producers via regional demonstration farms and farmer-to-farmer exchanges.
- Delivering comprehensive rural extension services to producers related to planting, production and harvesting technique for agroforestry systems and SPS, as well as training to enhance producer and producer associations' basic financial analysis skills (including how to apply for and access sustainable financing beyond the term of the program).
- Developing the organizational capacity of smallholder organizations so they can provide basic services to members and represent them in negotiations with government agencies and companies.
- Developing a participatory monitoring network integrated into extension system that links producers to regional research institutions monitoring platforms.

2.2.1.2 Beneficiaries

The main beneficiaries of the rural extension program are: a) Local producers interested in implementation of sustainable production systems (within Investment 1 and Investment 2), b) Producer associations that promote sustainable production practices and provide services for their members (Investment 4), and c) Companies interested in increasing the sustainability of farmer production and improving the quality of farm output (associated with beneficiaries of Investments 1, 2, 4 or others).

Beneficiaries interested in participating in technical assistance programs will sign voluntary agreements to stop deforestation and implement sustainable production and land management practices.

In the cost-benefit analysis for Investment 1 (including the 25% leakage rate), it is assumed that 2,390 producers will receive direct extension/technical assistance related to sustainable agroforestry or SPS. These producers are assumed to have access to traditional finance and incentives (e.g., FINAGRO or other) and thus do ***not*** overlap with beneficiaries of other investments.

2.2.1.3 Activities

As there are currently no rural extension programs oriented towards promoting sustainable production in the Amazon, a program will be designed and implemented in order to promote the implementation of sustainable production practices and zero-deforestation goals. The program will be targeted to local farmers and producers' organizations involving a) land-use planning at the farm level, b) sustainable production practices, c) sustainable forest management for timber and NTFPs, d) quality and post-harvest management, and e) entrepreneurial skills, financial planning and management, and project management.

Activities that need to be included in this program are:

<u>0. Baseline participatory assessment and design of the rural extension program</u>**:** In collaboration with the producers' associations and local research institutions such as Sinchi Institute, University of the Amazon and CIPAV, it is necessary to undertake a participatory assessment of smallholder production and forest management systems to 1) inform the design of a rural extension program and 2) provide a baseline for monitoring progress towards achieving objectives of zero net deforestation, sustainable production and management practices, and integration into regional supply chains. Potential beneficiaries of the rural extension program could be identified, taking into account priority areas of the Amazon Vision program, emphasizing existing producers associations, sector associations and communities signing zero-deforestation agreements.

1. Training of local providers in rural extension services: Taking into account the insufficiency of local capacities to provide rural extension services, there is a need to implement training programs to increase the number and efficacy of local service providers. Training would be focused on aspects related to integrated management of "Amazonian farms" and involving sustainability criteria, design and establishment of agroforestry and silvopastoral systems, and forest management systems. Programs would be implemented in coordination with local sector associations and producers' associations to promote the strengthening of existing capacities. These local providers would be able to assist beneficiaries of Investment 1, as well as Investments 2 and 4.

2. Establishment of demonstration farms and farmer-to-farmer exchange programs: Producers and organizations have recommended the establishment of demonstration farms for training purposes. Producers already implementing good practices could be supported to improve management practices and facilitate the use of their farms for capacitation of local producers. Visits and activities to exchange experiences on sustainable production models could be promoted in those farms and others. Given the regional dominance of certain supply chains, demonstration farms should be located in strategic areas to promote replication of sustainable practices. These demonstration farms will facilitate the learning of agroforestry systems and SPS for beneficiaries of Investments 1, 2 and 4.

3. Development of training programs: Farmers and producers' associations will be beneficiaries of training programs that will be composed of modules on planning, sustainable production, post-harvest and processing practices, entrepreneurial skills, among others. Partner organizations could also deliver training modules, as appropriate and based on their experience and expertise.

4. Delivery of rural extension services: According to producers, establishment of production systems require technical assistance during the first three or four years of the new system. Producers will be supported with technical visits two to three times a year by a professional, who monitors the progress of their production systems and provides technical advice. Two thousand three hundred and eighty seven (2,387) producers who participate in training programs can access rural extension services if they commit to stoping deforestation, implementing sustainable production systems, and recovering degraded lands.

5. Design and implementation of a monitoring system: A participatory monitoring system will be designed to collect information on smallholder production systems, progress in adopting sustainable production practices and land management, farm productivity, problems encountered and solutions adopted in transition to low emission land management. Results will feed into a regional monitoring platform to assess regional performance in achieving deforestation targets and sustainable land management objectives.

2.2.1.4 Cost-Benefit Analysis

The costs for Investment 1 are presented in Table 10. As shown in the table, costs for Activities 1.1 to 1.3 are grouped together, and the 15% admin/project management and 5% monitoring and evaluation costs are applied to these costs. The same is true for Activities 1.4 – 1.6. This is because all of the costs for Activities 1.4-1.6 are included in the Cost-Benefit (CB) analysis for Investment 1, whereas the costs for Activities 1.1-1.3 are distributed across Investments 1, 2 and 4, as beneficiaries in all of these Investments benefit from the development of the Rural Extension program. Likewise, a portion of Investment 3 costs are included in the CB analysis for Investment 1, as beneficiaries from Investments 1, 2 and 4 likewise benefit from Investment 3, which is designed to provide market access for zero-deforestation, Amazonian products.

Relevant private sector costs associated with Investment 1 are also included in Table 10. These are the establishment and/or maintenance costs that producers will bear to transform 3 hectares of their land to sustainable production systems. It is assumed that 1/3 of producers benefitting from Investment 1 will choose to establish new systems and 2/3 will choose to renovate their current production to achieve higher quality and/or quantity of produce or crops. As Investment 1 will only provide technical assistance/extension and producers will need to access traditional sources of finance for these investments, they may be more likely to choose to renovate their existing agriculture or cattle systems rather than establishing new systems. These producers will also restor 1/2 hectare of degraded pasture to natural forest-dominated systems, and they will bear all of these costs.

Table 10. Costs for Investment 1 – Rural Extension

Activities	Implementing agency	2015	2016	2017	2018	Budget	Co-funding (25% suggested)	Co-Funding
1.1 Participatory assessment and design of the rural extension program	MADR	£ 55.655				£ 55.655	25%	£ 13.913,67
1.2. Training of trainers program	MADR in close coordination with Secretariats of Agriculture (supported by an implementing agency to be selected)	£ 111.161	£ 111.161			£ 222.322		£ 55.580,50
1.3. Establishment of demonstration farms and exchange of experiences	MADR supported by an implementing agency to be selected	£ 52.807	£ 52.807	£ 47.467		£ 153.080		£ 38.270,00
	15%	£ 32.943,35	£ 24.595,15	£ 7.120,00	£ -	£ 64.659		£ 16.164,63
	5%	£ 10.981,12	£ 8.198,38	£ 2.373,33	£ -	£ 21.553		£ 5.388,21
Subtotal 1.1-1.3 for Investment 1 (activities that also overlap with other investments)		£ 263.546,80	£ 196.761,20	£ 56.960,00	£ -	£ 517.268		£ 129.317,00
1.4. Development of training programs	MADR supported by an implementing agency to be selected		£ 639.198	£ 426.132		£ 1.065.330		£ 266.332,50
1.5. Delivery of rural extension services	MADR supported by an implementing agency to be selected		£ 1.525.714	£ 762.857	£ 381.429	£ 2.670.000		£ 667.500,00
1.6. Design and implementation of a monitoring system	MADR - MADS	£ 102.053	£ 26.700	£ 26.700	£ 26.700	£ 182.153		£ 45.538,33
1.7 Admin and project management	15%	£ 15.308,00	£ 328.741,84	£ 182.353,37	£ 61.219,29	£ 587.623		£ 146.905,63
1.8 Monitoring and evaluation of program	5%	£ 5.102,67	£ 109.580,61	£ 60.784,46	£ 20.406,43	£ 195.874		£ 48.968,54
Subtotal 1.4-1.6 for Investment 1 (activities that are ONLY supported in Investment 1)		£ 122.464,00	£ 2.629.934,74	£ 1.458.826,97	£ 89.754,29	£ 4.700.980		£ 1.175.245,00
Total Invesment 1		£ 386.011	£ 2.826.696	£ 1.515.787	£ 489.754	£ 5.218.248		£ 1.304.562,00

Private Sector Costs (as relevant)						
Activities	Implementing agency	2015	2016	2017	2018	Budget
1.5. Delivery of rural extension services	Producers		£ 10.453.080	£ 4.935.327	£ 5.316.756	£ 0.705.163

In terms of the benefits, it is assumed that producers benefitting from Investment 1 undertake the following critical actions:

1. Stop deforestation on their land. The average farm in Caquetá has 17.25 hectares of natural forest (see above), and the deforestation rate of these forests in 2015+ is 0.540231%. This deforestation rate is applied to these 17.25 ha per producer to estimate that 1,842 ha of avoided deforestation will be achieved through Investment 1 (&3), and 41,184 ha of forest in total will be conserved on these producers' land.
2. Restore degraded area. Producers involved in Investments 1, 2 and 4 are required to restore a minimum of 1/2 hectare of degraded pastures to natural systems (which are assumed to be 80% forest and 20% pasture-like systems, to be conservative). It is estimated that 1,193 ha of degraded pastures will be restored to natural systems.
3. Plant new agroforestry systems or SPS and/or restore current plantations or pastures to higher-productivity, higher-quality production systems for meat/milk, rubber, cocoa, and coffee (SPS is considered both a "new" and a "restored" milk/meat production system).

It is assumed that if the Investments are not undertaken (the counter-factual scenario), producers will deforest at the historic rate and implement production systems on this newly-cleared land based on historic percentages of land use in Caquetá and Guaviare (i.e., run cattle in extensive systems on 99.04% of the land, with the remaining 0.48%, 0.25%, and 0.23% land being dedicated to rubber, cocoa and coffee, respectively). These historic land use proportions are also used in the analyses to determine what the degraded land would have been used for if it were not restored to natural systems and what the productive land would have been used for if it were not renovated or newly planted. Because extensive cattle ranching occupies over 99% percent of this counter-factual landscape, and beginning such extensive systems does not entail high start-up costs or a prolonged period of non-productivity, the counter-factual scenario analysis does not include year-by-year breakdowns of such establishment and maintenance costs for any of the assumed production systems.

In contrast, the with-program scenario for Investment 1 (&3) does include more detailed year-by-year estimations of costs and benefits, including carbon and ecosystem value estimations for the three important activities listed above, as well as the value of the production system yields. For example, for the hectares devoted to SPS by producers in Investment 1, the value of the bulls, cows and milk produced by these systems vary over the 7-year life of the system and are modeled per year. Overall results for the cost-benefit analysis are included in Table 11.

Table 11. Results of Cost-Benefit Analysis for Investment 1 (&3)

Investment	1 (&3)
Impact Indicators	
Total hectares under sustainable production	7.161
Total hectares restored to natural systems	1.193
Total hectares of avoided deforestation	1.842
Total hectares of forests conserved	41.184
Estimated number of livelihoods impacted	2.387
Total tonnes CO2 avoided (tCO2e)	1.933.504
Value for money indicators (Total Investment)	
Private sector leverage	2,88
Total discounted costs (including private)	£ 28.438.686
Total discounted benefits	£ 38.913.319
Benefit to cost ratio (BCR)	1,37
Investment cost per tonne	£14,71
Value form money indicators (Donor Investment)	
Donor attributed tonne of CO2e avoided (tCO2e)	1.546.803
Donor cost per tonne	£4,48
Donor benefit to cost ratio (BCR)	5,22

Private sector leverage is high for this investment, and the Value For Money Indicators are favorable in large part because rural extension is the only publicly-funded component of the total investment into higher-yield production techniques (the private sector is undertaking the largest portion of the investment into any of the actual productive changes or enhancements). This approach is anticipated to work best with producers that have access to traditional financing, which are likely to be the larger and/or longer-established producers.

Also, medium and long-term benefits of Investment 1 (&3) are not included in the model but are anticipated to be greatly enhanced capacities and knowledge of sustainable agroforestry and silvopastoral production systems among both rural extension agents and producers themselves. This capacity will be sustained for many years beyond the length of the program and will very likely result in a dominance of such production system in these departments and nearby areas (e.g., Meta) and perhaps even more broadly if there is attention and resources put into broader dissemination nationally.

2.2.2 Investment 2 – Design and implement new finance mechanisms in conjunction with medium-term public and/or private vehicles for deployment

2.2.2.1 Goals

Support the transformation of current production systems into non-deforesting sustainable production systems through the provision of special finance to local producers, including via producer associations.

Support local producers with needed finance for the establishment, monitoring and maintenance of sustainable production systems.

These goals are based on two main assumptions: 1) the transformation of current production systems to non-deforesting sustainable production systems is a key component of an overall strategy (e.g., the Amazon Vision program) to reduce deforestation in the Amazon, and 2) existing credit lines and incentives are often inaccessible and/or do not provide the support needed for producers to undertake the higher costs of sustainable production systems.

2.2.2.2 Beneficiaries

Proposed activities will target local producers interested in implementing sustainable production systems, including producer associations. This includes producers who are interested in changing their production systems to fit the systems that land use plans have identified as best in that area, e.g., cattle ranchers who are in areas that are NOT suitable for cattle ranching and who want to transform their pastures into forest or agroforestry production models according to land use plans.

To be eligible for the program, beneficiaries must (1) commit to zero deforestation production and be members of producer associations and/or supply chains that have committed to zero deforestation production, and (2) be producing in areas that are deemed appropriate for their crop according to land use plans (i.e., only producer associations whose members are operating in areas that are suitable for that crop or land use (e.g., raising livestock) can be a part of the Sustainable Alliances Program). One recommendation is that after 1-2 years in the program, progress towards reducing deforestation could be assessed at the jurisdictional level (likely at the municipal level), and only beneficiaries in jurisdictions reducing deforestation will continue to be eligible for financial mechanisms or have special conditions.

2.2.2.3 Activities

This intervention will address the various financial barriers described above by designing and implementing: (A) new finance based on existing credit and incentives and with important modifications, (B) modified or new credit and incentives (in the medium-term), and (C) supporting activities. All of these activities will specifically support sustainable production systems in the Amazon in the short-term and with the goal of informing medium-term modifications to Colombian agricultural finance, including finance deployed by public, private and nonprofit institutions[15].

(A) New finance based on existing credit and incentives and with important modifications

1. Develop and deploy a new incentive, AgroBosque, to fit the needs of Amazon producers. Currently, Colombia offers a Forestry Incentive Certificate (CIF by its Spanish acronym) that reimburses 50-75% of the costs of establishing and maintaining forest plantations for the first 5 years. Various supply chain actors have lauded the CIF's generous finance that covers much of the costs of establishing forestry and agroforestry systems. Nonetheless, producers underutilize CIF for various reasons: lack of legal land tenure; little or no knowledge of the program; and difficulty in applying for CIF, especially for small producers for whom the application process is arduous vis-à-vis the few hectares they would like to plant. Also, the current CIF could better support sustainable agroforestry systems by: more accurately estimating the high initial establishment costs of such systems (the current CIF does not include establishment support beyond the cost of seedlings); providing support for years 6 and 7 for systems that include species like rubber (that often do not yield latex until year 6 or 7); and providing financial assistance to maintain existing forests.

15 It has been demonstrated that reducing access to credit in the rural Amazon leads to a decrease in deforestation (e.g., Does Credit Affect Deforestation? Evidence from a Rural Credit Policy in the Brazilian Amazon. Climate Policy Initiative, 2013). Thus, one might assume that increasing access to credit will lead to an increase in deforestation. This investment portfolio addresses this risk by only granting access to credit and other programs to those producers committed to reducing deforestation, who want to implement sustainable production systems, and who are producing in areas suitable for their crops, according to existing land-use plans and regulations. This risk could be reduced even further by only offering these programs or better credit in jurisdictions that are reducing deforestation. However, as these are very poor areas of Colombia that have little or no governmental assistance to reduce deforestation and where there is much illegal activity that poor farmers are unlikely to solve themselves, the portfolio is designed in two phases: First, to support all producers who comply with the requirements above and then, in 1-2 years and after evaluating deforestation rates, to subsequently restrict finance and programs for beneficiaries in jurisdictions that continue to increase deforestation.

