Project Evaluation Series

Final evaluation of the project "Promotion of Sustainable Land Management" (PROTIERRAS)

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Final report

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Acronyms and abbreviations

LTA	Local Technical Agency
SC	Steering Committee
LC	Liaison Council
CECADESU	Centre of Education and Training for Sustainable Development
LMC	Land Management Committee
CIMMYT	International Maize and Wheat Improvement Center
FPIC	Free, Prior and Informed Consent
CONAFOR	National Forestry Commission of Mexico
CONAZA	National Commission on Arid Zones
PMC	Project Monitoring Committee
DGSPRNR	General Directorate for the Primary Sector and Renewable Natural Resources
FAO	Food and Agriculture Organization of the United Nations
GEF	Global Environment Facility
GiZ	Deutsche Gesellschaft für Internationale Zusammenarbeit [German International Cooperation Agency]
INIFAP	National Institute of Forestry, Agriculture and Livestock Research
IPASSA	Productive Infrastructure for Sustainable Soil and Water Use
LADA	Land Degradation Assessment in Drylands
LTO	Lead Technical Officer
SLM	Sustainable Land Management
M&E	Monitoring and Evaluation
OED	FAO Office of Evaluation
LMP	Land Management Plan
LMM	Land Management Model
PIR	Project Implementation Review
PPR	Project Progress Report
PRODOC	Project Document
PROTIERRAS	Promotion of Sustainable Land Management
SADER	Secretariat of Agriculture and Rural Development
SECAMPO	Field Secretariat
SEDAGROH	Secretariat of Agricultural Development of the State of Hidalgo
SEICODESA	Comprehensive Agribusiness Development and Consultancy Services
SEMARNAT	Secretariat of Environment and Natural Resources
DRS	Demonstration Reference Sites
SINADES	National System for Combating Desertification and Degradation of Natural Resources
SMART	Specific, Measurable, Assignable, Realistic and Time-related
UAZ	Universidad Autónoma de Zacatecas
PCU	Project Coordination Unit
WOCAT	World Overview of Conservation Approaches and Technologies
WWF	Worldwide Fund for Nature

Executive summary

1. It is estimated that 63% of the land in Mexico is affected by some type of degradation, and its fertility loss is one of its primary deterioration factors. The main direct causes of degradation include changes in soil use and deforestation. The Mexican Government has implemented different programmes to reverse this situation. However, barriers prevail that have hindered the implementation of sustainable land management (SLM) practices. Some of the barriers identified include the limited capacities for SLM-focused integrated land management, the differences between the instruments that regulate land use and the difficulty that local stakeholders – interested in managing natural resources and in SLM – face when it comes to accessing financing.

2. Within this context, the objective of the project Promotion of Sustainable Land Management (known as PROTIERRAS) was to reduce land degradation by implementing a land management model focussed on sustainable land management and on strengthening local institutions, which in three priority micro-regions would facilitate the concurrence of multi-sectoral policies and investments in public assets. The project was implemented by the Food and Agriculture Organization of the United Nations (FAO) and executed with the support of the Secretariat of Environment and Natural Resources (SEMARNAT). The project was financed by the Global Environment Facility (GEF), which granted USD 1 735 160 for the implementation of the project, with proposed co-financing of USD 8 746 566.

3. Following the GEF requirements, a final evaluation was conducted of the PROTIERRAS project, which covered the period from November 2016 – when it began – to October 2019, its scheduled completion date. The final evaluation had two main objectives: i) accountability, to respond to the information requirements and interests of the policy makers and other stakeholders with decision-making duties, including the government, the donor and FAO; and ii) to increase knowledge, to identify lessons that may be included in future FAO, government and donor programmes.

4. The final evaluation findings show that the project was aligned with the 2013-2018 national priorities of the Federal Government and with the GEF and FAO key objectives and strategies. However, during the implementation of the project, there was a cut in the Federal Government of Mexico's budget, which substantially limited the participation of SEMARNAT in the project. This resulted in a lack of government leadership of the project on the ground; a burden of work for the local technical agencies (LTA) and limited fulfilment of the co-financing pledged by the environmental sector.

5. The design of the PROTIERRAS project was innovative and inclusive and offered an effective alternative that converged the multi-sectoral policies of the three levels of government and empowered local stakeholders to make decisions and contribute, in an informed manner, to sustainable land management. In addition, it facilitated the implementation of SLM practices that also had an impact on the productive systems to avoid land degradation. The primary areas for improvement identified in relation to the project's design include the formulation of the objective, which was classified as

ambitious because it led to the understanding that the project would manage to reduce land degradation in terms of physical, biological and chemical changes in the soil. Consequently, the project was dismissed by several people interviewed who considered it unrealistic in its scope, and this led to the Project Coordination Unit (PCU) taking soil parameter measurements in the reference sites and proposing an indicators matrix, activities not included in the Project Document (PRODOC).

6. With regard to the effectiveness in obtaining the project outcomes, the vast majority of outcome and output indicator targets were met, some were even exceeded. In particular, the target of the indicator *Area under integrated land management practices*, with a final target of 3 800 ha, was exceeded by more than double the number of hectares. However, the indicator *Amount of investment in integrated land management* with a target of USD 8 524 995, was only 63% fulfilled.

7. As regards the Land Management Model – one of the main project outputs given that it will be the basic document for the replicability of PROTIERRAS – it was observed that it is still incomplete. As a result of this, the sustainability of the project benefits and, in particular the replicability of the model, was considered the weakest aspect of the project, given that 3 of 4 elements need to be strengthened to replicate the model.

8. In terms of the efficiency of the project, it is worth pointing out that FAO made the most of the opportunity to act as the executing agency of an environmental sector project in Mexico, which opened the door to future collaborations with this sector, and to have a new source of financing such as GEF. In addition, taking into account that the project in itself had a low budget and that only 61% of the co-financing materialised, it is considered that the resources were used efficiently, and the high replicability of SLM practices is noteworthy. However, it was found that there were substantial limitations in terms of the identification, management and mitigation of risks by the PCU and the other project monitoring and consultation bodies.

9. At the moment there is no clear trend regarding the effect of SLM practices on land degradation in the reference sites. However, some physical changes have been registered that could possibly lead to a reversal of the damage, if the SLM practices continue to be rigorously replicated. The work of the PCU and of the LTAs is noteworthy, in terms of involving the producers, promoters and local authorities in the project, as well as the research centres and other international and private bodies. However, it was not possible to fully involve the state authorities.

10. The project generated new knowledge about successful SLM practices that were systematised and shared by means of the World Overview of Conservation Approaches and Technologies (WOCAT) database. As regards the topic of gender and vulnerable groups, the project did not have the resources or a strategy that would effectively address the inclusion of gender and equality in the project activities, and as a result, young people and women participated in the project to a limited extent.

Conclusions

Conclusion 1 (Relevance and importance) - The project and, in particular the Land Management Model, represents an alternative that converges the multi-sectoral policies of the three levels of government. It does this by means of a watershed approach and by reversing land degradation to maximise its effectiveness, while empowering local stakeholders – who act as catalysers and promoters of the model – to make decisions and contribute in an informed manner to the sustainable management of their land.

Conclusion 2 (Design) - The way in which the project objective was formulated led to the understanding that – in accordance with the interviews performed and the Mid-Term Evaluation – the project would manage to reduce land degradation, and as such the project was classified as ambitious, considering its duration. The project was therefore dismissed by several interviewees, including one of the new federal authorities that stated that it was not realistic in its scope. In addition, initiatives were generated in order to have a baseline and to measure the impact of the implemented SLM practices on land degradation, which was not included in the PRODOC.

Conclusion 3 (Effectiveness) - The project managed to systematise the Land Management Model and provide more detail in its conceptualisation by defining processes and some of the parts that were not included in the project design. Its four main elements were implemented: governance, land management, production and conservation, as well as knowledge management. However, there was not enough time to fine-tune its conceptualisation and consolidation. The capacities of the Land Management Committee members, which constitute the key part of the governance element have to be strengthened just like the conceptualisation of the committees, as these are viewed as vulnerable. Land management, production and conservation elements must be strengthened in technical terms, as it was understood that the core part of the project was governance. The knowledge management element was the most effective, due to the SLM training being highly effective. In this regard, it was not possible to measure the effectiveness of the model as a whole, given that it is still incomplete. In addition it is impossible to measure tangible changes in decreased land degradation because of the model's short implementation period.

Conclusion 4 (Efficiency) - The change in government and in priorities of the Federal Government led to some of the risks identified in the PRODOC arising, and these were not handled and addressed effectively and in a timely manner, which affected the effectiveness, co-financing and sustainability of the project.

Conclusion 5 (Involvement of the stakeholders) - The stakeholders' involvement in the project was not entirely effective. On the one hand, the PCU and the LTAs competently involved the producers, promoters and local authorities in the project, as well as the research centres and other international and private bodies, the participation of which was not set forth in the project initially. On the other hand, it was not possible to fully involve the state authorities, and as such its policies and investments did not contribute satisfactorily to the topic.

Conclusion 6 (Progress towards impact) - The measurement of some soil parameters in an uncoordinated manner not included in the PRODOC, did not provide a clear trend regarding the effect of the SLM practices on the sampled demonstration reference sites (DRS), as expected.

However, some physical changes were recorded in the soil that could lead to decreased degradation in the long term, if the practices continue to be replicated rigorously.

Conclusion 7 (Sustainability) - The sustainability of the benefits of the project and, particularly of the Land Management Model, is the weakest aspect of the project, as the model is incomplete, the project does not have an exit strategy, and lacks a strategy that enables the continuity of the implementation of SLM practices to ensure the project's contribution to decreased land degradation.

Conclusion 8 (Gender and equality) - The project did not have earmarked resources or a strategy that would effectively address the inclusion of gender and equality in the activities, and as a result, young people and women participated in the project to a limited extent.

Conclusion 9 (Knowledge management) - The project generated and contributed to the production of new knowledge regarding SLM practices, some of which were systematised and shared by means of the WOCAT global database.

Recommendations geared towards strengthening the project outcomes

Recommendation 1 to the GEF - FAO's initiative in Mexico to request an extension of the project by five months, without additional cost, in order to strengthen the conceptualisation of the Land Management Model and strengthen its weak elements such as the Land Management Committees, the technical aspects of the land management plans and the selection of the SLM practices, as well as address the new challenges that the change in federal government created for the model, is endorsed. In addition, an exit strategy must be defined that will make it possible to ensure the operation of the model without the presence of the LTAs and FAO, and that establishes the bases (for example, the signing of agreements with state or federal governments) for the replicability of the model in other regions of the country.

Recommendation 2 to FAO - In particular, it is suggested that FAO strengthen the technical sturdiness of the model, by incorporating a guide or technical guidelines that make it possible to ensure the technical foundation of the land management plan, with primary emphasis on soil regulation and the selection of reference sites and SLM practices; as well as the inclusion of a soil specialist in the profile of the LTAs, and the official participation of research centres so that researchers and students also strengthen the capacities of the LTAs.

