

Template for report and accounts for organisations under the Climate and Forest Initiative funding scheme for civil society

2013-2015

This template for reports and accounts is to be used by organisations with agreements with Norad under the Climate and Forest Initiative funding scheme for civil society.

This template must be used for the **final report** and correspond with the signed agreement and the latest approved Project Document. The final report for the whole agreement period (2013-2015) should include results on a higher level in the results chain than previous reports (please see figure below). The final report should give a description of **achieved outcomes in terms of effects on target groups, and explain how these outcomes are expected to contribute to the intended impact.**

In cases where outcome cannot be documented by the end of the agreement period, substantial evidence of outputs should be presented with an explanation on how these will lead to the desired outcome and when.

The report should not exceed 15 pages, and please remember to submit the common indicators separately (if already submitted in March and there are no changes, you may refer to this).

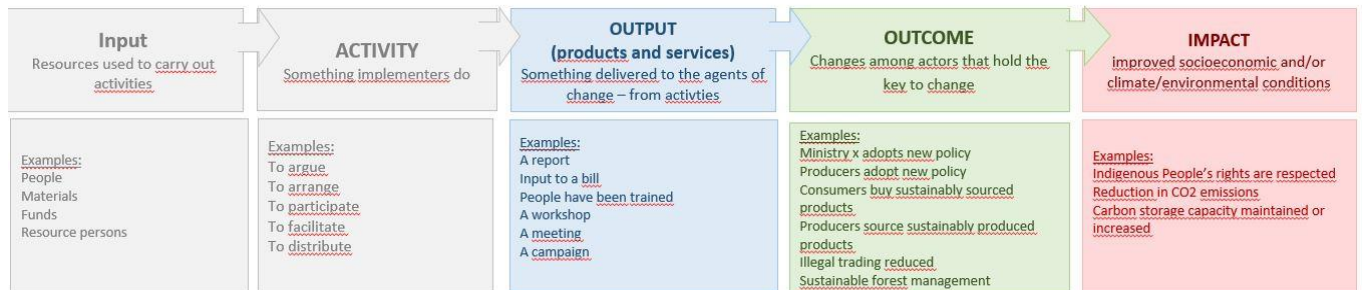
The deadline for delivering the report is 1 June 2016, unless you have agreed otherwise with your desk officer. Please submit the report electronically to postmottak@norad.no, and Cc your desk officer.

1. General Project Information:

- 1.1 Name of recipient organisation: Fundación Solidaridad Latinoamericana (FSLA)
- 1.2 Reporting year: 2013-2015 (with budget neutral extension until 31 March 2016)
- 1.3 Agreement Number: QZA-0461BRA-13/0002
- 1.4 Name of project: "Land Neutral Agricultural Expansion and Ecological Restoration in Brazil"
- 1.5 Country and region in the(se) country if applicable: Brazil: São Paulo, Espirito Santo and Mato Grosso states
- 1.6 Financial support to the project from Norad for last calendar year 2015: NOK 9, 852, 500 and a carry forward of NOK 28,295.73 = NOK 9,880,795.73.
- 1.7 Thematic area: Sustainable Landscapes

2 Please describe the project's progress for the whole grant period

Result chain:



With reference to the Result Chain as illustrated above, Norad requires reporting on the effect on target groups (outcomes) for this final report. If possible, we also highly appreciate reporting that reflect any results at impact level. Please remember to relate the reporting to the baselines.

Reporting of results: The achievements should be documented (for example by data on indicators or examples).

2.1 Please repeat the **project's target group(s)** and the baseline for the target group at the start of the project (from the approved project document).

| Target Group | Baseline |
|--|---|
| Cattle ranchers | - Ranchers want to adopt practices to troubleshoot profitability of their ranches, so social and environmental issues are in the background. - Farmers are not aware or not convinced of the technical and financial cases for adopting more sustainable, climate smart techniques. - Extension community is neither aware nor properly trained to disseminate these techniques |
| Soy producers | |
| Soy traders, slaughterhouses, retailers and consumer goods companies | - Absence of market for products and services provided by sustainable landscapes |
| Federal and local governments | - Lack of integrated land-use planning and policies |
| Credit providers | - Lack of awareness and confidence to provide |

| | |
|--|---|
| | appropriate financing to the implementation of sustainable practices. |
|--|---|

2.2 Please repeat the project's **desired impact** (from the approved project document).

The final aim of the project was to contribute to a transition to a sustainable and integrated land-use environment in Brazil, where land is understood as a scarce resource capable of delivering multiple values at once. A combination of integrated land use policies and instruments (including a fully integrated REDD+ policy) and market mechanisms that rewards services provided and punish unwanted behaviours would help to guide and allocate the most appropriate land-use to each area, and foster the adoption of sustainable and climate smart techniques. Climate change mitigation, biodiversity conservation and poverty alleviation would be products of this new sustainable paradigm.

2.3 Is the project still relevant for the desired impact? (Yes/No) If No, please give a short explanation.

Yes.

2.4 **Main outcome(s).**

- a) Please repeat the project's planned outcome(s) (effect on project's target group(s), beneficiary (-ies)) (from the approved project document).

Summary of project's outcomes

| |
|---|
| Outcome 1 - Integrated Sustainable land-use planning developed in different scales and biomes |
| Outcome 2 - REDD+ and land-use policies incorporate knowledge and tool associated to LNAE and integrated land-use |
| Outcome 3 - Technical and Economic cases for climate smart agriculture techniques developed and disseminated |
| Outcome 4 - A scalable demonstration of clean beef supply chain is implemented in Alta Floresta – Mato Grosso, serving as reference for producers and the industry |
| Outcome 5 - Large scale implementation of sustainable solutions via LNAE |

Outcome 1 - Integrated Sustainable land-use planning developed in different scales and biomes

The main targets of this outcome are policy planners and decision makers at federal, state and municipal levels. The results produced will serve as the basis for large scale implementation (Outcome 5). The plan for the Vale do Paraiba region is the first step of an initiative aimed at piloting an integrated sustainable landscape management led by civil society organizations. The territorial plans that conciliate agricultural production and conservation and restoration will help to overcome existing conflicts (and perceptions thereof) between agriculture and the environment. They can play a key role in protecting biodiversity areas and improving the connectivity between them, as well as minimizing social conflicts for land. The approval of the plans by relevant stakeholders is an initial

indicator of success, whereas their implementation is the final goal. The plans were designed from the outset to reach sustainable configurations that minimize conflicts and maximise synergies.

Outcome 2 - REDD+ and land-use policies incorporate knowledge and tool associated to LNAE and integrated land-use

Policy makers (and their advisers) at international, national, state and municipal level are the main target group. There are currently several initiatives in the public policy sphere at all levels that are relevant for the implementation of sustainable landscapes approach in general and LNAE in particular. These policies include the Brazilian national REDD+ policy, national territorial planning policies (led by the Secretary for Strategic Affairs of the Presidency of Brazil), the Low Carbon Agricultural Programme (ABC Plan), the Mato Grosso State REDD+ Program and the state's Agricultural Sector Plan. In most cases, policy-specific instruments, estimates or methodologies will have to be developed so that LNAE's role can be fully understood in each specific context and incorporated into practice. One goal is to refine LNAE's methodology for estimating avoided emissions as to allow a more precise quantification of its benefits for mitigation in a series of contexts. Another goal is to improve our understanding of the enabling conditions that would make efforts to increase productivity lead to land sparing - in opposition to the "rebound-effect" (where increased productivity leads to increased deforestation). The identification of appropriate biodiversity and social safeguards were also a goal of this outcome. The integration of the concept of integrated land planning in general, and LNAE in particular, to sub-national, national and international policies is the ultimate indicator of success; (d) once an improved understanding of the fundamental interconnectedness of land-use goals was achieved within policy circles, it might bring a sustainable impact to future policies.

Outcome 3 - Technical and Economic cases for climate smart agriculture techniques developed and disseminated

This outcome has three central targets: (i) the farmers, their associations and supply chain members, who need to understand and have confidence that the sustainable changes being proposed make technical and financial sense in order to decide to implement them; (ii) the extension community, who would benefit from improved training in both technical and financial aspects of innovative practices; and (iii) the financing community (including public and private, national and international actors) that also need technical and financial assurances in order to provide the much needed funding for implementing the proposed alternatives. Currently there is a growing perception that sustainable alternatives might make both practical and economic sense, but both farmers and funders still need further concrete, business-plan type of evidence. We aim to provide this evidence for a variety of techniques and scenarios, mostly focused at improving cattle ranching productivity and restoration. The IIS collaborated with the Norwegian Geotechnical Institute (NGI) and Embrapa Agrobiologia to investigate the potential of biochar to improve soil quality. Biochar is recalcitrant to decomposition when mixed into soils and therefore has potential to mitigate climate change (Fraser 2010). In our study, we will focus on the use of biochar and other organic inputs for recovery of degraded pasturelands their contribution to sustainable increase of pastures productivity, and to land sparing within the overall strategy for landscape approach to land management. The experimental and demonstration pilot were performed at one of Embrapa's leading experimental station in the state of Rio de Janeiro. Demonstration Unit for farmers, researchers and other

stakeholders was established to transfer the knowledge on sustainable solutions in agriculture, and it goes beyond the duration of this project.