In order to address these barriers to accessing CIF, a new mechanism called AgroBosque will be developed and deployed such that: 50% of the actual establishment and maintenance costs of agroforestry systems or SPS for the first 3 years are reimbursed; legal land tenure is not needed to receive the incentive (other conditions will replace this requirement, such as showing proof of using the land for at least 5 years); the application process is simplified for producers with less than 10 hectares of land to be planted in agroforestry systems; and financial support for maintenance activities is included in the program.

AgroBosque will provide critical financial support to producers of all sizes and will especially improve access to financial support for small producers and producers without legal land tenure who want to implement agroforestry systems. As planting trees in the Amazon for agroforestry systems or restoration activities is a positive, public-good-producing activity (beyond the financial benefits provided to producers), legal land tenure is not deemed critical for this important incentive.

Also, approval of an AgroBosque application may be used as a form of collateral for producers who do not have the upfront capital to invest in agroforestry systems. Currently, Colombian law prevents CIF from being used as this form of collateral (as each person is not able to access more than one incentive or mechanism offered via FINAGRO), but such collateral has been successfully used in countries such as Chile to support forestry plantations and will be replicated through AgroBosque.

Furthermore, AgroBosque will be used as a mechanism to increase the rate of savings by rural populations. The financial support for forest maintenance activities detailed above (~COP 645,000 per year) will be deposited into an account for the producer during the first 3 years of the program, as long as the producer also deposits a minimal amount into the account (e.g., COP 20,000 or 50,000) and complies with the zero-deforestation stipulation. These funds will then be made available in Year 4 to help the producer maintain her/his agroforestry system or SPS in Years 4-6.

Principal beneficiaries:

Cattle, Cacao, Rubber, Coffee Supply Chains	Small	Medium	Large	Producer Associations
No legal land tenure	X	X	X	
Legal land tenure	X			

2. Create and implement a new incentive, EcoAgro, for the Amazon. Currently, Colombia's Rural Capitalization Incentive (ICR by its Spanish acronym) provides a 40% forgiveness rate for investment loans taken out by producers under FINAGRO (and offered by private banks or Banco Agrario) that support new investments aimed to modernize and increase the competitiveness and sustainability of agricultural production. In other words, if you are a producer who gets a FINAGRO investment loan from Banco Agrario and you show that you used those funds to increase your competitiveness, 40% of the loan will be forgiven (by ICR funds, paid to Banco Agrario in this case). The total finance available for ICR in Colombia is quickly dispersed each year and is mostly accessed in regions other than the Amazon.

In order to build upon such an important incentive to better reward sustainable production, a new incentive called EcoAgro for the Amazon will be created.

This will be accessible for producers who undertake investments in agroforestry or silvopastoral systems, stop deforesting, restore 1/2 ha of degraded land and according to the environmental benefits created by producers (e.g., they make other investments such as restoring riparian areas to natural habitat, etc.). If a producer undertakes the first 3 activities, they will receive the standard 40% forgiveness of debt; producers who also undertake restoration of riparian areas or other above-and-beyond activities will be eligible for a total of 50% loan forgiveness. EcoAgro will provide a substantial incentive to implement zero deforestation, sustainable production systems and restoration activities for producers who access traditional lines of agricultural credit (e.g., those with land tenure of any size) as well as those producers who access the new finance detailed in Activity 3 below.

Principal Beneficiaries:

Cattle, Cacao, Rubber, Coffee Supply Chains	Small	Medium	Large	Producer Associations
No legal land tenure	X	X	X	X
Legal land tenure	X	X	X	X

3. Create a fund that provides debt or equity financing for producers who want to invest in agroforestry or SPS. As access to credit and associated incentives like ICR, CIF, etc. are substantially constrained for producers in the Amazon who do not have land tenure, this new fund will provide, for example, funds for lines of credit for producer associations that utilize the power of a) group guarantees, b) contracts with buyers, c) associations' revolving funds, and/or d) other forms of guarantees in order to provide producers with access to credit. Similar to other FINAGRO-managed funds, the credit will be offered via commercial banks, nonprofit institutions like Root Capital, or Banco Agrario. AgroSostenible will utilize rich experience worldwide in factoring or triangulation to provide finance to producers while ensuring repayment through their buyers. This activity will also enable Colombia to test out credit lines using these types of assurance arrangements as collateral and will inform the medium-term design of such credit lines offered via public or private financial institutions. Also, to the extent that such credit is available to producer associations who have previously participated in the Productive Alliances program (PAAP), it can both help attract producer associations and commercial entities into the program and continue strengthening producer associations who are actively engaged in implementing sustainable production systems. As debt finance for associations can be a financially attractive investment with positive returns, this fund will seek to raise private capital as well, thereby bolstering the amount of funding available (a conservative 9:1 public: private financing ratio for the fund is assumed).

In addition to debt financing for associations, this fund will have the flexibility to invest into producers and/or their associations via equity (depending on their current debt load, the projected financial returns, etc.). Other financial institutions, such as credit cooperatives in the Amazon, could access this co-investment for their financial products.

Finally, the fund can provide partial guarantees to financial institutions who develop their own "green" credit lines focused on agroforestry or silvopastoral systems. For example, Root Capital (RC) currently invests into niche, export-oriented and high value-added sectors like coffee and cocoa. In order to attract RC into other sectors like high-quality beef or rubber products, for instance, these partial guarantees could be very helpful (confirmed during a recent conversation with RC in Bogota). Other financial institutions, such as credit cooperatives in the Amazon, could also provide guarantees or even co-investment for their financial products. Finally, these guarantees could be used by banks such as BanColombia (confirmed during recent interview with BC in Medellin) and others that operate in the Amazon.

Principal Beneficiaries:

Cattle, Cacao, Rubber, Coffee Supply Chains	Small	Medium	Large	Producer Associations
No legal land tenure	X	X	X	X
Legal land tenure	X	X	X	X

(B) Modified or new credit and incentives (in the medium-term)

4. Modify existing credit and incentives and create new, permanent incentives with sustainable funding. Important goals of deploying the 3 mechanisms above are to: 1) test the extent to which they provide attractive finance and incentives to produce zero-deforestation, sustainable crops in the Amazon, 2) provide input into modified, realigned, or new mechanisms deployed within the traditional MADR/FINAGRO credit system; and 3) involve private and non-profit financial institutions (and investors) in the important investment into more sustainable production systems by reducing their risks. To accomplish the second goal, this activity will focus on working with MADR and the National Committee for Agricultural Finance to realign existing financial mechanisms and change access requirements in order to provide better support for sustainable, zero-deforestation agriculture, including via any necessary law or regulation changes. The activity will also support outreach to departmental governments to explore their ability and interest in providing co-funding, for a permanent EcoAgro, for example EcoAgro (including possible utilization of ***regalias*** (royalty payments from the extraction industry). It will also prioritize communication with financial institutions, including input from them as to how they may be able to provide finance for sustainable production in the Amazon, including via public guarantees or public co-investment. This can build on the relationships that the Consortium (EII-FT-WWF-FN) is building with BanColombia, Root Capital, etc.

This activity is primarily focused on achieving changes in the medium-term, whereas changing the national agricultural financial system will take time. However, a possible "easy win" for 2015 that would lessen the barriers to accessing the current CIF for small producers (and thus constraining their ability to use this finance to implement agroforestry systems) would be to simplify the application process for CIF for small producers. This does not require a regulation or law change so would be easier to achieve in the short-term. It would also demonstrate GOC's commitment to realigning its agricultural finance system to better support sustainable production.

Critical supporting activities

5. <u>Design and implement an outreach program to increase awareness of new financial mechanisms.</u> One of the current barriers to accessing existing financial mechanisms (e.g., CIF) is little or no knowledge of their existence. To increase uptake of both existing mechanisms and the new ones above, a strategic and targeted outreach program to producers will be created and implemented.

6. <u>Develop and deploy monitoring of deforestation on-farm and at the municipal level</u>. (A) On-farm monitoring: FINAGRO currently contracts Solapa 4 is currently contracted by FINAGRO to measure and monitor on-farm deforestation and afforestation for recipients of CIF and ICR. In order to monitor afforestation and deforestation for recipients of the financial mechanisms above, and to determine whether financial mechanisms should be discontinued for any producer engaged in deforestation, it is suggested that a tender be offered to this and other firms to conduct such on-farm monitoring of the recipients of the finance above. (B) As these mechanisms and incentives are offered only in municipalities in which deforestation is decreasing, it is also important to monitor such deforestation. IDEAM currently monitors deforestation at the municipal level but only on a biennial basis. To strengthen this monitoring and increase the frequency to every year, IDEAM or another suitable entity will carry out such monitoring.

2.2.2.4 Cost-Benefit Analysis

The costs for Investment 2 are presented in Table 12. In the CB analysis for Investment 2, some costs for Investment 1 and Investment 3 are included (as explained above and similar to Investment 1, although not included in Table 12 but included in Table 13).

For Activity 1 – Design and implementation of AgroBosque – it is assumed that all producers who access this mechanism (800 producers, before 25% leakage is applied in the CB analysis) will establish 3 ha of new agroforestry systems or SPS. Compensation for 10 ha of forest is also included (which will be put into a savings account for the producer to access in Year 4). Private sector costs equal public donor costs (as the mechanism reimburses for 50% of costs in first three years).

For Activity 2 – Design and deployment of EcoAgro – it is assumed that producers accessing this mechanism (1600 producers, before 25% leakage is applied in the CB analysis) will renovate 3 ha of their current productive systems (rather than planting new systems). The costs of renovation are assumed to be 1/2 the costs of establishment/maintenance of new systems. Similar to Activity 1, private sector costs equal public donor costs (assuming all producers undertake ecosystem enhancement measures and therefore are eligible for 50% reimbursement).

Table 12. Costs for Investment 2 – Financial Mechanisms

Activities	Implementing agency	2015	2016	2017	2018	Budget	Co-funding (25% suggested)	Co-funding
2.1 Develop AgroBosque [1] based on CIF model	MADR - Finagro	£ 36.000	£ 1.638.747	£ 1.638.747	£ 1.638.747	£ 4.952.241	25%	£ 1.238.060,34
2.2 Create new incentive EcoAgro [2] based on ICR model.	MADR - Finagro	£ 36.000	£ 1.562.250	£ 1.562.250	£ 1.562.250	£4.722.750		£ 1.180.687,38
2.3. Develop a new investment fund to sustainable productive systems (SAF)	MADR - Finagro	£ 72.000	£ 3.983.737	£ 3.983.737	£ 3.983.737	£12.023.211		£ 3.005.802,81
2.4. Modify or create new credit lines based on Agrobosque and Ecoagro experiences	MADR - Finagro	£ 18.000	£ 59.333	£ 59.333	£ 59.333	£ 196.000		£ 49.000,00
2.5. Design and implement an outreach program to highlight financial mechanisms	MADR - Finagro	£ 36.000	£ 89.000	£ 89.000	£ 89.000	£ 303.000		£ 75.750,00
2.6. Expansion of Finagro on-farm monitoring	Finagro - Ideam	£ 36.000	£ 148.333	£ 148.333	£ 148.333	£ 481.000		£ 120.250,00
2.7 Admin and project management	7%	£ 16.380	£ 523.698	£ 523.698	£ 523.698	£ 1.587.474		£ 396.869
2.8 Monitoring and Evaluation	5%	£ 12.519	£ 400.255	£ 400.255	£ 400.255	£ 1.213.284		£ 303.320,95
Subtotal investment 2		£ 262.899	£ 8.405.354	£ 8.405.354	£ 8.405.354	£ 25.478.960		£ 6.369.740,01

Private Sector Costs (as relevant)						
Activities	Implementing agency	2015	2016	2017	2018	Budget
2.1 Develop AgroBosque [1] based on CIF model	Producers		£ 1.638.747,11	£ 1.638.747,11	£ 1.638.747,11	£ 4.916.241,34
2.2 Create new incentive EcoAgro [2] based on ICR model.	Producers		£ 1.562.249,83	£ 1.562.249,83	£ 1.562.249,83	£ 4.686.749,50
2.3. Develop a new investment fund to sustainable productive systems (SAF)	Investors		£ 442.637,45	£ 442.637,45	£ 442.637,45	£ 1.327.912,36
2.4. Modify or create new credit lines based on Agrobosque and Ecoagro experiences	Financial institutions		£ 4.944,44	£ 4.944,44	£ 4.944,44	£ 14.833,33
Subtotal Private Investment 4		£ -	£ 3.648.578,85	£3.648.578,85	£ 3.648.578,85	£ 10.945.736,54

[1] Suggested name to the alternative mechanism for Certificado de Incentivo Forestal (CIF). It is used for reference in the document.
[2] Suggested name to the alternative mechanism based on the Incentivo a la Capitalización Rural (ICR) model. It is used for reference in the document.
[3] There have been no negotiations on cofinancing. A counterpart of 25% is suggested and would be represented in cash or kind.

Note: If the 50% loan forgiveness for EcoAgro comes from within Fondo Agrosostenible (instead of being reimbursed by separate funds), the total funding for Investment 4 would be lower. However, as FondoAgrosostenible is also being designed to be capitalized with private sector resources, we believe it is best to keep this reimbursement separate from the Fondo, especially since we anticipate that in the future this reimbursement will come from Finagro's ICR or other mechanisms (which of course will be separate from the Fondo, which will continue to provide investment resources into Agrosostenible in Colombia for many years).

For Activity 3 – Design, capitalization and implementation of AgroSostenible – it is assumed that the funds are deployed as debt finance (as described above). While it is possible that AgroSostenble could deploy equity financing or use its funds as guarantees, there is less likelihood of doing so in the next couple of years because partnership arrangements with potential partners like Root Capital or BanColombia have not yet been set up, etc. Thus, the costs are presented based on the funds being deployed as debt capital to three kinds of producers: 1) 30% of producers who are eligible to receive EcoAgro but cannot access traditional financing (this 30% is similar to the percentage of producers who don't have land tenure) or 533 producers; 2) 30% of producers who are approved for AgroBosque but cannot access traditional financing – 267 producers; and 3) 800 producers in producer associations who will not receive any other mechanism under Incentive 2. It is assumed that half of these 800 producers will choose to plant new agroforestry systems or SPS and half will decide to renovate existing plantations. At the fund level, public investment is assumed to be 90% and private investment is 10%.

For Investment 4 – Create new credit or incentives – it is assumed that costs are primarily associated with workshops for public and private sector actors to share perspectives around financing in the Amazon for sustainable agriculture/livestock systems and design possible solutions to be implemented in the medium term.

Across all activities, a 7% admin/management fee is assumed, according to discussions with FINAGRO and based on their current fee structure.

In terms of the benefits, it is assumed that producers benefitting from Investment 2 undertake the same critical actions as producers benefitting from Investment 1:

1. Stop deforestation on their land;
2. Restore degraded area; and
3. Plant new agroforestry systems or SPS and/or restore current plantations or pastures to higher-productivity, higher-quality production systems for meat/milk, rubber, cocoa, and coffee (SPS is considered both a "new" and a "restored" milk/meat production system).

Also similar to Investment 1, it is assumed that if the Investment is not undertaken (the counter-factual scenario), producers will deforest at the historic rate and implement production systems on this newly cleared land based on historic percentages of land use in Caquetá and Guaviare (see CB analysis for Investment 1 for more details on this).

In contrast, the with-program scenario for Investment 2 (&1,3) does include more detailed year-by-year estimations of costs and benefits, including carbon and ecosystem value estimations for the three important activities listed above, as well as the value of the production system yields. Overall results for the cost-benefit analysis are included in Table 13.