Recommendation 3 to FAO - With regard to the sustainability of the project benefits, and in the understanding that the effects of the SLM practices implemented in the three micro-regions will be evident in three or five years, if the practices continue to be implemented, it is recommended that FAO in Mexico review the environmental wholeness indicators proposed by the PCU and enter into collaboration agreements with the federation, states, municipalities and/or participating research centres, with the support and participation of the Land Management Committees, to ensure that the SLM practices continue to be implemented, and to continue monitoring the project reference sites and fully document the effect of the practices, and of the model, in general. In this regard, the most can be made of the individual actions that the research centres such as the International Maize and Wheat Improvement Center (CIMMYT) and the National Institute of Forestry, Agriculture and Livestock Research (INIFAP) perform in the micro-regions, as well as the actions of the state governments like that of Zacatecas, in relation

to the topic. In addition, the conceptualisation of the model has to be reinforced to ensure it is sustainable.

Recommendation 4 to FAO - It is suggested that FAO in Mexico design and implement a campaign to disseminate the model and outcomes of PROTIERRAS, to give greater visibility to FAO's contribution to conservation and the sustainable use of natural resources and adaptation to climate change. And to highlight its role as a neutral and strategic facilitator in order to increase the harmonisation of multi-sector and inter-institutional climate policies.

Recommendations for future projects

Recommendation 5 to FAO - Taking into consideration that the objective of the project was classified as ambitious due to the way in which it was formulated and the repercussions that this had on the implementation of the project, it is recommended that FAO ensure that the objectives of new projects are correctly understood by the key stakeholders and make the adjustments necessary in its formulation to achieve said understanding. It is important that there is clarity between what the project can manage in the established implementation period, and other global environmental benefits or impacts that are generated in the medium or long term. In addition, it is essential that the Lead Technical Officer (LTO) is involved in the design phase and participates in a satisfactory manner to ensure close alignment in how the activities set forth in a project will be implemented.

Recommendation 6 to the GEF and to FAO - It is suggested that the effect that major political events (for example, presidential elections), which arise during the implementation of the project, can have on the government leadership and the project co-financing, should not be underestimated. To this end, an explicit risk must be included in the PRODOC that specifically covers this potential problem and strategic mitigation measures that are aligned with the level of the impact that the risk may have, should it materialise.

Recommendation 7 to the GEF and to FAO - In order to ensure the proper inclusion of the gender and equality perspective, it is suggested that when designing these kinds of projects, the role of young people and women in the project implementation areas should be analysed and any barriers that could stop them from participating in the project should be identified. The context is extremely important to primarily promote the participation of women, due to the fact that, in some rural areas of Mexico, the customs and traditions are highly ingrained and impede the work or involvement of women in activities other than taking care of their home and children. Based on this analysis, during the implementation of the project, a campaign could be developed to raise awareness about gender and equality that addresses the barriers identified. Subsequently, it would be necessary to develop training and projects regarding SLM practices that reduce women's workload in the field (for example, improved crop management practices), as the women interviewed had exhausting working days because they had to attend to their homes as well as work on the crops, and this meant that some of them stopped participating. It is important for women and young people to have a financial remuneration that encourages their participation even more, and as such linking SLM practices with value chains, which make it possible to achieve environmental and economic benefits more effectively, is also recommended. The foregoing requires resources to be earmarked specifically for the design and implementation

of the gender strategy. Highlighting the importance of the participation of women and young people, and other vulnerable groups, in the PRODOC without providing the necessary support and tools is not considered sufficient.

Recommendation 8 to FAO - In order to ensure and increase the competitiveness of FAO in Mexico, it is suggested that it review its own administrative processes and identify areas of opportunity to make them more efficient, without breaching the rules and guidelines issued by the central offices of the Organization.

1. Introduction

1.1 Purpose of the evaluation

1. The evaluation of the project Promotion of Sustainable Land Management (known as PROTIERRAS) corresponds to a final evaluation that has two main objectives: i) accountability, to meet the information requirements and interests of the policy makers and other stakeholders with decision-making duties, including the government, the donor and the Food and Agriculture Organization of the United Nations (FAO); and ii) to contribute to knowledge, to identify lessons that may be included in future FAO, government and donor programmes.

2. The report is structured into five sections: the first provides introductory information about the purpose, scope and limitations of the evaluation, as well as the users foreseen and the methodology used; the second provides the background and information on the context of the project evaluated; the evaluation findings are detailed in the third section, taking into account the evaluation criteria stipulated in the Terms of Reference; the fourth section specifies the conclusions and recommendations of the evaluation; and the lessons learned are detailed in the fifth section.

1.2 Users foreseen

3. The audience the evaluation is aimed at and the foreseen use that will be made of it are shown in Table 1.

Table 1 - Main users of the evaluation.

Primary audience	**Foreseen use**
• Federal Government, particularly the Secretariat of Environment and Natural Resources (SEMARNAT), the Secretariat of Agriculture and Rural Development (SADER, formerly SAGARPA) and the National Forestry Commission of Mexico (CONAFOR) • The FAO Representation in Mexico • The Global Environment Facility (GEF) and its focal point in Mexico • FAO-GEF Coordination Unit	• To take into account the recommendations and lessons learned in future interventions related to land degradation. • To take the outcomes into account to enrich the strategic planning and to better focus attention on the issue of degradation. • To consider the learning acquired to manage and propose projects funded by the GEF. • To assess the result of its contributions.
Secondary audience	**Foreseen use**
• State and municipal governments of the three micro-regions	• To identify future collaboration areas to contribute to the sustainability and replicability of the project benefits.

• Participating research centres (National Institute of Forestry, Agriculture and Livestock Research and International Maize and Wheat Improvement Center) • Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) [German International Cooperation Agency] • Worldwide Fund for Nature (WWF Mexico)	• To consider the recommendations and lessons learned to design and implement similar projects that address the same problem.

Source: Prepared by the authors

1.3 Scope and objectives of the evaluation

4. The evaluation encompassed the whole period of execution of the PROTIERRAS project, in other words, since it started in November 2016 until it finished in October 2019, and included the analysis of all of the project components. The geographical coverage of the evaluation encompassed Mexico City and the three micro-regions where the project was implemented: Valle del Mezquital, in the state of Hidalgo; Pánuco, in Zacatecas; and Mixteca in the state of Oaxaca.

5. The objective of the evaluation was to perform an independent assessment of the areas detailed in the guidelines of the Global Environment Facility (GEF)[1], taking into account the findings of the Mid-Term Evaluation and using the key evaluation questions, which are shown in Table 2 grouped by evaluation criteria, as a basis.

Table 2 - Key evaluation questions.

Evaluation criteria	Questions
Relevance and design	• Have the project objectives been consistent with the operational strategies of the GEF programme, the national priorities and the Country Programming Framework? • To what extent has the design of the project been the correct one to achieve the objectives proposed?
Effectiveness	• To what extent have the project objectives been achieved? • To what extent was the Land Management Model, focused on Sustainable Land Management (SLM), effective? Which factors were promoters or obstacles? • To what extent are the stakeholders trained in SLM implementing new practices? To what extent have the capacities generated been useful in preventing or reversing land degradation? • To what extent has the topic been included in public policies and strategies in the responsible institutions?
Efficiency	• To what extent has FAO fulfilled its role as an implementing agency with regard to identifying the project, preparing the concept, forecasting, preparation, approval and launch, monitoring and supervision? How well have the risks been identified and managed?

[1] https://www.gefieo.org/sites/default/files/ieo/evaluations/files/gef-guidelines-te-fsp-2017.pdf

	• To what extent has FAO fulfilled its executing role: with regard to cost-efficiency? Has management been able to adapt to the changing conditions to guarantee the efficiency of the project?
Co-financing	• To what extent has the co-financing materialised and how has lower than expected co-financing affected the project outcomes, particularly with regard to the replication of SLM practices?
Involvement of the stakeholders	• To what extent has effective participation and involvement of the key project stakeholders been achieved (for example, producers, indigenous people, non-governmental agencies and local authorities)?
Progress towards impact	• Is there any evidence of decreased land degradation, or any change in the political/legislative/regulatory frameworks? • To what extent can the progress made towards decreased land degradation in the long term be attributed to the project?
Sustainability	• How likely is it that the project outcomes will continue to be useful or endure once the project is over? • How likely is it that the Land Management Committees created during the project will continue to operate once the project is over? • What are the risks and learned lessons that may affect the sustainability of the project benefits?
Monitoring and Evaluation (M&E)	• Has the M&E system worked according to the M&E plan? Has the information been gathered in a systematic manner, using appropriate methodologies? • Has the information from the M&E system been used to make relevant decisions about the implementation of the project?
Knowledge management	• Were there mechanisms and platforms that enabled the systematisation of knowledge and the communication of good practices and lessons learned? • Has the project promoted the strengthening and replicability of said practices and lessons? Which and how?
Gender and equality	• What did the project contribute to the FAO policy on gender equality objectives? • To what extent was the strategy for involving vulnerable groups (women, young people and indigenous people) in the project activities effective? • Has the project made specific contributions to the wellbeing of vulnerable groups (empowerment, reduced vulnerability)?
Social and environmental safeguards	• To what extent do, or did, the demonstration reference sites (DRS) and their replication in other areas fulfil the SLM criteria?

Source: Evaluation Terms of Reference

1.4 Methodology

6. The evaluation took place following the norms and standards of the United Nations Evaluation Group[2], which constitute a guideline for improving and strengthening the quality of evaluations. In addition, the Evaluation Manual of the FAO Office of Evaluation (OED) (FAO, 2015)[3] and other methodological guidelines and practices of the OED and the GEF were followed.

7. Throughout the evaluation process a consultative and transparent approach was adopted with the internal and external stakeholders. The triangulation of the checks and of the information gathered backed its validation and analysis and provided support to

[2] http://www.uneval.org/document/detail/21

[3] http://www.fao.org/fileadmin/user_upload/oed/docs/OED_Evaluation_Manual_April_2015_new.pdf

the conclusions and recommendations. In addition, the evaluation used the theory of change developed to guide the analysis of the strategy, the design, the outcomes and the possible impacts of the project.

8. The evaluation methodology was based on the evaluation criteria and the key evaluation questions detailed in the Terms of Reference (Table 2). The method followed to answer the evaluation questions is detailed in the Evaluation Matrix (Annex 1), which also contains the sub-specific questions resulting from an initial documentation review of the project information, the indicators, the methods for responding to the questions and the information sources used.