Outcome 4 - A scalable demonstration of clean beef supply chain is implemented in Alta Floresta – Mato Grosso, serving as reference for producers and the industry

The main groups/entities targeted in this outcome were (i) a selected group of 10 opinion-leading cattle ranchers in Alta Floresta, who implemented pilot projects of Good Agricultural Practices, tested the access to the financing of the federal government's Low Carbon Agriculture (ABC) program, and participated in the establishment of a clean supply chain agreement with the meatpacking company (JBS); (ii) the meatpacking company and at least one of its major retail clients, who will be involved in the agreement; (iii) the cattle ranching community (including the farmers and technical assistance professionals) in the Alta Floresta region, a regional ranching hub, and at the state level, who were reached through an intensive communication, dissemination and capacity building campaign. The change to be achieved is that it becomes clear for the cattle farmers that implementing Good Agricultural Practices, increasing productivity and improving environmental management of their farms, is a feasible, profitable and crucial action to be taken, that is backed by the meatpacking industry through some kind of support and/or differentiation. The key indicators that the desired change has occurred are the production and economic results of the GAP pilot projects; the number of cattle ranchers and technical assistance professionals reached by the dissemination and capacity-building actions; the effective involvement of the leading meatpacking company JBS in a local clean beef supply chain agreement based on the GAP pilots; and the number of farmers and area that declare interest in implementing GAP in their farms. The outcome of having a scalable demonstration of clean beef supply chain implemented in Alta Floresta – Mato Grosso is expected to be sustainable because it will serve as reference for producers and the industry at the regional and state level and as basis for the large-scale implementation of the piloted approach proposed in the outcome 5.

Outcome 5 - Large scale implementation of sustainable solutions via LNAE

The LNAE mechanism essentially targets three main groups: (i) the "land-demanders", or farmers (and their respective supply chain) who intend to expand the area of production. In the Mato Grosso case, these will be soybean farmers; (ii) the "land-sparers", or farmers who are able to increase their productivity in order to liberate (directly or indirectly) enough land to compensate for the land demanded by the first group. In the case of Mato Grosso, these will be the cattle ranchers; (iii) the finance community, that must provide the necessary financing for the farmers (in this case the cattle ranchers) to implement more sustainable systems. The primary target is the ABC Plan, but impact investors and early carbon finance will also be targeted. Until the end of this decade it is forecast that the area planted with soybean in Mato Grosso will expand by up to 3 million hectares. Since the soybean moratorium banned soybean production in recently deforested areas, virtually all soybean expansion has occurred into areas previously occupied by pasturelands. The displaced cattle production, however, is the prime direct cause of deforestation in the Amazon. As the total area occupied by cattle ranching in the state has actually fallen in recent years, the key driver of deforestation is the demand for land from soybean expansion. Recent analyses have shown that there is already enough agricultural land in Brazil to meet future demands for crops, beef and timber. But despite this potential, the scale of the problem (3 million new hectares for soybean in under a decade in a single state) and the current lack of coordinated efforts at state level suggests an

increased threat of conflicts between agriculture and environmental conservation. The *Land Neutral Agricultural Expansion Mechanism* (LNAE) has been designed as a tool that connects demand for land from agricultural expansion with a potential supply of land spared from (in this case) cattle ranching intensification into a single system with zero deforestation pressure. The result aims to be a self-financing, scalable approach to reconcile the needs of agriculture expansion and environmental conservation. LNAE builds upon the previous four outcomes by following a strategic territorial planning, applying scalable and economically viable solutions, developing and securing viable financing strategies and providing proper technical advice. It does not substitute but mutually reinforces public policies that provide enabling conditions and synergies. LNAE has been designed to be independent of carbon finance. In essence, however, LNAE is a REDD+ tool and carries the potential to bring substantial climate mitigation benefits and efforts will be undertaken to unlock and attract carbon finance funds through methodologies that demonstrate measurable emissions reductions.

The implementation of LNAE in Mato Grosso was planned in two stages. The first phase was a "large scale pilot", mainly focused in the municipality of Alta Floresta, being implemented over three years. The second was full-scale implementation state-wide. In the full-scale implementation phase LNAE should be a robust, simple and self-financed mechanism attractive to both "land-demanders" (e.g. soybean farmers seeking expansion) and "spared-land providers" (the cattle farmers that implement intensification), aiming to mitigate the largest fraction of land demand possible. The final ambition is to neutralize all annual land demand pressure by the end of the decade. The number of farmers and the area of farms that sign-up contracts to implement LNAE was a key first indicator of success. The final indicators are the actual area of farms that adopt improved management systems through LNAE, and the associated area of avoided deforestation and emissions reductions. At the farm level, the practices being promoted through LNAE will (as explained in outcome 2) be selected having long-term sustainability in consideration, so that once the transition from unsustainable practices is successfully completed farmers will tend to remain on the new state. On a broader level, LNAE itself has been designed to be a self-sustained mechanism once the concept is proven and a minimum demand for it is reached.

b) Please report on all outcomes from the project document:

Outcome 1: Integrated Sustainable land-use planning developed in different scales and biomes

In 2015 we developed the first technical analysis of contributions for the sustainable development of the micro-region of Alta Floresta in the state of Mato Grosso (Amazon biome), considering the economies of scale of good agricultural practices and sustainable intensification practices. The scenarios indicated that it is possible to reconcile agriculture expansion and zero deforestation in the next 15 years, even considering the expected herd growth in more than 1 million head, and the expansion of crops in more than 200 thousand ha.

This technical analysis was up scaled to the state of Mato Grosso and finished in 2016. This analysis resulted in the report entitled "Contributions for the development of a large-scale sustainable cattle ranching in Alta Floresta microregion, Mato Grosso", and will be hereafter called as one of the Territorial Plans. This report presents a plan for scaling up improved cattle ranching in Alta Floresta, as stated in the result framework (1.1). The report has been finished and handed in to the local and state government. This technical analysis was up scaled and used as the main input for the development of an integrated land use plan for the state of Mato Grosso. This second Territorial

Plan, entitled “Subsidies for increased agriculture and cattle ranching sustainability in Mato Grosso State” has been finished in 2016 and handed in to local and state governments. Both reports for Mato Grosso and Alta Floresta) are hereafter called Territorial Plans. We found that due to the expansion of cattle ranching and soy, it is estimated that there would be a suppression of 5 million hectares of native vegetation by 2030, affecting areas of Cerrado, Amazon and Pantanal. However, deforestation may be avoided by the establishment of LNAE mechanism. It can be subsidized by rural credit and REDD + mechanism for the intensification of at least 20% of total current pasture areas. In addition, it is important that other complementary policies, such as improving technical assistance and training to producers, are implemented and adopted.

For the state of Espirito Santo (Atlantic Forest), the project consortium have developed an integrated landscape analysis that showed that the main patterns of land use and land cover for the analysed area are mainly transformation into pasture, crop and forestry. However, pasture productivity was on average less than 30% of the sustainable potential, which makes it a key element in reducing conflicts over different land uses, especially in the case of areas for forest restoration.

Similar study was performed for another region in the Atlantic Forest Biome, the Paraitinga Watershed. This watershed is located in the State of São Paulo, and is responsible for providing water to the biggest city in Brazil, São Paulo. The land use and intensification analysis developed for the Paraitinga watershed was presented to all involved stakeholders (see below) and was used as contribution for the development of the TEEB project for the state of Sao Paulo (The Economics of Ecosystems and Biodiversity project), a global study that discusses the necessity to consider the value of Biodiversity and Ecosystem Services (BES) in economic assessments. This study is being coordinated by the Environmental Secretary of the State of São Paulo and financed by the Banco Mundial. This assessment will be made for the Paraíba do Sul Watershed. As the Paraitinga watershed is part of the Paraíba do Sul watershed and was the focus of the study (see above), the report was highly considered by the Environmental Secretary. The report set the context and highlighted the importance of the region regarding ecosystem services provision. Examples of ecosystem services that have potential to be provided are water quality and quantity, pollination, soil erosion, and tourism; further, the study contributed for the definition of strategies and scenarios to be used in the TEEB. For instance, scenarios considering increased forest cover and use of best management practices for cattle ranching. The report is enclosed as **Annex b**.

i) What changes have been achieved with reference to the baseline?

The results presented for the Paraitinga Watershed are being used by the Environmental Secretary of the State of São Paulo, as well as disseminated by them to other interested stakeholders, providing a widespread guidance on integrated land use planning and policies for the region. Not only has the secretary disseminated the report, but also has used the results as the main document for the development of a TEEB project for the state of São Paulo, a World Bank project. Meetings promoted by the Secretary to plan the project’s targets and the partners to be involved were all based on the results presented. In other words, relevant stakeholders have now in hands robust information for land use planning which is being used in wider scale by the TEEB.

The outputs planned in this project were either used as contributions for the development of other projects such as the “Project for the Recovery and Protection of Services Related to Climate and Biodiversity in the Southeastern Atlantic Forest Corridor”, which is financially supported by the

Global Environment Facility (GEF) and the Inter-American Development Bank (IDB), and is being developed by the governments of São Paulo, Minas Gerais and Rio de Janeiro States. This project provides a total investment of US\$ 207 million, of which US \$ 31 million will be donated by the GEF. Likewise, the results presented for the Alta Floresta region were presented for local stakeholders and are in hands of relevant actors, such as the Environmental Secretary of Alta Floresta and Mato Grosso state, civil society organizations as TNC, WWF, Agroicone and GTPS; Federal and State Universities. Further, producers identified the inter-relationship between the productive factors, social and environmental aspects of ecosystem services. The plans were also used to inform the Novo Campo Program and the partnership with Althelia Climate Fund, described in Outcome 5

ii) Please report on the key indicators used to document that the desired change has occurred.

The reports developed for Alta Floresta and Mato Grosso regions (Territorial Plans) were presented in an event and approved by several stakeholders in Alta Floresta in 2015. Stakeholders include producers, municipality and state governments, private companies and civil society organisations which participated in the event. As a result, three financial institutions have already requested a copy of the presented report (e.g., the Director of Agribusiness at the Banco do Brasil contacted the institute), as well as other four non-financial institutions such as WWF, TNC, GTPS and Agroicone. The GTPS has disseminated these results through their website reaching slaughterhouses, civil society and other actors involved.