Table 13. Results of Cost-Benefit Analysis for Investment 2 (& 1,3)

Investment	2 (& 1, 3)
Impact Indicators	
Total hectares under sustainable production	8.426
Total hectares restored to natural systems	1.404
Total hectares of avoided deforestation	2.098
Total hectares of forests conserved	48.461
Estimated number of livelihoods impacted	2.809
Total tonnes CO2 avoided (tCO2e)	2.278.002
Value for money indicators (Total Investment)	
Private sector leverage	0,46
Total discounted costs (including private)	£ 41.629.552
Total discounted benefits	£ 43.198.733
Benefit to cost ratio (BCR)	1,04
Investment cost per tonne	£18,27
Value form money indicators (Donor Investment)	
Donor attributed tonne of CO2e avoided (tCO2e)	1.820.279
Donor cost per tonne	£15,22
Donor benefit to cost ratio (BCR)	1,50

Investment 2 is a key part of the portfolio, although the Value for Money Indicators as illustrated in Table 13 are not great. There are 3 main reasons for this:

(1) One new financial mechanism (AgroSostenible) is designed as a revolving fund that donor funds will capitalize in the beginning (along with at least 10% co-investment by private investors) but that will be used again and again for new investments as the debt or equity is repaid (or loan guarantees are not employed). These additional beneficiaries and impacts are not modeled in the current analysis but are important to consider overall. Also, to the extent that any of these resources are used as guarantees for private or nonprofit institutions' own lending or financial products, private leverage will dramatically increase (as will beneficiaries, etc.). The fund is also anticipated to overlap 30% with beneficiaries receiving the other financial mechanisms in order to, for example, demonstrate how AgroBosque can be used as form of collateral for credit. The potential benefit of this – e.g., that CIF or a new mechanism can also be used in this way, which would increase access to finance for producers – in the medium term are also not included in the CB analysis. If AgroSostenible is completely taken out of Investment 2: Investment cost per tonne drops to 15.93; Donor costs per tonne are reduced to 10.96 and Donor benefit to cost ratio is 2.22. We believe that AgroSostenible is an important component of the Investment Portfolio, and will demonstrate the viability of debt/equity investments into sustainable agriculture/livestock systems via collateral, such as buyer contracts that will be useful to garner more public and/or private investment through such vehicles into sustainable agriculture (which will likely have important medium to long term benefits).

(2) The financial mechanisms within Investment 2 are modeled on current Colombian financial incentives, which are quite generous (e.g., paying for 50% of the costs of implementing new or renovated agroforestry systems or SPS); thus the private sector leverage is smaller – and donor costs are greater – than the other investments.

(3) One of the most important and expected outcomes of Investment 2 is the realignment of current finance to better support sustainable agroforestry systems and SPS, and this would not have very high costs (e.g., simply shifting resources in current budgets to new budgets or adjusting the terms of current financial incentives to be similar to what we have designed here). However, it is critical to demonstrate through the mechanisms in Investment 2 that such financial instruments and incentives can have real impact. Again, these expected and substantial medium-term benefits of Investment 2 are not modeled in the CB analysis because of the uncertainty of their scale and magnitude. Thus, the cost-benefit analysis for Investment 2 is quite conservative in this way.

2.2.3 Investment 3 – Support existing supply chains in developing collaborative strategies that improve competitiveness and access to markets, while at the same time aligning with the important goal to end deforestation

2.2.3.1 Goals

The overarching goal of this investment strategy is to enable key commodity supply chains (cacao, cattle, coffee and rubber) to support zero-deforestation goals in the Amazon region, increase their competiveness and access to markets and reduce risk for future investment.

Objectives include:

1. Facilitate multi-stakeholder dialogues involving commodity supply chain actors to mutually define best practices and performance milestones that can contribute to the Amazon's net-zero deforestation goal and sustainable land use management.
2. Promote partnerships among supply chain actors (i.e. producers-companies, companies-governments) to implement best practices (including channeling funds for Sustainable Productive Alliances and other incentives-see Investment 2) and reach milestones.
3. Establish supply chain governance systems to improve monitoring, quality assurance, traceability, and producer performance, contributing to overall competiveness and reducing private sector risk.
4. Link supply chain processes at municipal scales to territorial performance systems (municipal, department and Amazon region level) that could reward compliance with best practices /performance targets with incentives (i.e. improved credit access/ terms at farm-level (see Investment 2), funds to high-performing municipal governments (see Investment 5).

2.2.3.2 Beneficiaries

Supply chains of rubber, cocoa, coffee and cattle would be the beneficiaries of these investments, including producers, associations, buyers, services providers, civil society organizations and government representatives. In particular, it is assumed that beneficiaries of Investments 1, 2 and 4 would benefit from new market access created by Investment 3.

2.2.3.3 Activities

1. Establish multi-stakeholder platforms and sector strategies for a) cacao, b) cattle, c) rubber and d) coffee in each department: Supply chains sectors organizations will be supported in the establishment of multi-stakeholders, including companies, buyers, producers, producer associations, service providers (i.e. research and technical assistance), civil society organizations and government representatives. These multi-stakeholder and participatory platforms will help close the gap between companies and producers through the joint establishment of sector strategies and implementation of activities to increase supply chains competitiveness, access to markers and establishment of best practices to meet zero deforestation goals as well as monitoring and incentive systems.

   The Consortium EII-FT-Natura-WWF carried out a mapping of priority supply chains and identified priorities for each supply chain, which were discussed with sector associations, Ministry of Agriculture and relevant partners. Table 14 below presents a summary of priorities identified for each supply chain that can guide the intervention.

   As actions plans for each supply chains imply important investments, multi-stakeholders platforms need to prioritize actions that could be funded by donors and commit with the achievement of specific goals in terms on sustainability, reduction of deforestation and other relevant social and economic goals. Annually sector strategies would be revised to define new priorities, identify investments needed from the Amazon Vision Program (donor), co-funding commitments and evaluate the achievement of goals.

   The Ministry of Agriculture, together with a technical institution (e.g. CIAT[16]), could promote the establishment of multi-stakeholders platforms the second quarter of 2015 to progress on the development strategies, the prioritization of actions for 2015 – 2016 and the identification of sector milestones that would be monitored and evaluated.

16 The International Center for Tropical Agriculture (CIAT) has been working with MADR in promoting multi-stakeholders platforms and have developed methodological tools to support sustainable value chains. Taking into account this experiences this organization could support the establishment of MEP in Caquetá and Guaviare. CIAT has been participating in the process of design of this portfolio and has expressed their interest in participating in the implementation of this investment.

Table 14. Summary of supply chains priorities[17]

Chain	Producers	Settled area	Main problems	Solutions
Cattle (milk and beef)	Caquetá 11,794 Guaviare 3,168	Caquetá 1,463,647 ha[18] Guaviare 299,922 ha	Inefficient and unsustainable production systems	° Production planning under territorial approach ° Training and support to producers in productive efficiency, compliance with health standards and sustainability practices ° Strengthening local associations to improve management capacity ° Zero net deforestation agreements
			Market access	° Marketing strategies for milk and cheese to increase number of consumers
			Insufficient infrastructure and capacity to add value to production	° Technology transfer ° Processing units and laboratories closer to production areas ° Productive and commercial alliances enabling traceability ° Product differentiation in order to access to specific markets
Cocoa	Caquetá 780 Guaviare 260	Caquetá 2.500 ha[19] Guaviare 745 ha	Low productivity	° Long-term rural extension program including technology transfer and implementation of good practices to increase volumes and improve quality ° Better infrastructure for processing at farm level ° Strengthening local associations management capacity ° Zero net deforestation agreements
			Low marketability	° Characterize the quality and aroma of cocoa varieties from the region ° Market strategy promoting Amazon and low-emissions products
Rubber	Caquetá 1.200 Guaviare 300	Caquetá 5.100 ha[20] Guaviare 1200 ha	Time lapse between plantation establishment and profit realization Low productivity	° Technical assistances for maintenance of growing plantations ° Promotion of short rotation crops (under agroforestry systems), that gives earlier profits to rubber producers, and diversifies the production of the farms ° Long-term credits ° Long-term rural extension program including establishment of agroforestry systems on degraded areas, improved agricultural practices, and post-harvest handling. ° Strengthening local associations management capacity. ° Zero net deforestation agreements
			Low value added at local level	° Production of rubber under technical specifications and quality assurance ° Strengthening local associations to improve commercial capacity ° Establishment of partnerships with private sector
Coffee	Caquetá 2.300	Caquetá 4.085 ha[21]	Low productivity	° Long-term rural extension program including implementation of good agricultural practices and post-harvest handling, to increase volumes and improve quality, according to international standards (special/sustainable coffee) ° Strengthening local associations management capacity ° Zero net deforestation agreements
			Low marketability	° Market strategy promoting Amazon and low-emissions products

2. Capacity building programs to improve quality, traceability and strengthen producer associations according to priority actions of sector strategies. Based on the results of mapping and gap analysis of existing supply chains, actions to support supply chains could be targeted to aspects such as: market strategies, quality assurance programs and processing facilities, among others. Multi-stakeholders platforms will prioritize actions to be funded by the Amazon Vision Program and define milestones to be monitored annually.

17 The consortium EII, Forest Trends, Fundación Natura and WWF developed a map of existing supply chains and proposed action plans for each supply chain.
18 Source: Federación Nacional de Ganaderos - Fedegán.
19 Source: Federación Nacional de Cacaoteros - Fedecacao.
20 Source: Confederación Cauchera Colombiana.
21 Source: Federación Nacional de Cafeteros.

In addition, supporting activities will build organizational capacities of producer associations to manage their own sector strategies, link to other institutions and raise additional funds to implement such strategies. The technical organization supporting MADR in the establishment of the multi-stakeholders platforms (e.g. CIAT) could permanently support the platforms to build capacities, monitor the progress of sector strategies towards performance milestones and facilitate dialogue with relevant institutions.

3. Promote zero net deforestation agreements within priority supply chains and design monitoring platform. Participatory and multi-stakeholder platforms will define environmental, economic and social performance milestones for supply chains, including time-bound milestones for achieving zero net deforestation. Zero-deforestation agreements between producers, processors, companies and governments will be promoted as part of sector strategies. A monitoring platform will be designed and implemented to ensure regular evaluation of performance of supply chains relative to defined targets.

4. Market access strategy to differentiate Amazon origin and/or no-deforestation products (e.g. certification, zero-deforestation). Currently, Amazonian products are not recognized in the national or international markets. Therefore, project activities will design and implement an integrated market strategy to promote "sustainable" or "zero-deforestation" products from the Amazon. The strategy could be implemented in partnership with the multi-stakeholders platforms established in Caquetá and Guaviare, national federations (e.g. FEDEGAN, FEDECACAO, etc.), interested companies, Ministries of Environment and Agriculture, and department and local governments among others. This strategy would be designed by 2017 and then implemented by 2018, according to the progress of supply chains.

2.2.3.4 Cost-Benefit Analysis

The costs for Investment 3 are presented in Table 15. These costs are calculated per producer for those included in Investments 1, 2 and 4, and the costs are appropriately included in the CB analyses for those investments.

The primary benefit of Investment 3 is access to – and demand by – markets for zero-deforestation, Amazonian products; in other words, all of the new or improved crops that farmers are producing will be bought. If Investment 3 were removed from the portfolio, the benefits of Investments 1, 2 and 4 would be decreased because of uncertain demand. Including Investment 3 in the portfolio and modeling the costs associated with the other investments appropriately assigns the costs and benefits linked to the other investments.

Table 15. Costs for Investment 3 – Zero Deforestation Supply Chains

Activities	Implementing agency	2015	2016	2017	2018	Budget	Co-Funding Suggested	Co-Funding
3.1 Establish multi-stakeholder platforms and sector strategies for a) cacao, b) cattle, c) rubber and d) coffee in each department	MADR supported by CIAT as implementing agency in close collaboration with Secretariats of Agriculture of the two departments	£ 434.790				£ 434.790	25%	£ 108.697,39
3.2 Support to sector strategies to increase competitiveness and market access	Sector associations in coordination with MADR		£ 1.086.974	£ 1.521.763	£ 1.739.158	£ 4.347.895		£ 1.086.974
3.3 Promote zero net deforestation agreements within priority supply chains and monitoring platform	MADR - MADS supported by CIAT as implementing agency	£ 11.867	£ 10.680	£ 10.680	£ 10.680	£ 43.907		£ 10.976,67
3.4 Market access strategy to differentiate Amazon origin and/or no-deforestation products	MADR/Sectors Associations		£ 155.282	£ 621.128	£ 310.564	£ 1.086.974		£ 271.743,46
3.5 Admin/ management costs	15%	£ 66.998,43	£ 187.940	£ 323.036	£ 309.060	£ 887.035		£ 221.758,71
3.6 Monitoring and Evaluation	5%	£ 3.943,25	£ 72.043,81	£ 123.830,35	£ 118.473,12	£ 318.291		£ 79.572,63
Subtotal Investment 3		£ 517.598	£ 1.512.920	£ 2.600.437	£ 2.487.936	£ 7.118.891		£ 1.779.723

Private Sector Costs (as relevant)						
Activities		**2015**	**2016**	**2017**	**2018**	**Budget**
Across Activities 3.1-3.4	50%	£ 223.328,10	£ 626.468	£ 1.076.786	£ 1.030.201	£ 2.956.783

2.2.4 Investment 4 – Create new Sustainable Alliances program (based on PAAP) to better support productive partnerships in sustainability and other goals

2.2.4.1 Goals

This program seeks to achieve transformation of current production systems into non-deforesting, sustainable production systems by supporting critical partnerships between businesses and local producers' associations that reduce the investment risk of – and provide incentives for – sustainable production, landscape management, more sustainable processing, among other activities.

The program is also designed to support partnerships between businesses and local producers' associations to establish, monitor and maintain sustainable production systems that: 1) avoid deforestation, restore degraded lands and undertake other environmentally-friendly actions, and are in line with the zoning agreements; 2) increase productivity and generate incomes at the local level; 3) promote production systems that include promising and suitable species for Amazonian conditions (e.g. taking into account its soils and biodiversity); 4) contribute to food security and provide additional household income based on the management of promising species; 5) improve the traceability and promote other environmental and quality goals throughout supply chains. Production should be defined in accordance with the needs of the producers, taking into

account priority areas and existing land planning or zoning processes.

These goals are based on three main assumptions: 1) the transformation of current production systems to non-deforesting sustainable production systems is a key component of an overall strategy (e.g., the Amazon Vision program) to reduce deforestation in the Amazon, 2) existing supply chain relationships – e.g., between commodity buyers and producers – are often tenuous and stronger relationships would be mutually beneficial, and 3) commodity buyers are interested in increasing quality and quantity of supply and, with support, are also interested in supporting zero deforestation commodity production.

2.2.4.2 Beneficiaries

Local producer associations interested in implementing sustainable production or landscape management systems, building or improving processing facilities, etc., and at least one buyer of their goods. This includes producers in associations who are interested in changing their production arrangements to fit the systems that land use plans have identified as best in that area – e.g., cattle ranchers who are in areas that are NOT suitable for cattle ranching and who thus want to transform their pastures into forest or agroforestry production models according to land use plans.

To be eligible for the program, beneficiaries must (1) commit to zero deforestation production and be members of producer associations and/or supply chains that have committed to zero deforestation production, and (2) be producing in areas that are deemed appropriate for their crop according to land use plans (i.e., only producer associations whose members are operating in areas that are suitable for that crop or land use (e.g., raising livestock) can be a part of the Sustainable Alliances Program). After 1-2 years in the program, progress towards reducing deforestation will be assessed at the jurisdictional level (likely at the municipal level), and only beneficiaries in jurisdictions reducing deforestation will continue to be eligible for financial mechanisms.

2.2.4.3 Activities

To best highlight relevant activities for this program, it is important to describe the existing Assistance Program for Productive Alliances:

In 2002, the Ministry of Agriculture and Rural Development (MADR) partnered with the World Bank to finance a new program called the Assistance Program for Productive Alliances (PAAP by its Spanish acronym), which would strengthen these producer associations and their relationships with buyers. Since then, PAAP has helped to strengthen 775 alliances between producer associations and commercial buyers in all 32 departments. To qualify for PAAP, the alliance must seek to achieve revenue for each producer greater than twice the monthly minimum wage (~US$267), and the internal rate of return for each project must be greater than 15%. PAAP provides up to 35% of the total investment into each alliance over 18 months, and the producers and commercial partner – as well as other entities such as municipal or local governments – provide the rest of the investment. It is impressive that the majority of partnerships (71%) still operate under a commercial agreement two years after the end of PAAP assistance. However, some associations lose strength after support during the relatively short 18-month PAAP program ends and exist only on paper, and – without continued technical assistance for agroforestry systems – producers may abandon long-term crops such as rubber or cacao in favor of shorter-term and sometimes illicit crops like coca. Also, once an association receives support from PAAP, it is not eligible for future support. And only producer associations that include poor, small farmers are currently eligible (producers must make less than the current monthly daily wage (~US$267) times two, although many other alliances could be strengthened and have an important impact on reducing rates of deforestation and forest degradation.

In order to build upon PAAP's successes and lessons learned, a new Sustainable Alliances program will be developed and complemented by both increased outreach to potential alliances and monitoring of deforestation and other measures of success (e.g., recuperation of degraded land, etc.).