9. The methods used to respond to the evaluation questions were as follows:

   i. **Documentation review:** The available project information was gathered, organised and analysed. The list of documents reviewed is shown in Annex 2.

   ii. **Semi-structured interviews.** Individual and group interviews were conducted. In total, 129 people were interviewed, including federal, state and municipal authorities, agrarian authorities, project promoters and producers, members of the Project Coordination Unit (PCU), members of the FAO Task Force, researchers of the International Maize and Wheat Improvement Center (CIMMYT) and of the National Institute of Forestry, Agriculture and Livestock Research (INIFAP), FAO Representative in Mexico and Programme Assistant Representative. The list of interviewees is shown in Annex 3.

   iii. **Direct observation during the field visits.** The field visits took place in the three micro-regions where the project was implemented, and included visits to demonstration reference sites (DRS), both field schools and replicated sites, and to areas where works were completed (for example, water harvesting basins, ditch borders, etc.). The mission was performed in August and September 2019. Due to the impossibility of visiting all of the DRS in the three micro-regions, the areas that were going to be visited had to be prioritised based on a selection matrix shown in Annex 4. The mission agendas in each of the micro-regions are included in Annex 5. The areas visited in the micro-regions were:
      - Micro-region of Valle del Mezquital: communities of Santa Mónica, Mezquital, Yolotepec and Hermosillo.
      - Micro-region of Mixteca in the state of Oaxaca: communities of El Progreso, La Providencia, San Juan Diuxi and San Isidro Yuku Yoko.
      - Micro-region of Pánuco: *Ejidos* [collective holdings] of Pánuco and San Juan, and the communities of Casa de Cerros, Lampotal and El Bordo.

   iv. **Technical knowledge and experience of the evaluation team.** The evaluation team was composed of an evaluation specialist and a technical specialist in soil and land management, whose knowledge and experience in their respective subjects, complemented and supported the evaluation process.

10. As regards the analysis of the gender perspective, the project's contribution to the five objectives detailed in the FAO policy on gender equality[4] was assessed, using the framework developed by the OED. The five objectives are:

    a. Women participate equally with men as decision-makers in rural institutions and in shaping laws, policies and programmes .
    b. Women and men have equal access to and control over decent employment and income, land and other productive resources.
    c. Women and men have equal access to goods and services for agricultural development, and to markets.
    d. Women's work burden is reduced by 20% through improved technologies, services and infrastructure.
    e. The share of total agricultural aid committed to projects related to women and gender equality is increased to 30%.

11. As a guideline for evaluating the work performed with the local communities, the new FAO Free, Prior and Informed Consent Manual[5] was used, taking into account that it was prepared in 2016, a few months before the project began. In addition, the FAO Policy on Indigenous and Tribal Peoples (2010)[6], the FAO Environmental and Social Management Guidelines (2015)[7], as well as the GEF policy on environmental and social safeguards (2011)[8] were taken into consideration.

12. As can be seen in the Theory of Change (Figure 1), the development of capacities was key for achieving the project objective regarding the individual capacities as well as the favourable environment, and as such the evaluation was also based on the FAO capacity development framework[9] .

1.5 Limitations

13. It was found that, due to time and budget restrictions, the evaluation faced limitations for visiting all of the DRS of the three micro-regions and all of the places where works had taken place, and as such it only covered a representative number of areas and works. As mentioned in the Methodology section, the selection of the DRS was based on a prioritisation matrix, which took into account the criteria for the selection of the areas established in the evaluation Terms of Reference. However, the selection of the areas had to in some cases be adapted to facilitate the logistics of visits and to make optimal use of time.

[4] FAO policy on gender equality http://www.fao.org/3/a-i3205e.pdf
[5] The FAO Free, Prior and Informed Consent Manual http://www.fao.org/3/a-i6190e.pdf
[6] FAO Policy on Indigenous and Tribal Peoples http://www.fao.org/3/i1857e/i1857e00.pdf
[7] FAO Environmental and Social Management Guidelines http://www.fao.org/3/a-i4413e.pdf.
[8] GEF policy on environmental and social safeguards and gender mainstreaming. https://www.thegef.org/sites/default/files/council-meeting-documents/C.40.10.Rev_1.GEF_Policies_on_Safeguards_and_Gender.May_25_2011_1.pdf
[9] FAO capacity development framework http://www.fao.org/fileadmin/user_upload/newsroom/docs/Summary_Strategy_PR_E.pdf http://www.fao.org/capacity-development/en/

2. Background and context of the project

14. It is estimated that 63% of the land in Mexico is affected by some type of degradation, and its fertility loss is one of its primary deterioration factors. The main direct causes of degradation include changes in soil use and deforestation. The Mexican Government has implemented different programmes to reverse this situation. However, there are predominating barriers that have hindered the implementation of sustainable land management (SLM) practices. Some of the barriers identified include the limited capacities for conducting integrated land management with an SLM approach, the differences between the instruments that regulate land use and the difficulty that local stakeholders – interested in the management of natural resources and in SLM – face when it comes to accessing financing.

15. Within this context, the objective of the PROTIERRAS project was to reduce land degradation by implementing a land management model centred on SLM and on strengthening local institutions, which in three priority micro-regions would facilitate the concurrence of multi-sectoral policies and investments in public assets.

16. The project was structured into three components, the first two include the elements of the Land Management Model to be implemented, and as such are complementary to one another. The elements of the model are: governance, land management, production and conservation (by means of the implementation of SLM practices) and knowledge management. The conceptualisation of the model is therefore reflected in the project design and as such its objective is to reduce land degradation. The following details each of the project components.

17. **Component 1:** Governance for institutional strengthening and SLM-focused land management. This component focused on strengthening local governance in the three micro-regions the project intervened in, to promote participatory land management with an SLM approach. This was performed by developing the capacities and competences of relevant local stakeholders (for example, producers, communities and local authorities, among others) for the collective management of planning processes, implementation and monitoring of SLM practices.

18. **Component 2:** Integrated land management practices in priority micro-watersheds/productive areas, including SLM practices. This component included the implementation of SLM practices in the three micro-regions by means of the training, technical assistance and monitoring of processes to replicate the practices. The project therefore financed the establishment of the DRS that promoted the productive reconversion towards environmentally sustainable and socio-economically efficient production systems that incorporate SLM. On their part, the project partners financed complementary actions and works that would add to the SLM.

19. **Component 3:** PROTIERRAS project intervention models systematised, evaluated and disseminated. This component promoted the systematic gathering and compilation of relevant information generated during the implementation of the project. The foregoing

aimed to consolidate an intervention model that can be replicated in other regions of the country and therefore facilitate the dissemination of participatory governance in SLM-focussed land management. In addition, the project established a monitoring and evaluation system (M&E).

20. The project was implemented by FAO and executed with the support of the Secretariat of Environment and Natural Resources (SEMARNAT) and project partners, including the Secretariat of Agriculture and Rural Development (SADER) and the National Forestry Commission of Mexico (CONAFOR). The project was funded by the Global Environment Facility (GEF), which granted USD 1 735 160 for its implementation, to which co-financing of USD 8 746 566 was added, which resulted in a total budget of USD 10 481 726.

2.1 Theory of Change

21. On the basis of the project Framework of Outcomes included in the Project Document (PRODOC), the project's theory of change was reconstructed (Figure 1), and this reflects the causal relationship between the outputs, the outcomes, the objective and the expected impact of the project. In the first instance, the theory of change states that the project aims to contribute to reducing land degradation and the population's vulnerability to climate change (impact). To achieve this, an SLM-focussed land management model was implemented in the three micro-regions, and the local institutions were strengthened (objective). To this end, it was proposed that three main outcomes should be achieved: i) establish participatory governance, ii) implement SLM practices in priority zones and areas; and iii) systematise and disseminate the model implemented and the lessons learned.

22. In this sense, it is worth highlighting the importance of the first outcome, as the Land Management Model constitutes this, by establishing the Land Management Committees (LMC) and the training of local stakeholders in land management and in SLM. These two outputs would support outcome 1, as is the case of the land regulations, the land management plans (LMP) and the integrated financing strategies, which as a whole would make it possible to have trained and committed local stakeholders, to mainstream the SLM approach in local land management and to have increased investment for the development of SLM in areas where the project is implemented. This would all make it possible to establish participatory governance.

23. In addition, the Committees and trained stakeholders would support outcome 2, as it is these Committees that would plan and agree upon the demonstration units to apply the SLM practices and the project profiles for the replicated units. To this end, the Committees would have the technical support of the local technical agencies (LTA). These actions would make it possible to implement and replicate SLM practices in degraded micro-watersheds. In the same manner, they would contribute towards strengthening technical capacities, which in turn would enrich the improved implementation of SLM practices and strengthen the livelihoods of the communities. Overall, these outputs would achieve the implementation of integrated land management practices in priority micro-watersheds and productive areas.

24. Similarly, these Committees would generate the information and convey the lessons learned from the implementation of the project, which would support outcome 3 that would involve the development and implementation of a project communication strategy, a mechanism for exchanging knowledge with international initiatives and the systematisation and publication of the intervention model implemented in the project. This, in turn, would result in the systematisation and dissemination of the information generated in the project and from other relevant experiences.

25. In particular, it was found that outcomes 1 and 2 feed off of each other, due to the expectation that the outcomes of implementing the integrated land management practices will provide improved information for the work of the Committees and, in general, of the new governance established. In addition, outcomes 1 and 2 would provide outcome 3 with information and lessons learned.

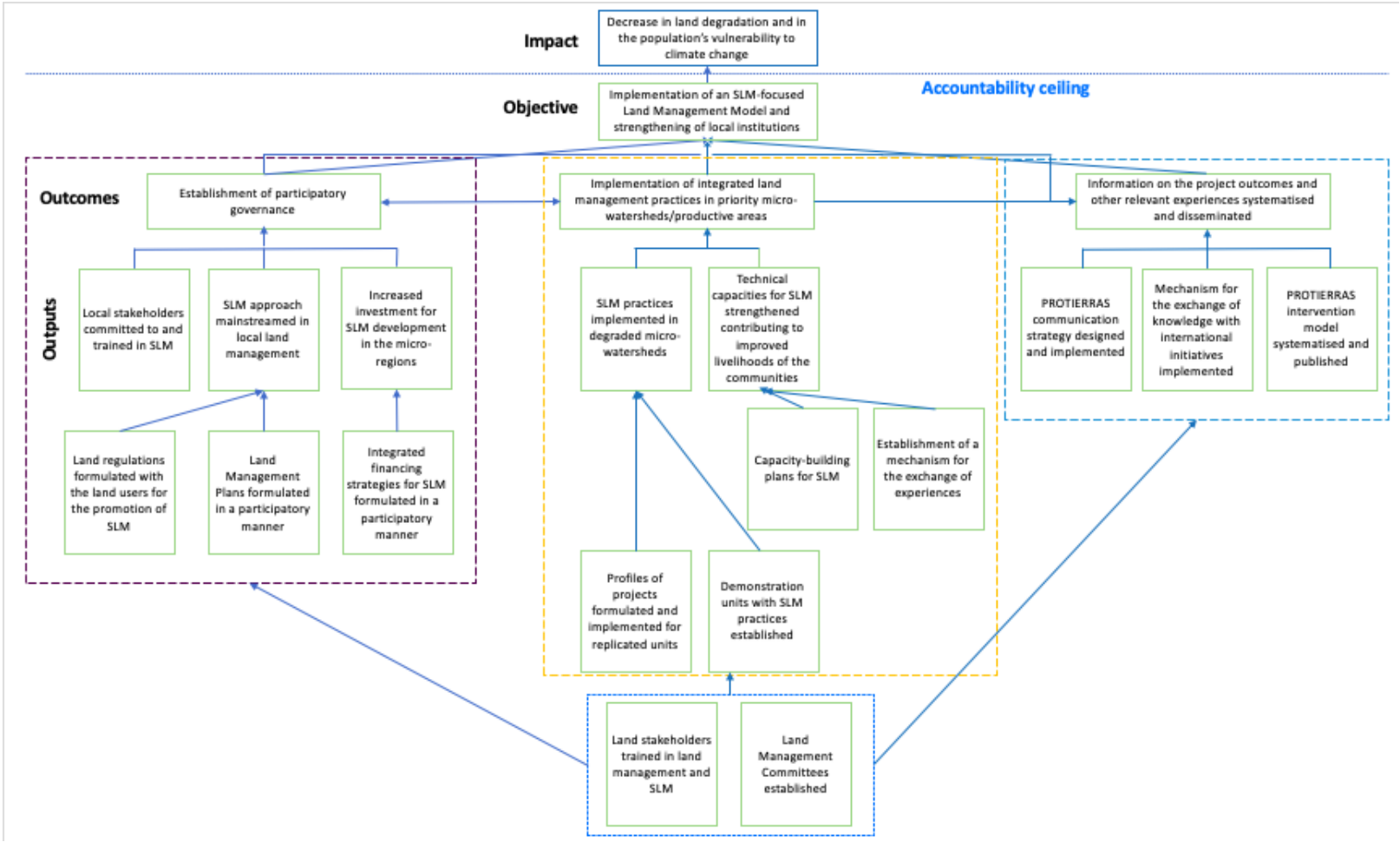
26. Assumptions to achieve the desired impact:

- The model continues to be implemented and the SLM practices have been internalised by the producers and the population, and as such are routinely applied.
- The federal, state and municipal authorities align their policies and strategies by gradually eliminating the barriers that limit coordination and improved participation in the topic.

27. Assumptions for achieving the project objective:

- The federal, state and municipal authorities have participated in the design of the project and maintain their political will to provide the co-financing pledged and implement the watershed and SLM approach in the planning and in some of their regulatory instruments, by maintaining and/or adjusting their operating rules.
- The agrarian and *ejido* producers, communities and authorities actively participate in the project.
- The LTA has the knowledge and experience required to provide the necessary technical support to implement the project.
- There are no extreme weather events.

Figure 1 - Reconstructed theory of change based on the Framework of Outcomes of the PROTIERRAS project.



3. Key findings

3.1 Relevance and design

Key finding 1: The project is relevant taking into consideration the strategies and priorities of the GEF programme, the 2013-2018 national priorities of the Federal Government and the FAO 2014-2018 Country Programming Framework in Mexico.
Key finding 2: The project design is innovative and comprehensive. However, the project objective was ambitious and the design had omissions that made it difficult to strengthen the local institutions and complicated the concurrence of policies and multi-sector investments.

28. The objective and activities of the project are aligned and consistent with:

- Strategic objectives 1 and 3 of the GEF, which since 2006 defined the land degradation as a focal area, and whose objectives focus on improving and maintaining the flows of agro-ecosystem and forestry services in arid and semi-arid areas and on reducing pressure on natural resources.
- The 2014-2018 FAO Country Programming Framework in Mexico, particularly with Priority C geared towards providing support for environmental sustainability, resilience and the green economy, as well as Priority B focused on cooperation to make Mexican fields more productive.
- The 2013-2018 National Development Plan and the federal strategies and programmes resulting from such, including the National Strategy for Sustainable Land Management, the National Programme for Sustainable Land Management, the Rural Productivity Programme and its component Productive Infrastructure for Sustainable Soil and Water Use, and the National Forest Programme. However, budget cuts were recorded that significantly affected the participation of SEMARNAT and impeded the fulfilment of this programming framework, which is addressed in greater detail in the section relating to efficiency.

29. It is worth highlighting that the project design is innovative and comprehensive, and proposes a land management model with two main strands. On the one hand, the model promotes the strengthening of local governance by empowering producers and communities, and coordinating government actions and policies by means of the integrated land approach. The geographical and functional convergence of these actions generated, as will be detailed further ahead, an added value for these efforts and increased their effectiveness. In addition, the model promotes sustainable land management by means of training in and implementation of SLM focused on fulfilling the causes of land degradation. Given its conceptualisation, the model is relevant for implementation in other regions.

30. The areas for improvement identified regarding the project design include, in the first instance, the formulation of the objective. In accordance with the interviews performed and the Mid-Term Evaluation, the way in which the objective was formulated led to the understanding that the project would manage to reduce land degradation with regard

to physical, biological and chemical changes in the soil, as will be detailed in the next paragraph and as such the project was classified as ambitious, given its duration.

31. The foregoing led to several of those interviewed, including one person from the new Federal Government with important competences regarding land degradation, dismissing the project due to considering its scope unrealistic. Similarly, at the start of the project, there was confusion among the implementers as they were not sure whether it was necessary to measure the soil parameters, to give an account of the effect on the reduction of degradation. Consequently, uncoordinated initiatives were generated in the micro-regions of Pánuco and Mezquital to take soil samples and analyse the physical and chemical properties before implementing SLM practices.

32. Subsequently, the PCU and the INIFAP of Oaxaca and Hidalgo, in accordance with the suggestion from the Lead Technical Officer (LTO) of the project, decided that, despite the project design and the Framework of Outcomes not including indicators on soil characteristics, it was important to have that information, to be able to document the impact of the project activities. The PCU acknowledges this omission as one of the main flaws in the project design. As a result of the above, an indicators matrix was developed, which includes environmental as well as social and economic aspects. It is worth highlighting that as they are not included in the PRODOC these activities required additional time and resources, involving adjustments in the distribution of the budget. For more information about the indicators matrix, see the section relating to progress towards impact.

33. Another project observation relates to the lack of involvement of the local authorities in the design phase. Taking into account that the objective of the project included the strengthening of the local authorities and the concurrence of multi-sector policies, it is considered a significant omission that the state and municipal authorities of the micro-regions to be intervened, were not consulted during the design of the project. This led to a not very active participation and disinterest by the state authorities of Oaxaca and Hidalgo. This was not the case in the state of Zacatecas as the project aligned effectively with the state policy on the topic.

34. In the case of the municipal authorities, despite not participating in the design phase of the project, it was easier to involve them and have them appropriate the project. However, in general, it is considered that the opportunity to better understand the role that the local and state authorities could play and the contribution they could make to the proposed Land Management Model was lost.

35. In addition, the lack of involvement of the federal delegations of SEMARNAT and CONAFOR in the design phase led to difficulties with the implementation of the project in Hidalgo and Oaxaca. In particular, the delegation of CONAFOR in Oaxaca could not support the activities of the project in Santiago Tilantongo given that this municipality was not subject to support due to failure to fulfil its commitments with this institution.

36. Taking into account the interviews and the review of the letters of agreement with the LTAs, it should be noted that the agencies' budget in relation to the workload assigned to them was not calculated correctly. Similarly, the participation of a soil specialist or soil scientist was not considered in their profile and this is a significant omission given the nature of the project.

The relevance criterion is rated as highly satisfactory. For the design criterion it is moderately satisfactory.

3.2 Effectiveness

Key finding 3: The Land Management Model is still incomplete, and as such its effectiveness cannot be determined. With regard to the elements, it was identified that governance for institutional strengthening is one of the weakest components of the model, as the bodies created show weaknesses in their conceptualisation and training. The land management and production and conservation elements must be strengthened technically. However, knowledge management was highly effective; in particular, the people interviewed agreed on the effectiveness of the training provided. With regard to the effectiveness of achieving the project outcomes, the vast majority of the outcome and output indicator targets were achieved and many were even exceeded.

Key finding 4: The sustainable use of natural and productive resources avoiding their degradation and loss permeated the *ejido* regulations developed by the project, which is considered substantial progress in the *ejido* policies. At government level, no institutional or public policy change is identified.

37. The evaluation team reviewed a preliminary version of the document that details the Land Management Model, which corresponds to one of the project outputs included in Component 3 that clearly shows the components developed and implemented in the project. The model has four elements: 1) land governance, 2) land management, 3) production and conservation; and 4) knowledge management. The following provides an analysis of the effectiveness of each of these elements.

1) Land governance

38. This element of the model includes the LMC and the roundtables or inter-institutional committees that compose them as its main instruments. Regarding the LMC, it should be noted that despite being a central component for coordinating the different stakeholders and making the model sustainable, it is considered as the weakest item of this. The LMCs were established in June 2017 with different compositions that served the customs and traditions of each micro-region and the specific agreements made between the attendees and the regional coordinator during the foundation meeting[10]. The

[10] According to the minutes of the foundation meeting, the LMC of the Mezquital micro-region is composed of the Municipal President of Santiago de Anaya, Cardonal and Meztitlán, *ejido* commissariats, municipal delegates and elected representatives of each micro-watershed. The LMC of the micro-region of Mixteca is composed of

members are appointed by simple majority vote and perform their duties voluntarily. They only have the moral support of the participants in the project, as not all of the community or *ejido* rightsholders took part in the project, and do not have any legal attribution to perform their duties. However, it is worth pointing out that some of the Committee members hold legal positions in the state or municipal governments, the *ejidos* [collective holdings] and the communities. In accordance with the PCU, the LMC defines itself in the Land Management Model as a "land management body", which must adapt itself to the manners of organisation and customs and traditions of the areas where it is implemented.

39. During the development of the project, the operation of the LMC depended on the support of the regional coordinator and of the LTA, who, in accordance with the minutes of the meetings, in the majority of the cases convened and led the meetings. In particular, it is worth highlighting that one of the LMCs interviewed was not clear on its duties. The training provided to these Committees varied with regard to the topics covered and their effectiveness. In some cases, the members do not recall having received training to support their duties as a LMC, in other cases they mentioned the training received to improve the productivity of their own plots. They all coincided in confirming that they were not given training to prepare or manage a project proposal. The PCU points out that there was little emphasis on the training and that there was a lack of time to consolidate it. It mentions that in the last few months of the project, the capacities of the members of the LMC regarding their future actions after conclusion of the project were strengthened. However, the evaluation team could not verify the effect of these last training sessions.

40. As regards their interaction with the federal and state authorities, this took place within the framework of the roundtable or inter-institutional committee meetings, and their participation was not permitted in some of these, which went against the essential duties they had to perform. The conceptualisation of LMCs is therefore weak and their training to fulfil their duties was also tenuous, calling their effectiveness into serious doubt given their vulnerability.

41. In addition, the promoters are also in a vulnerable position, as they do not have any type of support to continue with their duty. As regards the *ejido* as well as conservation and maintenance regulations of the works performed, these constituted the main progress made to formalise SLM locally and to contribute to the sustainability of the benefits of the project. The main challenge will be to promote and ensure their fulfilment.