Another indicator is the partnership between IIS and Scott, one of the biggest consultancies in dataset sharing on agricultural production. Scott has wide contact and influence on producers and will use IIS results in order to guide them for best agricultural practices.

A similar event to the Alta Floresta one was developed in São Luis do Paraitinga, one of the municipalities of the Vale do Paraíba Basin. The results were presented both to producers and to other local actors. The Environment Secretary, main target group, has approved the outputs. As a result, and as mentioned before, the report was used as a base for the development of a larger project in a wider scale in the State of São Paulo.

Three plans have been developed and approved by the target groups in Paraitinga Watershed, Alta Floresta and Espírito Santo, and are being used in policy initiatives. These are: a) actions that support water conservation in areas of supply sources, mitigation and adaptation to climate change and biodiversity conservation in the Atlantic Forest, by the governments of the states of São Paulo, Minas Gerais and Rio de Janeiro, within the scope of the project Recovery and Protection of Services Related to Climate and Biodiversity in the Southeastern Atlantic Forest Corridor; b) supporting PECSA's efforts to enable farmers to access technology, investments and sustainable production markets through financial support from the Althelia Climate Fund, in Mato Grosso; and c) in the development of technical studies, projects, plans and inter-institutional strategies for the conservation of biodiversity and ecosystem services, with a particular focus on the transition to a green economy in the state of São Paulo (TEEB São Paulo Project).

See Annex C – Natural Regeneration workshop report

Below we present the key indicators as described above

| Outcome | Expected change | Output | Achieved | Activity | Indicator |
|---|--|---|--|--|---|
| 1) Integrated Sustainable land-use planning developed in different scales and biomes | Implementation of land use plans | 1.1 Detailed plan for scaling up of improved cattle ranching in Alta Floresta (Amazon biome) (associated with LNAE pilot) | The GTPS has disseminated these results through their website reaching slaughterhouses, civil society and other actors involved; Scott has used the IIS results in order to guide the producers for best agricultural practices. | Symposium organized in order to engage with local community in Alta Floresta | The results were presented at event "Grants and tools for a more productive and sustainable livestock in the microregion of Alta Floresta", in Alta Floresta, and was attended by 50 participants, including producers, private companies and civil society |
| | | | | Technical analysis developed | 1 Report with LNAE Implementation Plan for Alta Floresta |
| | | 1.2 Plan for integrated sustainable landscape for Vale do Paraíba region (Atlantic Rainforest) | The Environment Secretary of São Paulo has already used the results as a basis for the development of the TEEB program for the State. | Workshop organized or field interviews conducted in order to engage with local community in Vale do Paraíba region | 175 producers were interviewed in Vale do Paraíba region and the final events were attended by 75 participants, including producers, representatives of the public sector, third sector and other institutions |
| | | | | Technical analysis developed | 1 Report with Integrated Land Use Plans for a Vale do Paraíba region |
| | Improved perceptions on conflict and synergies between agriculture and the environment | 1.3 Integrated land-use plan for Mato Grosso conciliating agricultural expansion and zero net deforestation | The report is supporting Pecsá's efforts to enable farmers to access technology, investments and sustainable production markets through financial support from the Althelia Climate Fund | Workshop organized in order to engage with local community in Mato Grosso | The final event was attended by 50 participants, including producers, municipality and state governments, private companies and civil society |
| | | | | Technical analysis developed | 1 Report with Integrated Land Use Plans for Mato Grosso |

iii) Please reflect on whether targets that were originally set have been achieved, and what project outputs were key to achieving them. If relevant reflect on why outputs delivered as planned did not help meet the targets

All the targets were achieved according to what was planned for this Outcome, and we believe that all outputs were key in this process. The developed plans will assist in resolving the existing territorial conflicts between environmental and livestock in these regions. In total, we had three plans developed and approved by the target groups and they are being used for other extremely relevant project and policy initiatives. The plan developed for Alta Floresta region has served as input to improve The Programa Novo Campo as described in the “Case Story” section of this report. In addition, this plan was crucial for the negotiation to establish the partnership with Althelia Climate Fund (described in Outcome 5). Regarding output 1.2, the Environment Secretary of São Paulo has used the results as an input for the development of a major GEF Project.

iv) If outcomes are not yet achieved, please explain why, and in addition, how the outputs will lead to the desired outcome and when.

Not applicable.

v) Are the outcomes expected to be sustainable?

The developed plans are available on the website www.iis-rio.org and other actors' websites (such as Environment Secretary of the State of São Paulo and GTPS) are being sent to relevant decision makers in the respective regions, such as local, state and federal agents. In addition, through the Novo Campo Program, such reports and proposals are available and disseminated to landowners. The results presented can be incorporated by all stakeholders and, once incorporated, will contribute to the improvement of land use integration and increased sustainability of the landscape. There is no need for maintenance of the results. The Environment Secretary of São Paulo has already used the results as a basis for the development of the TEEB program for the State.

All of the plans are sustainable in the sense that are available for any other actor to use it as a basis for land use planning and policy development and implementation.

Outcome 2: REDD+ and land-use policies incorporate knowledge and tool associated to LNAE and integrated land-use

The integration of the LNAE concept into integrated land use planning occurred once we could show the feasibility of its implementation both in an economic and agricultural perspective. Adding up to that, REDD+ was proven an excellent tool for financing this type of mechanism. We presented the results from this economic and land use analysis in the Territorial Plans (mentioned above) for the regions of Alta Floresta and Mato Grosso State. These reports were disseminated to several stakeholders, including the municipality of Alta Floresta, and will soon be disseminated to the state government. As mentioned before, the report containing refined LNAE methodology as well as the results were already being approved by the aforementioned stakeholders, and several other showed interest in learning more about it. This is the first step for the LNAE to be implemented at a municipal, state and federal policies. See ANNEX D- Sustainable landscape workshop report

i) What changes have been achieved with reference to the baseline?

The outputs developed contributed to several changes regarding the baseline, particularly regarding the increased knowledge on the topic particularly to cattle and soy producers, as well as to technical assistance sector and governments in all levels. The refined method for GHG reduced emissions calculation contributed to the development of the Territorial Plan (mentioned above) which considered a wide range of Land Use and policy implementation scenarios, including the LNAE implementation. Further, the refined LNAE methodology report presented in the Territorial Plan “Contributions for the development of a large-scale sustainable cattle ranching in Alta Floresta microregion, Mato Grosso” was developed comprising a larger scale, of the entire state of Mato Grosso. As a consequence, we now not only include the Amazon Biome, but also Cerrado and Pantanal, as well as all the different policies that have different implications for the deforestation dynamics of each of them, such as the soy Moratorium. Further, the results show how REDD+ can cover all costs of the implementation of the LNAE mechanism.

This refined LNAE methodology report, presented in the Territorial Plan for Mato Grosso, together with the *Intensifica Pecuária* report and the other articles submitted and published, contribute for an increased knowledge in the topic for policy makers and financial institutions. Further, it can contribute towards a greater strategy for the allocation of intensification scenarios, the expansion of soy and cattle, and foster the adoption of sustainable and climate smart techniques. At project start, Governments at all levels lacked integrated land use planning and its integration with policies, which was provided with the project outputs. Further, based on extensive media coverage, including all leading agribusiness national and regional (mainly Centre-East) web portals, we can infer that both cattle ranchers and soy producers have increased understanding of the best allocation of each activity, as well as the gaps for increased best practices and tools for financing their allocation. Finally, the results show that policies such as the Brazilian national REDD+ policy, as well as the Mato Grosso State REDD+ Program can be further developed as REDD+ was shown to be a strong economic mechanism for enabling the implementation of LNAE scenarios. See **Annex E. Sustainable Intensification**

ii) Please report on the key indicators used to document that the desired change has occurred.

The first indicator used is the refined and increased scale of the LNAE’s method for estimating avoided deforestation and GHG emission, which not only includes a wider scale with two more biomes, but also a diversified range of scenarios. A report on enabling conditions for increasing productivity was developed and is an indicator of our improved understanding of the issue. Finally, the report with results for land planning in the state of Mato Grosso and the use of REDD+ and credit as tools for financing LNAE is an indicator of the integration of land planning, LNAE and national and sub-national policies.