Activities:

1. Develop and implement Sustainable Alliances program. This will build from PAAP to offer a more comprehensive package of support to partnerships between producer associations and their buyer(s) in the Amazon, including:

- → Financing over a longer time period (48 months), including important costs for technical assistance (outlined below);
- → The return on investment requirement relaxed to 8% so investments that also produce environmental goods such as reduced emissions, increased water quality or quantity, increase biodiversity (e.g., sustainable forestry, agroforestry, etc.) can be made via the program;
- → Qualification for the program relaxed so that any sustainable alliance seeking support for zero-deforestation and productivity goals will be considered, including those who have already received PAAP support;
- → Sustained technical assistance services provided within and beyond the traditional 18 months of the Alliance including:
  - – Technical extension for sustainable agricultural production methods and landscape management (e.g., 4 years);
  - – Technical assistance (also 4 years) to help obtain sustainable financing for continued investment (e.g., through Banco Agrario, private banks, nonprofit credit institutions like Root Capital, etc.)

After one or two years of implementation, GOC and the donor could evaluate whether this program should only be available within municipalities that reduced deforestation in the previous year and within supply chains that have committed to zero deforestation production and show progress in meeting zero deforestation goals.

Identification of new alliances would prioritize new products (e.g. amazon fruits, non-timber forest products) and systems that produce multiple products (e.g., timber, cocoa and plantain). To be eligible for Sustainable Alliances, of course producer associations and their member would have to agree to stop deforestation on their land, and they must also restore 1/2 ha of degraded land to natural systems. Examples of existing producer association-buyer partnerships in Caquetá and Guaviare are included in Table 16 below.

Critical supporting activities

2. Design and implement an outreach campaign for the program. PAAP is fairly well known in Colombia but there continues to be a dearth of applications from the Amazon (Caquetá and Guaviare). In order to increase the number of applications and to communicate the new aspects of the program, including its focus on sustainability and reductions in deforestation, a strategic and targeted marketing program to producer associations and buyers will be created and implemented.

3. Identify and support applications from new and existing partnerships. Partnerships that have previously been supported by PAAP are in a great position to further strengthen their partnerships and embark on new projects that increase product quality or quantity while also focusing more on sustainability and reducing deforestation. There are also great opportunities to engage new partnerships in the priority supply chains and/or others – non-timber forest products (NTFPs), Amazon fruits, etc. This activity will focus on supporting both new and existing partnerships to apply for Sustainable Alliances support, including helping them to write business and investment plans.

Table 16. Existing PAAP partnerships in Caquetá and Guaviare (up to March 2015)

Department	Subsector	Producers' associations	Commercial partners
Guaviare	Cattle	° Asociación de Ganaderos de la Libertad (Asoganlig) ° Asociación de Productores para el Cambio Económico del Guaviare (Asoprocegua) ° Asociación de Productores Lácteos de Calamar (Asoproleca)	° Carnes del Guaviare ° Friogán S.A. ° Soapeg SAS
	Cocoa	° Asociación de Productores de Cacao del Guaviare (Asoprocacao)	° Compañía Nacional de Chocolates
Caquetá	Rubber	° Asociación de Productores y Comercializadores de Caucho (Asoprocaucho)	° Comeagro SAS ° Incolátex Ltda. ° Osdicom Ltda. ° Procesadora de Látex Ltda.
	Cattle	° Comité de Pequeños Productores, Transformadores y Comercializadores de Leche del Municipio de Valparaíso ° Comité Municipal de Ganaderos de El Doncello ° Comité Municipal de Ganaderos de San Vicente del Caguán	° Cooperativa Multiactiva de Productores Agropecuarios
	Cocoa	° Asociación de Cacaoteros de Curillo (Asocatec) ° Asociación de Productores de Cacao en Florencia (Comcaflor) ° Comité de Cacaoteros de Remolino del Caguán y Suncillas ° Comité de Cacaoteros del Municipio de Valparaiso ° Comité de Cacaoteros Orgánicos del Municipio de Solita ° Comité de Cultivadores de Cacao en sistemas agroforestales del municipio de la Montañita (Comucam) ° Comité de Cultivadores de Cacao en Sistemas Agroforestales del Municipio de San Vicente del Caguán ° Comité de Cultivadores de Caucho, Cacao y Plátano de Santa Fe del Caguán ° Comité de Productores de Cacao del Municipio de Solano (Procacao) ° Comité de Productores de cacao en Sistemas Agroforestales del Municipio del Paujil (Comcap)	° Compañía Nacional de Chocolates ° Casa Luker S. A.
	Coffee	° Asociación de Caficultores del Pato El Progreso ° Asociación de Productores de Café Ecológico Amazónico (Asomacafé) ° Grupo Asociativo de Caficultores del CarYear ° Grupo Asociativo Alianza por el Cambio Montañita - Paujil ° Grupo Asociativo de Berlín	° Cooperativa de Caficultores del Caquetá
	Rubber	° Comité de Caucheros de Belén de los Andaquíes ° Comité de Caucheros de Cartagena del Chairá ° Comité de Caucheros de Doncello CCD ° Comité de Caucheros de Nasa Uss (NASA USS) ° Comité de Caucheros de San Vicente del Caguán ° Comité de Caucheros de Valparaíso Caquetá ° Comité de Caucheros del Municipio de La Montañita	° Planta Procesadora de Caucho de ASOHECA
	Others (green banana, arazá, arawana)	° Comité de Piscicultores del Municipio del Doncello Caquetá (Copimud) ° Futurama SAT - Agrocomercial ° Grupo Asociativo Productores de Plátano de Belén de los Andaquíes	° Agroimpa ° Agrosolidaria Caquetá ° Carulla Vivero ° Chagra Maguaré ° JR Tropical Fish Ltda. ° Mukatri

2.2.4.4 Cost-Benefit Analyses

The costs for Investment 4 are included in Table 17.

For Investment 4, it is expected (as detailed above) that producer associations may undertake investments focusing on production (e.g., planting new agroforestry systems or SPS or renovating current plantations/pastures), improving quality via better production or harvesting systems or through better processing, and/or logistics or transportation investments that allow them to get their product to processing or refrigeration venues or to the right final markets. All of the proposals for Sustainable Alliances (SA) will be assessed for commercial and economic viability by the administration/management team (as they have done in the past for PAAP) before new alliances are included in the program and receive financial and technical assistance.

It is difficult to assess at this point what percentage of Sustainable Alliances will propose what kinds of projects (production or otherwise) and what their costs may be. Thus, since PAAP has financial models from past productive alliances and such productive changes will be at least some proportion of new alliances, the costs and benefits of Investment 4 (including some costs of Investment 3, based on the number of beneficiaries included in Investment 4) are modeled based on the simplistic assumption that all new alliances are focused on productive investments (and require a commitment to stop deforestation and to restore 1/2 ha of degraded land to natural systems). While imperfect, this is the only way that modeling the costs and benefits of Investment 4 was possible at all. And at the least, the analysis presents the correct number of hectares of native forest conserved and degraded lands restored by these new alliances and their producer members. Furthermore, while the costs and benefits of the Investment overall are imperfect, they are directionally correct (e.g., benefits are greater than costs, and there are greater benefits accruing to beneficiaries from the Investment (in the form of greater income) than the counterfactual scenario).

Table 17. Costs for Investment 4 – Sustainable Alliances

Activities	Implement-ing agency	2015	2016	2017	2018	Total Budget	Co-funding (25% sug-gested)	Co-funding
4.1 Adapt processes, procedures, and documents to support Sustainable Alliances	Current PAAP execution team w/in MADR	£ 72.000				£ 72.000	25%	£ 18.000
4.2 Identify and support applications for partnerships	Current PAAP execution team w/in MADR	£ 149.461	£ 149.461	£ 149.461	£ 149.461	£ 597.845		£ 149.461
4.3 Outreach/ promotion of Sustainable Alliances	Current PAAP execution team w/in MADR	£ 48.945,29	£ 97.890,58	£ 48.945,29		£ 195.781		£ 48.945
4.4 Admin and project management for above activities	13%	£ 5.703,22	£ 32.659,18	£ 26.197	£ 19.734	£114.293		£ 28.573
4.5 Investment into producer alliances per year	Current PAAP execution team w/in MADR	£ -	£ 1.749.264	£ 3.498.529	£ 4.075.022	£ 9.322.815		£ 2.330.703,75
4.6 Admin and project management costs for 4.5	16%	-	£ 282.562	£ 565.124	£ 658.246	£ 1.505.932		£ 376.483,12
4.7 Monitoring and Evaluation	5%	£ 15.305	£ 115.592	£ 214.413	£ 245.123	£ 590.433		£ 147.608,34
Subtotal Invesment 4		£ 321.415	£ 2.427.429	£4.502.669	£ 5.147.587	£ 12.399.100		£ 3.099.775,05

Private Sector Costs (as relevant)						
Activities	Implementing agency	2015	2016	2017	2018	Total Budget
4.2 Identify and support applications for partnerships	Producer associations and buyers	£ 74.730,62	£74.730,62	£ 74.730,62	£ 74.730,62	£ 298.922,49
4.3 Outreach/ promotion of Sustainable Alliances	Producer associations	£ 12.236,32	£ 24.472,65	£ 12.236,32		£ 48.945,29
4.5 Investment into producer alliances per year	Producer associations and buyers	£ -	£ 3.523.661,15	£ 7.047.322,30	£ 8.208.591,80	£18.779.575,24
Subtotal Private Investment 4		£ 86.966,95	£ 3.622.864,42	£ 7.134.289,24	£ 8.283.322,42	£ 19.127.443,03

The largest costs for Investment 4 are associated with Activity 4.5 – Investment into producer alliances per year. For these costs, several main assumptions are used:

- There are 30 producers per association. This is based on input from the PAAP team that associations in these rural areas are likely to be smaller than associations in other areas (which might have 50 or 60 producers) because of the relatively large tracts of land and geographic dispersal of farmers from one another in these two departments.

- The program will begin to support 35 alliances in Caquetá and 10 alliances in Guaviare starting in 2016 (after final design of the program is completed in 2015).

- Alliances between producer associations and their buyer(s) will be primarily supported via direct financial investment/Modular Incentive (expected to occur in Years 1 and 2, similar to PAAP), technical assistance for agroforestry systems or SPS for 4 years (under PAAP, this was only provided in Year 1 and often by local government partners), and technical assistance to increase financial management capacity and attract sustainable financing for producer associations for 4 years (this was not provided under PAAP beyond assistance during the pre-investment calculations and modeling of the investment).

To calculate the size of the financial investment/Modular Incentive per alliance, 4 PAAP models (one each for SPS, cocoa, rubber and coffee) based in Caquetá were used to calculate the cost per hectare for the Modular Incentive in the new Sustainable Alliances program. Using the information above and based on the standard assumption that each producer will intervene in 3 hectares of agroforestry systems or SPS, the cost per alliance for the financial investment/Modular Incentive is calculated to be UK£ 43,436. It is also assumed that relaxing the income constraint will increase the size of projects a bit - we assume a modest 20% increase on average (since more successful producer associations, including those who already participated in PAAP, will be able to apply for the program and may focus on changes in processing methods, transportation, etc., which will likely be more expensive than production changes). It is assumed that this Modular Incentive will be invested in the first two years of the program per alliance.

These same four models were used to calculate the cost of technical assistance per ha, which gives the program a cost of UK£ 8,541 per alliance per year. The cost of technical assistance to build financial skills and help producer associations attract medium-term sustainable financing is assumed to be half this cost per year and per alliance (or UK£ 4,270). Based on these assumptions and calculations, total program costs per alliance for 4 years are estimated at just over UK£ 103,000.

The four PAAP models were also used to estimate the new co-financing per type of partner: the Sustainable Alliances program, the private sector (producer associations and/or buyers), and local government actors (e.g., mayors' and governors' offices). These estimations are also based on the following new assumptions: local public sector support decreases by 50% because these offices will unlikely to be able to support so many new alliances in their historic levels; private sector support decreases because T.A. for production is now provided via the program (to make sure better practices and these new systems are properly implemented); and an increase in program support for financial T.A. Based on these changes, it is estimated that the private and local public sector leverage for Activity 4.5 will be 2.01 and 0.22, respectively.

Finally, based on PAAP's historic management fees across all alliances in which it managed both Modular Incentive funds and public partner funds (throughout the program's 12-year life), it is assumed that the administration/management fee for Sustainable Alliance will remain at 13% for all activities except 4.5. For Activity 4.5, a higher 16% fee is applied to program costs. This is because traditionally, PAAP has managed both PAAP and local government partners' funds, and it is expected that this will continue; however, to keep our calculations consistent across all investments, we only apply admin/management fees to the donor costs per Investment. If the 13% admin/management fee were applied just to donor costs, these fees would be underestimated (assuming local government actors do contribute to overall costs as we have estimated) and the management team would not have the resources it needs to manage this program. Thus, a 16% fee is applied, assuming that local public partners do contribute to overall alliance costs (and as elaborated above).

In terms of the benefits, it is assumed that producers benefitting from Investment 4 undertake the same critical actions as producers benefitting from Investment 1 or 2:

1. Stop deforestation on their land; and
2. Restore degraded land.

Also, as mentioned above, these producers will also undertake some kind of project that will increase quality or quantity of their products. Since we only have data related to productive investments, it is assumed in the CB analysis that these producers also plant 3 ha new agroforestry systems or SPS or restore 3 ha of current plantations or pastures to higher-productivity, higher-quality production systems for meat/milk, rubber, cocoa, and coffee (SPS is considered both a "new" and a "restored" milk/meat production system).

Also similar to Investment 1, it is assumed that if the Investment is not undertaken (the counter-factual scenario), producers will deforest at the historic rate and implement production systems on this newly cleared land based on historic percentages of land use in Caquetá and Guaviare (see CB analysis for Investment 1 for more details on this).

In contrast, the with-program scenario for Investment 2 (&1,3) does include more detailed year-by-year estimations of costs and benefits, including carbon and ecosystem value estimations for the three important activities listed above, as well as the value of the production system yields. Overall results for the cost-benefit analysis are included in Table 18.

This investment impacts the greatest number of beneficiaries/producers and thus hectares and CO2e. It also has a fairly good rate of private sector leverage, donor costs per tonne and donor benefit to cost ratio; however, these are lower than for Investment 1, since Investment 4 does not just help cover costs of technical assistance but also invests in the project and provides financial assistance to associations. It is also important to keep in mind that the analysis is limited to only assuming that productive changes on the landscape are undertaken by alliances. However, alliances may undertake projects related to processing, logistics and transportation, refrigeration, etc., and the costs and benefits of those investments are unknown and not included in the analysis. Nonetheless, the Sustainable Alliances program and team will evaluate each project for financial viability (e.g., positive NPV, IRR 8% or greater); thus, we are confident that the benefits will outweigh the costs of such projects, just as is shown in this analysis.

Table 18. Results of Cost-Benefit Analysis for Investment 4 (& 1,3)

Investment	4 (& 1, 3)
Impact Indicators	
Total hectares under sustainable production	9.478
Total hectares restored to natural systems	1.580
Total hectares of avoided deforestation	2.303
Total hectares of forests conserved	54.513
Estimated number of livelihoods impacted	3.159
Total tonnes CO2 avoided (tCO2e)	2.814.722
Value for money indicators (Total Investment)	
Private sector leverage	1,29
Total discounted costs (including private)	£ 35.553.208
Total discounted benefits	£ 44.878.291
Benefit to cost ratio (BCR)	1,26
Investment cost per tonne	£12,63
Value form money indicators (Donor Investment)	
Donor attributed tonne of CO2e avoided (tCO2e)	2.251.817
Donor cost per tonne	£6,85
Donor benefit to cost ratio (BCR)	2,88

2.2.5 Investment 5 – Design of a Green Municipalities program in Caquetá and Guaviare

2.2.5.1 Goal

Design a system of incentives that rewards local municipal (***municipios'***) governments in Caquetá and Guaviare and the land-users in those municipalities for measured progress towards reductions in deforestation, for completing and implementing territorial management plans, and other milestones.

2.2.5.2 Beneficiaries

Direct beneficiaries of this investment are departments and municipalities of Caquetá and Guaviare, as well as the producers not included in Investments 1-4. Piloting a program that could be replicable in other departments of Colombia will also benefit ministries of Environment and Agriculture and increase national capacities to implement strategies to combat deforestation and promote low-emissions rural development plans.