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the Municipal President of Santiago Tilantongo, deputy of the President and Director of Agricultural Development of Santiago Tilantongo, Municipal Comptroller, Council on Works, Council on Tourism, Director of Health and Ecology, Commissariat of Communal Lands of the municipality, two people defined by the municipality and representatives of the PROTIERRAS project (it is noteworthy that Protierras representatives have been considered as members of the Committee, as their participation is in a support and temporary assistance capacity). The LMC of Zacatecas is composed of one member from each participating government department, Municipal President of Pánuco, Director of Agricultural Development, Municipal Comptroller, Commissariats of Communal Lands of the areas involved and representatives of local committees from each community targeted.

2) Land management

42. The main instrument of this element of the model is the LMP, which was developed by each LTA following a participatory approach which ensured adequate involvement of the local stakeholders. This made it possible to identify and address the priorities of these stakeholders, in particular the producers and municipal and agrarian authorities. In turn, this facilitated the appropriation of the project by these stakeholders.

43. In accordance with the PRODOC, the development of the LMP had to be based on a diagnosis performed for each micro-region in the project design phase. This diagnosis would make it possible to shape the soil use regulation to be included in the LMP, taking into account the degree of vulnerability to land degradation. The priority intervention areas and the portfolio of SLM practices to be implemented would subsequently be identified based on this regulation. Following the review of the LMPs and the interviews, it was found that the plans have technical limitations and that the PCU did not have access to the databases and mapping generated during the completion of the diagnoses.

44. The technical limitations identified consisted of:
    a) The lack of technical uniformity and rigour in the establishment of criteria for the selection of the DRS. Each LTA used different criteria that favoured different social, economic and environmental characteristics. In Mezquital, the criteria used were the location, accessibility, land tenure (giving priority to the public plots), use of natural resources, climate, soil use, type of productive activities and soil degradation. In Mixteca, the criteria were the productive abilities in the area, the physical conditions for the implementation of the practices, the strategic location, the participation and interest of the promoters and that at least three different practices could be included at the site. In Pánuco a multi-criteria method developed for the area was used on demonstration reference sites[11], and the interests of the producers and the methodological recommendations of the PCU SLM expert were taken into consideration.
    b) The use of outdated supplies and, as such, supplies other than those used by Tavares (2015) in the diagnosis of the three micro-regions during the project design. In particular, the evaluation team identified the use of outdated soil maps[12] in the micro-region of Valle del Mezquital.
    c) The use of information and criteria other than those used by Tavares (2015) in the diagnosis, to identify the types of land degradation and their severity in each micro-region, as well as the lack of methodological uniformity between the three micro-

[11] The methodology proposes the identification of local leaders, the geographical location divided into the three regions of the watershed, conditions similar to those of the region (soil, depth and topography). Once the area with these criteria were selected, two additional ones were used; namely that the plots were representative of the region and that they had the potential for replication.

[12] The reference used is from the World Reference Base (WRB) for soil resources from 2009, when the latest is from 2015 (IUSS Working Group WRB, 2015. World Reference Base (WRB) for soil resources, 2015 update) In the micro-region land surveys, there are terms that refer to the old classifications, which have been modified and are not in line with the current information regarding updated pedogenesis and agronomic management. For example, use of the term "rendzina" and "xerosol" are obsolete in the modern classification.

regions. For example, in the micro-region of Pánuco the percentages of degradation resulting from the diagnosis for each area of the micro-watershed were rectified and adjusted by means of a digital evaluation model and field visits. In the Valle del Mezquital micro-region only the diagnosis degradation values were acknowledged as a baseline and were complemented by means of the identification of the causes of degradation, through the use of a participatory methodology with the beneficiaries (different to that used in the diagnosis). In addition, it was found that, in the Mixteca LMP, the percentages are not mentioned by type and cause of degradation, only by their severity.

45. In accordance with the PCU, guidelines were prepared to guide the development of the LMPs, offering certain flexibility in their preparation in order to adapt the plans to the conditions of each micro-region. In addition, meetings were held with the teams from each micro-region to instruct and guide them in the preparation process. However, given the technical limitations detailed in the preceding paragraph, the guidelines were not very effective in ensuring the minimum required methodological uniformity and sturdiness of the LMP. Specifically, the land use and selection of sites to be intervened did not comply with the minimum technical criteria, which would guarantee that priority attention is given to the main causes of degradation in the micro-regions and, therefore, that an effective contribution is being made to rehabilitate the land. In the interviews, it was reported that the development of the LMPs was significantly supported by the knowledge and experience of each Regional Coordinator and by the technical capacities of the LTAs. It is worth highlighting that none of the agencies had a soil specialist or soil scientist among their profiles, which was not included since the design of the project. The LTAs also had to use the experience of the INIFAP researchers as a basis.

46. These technical limitations directly affected the selection of the SLM practices that would be implemented in each micro-region, but not the effectiveness of the training. The technical limitations detected in the selection of the DRS led, as explained further on, to the main reasons behind land degradation in the micro-regions not being addressed in all of the cases. In addition, it is acknowledged that the SLM practices respond to the problems identified, which may or may not be a priority, but which had successful, specialised and effective training.

47. The LMP is correct in its conceptualisation as a local land planning instrument to guide the activities that would make it possible to reduce land degradation and empower local stakeholders through their active participation in the preparation of such. However, its development had technical faults and delays. As a PCU strategy to avoid the beneficiaries losing interest, the project had to start with the field schools without the LMP being ready. In addition, a financing strategy was not included as this was not defined and incorporated.

48. It is appropriate to mention that these technical faults are also the result of the problem generated when the team preparing the PRODOC is not the same one that implements it, a situation that arose in this project. In particular, the LTO did not participate in the formulation of the project and the PCU did not have access to the relevant information

about the diagnoses performed in the design phase of the project, which resulted in the use of different supplies, some of which were outdated.

3) Knowledge management

49. With regard to the element relating to knowledge management and, in particular, regarding the training provided on SLM, all of the people interviewed from the three micro-regions who received the training, highlighted the great usefulness of such and the competences of the technicians who provided it. In this sense, it is worth pointing out the convenience of having involved renowned research institutions such as the INIFAP and the CIMMYT, who reinforced the technical capacities of the LTA in relation to sustainable production. In addition, it is worth highlighting the effectiveness of the field schools and of the "learning-by-doing" approach, which promoted an effective assimilation of the practices taught.

50. Most of the people who received the training applied the lessons learned in their own plots. In this task, it is acknowledged that the promoters who had the task of promoting the replication of the practices and the effective implementation of such, played a pivotal role. Regarding this last point, the producers were able to see positive effects in their own plots, such as an increase in the quality and yield of their crops, water savings, a reduction or complete elimination of chemical fertilisers, which resulted in economic gains and savings as well as in the improvement of the appearance of their soil and the reappearance of plants and animals native to the area.

51. The foregoing led to the SLM practices in plots being replicated across a greater area and this meant that the indicator *Area under integrated land management practices*, with a final target of 3 800 ha was exceeded by 8 367.13 ha, which corresponded to 114 demonstration units that encompassed 576 ha and 88 projects implemented in replication units with 7 791 ha. Consequently, this training element was highly effective although, as will be seen in the following section, some of the training and SLM practices implemented did not address the main causes of land degradation, and were inclined towards covering more productive aspects.

4) Production and conservation

52. In addition to the management of watersheds, the project included a production and conservation approach in degraded or abandoned agricultural areas to reverse the erosive processes by redirecting unsustainable practices towards SLM practices. There is a current global trend to fulfil the Sustainable Development Goals and have an impact on the productive systems by increasing productive capacity while, at the same time, avoiding the degradation of the natural basis of the land. In particular, in this section the SLM works and practices implemented in the DRS, which included conservationist and productive practices were analysed to determine their consistency with the causes, type and degree of land degradation in each micro-region. To this end, the information included in the DRS component of the project monitoring system and the direct observations made in the field were used.

53. As a result of the analysis of the DRS, it was found that, in the micro-region of Valle del Mezquital, 47% of the practices implemented focussed on the conservation of natural resources, 35% centred on agricultural production and 18% was a combination of conservation and productive practices. In addition, 47% of the practices implemented focused on addressing water erosion, which was consistent considering that this type of erosion is of a moderate degree and covers 37% of the micro-region area[13]. In addition, the works performed in the micro-region reinforced the work to address water erosion. In particular, reforestation took place and rainwater harvesting basins were created in the upper and middle areas of the micro-watersheds (Annex 6a), specifically in two of the areas with a higher percentage of water degradation: Hermosillo (18.6%) and Lomas de Guillen (13.8%) according to Tavares (2015). These works were in turn complemented by soil and water conservation works and by training in field schools on how to maintain them. Other types of works performed by SADER addressed the problem of chemical degradation by incorporating drip irrigation systems and using water efficiently, and by incorporating a biofilter to remove contaminants and excess organic matter from wastewater (Annex 6a).

54. In the micro-region of Mixteca, 57% of the practices had a productive approach, 30% focused on the conservation of natural resources and the remaining 13% were a combination of both approaches. With regard to the type of degradation addressed, 38% of the practices corresponded to those that did not directly contribute to the main causes of land degradation but that are included in the SLM good practices manuals. These practices included the preservation of seeds in silos, forage conservation methods, the preparation of nutritional blocks and the selection of livestock, among others. 31% of the remaining practices addressed chemical degradation and 29% addressed water degradation. According to Tavares (2015), the main type of degradation in the micro-region is chemical degradation, which goes from moderate to strong encompassing an area of 40% of the micro-region, followed by water erosion. In this regard, it is considered that the practices implemented were not entirely relevant given the main type of degradation in the micro-region. The works completed in the micro-region effectively complemented the handling of water degradation, which is the second degradation problem in the micro-region, occupying an area of 35%, with moderate severity. These works included soil and water conservation work (ditch borders, gabions and filter dams) in the middle and upper areas (reforestations), as well as in the low areas (water harvesting basin) of the nano-watersheds (Annex 6b).

55. In the micro-region of Pánuco, 38% of the practices focused on the combination of the productive and conservationist approaches, 33% had a productive approach and 29% focussed on the conservation of natural resources. 52% of the practices addressed chemical degradation; 28% water erosion; and 12% wind erosion. However, the land evaluation identified wind erosion, with a moderate degree of 54% of the area of the micro-region and chemical degradation, also with a moderate degree, but encompassing

[13] Chemical degradation covers the greatest area in the micro-region (41%); however, it is of a light degree and is mainly associated with the use of wastewater for irrigating crops.

11% of the area. According to Tavares (2015), the agricultural zones are the ones that show the highest incidence of wind erosion. Consequently, it should be noted that in the micro-region of Pánuco, the selection of practices implemented in the agricultural areas did not address the main land degradation problem as a priority, which is unfortunate considering that it was the micro-region that contributed with the highest number of hectares under SLM. In the upper part of the micro-watershed, reforestation took place, borders and dams were built, addressing water erosion, which shows a light degree of degradation in an area covering 3% of the micro-region. Most of the practices and training took place in the middle and low part of the micro-watershed, where the productive approach prevailed (Annex 6c).