The Intensifica Pecuária report has been partially incorporated into the Plano Safra of the federal government as mentioned above

A summary of the key indicators reporting on achievements is included below:

| Outcome | Expected change | Output | Achieved | Activity | Indicator |
|---------|-----------------|--------|----------|----------|-----------|
|---------|-----------------|--------|----------|----------|-----------|

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| <p>2) REDD+ and land-use policies incorporate knowledge and tool associated to LNAE and integrated land-use</p> | <p>Improved understanding of interconnectdness of land use goals</p> | <p>2.1 Refined LNAE methodology for estimating GHG reductions from avoided deforestation</p> | <p>The methodology is supporting Novo Campo Program and Pecsá's efforts to enable farmers to access technology, investments and sustainable production markets through financial support from the Althelia Climate Fund.</p> | <p>Analyses performed for a refined LNAE methodology for estimating GHG reductions from avoided deforestation.</p> | <p>1 Report containing refined LNAE methodology</p> |
| | | <p>2.2 Report and scientific paper on enabling conditions for "land-sparing" following agriculture intensification</p> | <p>The work has resulted in the article <i>"How can higher-yield farming help to spare nature?"</i>. The article was published in Science in 2016, was read by 186 people according to only one research gate database, and cited by more than 20 people.</p> | <p>Workshop organized to discuss enabling conditions for "land-sparing" following agriculture intensification</p> | <p>Workshop report</p> |
| | | | | <p>Technical analysis developed</p> | <p>Report and scientific paper on enabling conditions for "land-sparing" following agriculture intensification</p> |
| | | <p>2.3 Policy proposal for the Mato Grosso state REDD+ program</p> | <p>The policy brief was presented and distributed to all attendees at the final event in Alta Floresta, and digital and printed copies were made available for wide dissemination in the region. During the event, all doubts raised about the topic were elucidated. Actually it is supporting Novo Campo Program and Pecsá's efforts</p> | <p>Technical analyses and engagement with Mato Grosso state REDD+ program coordinators</p> | <p>Policy brief related to LNAE submitted to the Mato Grosso state REDD+ Program</p> |
| | | <p>2.4 Policy documents integrating LNAE</p> | <p>The scientific article "When enough should</p> | <p>Technical analyses and engagement with</p> | <p>Policy proposal for the national REDD+ strategy</p> |

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|--|--|---|--|--|--|
| | | and Brazilian national REDD+ and Agriculture policies | be enough: Improving the use of current agricultural lands could meet production demands and spare natural habitats in Brazil” has focused on how the LNAE approach could contribute to zero deforestation and mitigate emissions in Brazil. It has been using by the Ministry of the Environment in setting Brazil’s NDC goals, and lead author and project coordinator Bernardo Strassburg has been invited by then Minister Izabella Teixeira as an adviser for the NDC development. | National REDD+ strategy coordinators | |
| | | 2.5 Policy document for the UNFCCC | See above, the scientific article has been a basis of Brazil’s NDC commitment to the UNFCCC | Technical analyses and engagement with UNFCCC REDD+ stakeholders | Policy Brief to inform UNFCCC negotiations |

iii) Please reflect on whether targets that were originally set have been achieved, and what project outputs were key to achieving them. If relevant reflect on why outputs delivered as planned did not help meet the targets.

The main outcome (REDD+ and land-use policies incorporate knowledge and tool associated to LNAE and integrated land-use) was achieved by the several outputs developed. The key national policy on this topic, Brazil’s NDC communication to the UNFCCC was directly informed by the article “When enough should be enough: Improving the use of current agricultural lands could meet production demands and spare natural habitats in Brazil”, which details a LNAE vision for the whole of Brazil. Following the article’s publication, its lead author, Bernardo Strassburg, was invited to be part of a small group of advisors to then Minister of the Environment Izabella Teixeira in the development of the NDC. Brazil’s landmark commitment of zero net land-use emissions from 2030 is in line with the article conclusions.

The key output was the final report “Subsidies for increased agriculture and cattle ranching sustainability in Mato Grosso State”, which provides insights for stakeholders on different government levels. All other outputs, as well as workshops, all contributed as subsidies for improved to a sustainable and integrated land-use environment in Brazil. Each outcome had its specific way of contributing, ranging from information dissemination, recommendation to policy makers and other project developers (Territorial Plans, Paraitinga Watershed report), incorporation into national targets (Intensifica Pecuaria). Each of these steps contributed for building a bridge between thematic assessments and policies.

iv) If outcomes are not yet achieved, please explain why, and in addition, how the outputs will lead to the desired outcome and when.

v) Are the outcomes expected to be sustainable?

The analysis on the refined LNAE methodology together with REDD+ potentiality presented in both Territorial Plans (Alta Floresta and Mato Grosso state) are being disseminated among government, private and civil society stakeholders and do not need further intervention. As cited before, the results will guide the design and implementation of more effective initiatives in order to conciliate the need for increased production with native vegetation conservation in one of the key states for conservation and production in Brazil.

Outcome 3: Technical and Economic cases for climate smart agriculture techniques developed and disseminated

ICV, Scott, GTPS (Brazilian roundtable for sustainable livestock) and other institutions are contributing to the development of a bio-economic model to be used by both producers, technicians, financial institutions and policy makers in order to improve sustainable practices in farms while assuring economic gains.

- Report on field experiments of biochar as a viable tool for pasture restoration: this work aimed on the evaluation of biochar’s potential as a soil conditioning and its interaction with inoculation and fertilization in plantation and pasture performances. The preliminary results show that biochar improves the quality of the soil and Brachiaria yield in the first vegetative cycle, but do not increase the productivity of Panicum. In case of maize, we did not observe significant difference but we did with respect to beans. This results are significant because beans are staple food and increasing productivity of beans may bring a range of positive socio-economic effects. These are only preliminary results and we are continuing with the experiments in order to investigate whether the effect of different organic fertilizers last for more than one vegetative cycle. Demonstration Unit was set up for capacity building for the farmers on sustainable methods to improve pasture productivity (using different fertilizers, soil amendments and peanut grass).



Figure 1. Experimental area of biochar at the Embrapa Agrobiologia experimental station.



Figure 2. Demonstration Unit of sustainable intensification of pasturelands in Itaguaí (Rio de Janeiro).

i) What changes have been achieved with reference to the baseline?

It was noted that the adoption of crop-livestock integration and crop-livestock-forest have grown rapidly, currently being adopted by about 3.5 million hectares in Brazil, 700,000 only in Mato Grosso. In addition to presenting a possibility for diversifying production, it is an alternative to the recovery of degraded areas, as well as for the reduction of agrochemical inputs that ultimately represent the

major environmental bias of intensification. These advantages have been recognized not only by the agricultural research and consultancy agencies, but by the State itself, through the National Policy Law ILPF (Law 12,805 / 2013) and specifically by the Agriculture Low Carbon credit line (ABC). However, there are still restrictions so that integration becomes widespread as a productive practice. One of them is the lack of information on its economic performance. The bio-economic model developed in this project evaluated the performance and also the business risk, simulating the vital risk-return ratio, combined with intensification, in the long run. From these results, we can cite as important changes that have been achieved (Presented in the report entitled 'The business case for a more sustainable cattle ranching'):

:

- The slaughterhouses have been sensitized to good agricultural practices and their financial return. But it is still too early to find out more significant changes because the research results are very recent.
- Production chain actors (GTPS – Brazilian roundtable for sustainable livestock) were informed about the financial results of intensification practices and demonstrated confidence in the effectiveness of their changes; the study of contributions for the sustainable development of the micro-region of Alta Floresta as well as the bioeconomic model were presented for these actors in an event in Alta Floresta. The results of these studies were welcomed, discussed and all recommendations raised were considered in the development of the plan for Mato Grosso state in 2015-2016 (Outcome 1)
- The financing community was receptive to the idea of financing Rural Extension and Technical Assistance (Portuguese acronym - ATER); The rural extension and technical assistance in Mato Grosso state can be performed both by state or local governments, and also by private companies.
- Engagement of banks in reducing credit access barriers, such as Banco do Brasil.

The economic analysis of the proposed models for ecological restoration with economic benefits showed that the internal rate of return ranged from 7.6% to 14% considering the pessimistic and optimistic scenarios, respectively. The economic analysis showed that the restoration model with economic benefits can generate income to producers and fulfill their role to restore ecological processes. Thus, the use of models that generate economic and ecological benefits has a huge potential for large-scale restoration in the Atlantic Forest, once the restoration process becomes an activity capable of generating revenues to farmers. As achieved change, we highlight the role played by IIS in the development of the National Plan for Native Vegetation Recovery (PLANAVEG), signed into law in February 2017. Because of its expertise developed during this project in the field of restoration, IIS was part of a core group of three organisations that co-developed the plan, which will be the central policy supporting the achievement of Brazil's NCD goal of restoring 12 million hectares.

Significant changes achieved with biochar experiments:

- Researchers of Embrapa, IIS and NGI have expanded the knowledge about the potential of biochar production systems, uses, capabilities, limitations;

- Integration between researchers and other stakeholder (including local government, extension agency, NGOs) from different institutions. In 2015 the workshop "Sustainable Landscapes: Integrating rural development and environmental conservation» took place. The event brought together members of academy, government, research institutions and non-governmental organizations for the discussion of possible tools that integrate sustainable rural development and environmental conservation, focusing on research with biochar and other related to the integrated management of land use, focusing on sustainable landscapes. A report on the event and more details are attached.
- Generation of information and data related to the experiments (see biochar report);
- Students obtained knowledge of the biochar technique and have generated information and data related to the initiated experiments and thorough experimental methodologies and analyzes of the data;
- Fazendinha - Embrapa Agrobiologia, a research and production unit – 1) ownership of knowledge and practical uses in food production; 2) insertion and training of the team involved in the biochar technique; 3) new experiments have been implemented; 4) intensification of the use of biomass of “glicírdia” to the biochar production previously unused;
- Setting up of Demonstration Unit for sustainable practices in agriculture that goes beyond the duration of this project and is serving for knowledge dissemination purposes and training.

ii) *Please report on the key indicators used to document that the desired change has occurred.*

The bioeconomic model developed in order to contribute for increased management practices and economic gains was presented to 50 producers, who learned about the economic performance of the intensification and risks associated with Business as Usual - BAU livestock. . In March 2015 the International Institute for Sustainability organized the workshop "Sustainable Landscape: Integrating rural development and environmental conservation", where academic members, government, research institutions and non-governmental organizations gathered to present research projects and public and/or private initiatives to promote sustainable landscapes in different acting scales. 42 participants, 25 lectures and 17 participant institutions attended. In parallel to this meeting, the seminar "Biochar: a technique with potential to improve the Environment" took place where 35 students from different courses such as Geography and Environmental Engineering and professors from the Geography and Environmental Department attended.