2.2.5.3 Activities

1. Multi-stakeholder dialogues for identifying time-bound milestones for reducing deforestation and achieving other sustainability goals, and for designing territorial management strategies: Sector-specific then municipality- and department-wide dialogues achieve consensus on regional, time-bound milestones. These dialogues must include farm sectors, private sector, and municipal and department governments.

2.Integrated incentive systems designed: Financial incentives and technical support would be designed to favor progress towards milestones at the scale of the municipality and farm (e.g. more forest – less deforestation) some examples are:

- Incentives to municipalities could be related to climate-smart investments, extra budgetary allocations, among others;
- Municipalities with better performance could access to additional funding and support linked to investments 1, 2 and 4; and/or
- Municipalities can offer tax – exemptions to those producers implementing good practices.

3. Territorial monitoring platform: This platform would track progress made by each municipality towards the time-bound milestones defined through the multi-stakeholder dialogues. A web-based, transparent spatial monitoring platform would be maintained and operating by a non-governmental institution. Regional environmental authorities in collaboration with IDEAM and Sinchi Institute[22] could implement monitoring systems including deforestation and other relevant information such as land use, infrastructure and environmental licenses, among others.

4. Design of a green municipalities program: Based on the results of multi-stakeholders dialogues and specific assessments at municipal and department level, a proposal to implement green municipalities program will be designed, identifying the capacities that need to be strengthened, mechanisms that need to be adapted or created, the land planning instruments that need to be enforced or implemented and the incentives that need to be promoted.

2.2.5.4 Cost-Benefit Analysis

The costs for Investment 5 are included in Table 19. As shown, these are primarily human resource costs to design a Green Municipalities program based on input and feedback from a multitude of stakeholders.

22 Monitoring activities must be aligned with the Pillar 5 of the Amazon Vision Program (deforestation and carbon monitoring system).

Table 19. Costs for Investment 5 – Design of a Green Municipalities Program

Activities	Implementing agency	2015	2016	Budget	Co-funding (25% suggested)	Co-funding
5.1 Multi-stakeholder dialogues to design a green municipalities program (4)	MADS/MADR supported by an implementing agency	£ 4.746,67	£ 4.746,67	£ 9.493,33	25%	£ 2.373,33
5.2 Identification and design of an integrated incentive system	MADS/MADR supported by an implementing agency	£ 29.938,37	£ 31.421,70	£ 61.360,06		£ 15.340,02
5.3 Territorial monitoring platform (Design of regional platform to be used by governements based on existing instruments developed by Ideam and Sinchi)	MADS/MADR supported by an implementing agency	£ 31.056,40	£ 31.056,40	£ 62.112,79		£ 15.528,20
5.4 Design of a green municipalities program for Guaviare and Caquetá	MADS/MADR supported by an implementing agency	£ 18.633,84	£ 92.431,32	£ 111.065,16		£ 27.766,29
5.5 Project management and admin	15%	£ 12.656,29	£ 23.948,41	£ 36.604,70		£ 9.151,18
5.6 Monitoring and evaluation	5%	£ 4.218,76	£ 7.982,80	£ 12.201,57		£ 3.050,39
Total Investment 5		£ 101.250,32	£ 191.587,30	£ 292.837,62		£ 73.209,40

To estimate the potential benefits of the ***implementation*** of such a program, assumptions are based on the benefits accrued by such a program in the State of Para (Brazil). The State reduced deforestation by an average of 36% in the three years (2005-2008) after its Green Municipalities Program was implemented (2004). The state reduced average deforestation another 50% in the three years (2009-2012) after the program was improved (2008). To be conservative, the CB analysis for Investment 5 only assumes that a 36% reduction in deforestation is achieved after such a program is implemented. These benefits are included in Table 20.

Table 20. Results of Cost-Benefit Analysis for Investment 5

Investment	5
Impact Indicators	
Total hectares under sustainable production	N/A
Total hectares restored to natural systems	N/A
Total hectares of avoided deforestation	90.295
Total hectares of forests conserved	6.593.101
Estimated number of livelihoods impacted	N/A
Total tonnes CO2 avoided (tCO2e)	28.410.181
Value for money indicators (Total Investment)	
Private sector leverage	-
Total discounted costs (including private)	£ 344.276
Total discounted benefits	£ 47.804.248
Benefit to cost ratio (BCR)	138,85
Investment cost per tonne	£ 0,01
Value form money indicators (Donor Investment)	
Donor attributed tonne of CO2e avoided (tCO2e)	22.728.145
Donor cost per tonne	£ 0,01
Donor benefit to cost ratio (BCR)	138,85

As Table 20 shows, Investment 5 is estimated to avoid almost a million hectares of deforestation and has incredibly large Value for Money Indicators. However, it is very important to note that these calculations are ***only*** provided to give donors an idea of how many hectares of avoided deforestation, CO2e reduced and ecosystem benefits that ***implementation*** of such a Green Municipalities program could achieve. The costs that are included in the analysis are only for the ***design*** of such a program and are thus substantially underestimated because they do not include costs such as actual cash transfers to municipalities, governance capacity building, and other costs (including some or all of the other costs associated with the other programs under AV Amazon Vision beyond those included in this investment portfolio), which of course will reduce the very large benefit-to-cost ratio and other measures above. Furthermore, design of a Green Municipalities program does in no way guarantee the implementation of such a program, which this analysis also does not consider. Thus, Table 20 is helpful to the extent that donors see the potential benefits that could be achieved via the ***implementation*** of such a program; further analysis of implementation costs is needed to give real weight to these indicators.

2.3 Intervention strategy options for the investment portfolio

Taking into account that the success of the proposed investment portfolio depends on how it is going to be delivered, a multi-criteria analysis (MCA) was developed to evaluate the following three delivery options for the portfolio:

1. Investments are implemented separately: Donor and government select investments and implement then in an isolated way.

2. Package of incentives (1 to 4) are part of a Ministerial Program: A program at MADR is created to promote private sector involvement and sustainable production. Experiences could support development of similar programs in other regions of the country (e.g. Orinoquia).

3. Package of incentives linked to a jurisdictional program: "Territorial" or "jurisdictional" approach to deforestation and sustainable land-use systems promotes four inter-related components: (A) broadly-shared targets and milestones for key issues, such as deforestation, agricultural production, and legal compliance; (B) integrated incentive systems for supporting progress towards these milestones; (C) a reliable, online system for monitoring this progress; and (D) a territorial action plan and governance structure for implementing this plan.

These options were evaluated based on the set of three criteria in Table 21.

Table 21. Criteria for Multi-Criteria Analysis of Intervention Options for Investment Portfolio

Score	Potential for transformational impact at the regional or national level	Incentives based on performance	Generated local capacities and increases governance	Impact on land planning decisions processes	Possibilities of implementation/ delivery of results in the short term
1	Isolated results based on the specificities of the program (e.g. T.A., funding, access to markets)	Isolated incentives to beneficiaries interested	Local capacities are not generated	Doesn't promotes land planning processes at local level	Requires a process of design and consensus with relevant partners
2	Articulations of different programs to achieve common goals (e.g. private sector involvement on REDD+ and low-emissions)	Set of incentives that promote rural transformation	Local capacities are generated for particular sectors or strategies	Promotes multi-stakeholders processes that could impact land planning processes	Program can be delivered with some coordination rules depending on institutional capacities for the implementation
3	Option with transformational regional impact. Offers opportunities to apply a set of incentives in a jurisdiction based on goals and priorities identified at territorial level	Set of incentives linked to a performance based system	local capacities are generated to implement strategies integrated in a jurisdictional approach	Implies multiple stakeholders dialogues and land planning processes	Programs can be implemented in the short term with little additional efforts in coordination and consensus

The evaluation was performed by rating each of the criteria on a scale of 1 to 3, in which 1 means that the option evaluated makes a small contribution to the criteria, 2 is a medium-level contribution, and 3 is a significant contribution.

Based on the results of this analysis (see Table 22), it is recommended to propose an integrated approach for the interventions so that investments are part of a package of incentives linked to a jurisdictional program (e.g. a Green Municipalities Program). Even though some programs such as Sustainable Alliances could have a great impact by involving the private sector and supporting farmers with rural extension programs, the transformational impact could be limited to the supply chains on which companies have a direct influence. Four investments that are linked to a Ministerial program to promote private sector involvement in REDD+ and low-emissions strategies is an opportunity to generate capacities at the national level (MADR and private sector), but there is the risk that local governments will not be not directly involved and there may be little impact at the jurisdictional level.

Table 22. Results of MCA on Intervention Options

Options	Potential for transformational impact at the regional or national level	Incentives based on performance	Generated local capacities and increases governance	Impact on land planning decisions processes	Possibilities of implementation/ delivery of results in the short term	Total
1. Investments are implemented separately	1	1	2	2	2	8
2. Package of incentive (1 to 4) part of a Ministerial Program	2	2	2	2	2	10
3. Package of incentives linked to a jurisdictional program	3	3	3	3	1	13

2.4 Elements to propose for an integrated approach of the interventions linked to a jurisdictional program

As shown in the MCA, it is recommended to propose an integrated approach across the interventions so that investments are part of a package of incentives linked to a jurisdictional program (e.g. Green Municipalities program). Relevant stakeholders interviewed by the consortium recommended[23] that an integrated approach be implemented in order to prevent added pressure to deforest based on improvements in production systems, and regional interventions should be integrated and linked to a performance-based monitoring system that can provide appropriate checks and balances as activities progress. It is recommended that all activities proposed in the broad Amazon Vision Program portfolio of investments take into account that a "territorial" or "jurisdictional" approach to deforestation and sustainable land-use systems promotes four inter-related components: (A) broadly-shared targets and milestones for key issues, such as deforestation, agricultural production, and legal compliance; (B) integrated incentive systems for supporting progress towards these milestones; (C) a reliable, online system for monitoring this progress; and (D) a territorial action plan and governance structure for implementing this plan. These are detailed further here:

(a) Formal agreements to reduce deforestation

In order to ensure that investments have a direct impact on combating deforestation in the Amazon Region, the five investments included in this document should be linked to agreements between government and beneficiaries to achieve verifiable goals in reducing deforestation. To that end, it is anticipated that, where possible, technical assistance programs, incentives, or other mechanisms will be linked to specific targets and milestones, such as deforestation, agricultural production, and legal compliance. These agreements will require coordination with other components of the Amazon Vision Program.

(b) Integrated incentive systems

The proposed investment strategies seek to create or leverage negative and positive incentives, from farm-level to municipal scales, to net-zero deforestation goals and other sustainable land use goals (e.g. recuperation of degraded areas, reduction of deforestation, watershed management). Beneficiaries could receive certain benefits (e.g. lower interest rates, debt relief), contingent upon their performance in meeting environmental goals.

Technical assistance, credit access, productive alliances and other mechanisms could be part of an integrated system for supporting progress towards zero-deforestation goals and other milestones. Additionally, with the objective of balancing the capacities of the private and public sectors, it is equally important to have financial or budgetary-support mechanisms for highly performing municipalities that achieve deforestation-reduction goals (Investment 5). Table 23 shows possible incentives at various scales.

Table 23. Possible Incentives at Various Scales/Levels

Scale of incentive/ beneficiary	Performance Objectives	Possible Incentives
Farm-level/ producer	Farm-level reductions in deforestation, implementation of sustainable production systems, participation in zero-deforestation supply chains.	Rural extension and technical advice (Investment 1). EcoAgro; Agrobosque (Investment 2); ICR, CIF, etc. AgroSostenible (Investment 2); better terms of credit for traditional FINAGRO products.
Producer Association	Scale-up reductions in deforestation from producers to association Meets quality assurance and traceability goals.	Rural extension oriented to organizational capacity, technical assistance (Investment 1). AgroSostenible (Investment 2). EcoAgro and AgroBosque (Investment 2). Sustainable Alliances Program (Investment 4).
Supply Chains	Eliminate deforestation from supply chain.	Sustainable Alliances (Investment 4). EcoAgro, Agrobosque, AgroSostenible (Investment 2). Product differentiation, i.e. "Amazon or zero-deforestation origin" (Investment 3).
Municipal Level[24]	Reduce annual deforestation rates.	Preferential access to EcoAgro, Agrobosque, and Sustainable Alliances (Investments 2, 4) according to performance. Green Municipalities Program: potential incentives may include tax relief/ access to public funds (Investment 5). Product differentiation/ preferential "climate smart" investment status (Investments 3 and 5).

23 These cross-cutting approaches are the result of workshops developed by the Consortium with relevant organizations and other meetings with the Amazon Vision Program.

24 Not immediately feasible. These incentives would be part of a longer-term vision in which "high performing municipalities" could receive additional incentives based on reductions in deforestation.

(c) Performance monitoring

Monitoring is a key element of the implementation strategy. Impacts of the proposed actions should be evaluated in terms of deforestation rates, income generation, improvement of productivity and processes, and other land-management goals.

The five investments include monitoring components that should be linked to an online system for monitoring progress. Given their experience and capacity, IDEAM and Sinchi Institute would be valuable partners in the design and support the implementation of local/territorial monitoring systems, in coordination with other components of the Amazon Vision Program.

(d) Territorial actions plans

Under a territorial approach, production systems would be promoted in accordance with a territorial action plan and increased governance capacities for implementing. Taking into account a zoning proposal to be developed by the Amazon Vision Program, sustainable production systems will be promoted in priority areas according to a gradient of human disturbance based on previous studies by Sinchi Institute as follows:

1) Highly disturbed/deforested areas (forest cover lower than 30%): sustainable product chains would be promoted in these areas (e.g. agroforestry and forest-grazing arrangements, intensive livestock farming systems) to conserve remaining forest fragments, contribute to the restoration of degraded areas, establish biological corridors, and promote watershed management.

2) Moderately disturbed areas (forest cover higher than 30% lower than 70%): establishment of agroforestry arrangements based on cacao, natural rubber ['*caucho*'], or coffee could be promoted in these areas as well as silvopastoral systems. These arrangements could contribute to the creation of transition/buffer zones between the forest and deforested areas, stopping the advance of the agriculture frontier.

3) Little disturbed areas (forest cover higher than 70%): Activities that contribute to sustainable forest management processes would be promoted in these areas. Sustainable forest management could become an alternative production system in the medium or long term, if sustainable initiatives are promoted and the regulatory framework is strengthened.

(e) Integrate investment strategies with the goals of poverty reduction, social equity and peace

In the Colombian Amazon, poverty, inequity and lack of public order underlie many of the environmental and social problems. Investments to promote sustainable production systems and catalyze equitable alliances between producers and companies can contribute to the broader goals of the Amazon Vision program of poverty reduction, social inclusion and local capacity building. Articulation of leading and executing agencies with other organizations dealing with issues related to social inclusion, peace, drugs eradication and poverty reduction is recommended.

3. Commercial case

3.1 Outline of the procurement approach

DECC will not be responsible for procurement, since the International Climate Fund will partner with a fund manager like KfW to implement the intervention. It is assumed that DECC will choose its preferred method of fund delivery (e.g., KfW, GEF, etc.), with which it will have a framework agreement and will be assured of accountability. This entity will then disburse funds to the Ministry of Environment and Sustainable Development's (MADS) chosen implementation entity (e.g., Fondo Acción or Patrimonio Natural), which will disburse funds to the executing agencies. The exception to this may be with regards to Investment 4, the funding of which could have a more direct path via REM or GEF straight to FINAGRO (to increase delivery efficiency).

The best procurement options for the executing agencies for the four investments are deemed to be:

Investment 1 – Technical Assistance: Tender to bid

Investment 2 – Financial Mechanisms: FINAGRO

Investment 3 – Deforestation-free supply chains: MADR with CIAT and sector associations (federations or producers associations)

Investment 4 – Sustainable Alliances: Current Productive Alliances (PAAP) team within MADR

Investment 5 – Green Municipalities Program: Secretariats of Planning and Agriculture for Caquetá and Guaviare

Investment 1 – Technical Assistance: Tender to bid

This investment will begin in 2015 with a design process led by MADR (together with the Secretariats of Agriculture in Caquetá and Guaviare, in coordination with target supply chain associations, producers' associations and organizations like Sinchi Institute, University of Amazonia, Incoder, Corpoica, Sena and others who have been promoting rural extension processes, technology transfer and production arrengements in the region) and executed by a MADR-selected organization in coordination with Amazon Vision's Administration Fund over a period of three months. Subsequently, a tender to bid for the execution of the new program will be offered. A possible consortium for such a bid is outlined in the management case as an example consortium. Regardless of which consortium is chosen for execution, MADR together with the Secretariats of Agriculture will provide program leadership in order to build institutional capacities and to provide continuity to these programs in the medium and long term.