56. There is acknowledgement of the project's strategy to rehabilitate productive lands under unsustainable management practices by redirecting them using the productive-conservationist approach, which offered the beneficiaries economic, social and environmental improvements. Some advantages of this approach can be seen in the section relating to progress towards impact. However, it is also acknowledged that in the implementation of the practices, the establishment of a percentage of practices that would have to address the main causes of land degradation to contribute effectively to their reduction was lacking, as was another percentage of practices that would have to cover the needs of the producers to maintain their interest in the project, even when these did not directly affect the main types of degradation present in each micro-region.

57. It is appropriate to mention that the effectiveness of the SLM practices depends on these continuing to be applied and on works receiving the required maintenance. As mentioned previously, the effectiveness can be confirmed in the medium or long term, once the physical and chemical soil processes have taken place and can be measured.

Effectiveness of the model

58. Because the model's elements were implemented in line with the planning of the PRODOC and with the delays involved in such, it is not possible to analyse the effectiveness of the model as a whole, as in practice it did not entirely function in this way. In addition, it is considered that it is incomplete given that there is still a need to explain how its elements should be coordinated with each other, and in which order, as well as the conditions and the situations that should arise so that the model contributes to decreasing land degradation, in other words, its theory of change is lacking. In addition, a proposal is also missing on which type of institution could work as a technical accompaniment and coordination team, and what its characteristics should be, considering that FAO could not always take on this role. The role of this team as an impartial and intermediary entity is not highlighted in the model.

59. How the model should work is now the prevailing question, considering the change in priorities in some of the Federal Government departments; or more importantly, there is the question of whether the model is functional when the priorities at federal level are not aligned. The latter is important for ensuring the replicability of the model given that it would be implemented in an institutional framework different to that which prevailed

when PROTIERRAS was executed, in which the Federation's institutional priorities in the topic were aligned. In accordance with the interviews, SADER is modifying its programmes, and as such the adjustments that might need to be made to the model should be assessed to ensure, or more widely foster, the institutional support at other government levels too.

60. This takes on more relevance when taking into consideration that one aspect that worked to promote the model was the alignment of the federal programmes with the PROTIERRAS objective, which made it possible to affirm that the PROTIERRAS project generated added value or additionality for the government actions relating to land degradation and water and soil conservation. All of the civil servants interviewed stated that the activities they performed in the framework of PROTIERRAS were contemplated in their own institutional programmes. However, it is worth mentioning that the operating rules of some of these programmes or components did constitute a barrier for contributing more to the project.

61. It is worth highlighting that the infrastructure works performed by SADER, through the National Commission on Arid Zones (CONAZA), which is its technical arm, required very demanding management by the national coordination and the regional coordinations, with civil servants in central offices and state delegations for their authorisation. In addition, some of the works had technical problems in terms of their design, execution and supervision, which led to problems with their full use. In response to this situation, the resources of PROTIERRAS and of producers had to be used to ensure that the works would be functional.

62. Another driver of the model was the productive approach, which was included after also considering the needs of the producers. However, in some cases this approach took on the most importance, which reflects the gap left by the absence of SEMARNAT in the field. Another driver of the model was the incorporation of the community participation approach and the effectiveness of the training through the field schools.

63. In this same regard, it was found that the model does not consider inter-institutional coordination – which is part of the essence of the model as it contributes to integrated land management and enables the implementation of the land or watershed approach – as one of its guiding principles. In turn, this enables increased effectiveness of the government policies given the synergies generated in favour of the conservation and sustainable use of natural resources. The Model also does not explain how this inter-institutional coordination should take place, or how the proceedings should take place at each level of government or how they should coordinate with one another.

64. Another conceptual, and no less important, omission in the model is the lack of technical methodologies and guidelines that form the basis of the development of a robust LMP,

which includes a diagnosis of the situation of the land[14] and a rigorous land regulation[15], as well as the correct selection and implementation of SLM practices and of the complementary works. If this technical soundness is not ensured, the model could fail to fulfil its objective of decreasing land degradation, even when the governance is strengthened.

Inclusion of the topic in the institutions' public policies and strategies

65. With regard to the realisation of political, regulatory or institutional changes resulting from PROTIERRAS, the project prepared three *ejido* regulations in the micro-region of Mezquital and a communal statute in the micro-region of Mixteca, which were submitted to the National Agrarian Registry. In general, these regulations, to a greater or lesser degree, contribute to the fulfilment of the PROTIERRAS objective, by establishing provisions that mandate the *ejido* rightsholders to use the productive and natural resources sustainably, and avoid actions that lead to their degradation and loss. Although the impact of these regulations strictly depends on their fulfilment, the formal incorporation of the topic at *ejido* level is considered substantial progress. In addition, regulations were prepared to maintain the works performed in the micro-regions of Zacatecas and Oaxaca, which have no legal validity but do represent a moral commitment to the institutions that performed the works and can condition the development of additional works in the event of non-fulfilment.

66. At government level, no institutional or public policy change is identified. Only state civil servants from Zacatecas expressed their intention of adopting most of the PROTIERRAS elements (for example the SLM practices implemented, the watershed approach, making the most of synergies with CONAFOR) in their current programmes. In addition, the state authorities of Oaxaca also expressed their intentions of replicating the model, mainly as regards the inter-institutional coordination achieved, within the framework of other federal projects related to agriculture.

General considerations regarding the effectiveness of the project

67. According to the Project Progress Report (PPR) shared by FAO Mexico, which covers the period from 1 May to 31 October 2019, it is reported that 99.5% progress has been made in achieving the project outcomes, although it is unclear how this percentage of progress was estimated. Table 3 lists the project outcomes, their indicators and level of fulfilment of their targets reported in the report.

Table 3 - Level of fulfilment of the outcomes reported by the PCU.

[14] This diagnosis can be strengthened by complementing the participatory techniques used (field trips and talking maps) with the incorporation of the LADA-WOCAT methodology.
[15] By using the peasants' classification of land or physiographic surveys.

Outcome	Indicator	Final target	Level of fulfilment
Outcome 1.1: Local stakeholders committed to and trained in SLM practices	Number of stakeholders that participate jointly in decision-making for land management	1 municipality, 3 agrarian units and 15 civil society and producer organisations in each micro-region	100%[1]
Outcome 1.2: SLM approach mainstreamed into local land management	Area under land planning with an SLM approach	86 818 ha	109% (94 730 ha)
Outcome 1.3: Increased investment in SLM implementation in the micro-regions	Amount of investment in integrated land management (LD3 iv)	USD 8 524 995	63% (USD 5 375 090.34)
Outcome 2.1: SLM implemented in degraded micro-watersheds	Area under integrated land management practices, including SLM	3 800 ha covered by means of the project actions	237% (9 001.76 ha)
Outcome 2.2: Technical SLM capacities strengthened, contributing to improve the communities' livelihoods	Increased agricultural productivity	+20%	100% (there is uncertainty surrounding its fulfilment)
	Rate of vulnerability of livelihoods, as perceived by the communities	Medium perceived vulnerability	100% (there is uncertainty surrounding its fulfilment)
Outcome 3.1: Systematised information on project results and other relevant experiences disseminated at the micro-regional, state, national and regional levels	PROTIERRAS model systematised and consolidated	The PROTIERRAS model is systematised and consolidated	(100%)[2]
Outcome 3.2: Project implemented on a results-based management approach	Project results achieved demonstrating sustainability	100% reach in achieving results	98%

[1] Micro-region of Valle del Mezquital, comprising 20 people (two women and 18 men), who represent three municipalities, eight agrarian units and 17 producer representatives. Micro-region of Mixteca, comprising 10 people (five women and five men), who represent one municipality, one agrarian unit and four producer representatives. Micro-region of Pánuco, comprising 15 people (15 men), who represent three municipalities, eight agrarian units and 16 producer representatives.
[2] The model still has to be consolidated.

68. In general, the high level of fulfilment of the outcome targets is acknowledged. Of the seven project outcomes, four fully fulfilled their targets, two of them were exceeded, one outcome was very close to 100%, another was 63% fulfilled which is the amount of investment in integrated land management, and there is uncertainty regarding the fulfilment of Outcome 2.2 due to methodological problems detailed further ahead. In addition, the level of fulfilment of the output targets is high, of the 22 output indicators, 11 targets were exceeded, one even tripled the target, 10 targets were 100% achieved and only one was left with 98% fulfilment (Annex 7). It is worth restating that the quality of some of the outputs generated was limited, as discussed in the previous section.

69. According to the Mid-Term Evaluation, the indicators of the Framework of Outcomes were not very precise and, in some cases, not ideal. Consequently and as mentioned in the paragraph above, it is not possible to determine whether Outcome 2.2 *Technical SLM capacities strengthened, contributing to improve the communities' livelihoods*, which has two indicators)the increase in agricultural productivity and the rate of vulnerability(, was fulfilled. Although it is reported that the targets of both indicators were fulfilled, methodological problems were identified given that the PCU did not have the methodology used to estimate the baselines or the targets proposed during the project design phase, and, as such, had to design its own methodologies to measure these indicators. In particular, the PCU proposed a livelihood vulnerability index and designed and applied a survey to measure it in the final year of the project. The lack of knowledge about the methodology used to estimate the baseline and the target of the indicator, makes it impossible to compare the estimated values of the index with these. This methodological incompatability generates uncertainty regarding the fulfilment of these indicator targets. The interviews conducted with the producers indicated that they were perceived as less vulnerable due to the increase in their economic gains, which was generated due to the increase in the productivity of their plots.

The effectiveness criterion is rated as moderately satisfactory.

3.3 Efficiency

Key finding 5: FAO made the most of the opportunity to act as the executing agency of an environmental sector project in Mexico, which opened the door to future collaborations with this sector, and to having a new source of funding like the GEF.
Key finding 6: During the implementation of the project, the PCU, the Project Monitoring Committee (PMC), the Steering Committee (SC) and the Liaison Council (LC) faced limitations when identifying, managing and mitigating risks.
Key finding 7: It was found that the LTO and the PMC made a limited contribution to reviewing and guaranteeing the technical quality of the project outputs and outcomes. The national coordination of the project did not give sufficient importance to the rigour required by some of the technical components of the project.

70. FAO in Mexico made the most of the opportunity to act as an executing agency of this project, proposed by SEMARNAT, with which it had not collaborated before. PROTIERRAS was therefore the first project financed by the GEF that FAO executes in Mexico for the environmental sector. This project initiated collaboration between FAO Mexico, SEMARNAT and the GEF, which resulted in the implementation of other projects related to agrobiodiversity and sustainable fisheries.

71. During the implementation of the project, limitations were observed in identifying, managing and mitigating the risks that arose. At the beginning of the implementation there was a substantial cut in the Federal Government budget, which considerably affected SEMARNAT's participation in the project. This cut resulted in the cancellation of the National Programme for Sustainable Land Management, the impossibility of

implementing the National Strategy for Sustainable Land Management and led to the National System for Combating Desertification and Degradation of Natural Resources (SINADES) to cease functioning. This situation was not considered a new risk - its effect was underestimated. This lack of attention created a lack of government leadership of the project on the ground, leading to it being considered a FAO project and not a government project, and to a work overload for the LTAs, who had to cover the gap left by SEMARNAT with more training (with the exception of the micro-region of Pánuco, in which the SEMARNAT delegation offered two training sessions) and to the co-financing pledged by the sector not being fulfilled.