A summary of the key indicators reporting on achievements is included below:

| Outcome | Expected change | Output | Achieved | Activity | Indicator |
|--|---|--|--|---|--|
| 3) Technical and Economic cases for climate smart agriculture techniques developed and disseminated | Growing perception that sustainable alternatives might make both practical and economic sense | 3.1 Business cases for improved cattle ranching (inc Technical and financial analyses) | The report is supporting Novo Campo Program and Pecsá's efforts to enable farmers to access technology, investments and sustainable production | Data collection, analysis and engagement with relevant stakeholders, including Sustainable Cattle Ranching Working Group (GTPS) | 2 Reports containing technical and business cases for improved cattle ranching |

| | | | | | |
|--|--|---|---|--|---|
| | | | markets through financial support from the Althelia Climate Fund. | | |
| | | 3.2 Business cases for "comercial restoration" (inc Technical and financial analyses) | The report offered subsidies for the elaboration of Planaveg by the Ministry of Environment. | Data collection, analysis and engagement with relevant stakeholders, including the Pact for the Restoration of the Atlantic Rainforest and the Ministry of the Environment | Presentation of Commercial Restoration approach at international scientific conference |
| | | | | | Policy Brief related to commercial restoration submitted to the Ministry of the Environment |
| | | | | | Report containing technical and business cases for commercial restoration |
| | | 3.3 Report and scientific papers on field trial of biochar as a viable tool for pasture restoration | | Literature review, experiment design, engaging with key scientists and practitioners of sustainable agricultural practices, workshop on sustainable agricultural practises, data collection, data analyses, preparation of scientific manuscript and summary report for the farmers that took part in the research | Workshop presenting the key results of the experiments and to share experience of others |
| | | | Scientific articles addressing the use of biochar in agricultural crops and pastures are being developed. | | Summary Report to inform farmers about the results of the research |
| | | | | | Report and scientific papers on field trial of biochar as a viable tool for pasture restoration |

iii) Please reflect on whether targets that were originally set have been achieved, and what project outputs were key to achieving them. If relevant reflect on why outputs delivered as planned did not help meet the targets.

We believe that all targets mentioned were achieved and that all outputs were extremely relevant for their achievement. The "Business Case for improved cattle ranching" was developed from a survey of previous data and data collected with stakeholders. The results generated from the bio-economic model, which has been refined at the end of the project were validated by local farmers and other actors in the final event. The "business case for commercial restoration" was also successful and is currently being used in the formulation of public policies at MMA from PLANAVEG. Finally, we successfully completed the biochar research (please see separate report attached: Conciliating agricultural development and restoration: the search for solutions).

- iv) *If outcomes are not yet achieved, please explain why, and in addition, how the outputs will lead to the desired outcome and when.*

Not applicable.

- v) *Are the outcomes expected to be sustainable?*

The biochar experiments have been maintained and expanded from other financial sources, with replication of grazing experiments on the farm of a local farmer of Seropédica / RJ. The ovens built for the production of biochar during this project, the experimental station of Embrapa Fazendinha are being kept as sample unit of production of biochar. And they are being used for courses offered to local producers and technicians. The Demonstration Unit serves the farmers, researchers and other stakeholders interested in the topic.

Outcome 4: A scalable demonstration of clean beef supply chain is implemented in Alta Floresta – Mato Grosso, serving as reference for producers and the industry

- i. *What changes have been achieved with reference to the baseline?*

We demonstrated that an intensification in cattle production system is not only possible but also have good results in economic and environmental indicators. We present below a table with results:

| Indicator | Unit | Business As Usual | Good Agricultural Practices Ranch |
|---------------|------------------------|------------------------|-----------------------------------|
| Slaughter age | Months | Male: 44 Female: 34 | Male: 30 Female: 24 |
| Productivity | kg / ha / year | 141 | 324 |
| Quality | % “very good” carcass* | Typically 0 | 70%+ |
| Profit | R\$ / ha | 0 - 100 | 680 |

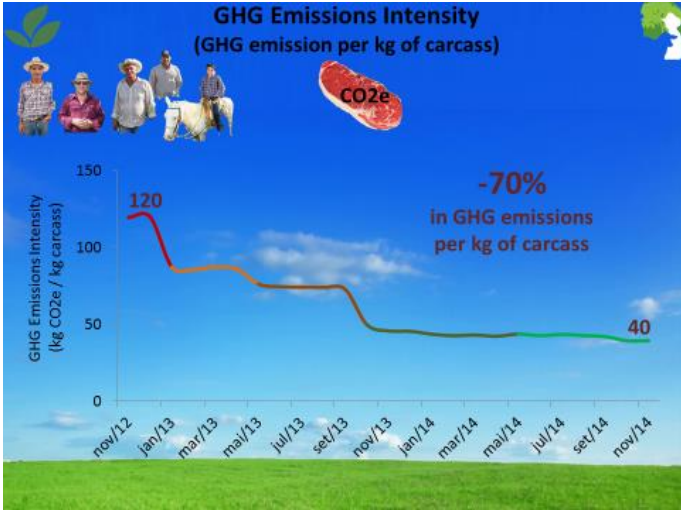
*Numbers of a slaughtering of heifers – Very Good Carcass: age 24months or less; live weight 390kg or more; fat covering 3mm or more.

Ranchers know these numbers, assimilated the technique and are expanding the intensified grazing areas. We started the project with a demonstration unit in each ranch with an area of 30 hectares in the average in ten ranches. In May 2016 we have 38 ranches that are partners of Novo Campo project, a total area of 40 thousand hectares and an intensified grazing area of 2 thousand hectares with plans to reach 10 thousand hectares by the end of 2017. All these plans were made possible as soon as Pecsá had a partnership with Althelia Climate Fund, as smart investment fund from Europe, which invested 11.5 million Euros in Pecsá.

In addition to the results presented above, based on the experiences described above, the Novo Campo program established a trade agreement with JBS and McDonalds, leading companies in their sectors. By this agreement Novo Campo will supply sustainable beef with verify deforestation free supply chain to McDonalds. This kind of agreement shows the move of the market in the direction of sustainability.

ii. Please report on the key indicators used to document that the desired change has occurred.

We assessed carbon balance using the World Resources Institute - WRI methodology, GHG Protocol. The result was a reduction of 22% of GHG emission, from 0,52 to 0,42 tCO₂e ha⁻¹. Besides, when we analyze emissions per kilogram of carcass produced the reduction is 70%, reducing from 120 to 40 kg of CO₂e per kg of carcass, as shown in the figure below.



This is the first result considering an intensified grazing area of 30% of total pasture area. From now on, we will expand the survey to assess further intensified area, and soon we will publish the results.

A summary of key indicators is presented below on achieved results:

| Outcome | Expected change | Output | Achieved | Activity | Indicator |
|---|---|---|---|--|---|
| 4) A scalable demonstration of clean beef supply chain is implemented in Alta Floresta – Mato Grosso, serving as reference for producers and the industry | Farmers are clear that implementing Good Agricultural Practices, increasing productivity and improving environmental management of their farms, is a feasible, profitable and crucial action to be taken, that is backed by the meatpacking | 4.1 Reference units of good agricultural practices installed in 10 ranches | Ranchers could test GAP adoption on their own land and attest the results in terms of productivity and profitability. | Scalable demonstration of clean beef supply chain implemented and monitored. | 10 ranches adopting GAP |
| | | 4.2 Results of reference units of good agricultural practices analyzed and disseminated | ICV used the results of RU to disseminate GAP adoption and the viability of a deforestation-free production system. | Technical Analyses and Communication events | (a)5 local field-days with 100 producers each one. (b)Participation in the local livestock trade fair with lectures for 200 producers each year. |

| | | | | | |
|--|--|---|--|--|---|
| | industry though some kind of support and/or differentiation. | | | | <p>(c)Field visits with partners and stakeholders producers from Brazil, Paraguay, USA, Canada, EU.</p> <p>(d)Field-day with GTPS and GR SB General Assembly attendants.</p> <p>(e)Participation in several congress and discussions in Brazil, Bolivia, Colombia, Canada, USA.</p> <p>(f)Participation in UN CoP in Paris and Marrakesh.</p> |
| | | <p>4.3 Facilitation and monitoring of access to financing via the Low Carbon Agriculture Program (ABC Program) to scale up demonstration projects</p> | <p>Our premise was that facilitate access to credit would help to scale up Novo Campo due to the investment of US\$1,000.00 per hectare to reform pasture, in the average.</p> | <p>Engagement with farmers, extensionist and finance stakeholders to facilitate and monitor access to ABC Program</p> | <p>ICV held meetings with all 38 partner ranchers, 3 of them tried to access the credit. Only one with success but in a different credit line for small holders, the other give up due bureaucracy and collaterals. Others engaged with Pecsca in the Althelia partnership (Outcome 5).</p> |
| | | <p>4.4 Drafting of integrated clean supply chain agreement between players in the beef value chain</p> | <p>A payment of a premium price based in quality to recognize ranchers efforts and continuous improvement.</p> | <p>Engagement with farmers and supply chain actors (in particular meatpacking companies) in order to develop clean supply chain agreements</p> | <p>JBS developed a table of premium price based in quality (age, weight and fat cover of the carcass); also considering the monitor report from ICV that includes Novo Campo criteria and commitments.</p> <p>ICV monitored and reported ranches attendance for criteria and commitments and this serves as bases for a commercial</p> |

| | | | | | |
|--|--|--|--|--|--|
| | | | | | agreement with Pecsca – JBS – Arcos Dorados (McDonalds) to supply part of McDonalds Brazil with sustainable hamburger. |
|--|--|--|--|--|--|

iii. Please reflect on whether targets that were originally set have been achieved, and what project outputs were key to achieving them. If relevant reflect on why outputs delivered as planned did not help meet the targets