Investment 2 – Financial Mechanisms: FINAGRO

This Investment will begin in 2015 with a refinement of the financial mechanisms to be executed, led by MADR and the National Commission for Agricultural Finance and involving FINAGRO, commercial banks, and supply chains. Then FINAGRO will execute the Investment.

Several executing agencies were considered to deliver the new financial mechanisms and execute the related activities within Investment 2 but all were easily dismissed in favor of FINAGRO (see analysis in Table 24 below). A second-tier, "mixed-economy" bank, FINAGRO administers re-discounted "forced investment" by credit institutions to the agricultural sector, as well as several funds – e.g., FINAGRO's investment fund, microfinance fund, etc. FINAGRO's portfolio in 2014 was valued at over US$6.6 billion. Created in 1990, FINAGRO has almost 25 years of experience administering agricultural lines of credit and incentives, including a portion of the IFAD-sponsored Rural Microenterprise Development Program (PADEMER) that was completed in 2006. FINAGRO has been active in shaping the mechanisms under Investment 2 and can quickly mobilize to finalize the design of these mechanisms and begin deployment of the mechanisms and related activities.

Table 24. Analysis of Possible Executing Agencies for Investment 2

Agency	FINAGRO	Another Second-tier bank (Findeter, Bancoldex)	Fund (Fondo Acción or Patrimonio Natural)	Private Bank or Banco Agrario
Description	The new financial mechanisms will be managed by FINAGRO, just as it manages incentives like CIF, ICR and its investment fund.	The new financial mechanisms will be executed by another second-tier bank that offers credit lines, including green credit, and incentives via first-tier banks (like FINAGRO does).	The new financial mechanisms will be executed by an independently-managed fund like ***Fondo Acción*** or ***Patrimonio Natural.***	The new financial mechanisms will be executed by a private bank (e.g., Bancolombia, Davivienda, etc.) or Banco Agrario.
Benefits	Utilizes knowledge/abilities of FINAGRO to deploy new mechanisms to support sustainable agriculture; leverages existing delivery mechanism and on-farm forest monitoring system; lessons learned in deployment can be used by FINAGRO to strengthen future incentives .	Could engage these other second-tier banks in learning more about the agriculture sector and structuring financial mechanisms to support.	None immediately apparent.	Banks are most familiar with the potential barriers to executing new lines of credit or deploying financial incentives (e.g., the risk of default for target clients is higher than the returns they can make offering such credit), which could help in the final design of the new mechanisms (especially the Sustainable Agriculture Fund).
Possible barriers to execution	None identified.	***Findeter*** and ***Bancoldex*** operate in much the same way as FINAGRO but focus on other sectors like industrial development, infrastructure projects, etc. Their green lines of credit are targeted as projects like renewable energy and energy efficiency, which have very different cost structures and timeframes than agriculture. Their relative dearth of agriculture experience and expertise is a serious barrier to execution.	These entities would be required to finish designing the mechanisms; create the application processes; develop systems and processes to review applications; distribute funds via commercial banks/ financial entities; monitor results; etc. As they do not currently execute such mechanisms, this would likely be a lengthy and inefficient process. These are serious barriers to execution.	These entities would be required to finish designing the mechanisms; create the application processes; develop systems and processes to review applications; distribute funds including via other commercial banks/financial entities; monitor results; etc. As they do not currently execute such mechanisms, especially not via OTHER banks, this would likely be a lengthy and inefficient process. These are serious barriers to execution.
Cost-efficiency	High. FINAGRO has a 7% management/ administration fee, which is quite low.	Likely similar to FINAGRO's.	Moderate to high. 10%+ management/administration fee.	Likely to be similar or higher than FINAGRO, given the high start-up costs of deploying the financial mechanisms.
Feasibility of delivery in 2015	High. FINAGRO has provided input into the design of the mechanisms and will only need a couple of months to start implementation.	Medium. As they operate similarly to FINAGRO and have relationships with banks that disburse FINAGRO credit and incentives, start-up time will be more than FINAGRO but less than other entities.	Low. It will likely take several months for such entities to complete the design of mechanisms and begin implementation.	Low. It will likely take several months for such entities to complete the design of mechanisms and begin implementation.
Overall assessment	Option 1 best builds on the successes, lessons learned, and experience of FINAGRO and is the option that best allows the incorporation of such mechanisms into FINAGRO's portfolio. Options 2, 3 and 4 do not offer any real advantages over FINAGRO and pose substantial barriers to execution. Taking this into account and given the particular interest in incorporating these new mechanisms into FINAGRO's overall portfolio and/or revising current mechanisms to fit these new design specifications, FINAGRO is chosen as the executing agency.			

Investment 3 – Deforestation-free supply chains: MADR with CIAT

It is expected that MADR, with support from the International Center for Tropical Agriculture (CIAT), will facilitate the creation of multi-stakeholder platforms for each target supply chain in the two departments. These platforms will result in sectoral strategies that include targets for improving environmental quality and reducing deforestation, observed through a monitoring platform for each supply chain. These observed processes led by MADR can also be supported by an executing agency such as CIAT that has experience with monitoring platforms as required. Implementation of the supply chain strategies will be charged to sectoral organizations (e.g. federations or producers' associations) or entities that they identify. MADR and the Amazon Vision's Administration Fund will facilitate the due diligence processes necessary to choose the administration organizations that will manage the resources to implement these supply chain strategies.

Investment 4 – Sustainable Alliances: current productive alliances (PAAP) team within MADR

Given the experience and expertise of the current PAAP team within MADR, the two primary options for execution that are compared in Table 25: the PAAP team working within MADR or a tender to bid.

Table 25. Analysis of Possible Executing Agencies for Investment 4

	PAAP team within MADR	Tender to bid
Benefits	Utilizes the knowledge and abilities of PAAP executing team to deploy new program to better support partnerships in achieving sustainability; leverages existing delivery mechanism while also testing new ways to support partnerships; enhances communication within MADR so various programs are actively complementing each other.	Could bring in new ideas for execution not stymied by the program's past experience (i.e., no limited thinking about the best ways to execute based on the past); competition among firms could result in cost savings.
Possible barriers to execution	Change can be difficult, especially within government agencies, so execution of the new program may be hampered by the existing status quo and a desire to maintain it.	New execution team could be less efficient due to staff time needed to learn processes and procedures; existing relationships may be negatively impacted by a change in executing agency, which could also lead to less efficient and effective execution.
Cost-efficiency	Likely medium to high. Current PAAP executing agency has developed processes and procedures that can be utilized for the new Sustainable Alliances program and will likely reduce costs. But not clear how current PAAP team's executing costs relate to competitors' costs.	Likely medium. Startup costs for a new executing agency will likely be substantial but there may be other cost savings related to choosing another executing firm.
Feasibility of delivery in 2015	High.	Medium to high. The startup of the program may be delayed a few months during the tender process but still likely in 2015.
Overall assessment	Option 1 best builds on the successes, lessons learned, and experience of the current PAAP executing team and also fosters best communication within MADR and with other programs. Option 2 could best promote new ideas and execution methodologies to be employed, and cost savings could also result from a tender to bid on executing the program, but higher startup costs would also likely result. Taking this into account and given the particular interest by donors in quick execution, Option 1 is chosen.	

Investment 5 – Green Municipalities Program

Governments of Caquetá and Guaviare (Secretariats of Planning and Agriculture) will define terms of reference and drive the selection process for an organization or consortium responsible for the design of a Green Municipalities Program.

3.2 Why is the proposed funding mechanism/ form of arrangement the right one for this intervention, with this development partner?

As outlined above, the preferred option for each of the interventions' Investments are:

Investment 1 – Technical Assistance: Tender to bid

Investment 2 – Financial Mechanisms: FINAGRO

Investment 3 – Deforestation-free supply chains: MADR with CIAT

Investment 4 – Sustainable Alliances: Current Productive Alliances (PAAP) team within MADR

Investment 5 – Green Municipalities Program: Secretariats of Planning and Agriculture for Caquetá and Guaviare

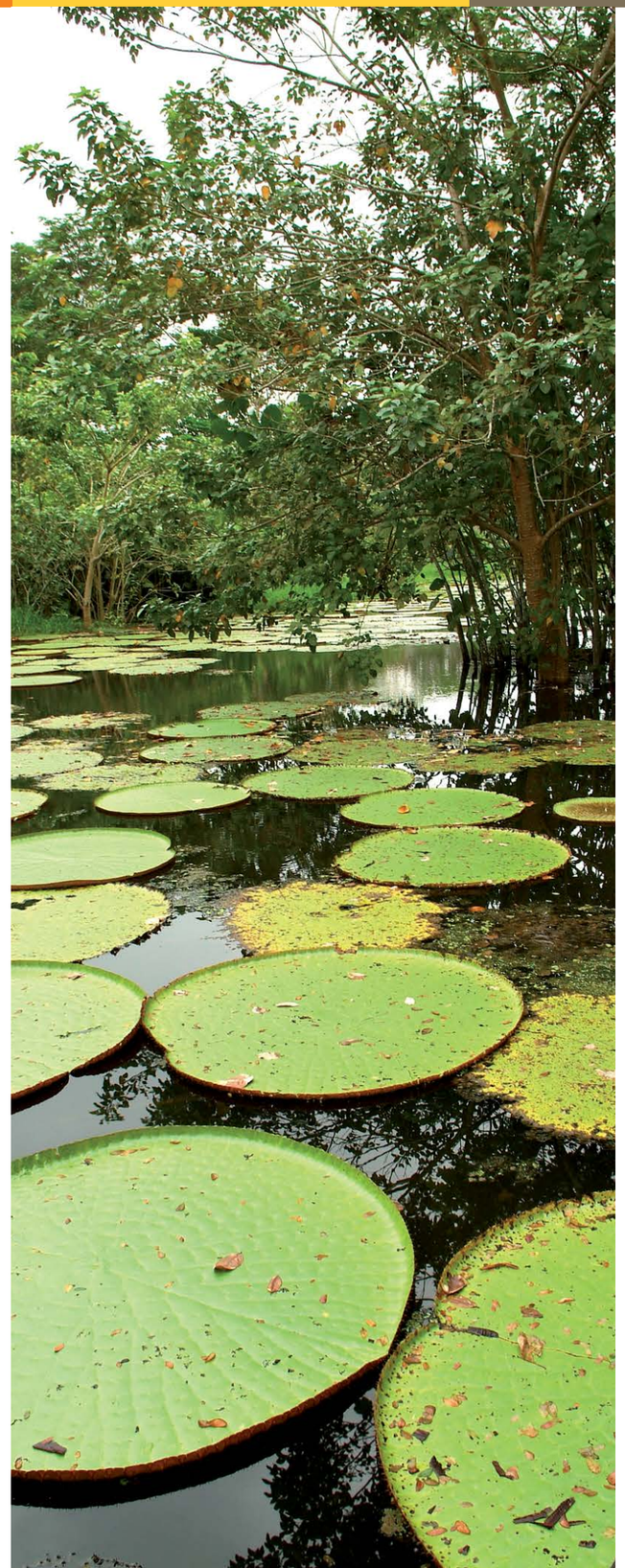
For Investments 2 and 4, these is a strong case to work with partners that are currently implementing similar programs, as this will provide greater value for money than having to create new delivery structures, reduce implementation risks and significantly increase the likelihood of successful project delivery.

For Investments 1 and 3, MADR will lead these components and execution partners, as needed, will be selected via procurement because there are a host of possible executing partners and inviting them to bid (including as consortiums) would likely give best value for money and include several partners, whose capacity to deliver such T.A. and extension would be built via program delivery.

As investment 5 is focused on a process of formulation of a new program, MADS, MADR and the departments will lead the process with the support of a third party (a single organization or a consortium) that will be selected via procurement.

3.3 Value for money through procurement

Building on existing programs and institutional capacities as much as possible (as detailed above) enables the benefits of this intervention to be delivered at a lower cost than working with a completely new set of implementation



4. Financial case

4.1 What are the costs?

Donors will provide UK£ 50,508,037 million for the project to be implemented in 3.5 years, approximately July 2015 until December 2018 (see Table 26 for project cost by Investment). Money could be transferred to DECC's chosen implementation partner (e.g., KfW through the German REDD+ Early Movers Program) and then disbursed to Colombia's chosen implementation partner (e.g., Fondo Acción or Patrimonio Natural). Colombia's implementation partner could then disburse the funds to each executing agency as appropriate.

The composition and profile of the expenditures for Investments 2 and 4 takes advantage of current expenditures for FINAGRO-managed incentives and PAAP. Expenditures for Investments 1, 3 and 5 are based on calculations of costs and references from Asistegan (Fedegan) and the National Federations for Cacoa, Coffee and Rubber.

Table 26. Project Costs (UK£)

	2015	2016	2017	2018
1. Rural extension program				
a. Core delivery costs	£321,676	£2,355,580	£1,263,156	£408,129
b. Project management	£48,251	£353,337	£189,473	£61,219
c. Monitoring and Evaluation	£16,084	£117,779	£63,158	£20,406
Subtotal	£386,011	£2,826,696	£2,826,696	£489,754
2. Financial incentives				
a. Core delivery costs	£234,000	£7,481,401	£7,481,401	£7,481,401
b. Project management	£16,380	£523,698	£523,698	£523,698
c. Monitoring and Evaluation	£12,519	£400,255	£400,255	£400,255
Subtotal	£262,899	£8,405,354	£8,405,354	£8,405,354
3. Deforestation-free supply chains				
a. Core delivery costs	£446,656	£1,252,936	£2,153,571	£2,060,402
b. Project management	£66,998	£187,940	£323,036	£309,060
c. Monitoring and Evaluation	£3,943	£72,044	£123,830	£118,473
Subtotal	£517,598	£1,512,920	£2,600,437	£2,487,936
4. Sustainable alliances				
a. Core delivery costs	£270,407	£1,996,616	£3,696,935	£4,224,483
b. Project management	£35,703	£315,221	£591,321	£677,980
c. Monitoring and Evaluation	£15,305	£115,592	£214,413	£245,123
Subtotal	£321,415	£2,427,429	£4,502,669	£5,147,587
5. Design of a green municipalities program				
a. Core delivery costs	£84,375	£159,656		
b. Project management	£12,656	£23,948		
c. Monitoring and Evaluation	£4,219	£7,983		
Subtotal	£101,250	£191,587		
TOTAL	£1,589,173	£15,363,986	£17,024,247	£16,530,630

The main components of the budgets are: providing training for Technical Assistance (T.A.) technicians and provision of the T.A. itself; financial incentives and credit/equity for sustainable agriculture; strengthening producer associations, their connection to buyers/markets and their economically viable projects that increase quality and/or quantity of production; launching market access strategies for new zero deforestation products; and creating incentives for municipality-level reductions in deforestation (including capacity-building for local governments). It is not expected that these costs will change substantially with time, but they depend on the numbers of producers and/or producer associations who choose to be involved in the project and the speed of their adoption of the interventions to transform production into sustainable, zero deforestation agroforestry or silvopastoral production.

4.2 How will it be funded: capital/programme/admin?

This will be capital spent from the donors budget. Co-funding from the Colombian national government or partner organizations will need to be negotiated. The conversion of land (including degraded pasture) into highly productive, higher-quality agroforestry and silvopastoral systems increases its value, generating tangible assets. Conserving Amazonian natural forest also generates carbon and ecosystem assets for Colombia and the global community. Each component of the intervention is an integral part of the project and essential to generating these assets, including outreach and communication regarding the services and finance offered through the intervention so that producers and their associations will be motivated to participate in the intervention. Monitoring of the interventions undertaken, including forest conserved, is also integral to delivering the assets, as ongoing assessment is needed to determine the level of financing provided to farmers, which in turn is a prerequisite for incentivizing the adoption of agroforestry and silvopastoral systems and forest conservation.