72. In addition, the measures implemented to mitigate the risk regarding the change in government and civil servant priorities, as a result of the change of government in 2018, were weak and lacked strategy. These consisted solely in using the LC to address the problem. However, given the frequency of the meetings of this Council and the number of participants who attended such, who impeded a high-level discussion, it is considered that it was not the most appropriate mechanism for addressing the risk. In the Mid-Term Evaluation, it was recommended that the national coordination of the project do political lobbying, with the high-level accompaniment of FAO, to ensure the achievement of the outcomes set forth. However, the outreach actions implemented consisted, as foreseen, in addressing the topic by means of the LC.

73. The PCU, which managed the daily work of the project and had a monitoring system that included a component, which monitored the risks, therefore did not identify the aforementioned risk. In addition, in its role as project supervisor with frequent monitoring meetings, the PMC was also unable to identify and mitigate these risks. Similarly, the SC and the LC also did not discuss them in an operational and strategic manner respectively.

74. According to the interviews conducted and the review of the minutes of the sessions of the PMC, SC and LC, it was found that there was a lack of a clear and strategic effort by the Programme Representative and Assistant Representative to address the risks and situations that the project faced. Despite the problems in involving the authorities, mainly the state authorities in the project, there was no high level intervention by FAO in Mexico to implement corrective measures. There is no record of an official high level visit to the micro-regions addressed. Similarly, no strategic meetings took place with each of the new federal authorities to show the progress and benefits of the project and endorse the commitments taken on by the institutions. In general, FAO in Mexico offered little strategic visibility to the project. With the arrival of the new FAO Representative in Mexico, the strategic importance given to the project has changed. The new Representative acknowledged the potential of PROTIERRAS to address the degradation of the land and held a high level meeting with SEMARNAT to address one of the project's main weaknesses, which is the sustainability of the model and its replicability.

75. In addition, there was no high level intervention by FAO in Mexico to ensure sufficient communication between the FAO Representative in Mexico who participated in the design of the project with the PCU, with a view to guaranteeing that the project would be implemented with the same vision it was designed with. It is noteworthy that the

targets of some indicators of the outputs have been exorbitantly exceeded. For example, the indicator target *Established demonstration units* was exceeded by 3 800%, its target was the establishment of 3 demonstration units and by the end of the project 114 demonstration sites had been established. It is undeniable that the project implementation was effective but this rather indicates that the conceptualisation of "established demonstration units" is different to the conceptualisation of "demonstration reference sites". Similarly, the PCU did not have key information that was generated in the project design phase, which includes the databases and maps generated during the diagnosis of the three micro-regions, as well as the methodologies used to generate the baseline of some indicators, such as that relating to the increase in agricultural productivity and the rate of vulnerability of the livelihoods perceived by the communities. This lack of information affected the execution of the project, due to the LTAs having to use other sources of information to substitute the databases and maps that were lacking, which in some cases were not ideal. In addition, it led to the PCU dedicating time and resources to generating new methodologies that would enable them to estimate the final values of indicators, which in the end could not be compared, as it is not known which methodologies were used to generate the baselines.

76. According to the minutes of the PMC, it was found that FAO Mexico's monitoring of the project was limited and lacked effective technical supervision. The minutes show that the main topics of discussion focussed on administrative matters (e.g. recruitment, FAO Mexico requirements to be fulfilled by the PCU and expenses, among others). The technical supervision primarily consisted in the presentation of progress by the National Coordinator and by the regional coordinators and in the monitoring of the percentage of progress of outputs and outcomes. Technical observations that note the technical omissions of some of the outputs and outcomes generated by the project are not reported. In addition, no strategic recommendation was provided in order not to favour the timely fulfilment of the outputs to de developed over the technical quality of such. It was also found that the number of meetings decreased in 2018 and 2019. Six meetings were held in 2017, it is known that in 2018 three meetings were organised, as is the case for 2019. It is noteworthy that, in the last year, five months went by without holding any PMC meeting. The second meeting was held in February 2019 and the third was not held until August 2019.

77. Regarding the technical limitations, it was found that there was no clarity from the start of the project, from the executing team or from the LTO, regarding the scope of the technical advice that the latter could provide to the project, which meant that the executors of such felt that the LTO was generally absent. On the other hand, the fact that the LTO was not involved in the project design, or in the completion of the diagnoses performed during this phase, or in the preparation of the LMPs – in other words they were not convened at crucial moments of the project – should also be mentioned as a substantial shortfall.

78. On its part, the national coordination of the project, in most cases, delegated strategic technical decisions to the two male regional coordinators and to the female regional coordinator, which led to a lack of standardisation and of minimum rigour in some of the

work in the three micro-regions (e.g. land management plan). In other words, it did not give enough importance to the rigour required by some of the technical components of the project. Regarding the technical experts of the PCU, it was noted that there was a lack of greater presence and support from these in the micro-regions.

79. With regard to the use of resources, Table 4 shows the budget programmed and executed per year and component of the project. By July 2019 a total of USD 1 386 713 had been disbursed, leaving a remainder of USD 348 447. The project required rearrangement of the budget among the different items to facilitate its implementation. Only one difficulty was detected for financially reprogramming the budgetary adjustments made, which if not done would make the financial closing of the project with GEF impossible.

80. Taking into account that the project had a low budget *per se* and that the co-financing did not fully materialise, it is considered that efficient use has been made of the resources. The general perception of the project partners is that a lot has been achieved with few resources, although it is highlighted that the LTA had a greater workload than planned, which may not have corresponded to the fees received.

81. It is known that the administrative processes of the international bodies are highly demanding as regards time and rigorous in their application. At FAO Mexico, these processes have been complemented with additional processes to better ensure their application, which has increased the period for fulfilling them. These periods were, in some cases, incompatible with the planning and dynamics of the project, leading to substantial delays and requiring the PCU to spend substantial time addressing them. One example of these kinds of delays was the drafting of the letters of agreement of the LTAs, which permitted payment for services from the agencies. Their drafting took a lot of time, and on one occasion the LTA stopped working due to a lack of resources, which led to delays in the development of the project. Another example is the complexity of the administrative processes to reproduce communication materials, which discouraged this activity or led to the LTA preparing their own materials.

The efficiency criterion is rated as moderately satisfactory.

Table 4 - Budget programmed and executed.

Project component	2016		2017		2018		
	Budget programmed (USD)	Budget disbursed/executed (USD)	Budget programmed (USD)	Budget disbursed/executed (USD)	Budget programmed ($USD)	Budget disbursed/executed (USD)	p
Component 1	16 997	1 002	95 361	78 435	62 736	62 381	
Component 2	85 371	5 032	478 969	393 957	315 101	313 318	
Component 3	14 516	856	81 439	66 984	53 577	53 274	
PMC	11 687	689	65 570	53 932	43 137	42 893	
Total budget	128 571	7 579	721 339	593 308	474 550	471 865	

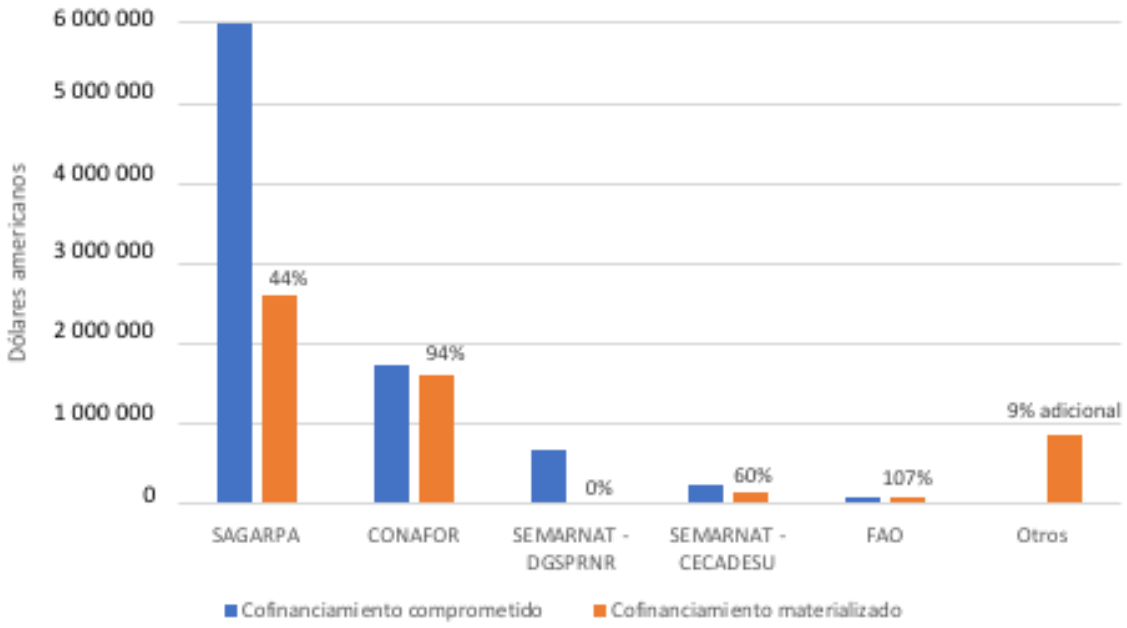
Source: FAO Mexico administrative unit

3.4 Co-financing

Key finding 8: By October 2019, 61% of the co-financing pledged had materialised.
Key finding 9: The limited resources did not significantly affect the achievement of the expected outcomes of the project, due mainly to the high replicability of the SLM practices.

82. Co-financing represents 83% (USD 8 746 566) of the total project budget (USD 10 481 726). According to the PPR provided by the PCU, 61% of the co-financing materialised. Figure 2 shows the amounts of resources pledged and materialised by the project partners. As can be seen, only CONAFOR was very close to fulfilling the pledged co-financing amount. The other government institutions remained below 60%, in particular the General Directorate for the Primary Sector and Renewable Natural Resources (DGSPRNR) of SEMARNAT did not provide the resources pledged due to the cancellation of the budgetary programme that addressed the topic of land degradation. FAO exceeded the co-financing pledged by 107% and other bodies initially not included as co-financiers contributed USD 872 539, which represents 9% of the total co-financing. Annex 8 provides more details of the co-financing planned and executed.

Figure 2 - Percentage materialisation of co-financing pledged by project partners as at October 2019.