| | |
|--|---|
| 4.1 Reference units of good agricultural practices installed in 10 ranches | <ul style="list-style-type: none"> - installed GAP reference units in 10 ranches - Output 100% concluded - One key element to conclude this output was to establish an environment of trust and partnership with ranchers. |
| 4.2 Results of reference units of good agricultural practices analyzed and disseminated | - We understand dissemination as a process, so we are always working on it. According to the transformative learning theory, the process to change mind set / behaviour has three steps: awareness, attitude and action. We are working with this theory to assess what else we can do to speed up GAP adoption. |
| 4.3 Facilitation and monitoring of access to financing via the Low Carbon Agriculture Program (ABC Program) to scale up demonstration projects | <ul style="list-style-type: none"> - Besides everything that we tried with Banco do Brasil and others in order to facilitate the access to ABC Program, it is not happening. So the Novo Campo program led by project partner ICV built a partnership with Althelia Climate Fund where they lend money to Pecsca, a B-company that is our partner in technical assistance, and Pecsca does all the GAP implementation in the ranch in a partnership with the rancher. This is totally new and we expect that Pecsca achieves 10.000 hectares of intensified production areas by the end of 2017. They already did it in 3000 hectares. - We think that the bureaucracy and the need for producers to submit collateral to the loans in the traditional models hinder their development. |
| 4.4 Drafting of integrated clean supply chain agreement between players in the beef value chain | <ul style="list-style-type: none"> - MoU, is about to be signed by JBS, McDonalds and Pecsca to supply sustainable beef. We will use GTPS (Brazilian Roundtable in Sustainable Livestock) reference framework - Some key elements on this: <ul style="list-style-type: none"> a- Gain their trust with field visits and discussions with several people from their organization; b- Establish a system to ensure continuous improvement and give transparency to data; c- Accept an audit that will check all relevant information. |

iv. If outcomes are not yet achieved, please explain why, and in addition, how the outputs will lead to the desired outcome and when.

The Outcome 4 was completely achieved with 10 demonstration units, 2 for dairy cattle and 8 for beef cattle. In 2015 ICV decided to focus on beef cattle because it is the main land demand in Alta Floresta region. Still dairy cattle ranchers maintain their pastures with intensification, what demonstrates that not only it is useful but it is also profitable.

v. *Are the outcomes expected to be sustainable?*

The Outcome 4 is sustainable, but it scaling up depends also on other conditions like:

- a- Technical assistance to help with Good Agricultural Practices – GAP implementation at ranch level;
- b- Loans for ranchers for GAP implementation;
- c- Commercial agreements that demands for verify zero deforestation beef and recognizes cattle quality; and
- d- A system to ensure social and environmental continuous improvement.

This will be continued with the Novo Campo Program (outcome 5)

Outcome 5: Large scale implementation of sustainable solutions via LNAE

i) *What changes have been achieved with reference to the baseline?*

The project has achieved the planned large-scale implementation of land-neutral agriculture expansion through the establishment of partnerships with farmers. Further financing has been secured and extension agents have been trained and deployed:

a) Partnerships development with farmers and large scale implementation of sustainable solutions

The project contributed to the development of the Novo Campo Project, developed by the 3 partner institutions (ICV, IIS and FSLA) in partnership with other key stakeholders (EMBRAPA, JBS, IMAFLORA, GTPS). Novo Campo aims to deliver the expansion in production with zero deforestation envisaged in the LNAE concept. So far it has enrolled 38 farmers responsible for 45.000 hectares of pasturelands. The adoption of Good Agricultural Practices is the central goal of the program, and the majority of these farmers are now implementing them because of the Novo Campo Program.

b) Financing secured

The project supported Pecsca, a spin off from ICV that works with technical assistance to ranchers, to build a partnership with Althelia Climate Fund. Pecsca received an investment of 11,5 million Euros from Althelia and they are working to achieve 10.000 hectares of intensified pasture area until the end of 2017. With this new partner now we are able to scale up GAP adoption and organize slaughter schedule to meet the demands of the industry. Also this enables us to build a commercial arrangement with Arcos Dourados, master franchise of McDonald's in South America, in order to provide beef for their hamburger's retail business in the second semester of 2016.

c) Extension agents trained and deployed

A training course for technicians was developed with 31 participants and four of them are already working with us in the Novo Campo Program with technical support of our consultant. The launch of

Novo Campo also had impacts in this component, and University of Mato Grosso, Alta Floresta Campus, will sign an agreement with us to form new technicians with agronomy course students. This component was led by ICV in partnership with Embrapa and the University.

ii) Please report on the key indicators used to document that the desired change has occurred.

A summary of the key indicators is presented below:

| Outcome | Expected change | Output | Qualitative description of achievement | Activity | Indicator |
|--|--|---|---|--|---|
| 5) Large scale implementation of sustainable solutions via LNAE | Large extension of cattle ranching lands implementing improved methods that increase productivity without expanding deforestation, demonstrating the viability of commercial large scale implementation of integrated land-use solutions | 5.1 Partnerships developed on "land-demand" side (i.e. soybean farmers and chain) | As communicated in the middle of the project, LNAE implementation strategy shifted away from directly engaging with soybean farmers and other "land demanders", focusing instead on the "land sparsers" (cattle sector) | Outreach meetings with key stakeholders organized in association with soy supply chain | Two meetings with key stakeholders in Alta Floresta: soy farmers; ranchers; rural union president; technicians from state university local campus; and municipal government |
| | | 5.2 Partnerships developed with cattle ranchers | Partnerships developed with 38 cattle ranchers through the Novo Campo Program | Workshops organized with cattle farmers | Workshop attended by 25 farmers that participated in the focal groups and questionnaires |
| | | 5.3 Pilot farms selected (20-50 Pilot farms) | | On-field assessment of the viability of the potential farms will be performed | 38 pilot farms corresponding to a area of 45.000 ha. |
| | | 5.4 Financing secured | In partnership with Althelia Climate Fund, we are now able to scale up GAP adoption and organize slaughter schedule to meet the demands of the industry. | Available funding leveraged targeting primarily the ABC plan, but also carbon finance | Loan of BRL 45 million from the Athelia Climate Fund. |
| | | 5.5 LNAE implementation contracts related to 20.000-100,000 hectares signed | Development of the Novo Campo Program that aims to deliver the expansion in production with | Private and public sector partners will be engaged and communication will be facilitated | Area (45,000 ha) covered by LNAE contracts |

| | | | | | |
|--|--|---|---|---|--|
| | | | zero deforestation envisaged in the LNAE concept. So far it has enrolled 38 farmers responsible for 45,000 hectares of pasturelands. | | |
| | | 5.6 Assistance provided for development of improved cattle ranching plans for farms | Partnership established with Althelia Climate Fund, as smart investment fund from Europe, which invested 11.5 million Euros in Pecsá. | Analysis for development of improved cattle ranching plans performed. | Area (45,000 ha) covered by improved cattle ranching plans developed |
| | | 5.7 Good agricultural practices implemented in 20,000-100,000 hectares via LNAE | Development of the Novo Campo Program that has implemented the GAP in 38 farms corresponding to 45,000 hectares of pasturelands. | Field implementation of Good Practices in Cattle Ranching farms | GAP implemented in 45,000 ha |

Key indicators are:

- a) The area of pasturelands implementing good agriculture practices via the Novo Campo Project: 45.000 hectares
- b) the number of farms involved in the project: 38 farms
- c) The number of technicians trained: 31
- d) The financing secured for further implementation: 11.5 million euros

iii) *Please reflect on whether targets that were originally set have been achieved, and what project outputs were key to achieving them. If relevant reflect on why outputs delivered as planned did not help meet the targets.*

The main overall target of the project was to support the large scale implementation of sustainable solutions to conciliate agricultural production expansion and zero deforestation. The target was to have between 20.000 and 100.000 hectares of pasturelands implementing sustainable solutions. The novo Campo Program has already enrolled 38 farmers whose pasture area is 45.000 hectares. These farmers are either already implementing or have signed agreements to implement good agricultural practices on their pasturelands and, equally important, to refrain from deforestation even if they could still legally deforest part of their farms. This success has many causes, but certainly the

knowledge base created and disseminated, the support to public policies and the multi stakeholder engagement developed by the project were key contributions.

iv) If outcomes are not yet achieved, please explain why, and in addition, how the outputs will lead to the desired outcome and when.

The main output of outcome 5 that was not delivered was the engagement with the soybean sector. As originally envisaged, the project would bring together soybean farmers who wanted to expand their production and cattle ranchers who could intensify the production and thus spare land, directly or indirectly, for the soybean expansion. Due mainly to a lack of incentives for soybean farmers to consider their indirect impacts on deforestation, we adapted the project to focus on cattle ranchers in such a way that their implementation of good agricultural practices and commitments to zero deforestation would deliver the overarching project goal without the need for involvement of soybean farmers.

v) Are the outcomes expected to be sustainable?

We anticipate that cattle ranchers that invested in good agricultural practices will have enough incentives to maintain their implementation, in particular because we focused on sustainable solutions that also made economic sense, as demonstrated (and disseminated) by our Business Case for Sustainable Cattle Ranching report. Outcomes are also going to be more sustainable in a context where market and public pressures towards sustainability remain at their current level or increase. The resources of the Athelia Climate Fund will be used by Pecsá to partner with 20 farms, renovate 10,000 hectares of degraded pasture in two years, deploy production infrastructure, pay for the first production cycle, manage 34,000 head of cattle and recover approximately 700 hectares of Permanent Protected Areas (APP) degraded.

2.5 Are there any internal and/ or external factors that have affected the project in any significant way?

a) Please specify deviations from plans.