4.3 How will funds be paid out?

As outlined above, funds would flow from DECC to its chosen implementation partner (e.g., KfW). An administration arrangement would be signed between DECC and KfW agreeing on the terms of the project. A similar arrangement would be signed between KfW and Colombia's chosen implementation partner (e.g., Fondo Acción or Patrimonio Natural). Colombia's chosen implementation partner, with oversight by KfW, will work with the executing agencies to supervise and assist with administration of ICF resources. Funds will be transferred by DECC to KfW; KfW will transfer funds to Colombia's implementing partner; this partner will in turn transfer funds to the executing agencies according to the respective Grant Agreement to be entered into by Colombia's implementing partner and the executing agencies as the implementing agencies and Grant Recipient, respectively.

Subject to necessary internal approvals, the executing agencies will establish any necessary subsidiary agreements (e.g., with a communication firm) to define the activities to be carried out by these partners and to establish the conditions for fund transfer in order to meet project outputs. Reports of expenditures must be presented by each partner in order to gain access to the funds.

4.4 What is the assessment of financial risk and fraud

Several of the potential implementing agencies (Fondo Acción, Patrimonio Natural) and executing agencies (FINAGRO for Investment 2 and MADR/PAAP for Investment 4) have previously managed international cooperation funds successfully. The financial management risk of the project under these entities is considered to be low.

The financial management risk of the project under other entities is somewhat higher or unknown. For investment 3, it is suggested that the sector associations – Confederación Cauchera, FEDEGAN, FEDECACAO, and FEDECAFÉ – execute this component. FEDEGAN's financial management risk, as executing agency for the "Mainstreaming Sustainable Cattle Ranching Project" funded by DECC and other donors through the GEF with WB as implementing partner, is considered low to moderate (ICF Business Case Low Carbon Agriculture Colombia, 2012). FEDECAFÉ has implemented international cooperation projects and has been the executing agency for the German/KfW CIF project for almost 20 years, and its financial management risk is deemed low. Even though Confederación Cauchera and FEDECACAO have experience managing funds and some international cooperation projects, the financial management risks of are less certain and are deemed moderate.

For Investment 1, potential executing agencies are Corpoica, SENA and Universidad de la Amazonia, but a tender is suggested as the best way of identifying the consortium that is best equipped to execute this Technical Assistance and Extension program. A key part of this tender process should be assessing the financial management risk of potential consortiums, as local government actors such as those within the Secretariats of Agriculture for departments like Caquetá and Guaviare are generally not trusted by the public to use their funds appropriately. Should such Secretariats be part of a winning consortium, it is an opportunity for them to build capacity financially. But close monitoring, reporting and accounting of finances for such entities should be particularly strong. This same guidance applies to the executing agencies for Investment 5.

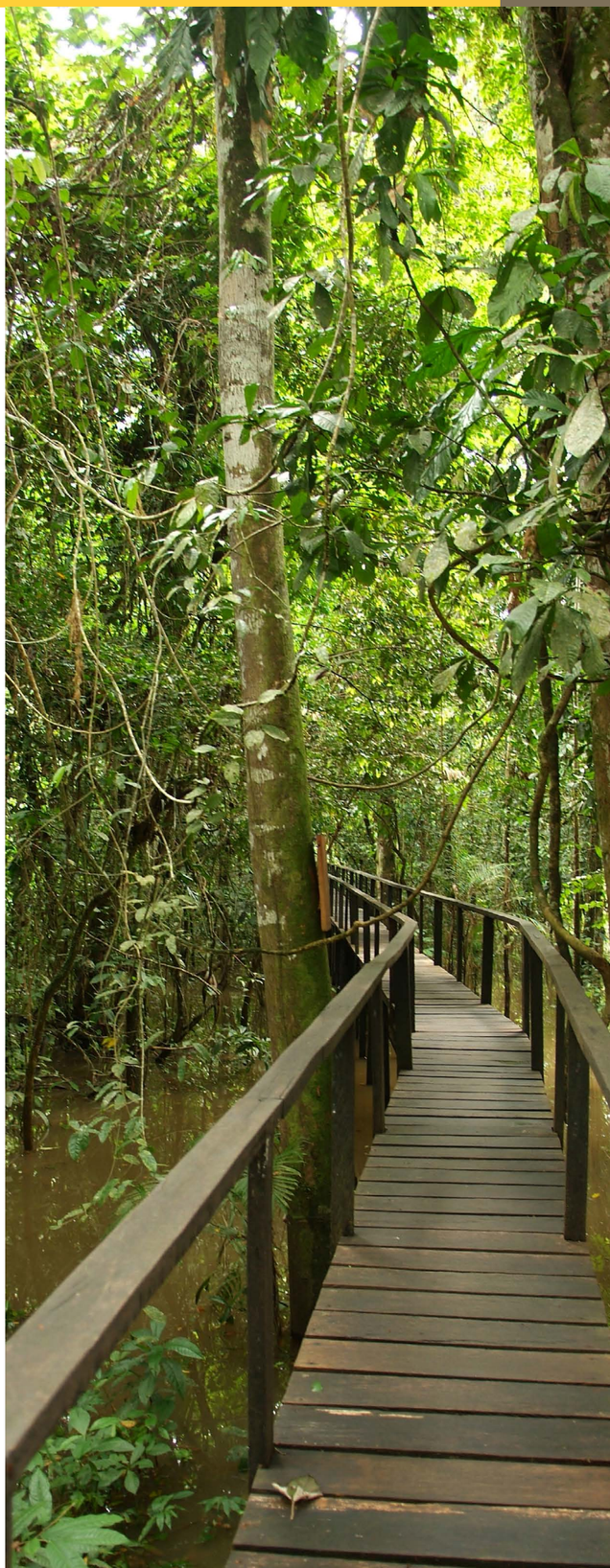
4.5 How will expenditure be monitored, reported, and accounted for?

The executing agencies for each Investment will administer, and account for, the grant resources in accordance with its financial regulations and other applicable rules, procedures and practices keeping separate records and accounts. Grant resources will be held in a separate account so that these can be separately accounted for. Further specific arrangements on reporting, accounting and audit will be set out in the project MOUs. Subsidiary contracts will be signed between each executing agency and their sub-contractors or grantees.

Financial Reporting: Alongside narrative reporting every 6 months, the executing agencies for each Investment will provide details of actual and forecasted expenditures. These reports will also include the number of beneficiaries assisted and hectares of land impacted. The Colombian implementing agency (e.g., Fondo Acción or Patrimonio Natural) will supervise and collate these reports.

Audits: Each executing agency will make available annual statements of expenditure for the project in general, duly certified by its external auditors.

Each executing agency will provide, within 6 months of the end of the Guarantee Availability Period, a terminal financial statement showing the receipts, income and expenditures under the Grant Account and the remaining balance. ICF will reserve the right to appoint its own auditors, if deemed necessary.



5. Management case

5.1 Management arrangements

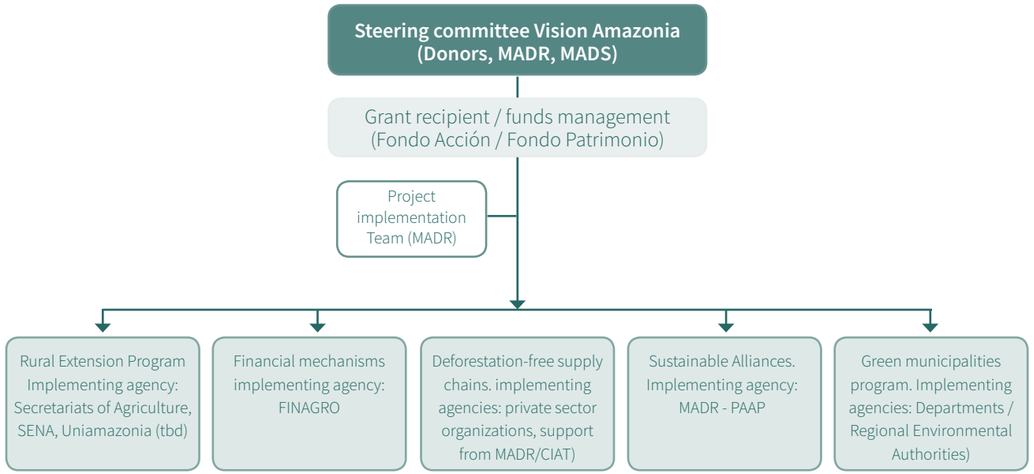
5.1.1 Overview of institutions and agreements

The Steering Committee of the Amazon Vision Program would be in charge of defining strategic guidelines for the implementation of the proposed investments in order to assure that activities are aligned with the national policies and complement other areas of the Program.

Technical supervision, fund management, operations and performance monitoring would be in charge of the national environmental fund that is responsible for fund management and operations of the Amazon Vision Program[25]. This entity would be responsible for signing agreements with the implementing agencies for each investment. If required this entity would develop a process to select the best implanting agencies or institutional arrangement for the implementation of each investment.

Taking into account that the five investments are part of a comprehensive strategy to halt deforestation while promoting sustainable production and private sector engagement, it is recommended the definition of a Project Implementation Team (PIT) within the Ministry of Agriculture, which would be in charge of supervising the implementation of the five investments, the complementarity of actions, assure the articulation among implementing agencies and partners, facilitation of coordination meetings, evaluation and reporting of results and raise public awareness about the contribution of the Program to reduce deforestation in the Amazon Region. The coordination unit could be composed of: i) Program manager, ii) two technical coordinators supported by technical units of the Ministry of Agriculture. This PIT could also develop administration functions if defined by the Amazon Vision Program and its implementation architecture. Figure 4 presents a proposal of institutional arrangements for the implementation.

Figure 4. Institutional arrangements for the implementation of the five investments proposed



5.1.2 Parties involved in the project

During the process of elaboration of this proposal, the Consortium conducted an assessment of institutions to identify potential executing agencies and partners for each investment as presented in the following tables. Proposals of investments were shared with relevant stakeholders to get comments and also discuss their interest in support of the project. The proposals below are the result of meetings with MADS, MADR, sector associations, research institutions, local governments and producers.

25 National Government and Donor will select the entity in charge of fund management of the Amazon Vision Program.

Directions of MADR participated actively in the design of the proposed investments. FINAGRO has supported the design of investment 2 and expressed interest in support of the design of new credit lines and support the implementation of the activities proposed. MADR and CIAT expressed interest in supporting multi-stakeholders platforms in each department and facilitate the design of sector strategies. Sector associations (FEDEGÁN, FEDECACAO, FEDECAFÉ and Confederación Cauchera/Asoheca) expressed their interest in leading the elaboration and implementation of supply chain strategies in coordination with local producers. Companies that are participating in the PAAP (e.g. Alquería, Friogan, Casa Luker, Compañía Nacional de Chocolates, Asoheca, FEDECAFÉ) also expressed their interest in supporting these sector strategies and promoting new sustainable alliances.

Secretariats of planning of Caquetá and Guaviare highlighted the importance of supporting municipalities, given their lack of capacities, and of promoting a specific strategy to get them involved in zero-deforestation programs. Governments are interested in co-leading some of the investments in order to increase their capacities.

Directors of Forests and Biodiversity and Climate Change provided their comments and also agree on the proposals of delivery partners and highlighted the importance of the private sector to get responsibilities related to monitoring and promotion of zero-deforestation agreements along their supply chains.

Existing international cooperation projects were also consulted about on-going activities and the possibilities of collaboration. Some of these projects are promoting actions related to sustainable productions practices that could contribute to the rural extension program and the supply chain strategies. Financial mechanisms and sustainable alliances could be promoted to support beneficiaries of these projects.

Investment 1. Rural extension program

There are various entities that could execute the Rural Extension Program, taking into account the experience they have supporting priority supply chains and developing technical assistance programs in the region. However, it is recommended that execution involve the Secretariats of Agriculture of the departments. As the design of the rural extension program would greatly benefit from a multi-stakeholder process of design, it is recommended that the Ministry of Agriculture together with the Amazon Vision Program define a process to select the best institutional arrangement for the implementation. Table 27 identifies some potential executing agencies and partners that could be part of the process of design and execution of this program.

Table 27. Potential executing agencies and partners for Investment 1

Role	Organization	Functions
Leading institutions	Ministry of Agriculture and Rural Development.	Lead the design and implementation of the technical assistance program. Articulation with other components/investments of the Amazon Vision Program. Articulation with organizations, partners and donors.
Executing agencies	Secretariats of Agriculture Caquetá and Guaviare; Corpoica; SENA; Universidad de la Amazonia.	Implementation of rural extension programs. (Implementation could be in charge of a group of agencies leaded by Secretariats of Agriculture or a technical organizations present in the region).
Partners	Sector associations: Confederación cauchera, Fedegan - cattle-ranchers committees, Fedeganca, Fedecacao, Fedecafé-coffee growers committee.	Support the design of the extension rural program according to the needs of each sector Implementation of training programs related to their sectors (e.g. post-harvest management of rubber) Provision of rural extension and advisory services.
	Technical organizations: Corpoica, SENA, Universidad de la Amazonia.	Support the design of the extension rural program according to their experience in the region Implementation of training programs.
	Research organizations: Instituto Sinchi, CIPAV, EII.	Support the design of the extension rural program according to their experience in the region. Support the design of training models on silvopastoral systems, agroforestry, sustainable management, good practices and production alternatives.
	International cooperation projects (TNC-GIZ , ICAA/USAID-Fondo Acción-Patrimonio Natural-FEDEGAN Sustainable cattle-ranching project).	Articulation of technical assistance activities according to their areas of implementation. (Existing cooperation projects are implementing technical assistance programs that can provide relevant experiences and complement actions of the rural extension program).

Investment 2. Financial incentives

It is proposed that the lead institutions for this investment are the Ministry of Agriculture and Rural Development (MADR) together with the National Council of Agricultural Credit, as these institutions have specific experience in designing and executing financial mechanisms to support rural development at the national level. Furthermore, the Council is composed of representatives from various ministries (including MADR) and is in charge of designing and assigning budget to current public agriculture incentives like CIF and ICR. If these new financial mechanisms are ever to be included within Colombia's mechanisms for the agriculture sector, the Council must be involved in their design and deployment. See Table 28 for a possible institutional arrangement to execute Investment 2.

FINAGRO has been identified as the best potential executing agency, taking into account that this organization currently manages and executes the official Colombian credit programs and incentives via commercial banks and other credit institutions and possess additional experience in implementing programs involving private and public sectors.

Table 28. Recommended executing agencies and partners for Investment 2

Role	Organization	Functions
Leading institutions	Ministry of Agriculture and Rural Development.	Lead the design and implementation of the incentives/credits; articulation with other components/investments of the Amazon Vision Program; articulation with organizations, partners and donors.
	National Council of Agricultural Credit.	Analyze and approve modifications to existing mechanisms in the medium term.
Executing agencies	FINAGRO.	Implementation of all activities, including employing organizations to implement Activities #4, #5 and #6 .
Partners	Credit institutions (commercial banks, nonprofits, credit associations).	Provide input into the design of mechanisms; lead/engage in dialogue and plans to determine ways in which these institutions may be incentivized to provide, in the medium-term, mechanisms like those supported by #3 .
	Commodity buyers .	Lead/engage in dialogue and plans to determine if/how they may be involved in offering financial incentives or mechanisms to their suppliers (including via partnerships with credit institutions).
	NGOs.	Facilitate working group sessions/workshops between MADR, FINAGRO, credit institutions, commodity buyers and supply chains to determine possible changes to existing financial mechanisms or new mechanisms to deploy in the Amazon .
	CCI (or other entities with sectorial responsibilities to encourage and deploy incentives/credits).	Develop and implement an outreach program to highlight financial mechanisms.
	IDEAM, Solapa4, or other monitoring service at farm level).	Develop, implement and report results of the monitoring system at municipal and farm level.
	International cooperation programs (e.g., FEDEGAN Sustainable cattle-ranching project).	Jointly inform each other of work on existing and new financial mechanisms.

Investment 3. Deforestation-free supply chains

The Ministry of Agriculture, through their supply chains offices, is in charge of designing, evaluating and implementing programs and projects to strengthen and support agriculture and forest supply chains. This Ministry, in coordination with secretariats of agriculture, supply chains' committees, sector associations and other technical organizations, could facilitate the development of sector strategies and support multi-stakeholders dialogues in each department. Executing agencies for this investment could be those existing sector associations or federations, which would be in charge of leading and implementing sector strategies and monitor performance of supply chains. An institutional framework to execute Investment 3 is mapped in Table 29.

Table 29. Recommended executing agencies and partners for Investment 3

Role	Organization	Functions
Leading institutions	Ministry of Agriculture and Rural Development.	Lead the establishment of multi-stakeholders dialogues in each department. Facilitated the development of sector strategies at department level in coordination with Secretariats of Agriculture. Articulation with other components/investments of the Amazon Vision Program. Articulation with organizations, partners and donors.
Executing agencies	Sector associations: Confederación cauchera; Fedegan - cattle-ranchers committees; Fedecacao; Fedecafé.	Execution of improvement sector strategies for each supply chain. Lead the execution of activities of technical assistance, market access, quality assurance, traceability and monitoring, according to priorities defined in the sector strategy.
	CIAT - International Center for Tropical Agriculture.	Facilitation of dialogues and establishments of round tables in each department Support the agreement of improvement plans Follow up and monitoring of results.
Partners	Private sector (companies, producers associations, buyers).	Support the implementation of sector strategies.
	Technical organizations: Corpoica, SENA , Universidad de la Amazonia.	Support implementation of improvement plans Technical assistance.
	Research organizations: Instituto Sinchi, CIPAV, CENICAFE, CENICAUCHO.	Support the implementation of good practices along sustainable supply chains Research on relevant topics related to the production. Generation of capacities for monitoring.
	Regional Environmental Authorities (CDA-Corpoamazonia).	Support implementation of improvement plans, with emphasis on environmental goals. Support monitoring activities Incentives/regulations to promote sustainable production.
	International cooperation programs (TNC-GIZ , ICAA, Fondo Acción, Patrimonio Natural, FEDEGAN Sustainable cattle ranching project).	Articulation of activities to support supply chains according to their areas of implementation.

Investment 4. Sustainable Alliances

The new Sustainable Alliances Program will be able to build from PAAP's successes and lessons learned by being led by MADR and executed by the current PAAP consulting team. An institutional framework is presented in Table 30.

Table 30. Recommended executing agencies and partners for Investment 4

Role	Organization	Functions
Leading institutions	Ministry of Agriculture and Rural Development (MADR).	Lead the design and implementation plan for the Sustainable Alliances Program and associated activities.
Executing agencies	Current PAAP consulting team.	Execute the design and implementation of the Sustainable Alliances Program and associated activities #2 and #3 (may contract these activities through a tender).
Partners	Producer Associations that have PAAP support presently or in the past (Asoprocaucho, Commitees of cocoa, coffee, rubber, cattle, etc.).	Provide input into the design of the Sustainable Alliances Program and associated activities.
	Commercial partners that have PAAP support presently or in the past (National Chocolate Company, Friogan, Casa Luker, etc. see Table 16).	Provide input into the design of the Sustainable Alliances Program and associated activities.

Investment 5. Green Municipalities program

This investment will be focused on the support to local authorities in the design and implementation of a green municipalities program. In this context the executing agencies could be the Departments and regional environmental authorities, supported by technical institutions that could be defined following a selection process. Leaders of this investment would be the Ministries of Environment and Agriculture. An institutional framework to execute Investment 5 is mapped in Table 31.

Table 31. Recommended executing agencies and partners for Investment 5

Role	Organization	Functions
Leading institutions	Governments of Caquetá and Guaviare.	Articulation with other components/investments of the Amazon Vision Program Articulation with organizations, partners and donors. Promotion of the market strategies to differentiate the Amazon and low-emissions products, addressed to consumers.
Executing agencies	Secretariats of Planning and Agriculture - Caquetá and Guaviare with the support of a technical institution (defined by a selection process).	Articulation of municipalities, sectors and land-owners. Definition of a departmental unified vision and set of objectives related to reduce deforestation and low emissions productive systems. Operation and accountability of the incentives.
	Environmental authorities Corpoamazonia and CDA.	Contribution and support the design and implementation of the territorial and environmental plans. Monitoring local pacts.
Partners	Ministries of Environment and Agriculture.	Facilitate the process of design; contribute to the design of incentives and support multistakeholder dialogues.
	Sector associations: Confederación cauchera, Asoheca, Asoprocaucho, Fedegán - cattle-ranchers committees, Fedeganca, Fedecacao, Fedecafé - coffee growers committee.	Contribution and support the design and implementation of the territorial and environmental plans. Promotion of the agreements within producers and private sector. Support to the monitoring of local pacts.
	Technical organizations: Corpoica, SENA, Universidad de la Amazonia.	Contribution and support the design and implementation of the territorial and environmental plans and pacts.
	Research organizations: Instituto Sinchi, CIPAV.	Provision of technical inputs to the design of the territorial and environmental plans, and its monitoring systems.
	Existing international cooperation projects and NGOs (EII, WWF, Forest Trends, WCS, TNC).	Provide relevant experiences related to territorial performance systems, design of incentives, etc.

5.1.3 Monitoring and evaluation

The Project Implementation Team (PIT) will design a system to monitor, evaluate and measure the project's administrative activities at national and sub-national levels, as well as the progress of each investment. A specific M&E systems needs to be designed to monitor, measure and evaluate the progress of the investments achieving objectives and goals in terms of beneficiaries, hectares transformed into sustainable production systems, hectares of forest being conserved by the investments' activities, regional deforestation rates and other goals related to production efficiency and achievements of sector strategies and sustainable alliances in terms of market access and productivity. This monitoring system must be linked to the monitoring actions of each investment as well as national deforestation reports.

IDEAM produces deforestation estimates at a coarse scale nationwide, and at a fine scale for hotspots of deforestation and REDD projects[26]. Using this system, IDEAM can estimate with a relatively low degree of uncertainty (10%), the annual CO_2 emissions caused by deforestation. Regarding monitoring of biodiversity and social indicators, the Amazon Institute of Scientific Research "Sinchi" has developed a set of indicators that can be applied to the project area. The environmental, social and economic impact of cattle ranching conversion, Amazonian production systems, restoration and conservation will be monitored according to protocols validated in previous projects. This will include indicators about poverty reduction. The active participation of communities will be sought for monitoring of the project.

The Project Implementation Team (PIT) will be in charge of reporting results of the M&E systems annually. Reports must content information about progress made by each investment in terms of execution of activities, administration and impacts, as well as a report of existing or potential riks for the implementation and proposed measures to mitigate them.

Reports will be presented to the Steering Committee of the Amazon Vision Program, which will provide recommendations for the implementation of the investments in order to achieve the goals and impacts defined for each investment.

5.2 Log frame

Based on what has been set forth in the Strategic and Appraisal Cases, five investments are proposed in accordance with the expected results and outputs of the project. See Table 32 for expected results and outputs (noting that these numbers do not include the 25% leakage rate applied in the cost-benefit analyses).

26 IDEAM. 2011. Memoria técnica de la cuantificación de la deforestación histórica nacional – escalas gruesa y fina. (Cabrera E., Vargas D. M., Galindo G. García, M.C., Ordoñez, M.F. - autores) Instituto de Hidrología, Meteo-rología, y Estudios Ambientales-IDEAM-, Bogotá D.C., Colombia.

Table 32. Log frame of expected results and outputs (not including 25% leakage rate applied in cost-benefit analyses)

Investment	Goal	Activities	Outputs	Indicators Caquetá	Indicators Guaviare
1. Rural extension program	Implement a rural extension program to providing technical assistance services and training programs to rural producers in Caquetá and Guaviare so they can make the transition to low emission farming systems that reduce deforestation through adoption of sustainable crop and livestock production, fully integrated into regional supply chains.	1.1 Participatory assessment and design of the rural extension program.	Baseline and rural extension and capacity building programs designed.	1 analysis of existing rural extension programs 1 rural extension program designed.	1 analysis of existing rural extension programs 1 rural extension program designed.
		1.2. Training of trainers program.	Local technical advisers/ service providers are trained to support and monitor local producers in the implementation of sustainable production systems.	300 service providers trained.	150 service providers trained.
		1.3. Establishment of demonstration farms and exchange of experiences.	Demonstration farms established and being used for training purposes.	16 demonstration farms established At least 32 field trips for exchanging experiences (2 per municipality).	4 demonstration farms established At least 8 field trips for exchanging experiences (2 per municipality).
		1.4. Development of training programs.	Training programs on sustainable production, quality assurance and entrepreneurial skill implemented.	2 training programs implemented (6 modules each one, 3 weeks).	2 training programs implemented (6 modules each one, 3 weeks).
		1.5. Delivery of rural extension services.	Local producers trained.	2359 producers trained 2359 producers committed to implement sustainable production practices and reduce deforestation.	634 producers trained 634 producers committed to implement sustainable production practices and reduce deforestation.
		1.6. Design and implementation of a monitoring system.	a) Producers supported by the program	2359 producers receiving rural extension services	634 producers receiving rural extension services
			b) Monitoring systems designed and implemented.	1 monitoring system under implementation.	1 monitoring system under implementation.
2. Financial mechanisms	Support the transformation of current production systems into non-deforesting, sustainable agroforestry production systems through the provision of special finance to local producers, including via producer associations.	2.1 Develop new AgroBosque based on CIF model.	a) Existing CIF application and processes adapted to fit new incentive (AgroBosque).	AgroBosque available .	AgroBosque available.
			b) AgroBosque launched in the Amazon.	600 producers accessing AgroBosque 600 producers committed to implement sustainable agriculture practices and reduce deforestation.	200 producers accessing AgroBosque 300 producers committed to implement sustainable agriculture practices and reduce deforestation.
		2.2 Create new EcoAgro based on ICR model.	a) New incentive (EcoAgro) designed based on the existing ICR.	EcoAgro available.	EcoAgro available.
			b) EcoAgro for Amazon is launched.	1300 producers accessing EcoAgro 1300 producers committed to implement sustainable agriculture practices and reduce deforestation.	300 producers accessing EcoAgro 300 producers committed to implement sustainable agriculture practices and reduce deforestation.

Investment	Goal	Activities	Outputs	Indicators Caquetá	Indicators Guaviare
2. Financial mechanisms	Support expansion of agroforestry or other sustainable production systems (e.g., silvopastoral systems) to recover pastures by providing local producers with needed finance.	2.3. Develop new investment fund – Agro-Sostenible – to support agroforestry systems or SPS.	a) AgroSostenible set up to receive investment by donors, GOC, private investors.	Fund set up.	Fund set up.
			b) AgroSostenible structured with debt and equity available.	Fund structured.	Fund structured.
			c) New investors identified and funding AgroSostenible.	Fund capitalized.	Fund capitalized.
			d) Credit lines for producers and associations launched (additional to AgroBosque and EcoAgro).	20 producer associations accessing credit 20 producers' associations committed to implement sustainable agriculture practices and reduce deforestation.	7 producer associations accessing credit 7 producers' associations committed to implement sustainable agriculture practices and reduce deforestation.
				600 producers using AgroBosque or CIF as collateral to access credit from AgroSostenible.	200 producers using AgroBosque or CIF as collateral to access credit from AgroSostenible.
		2.4. Modify or create new credit lines based on AgroBosque, EcoAgro, AgroSostenible experiences.	a) CIF application process simplified for small producers.	Increased CIF applications from small producers.	Increased CIF applications from small producers.
			b) Modifications to 3-4 existing ag finance mechanisms implemented; 1+ new mechanisms launched (AgroBosque, EcoAgro, AgroSostenible).	Percentage of producers accessing mechanisms increases.	Percentage of producers accessing mechanisms increases.
		2.5. Design and implement an outreach program to highlight financial mechanisms.	Outreach program for target supply chains and producers designed and launched.	300 service providers and 2000 producers educated about mechanisms.	150 service providers and 1000 producers educated about mechanisms.
		2.6. Expansion of Finagro on-farm monitoring.	FINAGRO monitoring recipients of financing above.	2500 producers monitored 20 producer associations monitored 1 annual report and recommendations about performance of producers and producers' associations.	700 producers monitored 7 producer associations monitored 1 annual report and recommendations about performance of producers and producers' associations.

Invest-ment	Goal	Activities	Outputs	Indicators Caquetá	Indicators Guaviare
3. Zero Deforestation supply chains	Enable key commodity supply chains (cacao, cattle, coffee and rubber) to support zero-deforestation goals in the Amazon region, increase their competiveness and reduce risk for continued investment	3.1 Establish multi-stakeholder platforms (MEP) and sector strategies for a) cacao, b) cattle, c) rubber and d) coffee in each department.	a) MEP established for each priority supply chains, with governance and communications structures and mechanisms.	4 MEP.	3 MEP.
			b) Sector strategies developed by MEP to increase competitiveness, reduce risks and meet deforestation goals.	4 sector strategies with investment priorities identified.	3 sector strategies with investment priorities identified.
			c) Priority actions to be supported by the Amazon Vision Program and co-funding commitments identified.	Coordination mechanisms established for each MEP.	Coordination mechanisms established for each MEP.
			d) Environmental, social and economic milestones and monitoring mechanisms defined by each MEP.	4 Zero-net deforestation agreements involved in each sector strategies.	3 Zero-net deforestation agreements involved in each sector strategies.
		3.2 Capacity building programs to improve quality, traceability and strengthen producer associations.	Improved market access, quality, value-added within supply chains according to priorities defined by each MEP.	4 supply chains improved competitiveness and market access according to their priorities. Better buying conditions or prices for producers that implement better production and traceability practices. Strategies ro increase milk market access.	3 supply chains improved competitiveness and market access according to their priorities. Better buying conditions or prices for producers that implement better production and traceability practices.
		3.3 Promote zero net deforestation agreements within priority supply chains and monitoring platform.	a) Baseline performance assessments conducted.	4 sector agreements to reduce deforestation (one for each supply chain).	3 sector agreements to reduce deforestation (one for each supply chain).
			b) Zero-net deforestation agreements involving work plans to reduce deforestation and monitoring.	At least 30 agreements formalized between companies and producers.	At least 10 agreements formalized between companies and producers.
			c) Monitoring systems designed and implemented to track performance towards agreed upon targets and indicators.	Monitoring platform developed and vetted by multiple stakeholder groups within supply chains.	Monitoring platform developed and vetted by multiple stakeholder groups within supply chains.
		3.4 Market access strategy to differentiate Amazon origin and/or no-deforestation products.	a) Market and differentiation strategy designed involving local MEP, national producers federations, government and private sector.	Amazon products differentiated by certification or other “branding” strategies Strategies to differentiate products coming from “deforestation-free supply chains.	

Invest-ment	Goal	Activities	Outputs	Indicators Caquetá	Indicators Guaviare
4. Sustainable Alliances	Support critical partnerships between buyers and local producers' associations that reduce the investment risk of – and provide incentives for – sustainable production, landscape management, and more sustainable processing.	4.1 Adapt processes, procedures, and documents to support Sustainable Alliances .	Existing processes, procedures, documents adapted to support Sustainable Alliances.	Application documents available and program ready to receive applications.	
		4.2 Identify and support applications for partnerships.	New applications completed for Sustainable Alliances program.	105 alliances in program (35 per year 2016-18).	30 alliances in program (10 per year 2016-18).
		4.3 Outreach/ promotion of Sustainable Alliances.	Outreach campaign launched.	300 service providers, 1500 producers, and 105 producer associations educated about program.	150 service providers, 750 producers, and 30 producer associations educated about program.
		4.4 Support and investment into 30 producer alliances per year (20 in Caqueta and 10 in Guaviare).	Sustainable Alliances supported.		
5. Green Municipalities Program	Designs a system of incentives that rewards local municipal (municipio) governments in Caqueta and Guaviare, and the land-users in those counties, for measured progress towards reductions in deforestation, for completing and implementing territorial management plans, and other milestones.	5.1 Multi-stakeholder dialogues to design a green municipalities program (4).	Territorial and environmental plans and performance milestones agreed within department governments, municipalities, private sector representatives and other relevant stakeholders.	16 plans agreed.	4 plans agreed.
		5.2 Identification and design of an integrated incentive systems .	Set of incentives designed to reward municipalities, sectors and land-owners that are making progress in slowing deforestation.	Set of incentives designed with national and local authorities and plans to start implementation in 2017.	
		5.3 Territorial monitoring platform (Desing of regional platform to be used by governements based on existing instruments developed by IDEAM and Sinchi).	A monitoring platform to track progress made by each municipality towards the time-bound milestones.	1 monitoring platform designed and operating linked to the national monitoring system.	
		5.4 Design of a green municipalities program for Guaviare and Caquetá.	Green municipalities program designed in Caquetá and Guaviare.	Green Municipalities Program Designed.	Green Municipalities Program Designed.

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