Throughout the project (2013 to 2016), in general, we had some internal and external factors that impacted the project and the plan, such as: i) Bureaucracy of Governmental Processes to sign the formal partnership with Embrapa; ii) Changes of Government leaders in 2014 elections, that caused some changes in some sectors of the government and complicated the communication and negotiation process with stakeholders from MMA and other key actors in decision-making in public policy

Furthermore, we highlight the change in output 4.3 that we tried an innovative model to finance Good Agricultural Practices - GAP implementation. We opted for this model to be able to test something new and bring differentiated investor funds for this market.

Internally, there were some changes in project staff member. We needed to contract a foundation to intermediary the hiring of the field technicians for biochar experiments, because this was a

Embrapa's requirement (partner). And this contract process was quite bureaucratic and delayed the beginning of activities.

b) Please provide a short assessment of the risks occurred

| Description of issue | Level of risk | Mitigation methods |
|--|---------------|---|
| Bureaucracy of Governmental Processes | Low | The draft contract does not suffer any further changes and was signed by all parties in time. |
| Changes of Government Leaders | Medium | The project team remained informed of any changes in government sectors, maintaining a strategic constant communication with stakeholders, and be aligned with the changes in the laws that influence the project activities. |
| Implementation of a new model (Output 4.3) | Medium | The producers were not showing willingness to access the ABC Program funds. Therefore we designed this new approach, bringing new and different partners, and building different arrangements to accelerate the implementation of large-scale GAP. The strategy also allowed us establish trade agreements to guarantee delivery the quantity and quality of meat that the market is demanding. With only seven months of work, the Pecsá already shows that the strategy adopted gave very impressive results and full capacity to meet the targets. |

2.6 **Cross cutting concerns.** Please report on whether the project has had any effect (positive or negative) on

a) Corruption

In so far as that governments follow the recommendations expressed in the reports, whether in the strategic planning of the micro-region of Alta Floresta or the Mato Grosso state, whether at work performed by IIS in Bacia do Paraitinga (Atlantic Forest) and Espírito Santo state, specific goals would be drawn and the amounts of financial resources involved would be known. The more assertive planning in the release and allocation of public resources can improve the effectiveness of the control of the use of these resources. Otherwise, since the work of this project is to presuppose the integration of productive chains, financial institutions (banks) and governments also have the potential to generate more transparent processes and, consequently, with lower chances of corruption.

A condition for farmers to participate in the Novo Campo program and have access to technical assistance is that the intensification process goes together with the correction to bring their farm and land management system in line with the legal requirements. Farmers'

evolving this way to a full compliance level. Another aspect worthy to mention is that the use of differentiated qualification of slaughter animals based on technical criteria honors the production of better animals and with that promotes investments in sustainable production systems. The increase in compliance and use of technical criteria promotes transparency and qualified decision making, core elements of reducing unfair economic practices, i.e corruption.

b) Gender equality

At Biochar project the gender equality is verified through the visits that happen in the Fazendinha in which the technicians learn about biochar technique and can contribute to spread their knowledge to the family farms. The use of biochar can help to generate food for own family unit where the woman has a fundamental role. Moreover, it can be a contributing factor in family income through the surpluses production and marketing it in the local/regional markets. Taking into account that the women have a significant social role within the community, they can replicate the knowledge of the use of biochar and pass it to future generations.

In the project in Vale do Paraíba region (Bacia do Paraitinga), questionnaires were developed to producers and addressed questions about gender as: "How many women are involved in agricultural activities? What are the main activities developed by women? His/her spouse receives some benefit from the government ?". In addition, we had the presence of women producers and leaders in the interviews to application of the questionnaires and discussions in the feedback event.

We believe that when the woman is inserted in collective and participatory actions the start of its emancipatory process begins, where she begins to be aware of her needs and importance as well as becoming protagonist of the productive space. With this, the woman has the opportunity to exercise her citizenship, ensuring their right to land, and contributing to the economic and environmental development.

c) Respect for human rights

One of the mandatory criteria in the selection of farms that were part of the intensification project is the non-occurrence of work in conditions analogous to slavery. In addition, the project based the work on the widespread adoption of Good Agricultural Practices program of Embrapa (BPA). This program has as one of their pillars, the "Human resources management". The criteria within this pillar involve compliance with social and labor obligations; ensuring access to health and hygiene; capacity building and training; work safely and without risks to employees; and housing warranty and/or accommodation and meals in decent conditions.

The growing adoption rates of the developed technical solutions goes together with a demand for a better qualified workforce. A better trained and informed workforce will only result in a considerable improvement of the farms' outputs if this workforce reduces its turnover rate. Turnover of qualified workers will only reduce if they are content with salary, conditions and personal development. As is shown in other sectors like sugarcane and soy, with a better qualified workforce the respect for human rights and compliance of labour laws

and health and safety regulations tend to improve considerably. From a business perspective it makes no sense to strive for higher quality beef production on high productive pastures with an unqualified workforce.

2.9 Lessons learned. For final report, please summarize lessons learned for the whole agreement period. Both internal and external factors are relevant. What could have been done differently? How can lessons learned be incorporated in future plans? We are interested in learning based on positive and negative experiences.

- General Lessons: The importance of including local actors (public and private - stakeholders) in all projects. Only by a participatory process involving the community that public policy may be proposed, scenarios can be developed, real potentialities and obstacles are known, etc.
- During the development of the project, it was observed that the direct and permanent communication with producers facilitated and increased their engagement during meetings, focus groups, and other relevant events. Therefore, more energy has been placed to have direct contact with producers in Alta Floresta and Mato Grosso state, through a more intensive and ongoing participation of their staff in the field.
- However, there is still a need for increasing the communication between NGOs and Producers. To begin with, better communication will facilitate their comprehension of the positive results presented in the project, which can contribute to behavioural change. Further, it is important they feel comfortable with the NGO developing the research in order to provide some very important data, such as on economic revenues of their activities and costs.
- It is important that there are more frequent meetings between project developers facilitating knowledge and progress exchange.
- The impacts of the results presented in this project are starting to be seen, as the relationship network gets wider and more robust. For instance, because of the project, new state programs are being initialized, such as the one in the State of São Paulo, described in Outcome 1.

Lessons learned for a scalable demonstration of clean beef supply chain implemented in Alta Floresta/MT:

- Establishing reference units is totally different from scaling up the number of producers to achieve a commercial scale. The most difficult part is to organize producers as a group so they can negotiate their cattle all together and obtain economy of scale. Building trust and social capital is something that takes time and needs an external push. In our case this came through Pecsa and the money that they obtained, from Althelia, to implement GAP. The need to develop partnerships with financial institutions that are willing to invest resources and knowledge, was and still is very important.
- We need to learn more from how and why producers change the way they do things. Field visits and open discussions are essential to create trust with meatpackers and retailers;
- Improving production systems takes considerable resources and joint effort that require trust and patience. Changing market realities and policies can overshadow

technical solutions. Working with scenarios helps to develop sound solutions and facilitate uptake of proven business cases over time. Local commitment, quality technical assistance and sound applied research helped to identify a business model that proved in practice to tackle some of most pressing challenges: the need to spur socio-economic development in a region that provides crucial environmental services.

- Communication is key: By actively looking for feedback from the producers; sharing the experiences through solutions oriented platforms like the GTPS and GRBSB; outreach to the academic world through scientific publication and a telling the story to a wider general public in national and international press, the project partners have managed to contributed to an increased attention and solution oriented attitude of many actors in the value chain. The Campo Novo program is a tangible outcome of the persistence of a solution oriented attitude to which the project partners have contributed.

3 Case/success story

1) One of the most significant achievements of the project was the involvement in the process of creating new national policy for restoration (National Policy for the Restoration of Native Vegetation; PLANAVEG in Portuguese). The Ministry of Environment invited us to co-coordinate the development of this policy on the account of IIS experience with ecological and socio-economic aspects of reforestation. IIS developed a series of scientific and economic analyses and convened a series of multi-stakeholder meetings (both supported by this project) to develop this national policy. It includes eight overarching strategies, ranging from trees nurseries development policies to spatial planning and financing mechanism for large scale restorations. It aims to restore 12.5 million hectares of native vegetation in the next 20 years, contributing to climate change mitigation and adaptation, biodiversity conservation, water and energy security and rural development.

2) Another significant achievement was the Novo Campo Program which aims to deliver the expansion in production with zero deforestation envisaged in the Land Neutral Agricultural Expansion (LNAE) concept developed.

About one decade ago, Embrapa launched the GAP program that aims to establish criteria and indicators to be adopted by farmers in order to ensure sustainability in agricultural practices. Further, the Brazilian GAP could be used to ensure to consumer markets (domestic or foreign) that livestock products are in accordance with minimum quality standards, promoting sustainable practices in the field, improving their economic, social and environmental performance, contributing to reducing deforestation, promoting conservation and restoration of natural resources.

In 2012, ICV (Instituto Centro da Vida) partnered with Embrapa to promote the adoption of GAP program in the Alta Floresta region (Mato Grosso state). In the same year the International Institute for Sustainability (IIS) joined this partnership, which now involves several civil society organizations, industry, retail and trade unions.

The project, entitled Low Carbon Farming, involved 14 farms, ten in the municipality of Alta Floresta and four in Cotriguaçu. Its main goal was to implement gradually some of the good practices in

farms, helping to further increase productivity through the implementation of enhanced areas pasture.

In the two years of implementation, the participating farms increased their productivity up to 15.6 arrobas / hectare / year, while the regional average is 4.7 arrobas / hectare / year. In intensified areas of these farms, productivity reached up to 27.3 arrobas / hectare / year. Furthermore, animals reached slaughter weight faster than the regional average (44 to 36 months for males; 34 to 26 months for females).

Based on these results, the 'Programa Novo Campo' was launched in 2015 proposing to expand the number of farms adopting this system. The program is a partnership between Embrapa, the Rural Trade Union of Alta Floresta and Cotriguaçu, IIS, the Institute of Agricultural and Forest Management and Certification (Imaflora), FSLA and the meat multinational company JBS SA Foundation. From this context and in accordance with the responsibilities defined in partnership with the Programa Novo Campo, an analytical tool was developed to support decision making by the rural producer and general technicians. To date, dozens of farms indicate interest in participating in the program and adopt the GAP.

The Novo Campo program which is led by ICV can be considered as the confluence of initiatives in the microregion of Alta Floresta to bundle actors, knowledge and resources around a common approach. By being truly multi-stakeholder and because of being based on tested practice, the Novo Campo program will be a thriving force for innovation of a sustainable livestock sector in the years to come.

A major contribution of the NORAD financed project has been strengthening the case for agro-economic development of individual farms and the spatial planning exercises for local and regional development. Academic modelling, on-farm testing, qualifying young professionals and engaging the livestock sector community at national level all have been important project contributions to the Novo Campo Program.

Other essential inputs that have made the Novo Campo programme come into existence has been Solidaridad's Farmers Support Programme which co-funded the GTPS and was focused on the learning and sharing of six best multi-stakeholder practices in Brazil of which ICV was elected as one. This enabled to strengthen the qualification of young professionals and to systematize and share the experience in Alta Floresta with an (inter)national audience.

ICV's regional development program is supported by a series of donors, among which the Betty and Roger Moore Foundation, the Good Energies Foundation and the Fundação Vale, their Sustainable Livestock Initiative is an essential part of it and a long term effort. ICV publishes its annual reports with disclosure of its funding sources at: <http://www.icv.org.br/category/biblioteca/relatorios-de-atividades/>. Recognition of ICV is now worldwide and the ICV representative has been elected president of the GTPS and Vice-President of the GRSB.

4 Project's accounts for last year:

4.1 The accounts must relate to the approved budget for the year in question. All deviations (positive and/ or negative) must be clearly shown and explained.

Financial Report Year 2015



Budget Explanations for Annual Report 2015

| Category | Budget Per Fund NOK 2015 | | | Carry Forward 2014 NOK | | | TOTAL BUDGET 2015 NOK | | | Executed 2015 (NOK) | | | Deviations | | | | |
|-----------------------------|--------------------------|------------------|-------------------|------------------------|------------------|------------------|-----------------------|------------------|-------------------|---------------------|------------------|-------------------|-------------|------------------|------------------|------------|---|
| | Total NORAD | Matching Funds | TOTAL 2015 | Total NORAD | Matching Funds | TOTAL 2014 | Total NORAD | Matching Funds | TOTAL 2015 | Total NORAD | Matching Funds | TOTAL 2015 | Total NORAD | Matching Funds | TOTAL 2015 | % Dev. | Explanations |
| Personnel | 5.613.427 | 4.615.647 | 10.229.074 | 126.743 | 2.465.615 | 2.592.358 | 5.740.170 | 7.081.262 | 12.821.432 | 5.740.161 | 3.930.991 | 9.671.152 | 9 | 3.150.271 | 3.150.280 | 25% | There was a 25% decrease in personnel costs compared to plan in 2015 because of the reduction in the match-fund. But we have implemented 100% of the activities planned as it is presented in the report. |
| Other Direct Costs | 1.851.246 | - | 1.851.246 | (51.916) | (102.355) | (154.271) | 1.799.330 | (102.355) | 1.696.975 | 1.799.328 | 162.671 | 1.961.999 | 2 | (265.026) | (265.024) | -16% | The increase in the Matching Funds is due to the amount budgeted for Monitoring it wasn't enough so Solidaridad put more money on it. |
| Partner | 131.721 | - | 131.721 | (11.259) | - | (11.259) | 120.462 | - | 120.462 | 120.462 | - | 120.462 | - | - | 0 | 0% | N/A |
| Consultants and Contractors | 718.408 | - | 718.408 | (16.224) | - | (16.224) | 702.184 | - | 702.184 | 702.184 | - | 702.184 | - | - | (0) | 0% | N/A |
| Administrative Costs | 836.142 | - | 836.142 | (28.239) | - | (28.239) | 807.903 | - | 807.903 | 807.903 | - | 807.903 | - | - | 0 | 0% | |
| Administrative Fee (7%) | 701.556 | - | 701.556 | 9.191 | - | 9.191 | 710.747 | - | 710.747 | 710.758 | - | 710.758 | (11) | - | (11) | 0% | |
| Total | 9.852.500 | 4.615.647 | 14.468.147 | 28.296 | 2.363.260 | 2.391.556 | 9.880.796 | 6.978.907 | 16.859.703 | 9.880.796 | 4.093.662 | 13.974.458 | - | 2.885.245 | 2.885.245 | 17% | |

Overall Financial Report 2013-2015 Per Fund and Outcome

| Category | BUDGET Per Fund NOK | | | BUDGET per Outcome 1 to 5 NOK | | | | | |
|-----------------------------|---------------------|-------------------|-------------------|-------------------------------|------------------|------------------|------------------|-------------------|-------------------|
| | Total NORAD | Matching Funds | TOTAL | Outcome 1 | Outcome 2 | Outcome 3 | Outcome 4 | Outcome 5 | TOTAL |
| Personnel | 16.840.281 | 13.846.941 | 30.687.222 | 4.184.640 | 6.974.400 | 4.184.640 | 5.579.520 | 9.764.022 | 30.687.222 |
| Other Direct Costs | 5.553.738 | - | 5.553.738 | 757.332 | 1.262.220 | 757.332 | 1.009.776 | 1.767.078 | 5.553.738 |
| Partner | 395.163 | - | 395.163 | 53.883 | 89.805 | 53.883 | 71.844 | 125.748 | 395.163 |
| Consultants and Contractors | 2.155.224 | - | 2.155.224 | 293.895 | 489.825 | 293.895 | 391.860 | 685.749 | 2.155.224 |
| Administrative Costs | 2.508.426 | - | 2.508.426 | 342.054 | 570.090 | 342.054 | 456.072 | 798.156 | 2.508.426 |
| Administrative Fee (7%) | 2.104.668 | - | 2.104.668 | 287.001 | 478.335 | 287.001 | 382.668 | 669.663 | 2.104.668 |
| Total | 29.557.500 | 13.846.941 | 43.404.441 | 5.918.805 | 9.864.675 | 5.918.805 | 7.891.740 | 13.810.416 | 43.404.441 |

| Category | EXECUTED 2013-2015 (NOK) | | | EXECUTED per Outcome 1 to 5 NOK | | | | | |
|-----------------------------|--------------------------|-------------------|-------------------|---------------------------------|------------------|------------------|------------------|-------------------|-------------------|
| | Total NORAD | Matching Funds | TOTAL | Outcome 1 | Outcome 2 | Outcome 3 | Outcome 4 | Outcome 5 | TOTAL |
| Personnel | 16.840.274 | 10.696.671 | 27.536.945 | 3.755.056 | 6.258.420 | 3.755.056 | 5.006.737 | 8.761.676 | 27.536.945 |
| Other Direct Costs | 5.553.735 | 265.025 | 5.818.760 | 793.469 | 1.322.448 | 793.469 | 1.057.959 | 1.851.415 | 5.818.760 |
| Partner | 395.163 | - | 395.163 | 53.883 | 89.805 | 53.883 | 71.844 | 125.748 | 395.163 |
| Consultants and Contractors | 2.155.223 | - | 2.155.223 | 293.895 | 489.825 | 293.895 | 391.860 | 685.748 | 2.155.223 |
| Administrative Costs | 2.508.426 | - | 2.508.426 | 342.054 | 570.090 | 342.054 | 456.072 | 798.156 | 2.508.426 |
| Administrative Fee (7%) | 2.104.679 | - | 2.104.679 | 287.002 | 478.337 | 287.002 | 382.670 | 669.668 | 2.104.679 |
| Total | 29.557.500 | 10.961.696 | 40.519.196 | 5.525.359 | 9.208.925 | 5.525.359 | 7.367.142 | 12.892.411 | 40.519.196 |

| Category | DEVIATIONS 2013-2015 (NOK) | | | DEVIATIONS per Outcome 1 to 5 NOK | | | | | |
|-----------------------------|----------------------------|------------------|------------------|-----------------------------------|----------------|----------------|----------------|----------------|------------------|
| | Total NORAD | Matching Funds | TOTAL | Outcome 1 | Outcome 2 | Outcome 3 | Outcome 4 | Outcome 5 | TOTAL |
| Personnel | 9 | 3.150.271 | 3.150.280 | 429.584 | 715.980 | 429.584 | 572.783 | 1.002.349 | 3.150.280 |
| Other Direct Costs | 2 | (265.026) | (265.024) | (36.137) | (60.228) | (36.137) | (48.183) | (84.339) | (265.024) |
| Partner | - | - | - | - | - | - | - | - | - |
| Consultants and Contractors | - | - | - | - | - | - | - | - | - |
| Administrative Costs | - | - | - | - | - | - | - | - | - |
| Administrative Fee (7%) | (11) | - | (11) | (1) | (2) | (1) | (2) | (5) | (11) |
| Total | - | 2.885.245 | 2.885.245 | 393.446 | 655.750 | 393.446 | 524.598 | 918.005 | 2.885.245 |

Date: August 17th, 2016

Signature: Jeroen Douglas

Attachments: Annex A- Menu of Common Indicators

Annex B- Strategic planning for Mato Grosso

Annex C-Natural Regeneration workshop

Annex D-Sustainable Landscape workshop

Annex E- Sustainable Intensification

Annex F- Audited Financial Report 2015 and overall 2013-2015