Source: PPR provided by the PCU

83. It is worth highlighting the PCU's timely monitoring of the co-financing, which resulted in the inclusion of a risk linked to non-compliance in the 2018 Project Implementation Review (PIR). However, this risk had several causes, one of which – that was not addressed – was the potential change in the Federal Government's priorities resulting from the electoral process, which took place in 2018. As a result of the change in government,

programmes of the institutions that were partners of the project were cancelled or modified in 2019 (e.g. SADER, formerly SAGARPA), which constituted the sources of resources to finance the complementary works in the three micro-regions. Given the foregoing, the project did not fully fulfil all of the co-financing pledged. However, these limited resources did not have any significant effect on obtaining the expected outcomes, due mainly to the high replicability of the SLM practices that arose in the micro-regions, mainly in Zacatecas. The targets of most of the indicators of the Framework of Outcomes were met, some were even exceeded, except the indicator on investment in degraded areas linked directly to co-financing from the government counterparts. Section 3.6 provides more details on the outcomes of the project.

The co-financing criterion is rated as moderately unsatisfactory.

3.5 Involvement of the stakeholders

Key finding 10: The PCU and the LTA involved the producers, promoters and local authorities in the project effectively, and achieved the appropriation of such.
Key finding 11: The involvement of research centres such as the INIFAP and the CIMMYT, not initially included in the project, generated greater trust and participation among the producers and promoters.
Key finding 12: Taking into account that the objective of the project included the strengthening of the local authorities and the concurrence of multi-sector policies, it is considered a significant omission that the state and municipal authorities of the three micro-regions, were not consulted during the design phase. Consequently, it was not possible to fully involve the state authorities of Oaxaca and Hidalgo, although the Field Secretariat (SECAMPO) of Zacatecas expressed its interest in resuming the elements of PROTIERRAS.
Key finding 13: The project achieved the concurrence of key federal institutions to contribute more effectively towards decreasing land degradation by means of a land approach, but did not manage to achieve the concurrence of local authorities.

84. The effectiveness of the PCU and the LTAs in involving the producers, promoters and local authorities in the project, and achieving the appropriation of such is acknowledged[16]. According to the interviews conducted, the producers and promoters expressed a high degree of satisfaction with the development of the project, and a clear understanding of the importance of sustainable land management with a watershed approach. In this regard, the field schools were a very effective medium for transferring this knowledge to them. In addition, the positive outcomes they managed to achieve by implementing the SLM practices in their crops, reflected in the improved physical appearance of their land and in the economic benefits and savings obtained, to a great extent promoted the replication of the practices and the conviction to continue to implement them. However, they insisted on the need to maintain technical support to fine-tune the knowledge acquired.

[16] In the micro-regions of Mezquital and Mixteca, there were producers and promoters that belonged to indigenous groups, and as such these groups were also involved in the project.

85. It is also worth highlighting the involvement of research centres such as the INIFAP and the CIMMYT to complement the training of producers and promoters, which was extremely positive as they generated more trust and the greater involvement of such, taking into account the previous work that the centres had completed in the area.

86. This level of involvement was not achieved with the state authorities as they did not participate in the project design and, therefore, did not know about it. The exception is the state Government of Zacatecas, where SECAMPO had active participation in the project, by means of the recently created Sub-secretariat of Soil and Water Conservation, which has expressed its interest in replicating the elements of PROTIERRAS in its own government programmes.

87. At federal level, the participating institutions were project partners, and consequently played an active role in the implementation of the project, in most cases achieving the convergence of their duties in the project's areas of work, which is considered one of the main contributions made by PROTIERRAS, given the difficulty in achieving effective inter-institutional coordination in the Public Administration.

88. Other bodies involved that were not initially included in the project, included the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) [German International Cooperation Agency] in Hidalgo and Oaxaca, the Worldwide Fund for Nature and small private sector companies. With regard to the latter, there was a lack of involvement of large companies that also exercise substantial pressure on soil use (e.g. the cement company located in the micro-region of Mezquital).

The criterion regarding the involvement of stakeholders is rated as moderately satisfactory.

3.6 Progress towards impact -

Key finding 14: At the moment there is no clear trend regarding the effect of SLM practices on land degradation in the reference sites. However, some physical changes have been registered that could possibly reverse the damage. According to the interviews, the producers above all perceive themselves as less vulnerable, as the implementation of SLM practices has brought them economic benefits.
Key finding 15: If SLM practices continue to be rigorously replicated, a marked trend towards decreasing degradation could be achieved in the medium term (three years) and a reversal of the process could be accomplished in the long term (over five years).
Key finding 16: No institutional or public policy changes are recorded in the participating government institutions.

89. Although the PRODOC Framework of Outcomes did not include an indicator or specific indicators that measured the decrease in land degradation, the need to have them arose at an initial stage as an initiative of the micro-regions that was not coordinated by the PCU. According to the documentary evidence and the interviews at this initial stage, the

LTAs of the micro-regions of Mezquital (from March to August 2018) and of Pánuco (in May and June 2018), with the support of the INIFAP, took measurements (fertility analysis) of the initial situation of the soil where the SLM practices would be implemented in the DRS. On its part, in the micro-region of Mixteca initial measurements were only taken in two plots (*cajete* maize in March 2018 and sowing beds in May 2019) according to the laboratory data provided by the coordinator of the micro-region.

90. Given that this initiative was not coordinated from the beginning, the indicators or parameters initially measured in each micro-region show some similarities and differences, and as such are not entirely comparable with one another, also taking into account when the samples were taken (which crop stage or while the land was resting), the type of crop present and the units in which the results surfaced (in these cases the most contrasting micro-region was that of Pánuco as it reported in different units and used the degree of fertility to include most of the soil nutrients in a single value). Table 5 shows the parameters measured and the method used for such in the three micro-regions.

Table 5 - Soil parameters measured in the three micro-regions that compose the baseline.

Valle del Mezquital, Hidalgo		**Mixteca, Oaxaca**		**Pánuco, Zacatecas**	
Parameter	**Method and unit of measurement**	**Parameter**	**Method and unit of measurement**	**Parameter**	**Method and unit of measurement**
Soil loss	Universal soil loss equation for soil loss due to water erosion (t/ha/year)	Soil loss	Universal soil loss equation for soil loss due to water erosion (t/ha/year)	Soil loss (t/ha/year)	Universal soil loss equation for soil loss due to water erosion (t/ha/year)
Nitrogen	$N\text{-}NO^3$ (ppm)	Nitrogen	Inorganic N (ppm)	N content *Degree of fertility (weighting of MO, nutrients and pH)	(kg/ha) Inorganic N (kg ha^{-1}) Olsen-P (ppm) K Extract (meq l^{-1})
Phosphorus	Olsen-P (ppm)	Phosphorus	Olsen-P (ppm)		
Potassium	Saturation extract (ppm)	Potassium	Saturation extract (meq l^{-1})		
pH	Dilution in water 2:1	pH	Dilution in water 2:1		
Organic matter content	Walkley and Black (%)	Organic matter content	Walkley and Black (%)	Organic matter content	Walkley and Black (%)
Texture	Bouyocos (triangle of textures)	Texture	Bouyocos (triangle of textures)	Texture	Bouyocos (triangle of textures)
Available humidity	By field capacity (%)	Available humidity	By field capacity (%)	Available humidity	By field capacity (%)
Apparent density	(g/cm^3)	Apparent density	(g/cm^3)	Apparent density	(g/cm^3)
Electrical conductivity	(dS/m)	Electrical conductivity	(dS/m)		
		Organic carbon per surface area	(ton/m2)	Organic carbon per surface area	(ton/m2)

Source: Prepared by the authors based on the reports by the LTAs submitted to the PCU

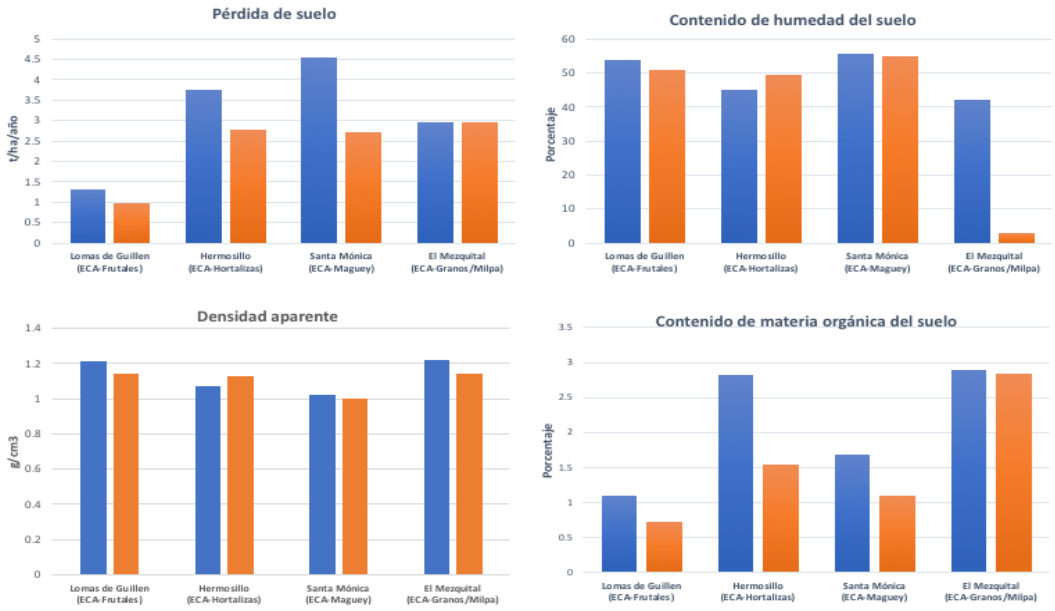
* The degree of fertility corresponds to the weighting of the nutritional parameters measured.

91. In a second stage, the PCU and the INIFAP of Oaxaca and Hidalgo – taking into consideration the suggestion of the LTO – decided to create an indicators matrix[17] to evaluate the impact of SLM practices taking into account the pillars of sustainability. In the specific case of the environmental integrity indicators, the data obtained by the micro-regions in the first stage served as a baseline to estimate or highlight possible changes resulting from the implementation of practices. To prepare the indicators matrix, the SLM specialist, the M&E specialist, the coordinator of Oaxaca and the INIFAP employees held conference calls with the teams of the micro-regions to share and explain the matrices and how to measure the indicators.

92. The comparison of some of the initial values of the soil parameters measured in Mezquital, with the final values measured in 2019, makes it possible to see positive progress in some physical indicators. In other words, there are decreases in soil loss per year (in accordance with an approximate method, without verification in the field) and in the apparent density of some sampled sites. The soil nutrients also increased in some plots, which can be attributed to the organic and mineral fertilisation of the crops and to the incorporation of the remains of the previous crop (practice promoted by the project) although there were no checks on land that did not receive any intervention. However, decreasing values were recorded in the indicators regarding organic matter content and available humidity content in the soil, as a possible consequence of its use on crops, which, according to the producers interviewed, resulted in increased yields (Figure 3).

[17] The indicators proposed coincide with those reported in the scientific literature (Kairis et al., 2014) and in prior work by FAO (FAO, 2011; Twagirayezu, 2017). These indicators resume some of the parameters measured initially in the micro-regions of Mezquital and Pánuco and add a few others such as *Flora emerged with the SLM practices before and after*.

Figure 3 - Comparison of initial (2018) and final (2019) values of some physical and chemical indicators measured in the micro-region of Valle del Mezquital.

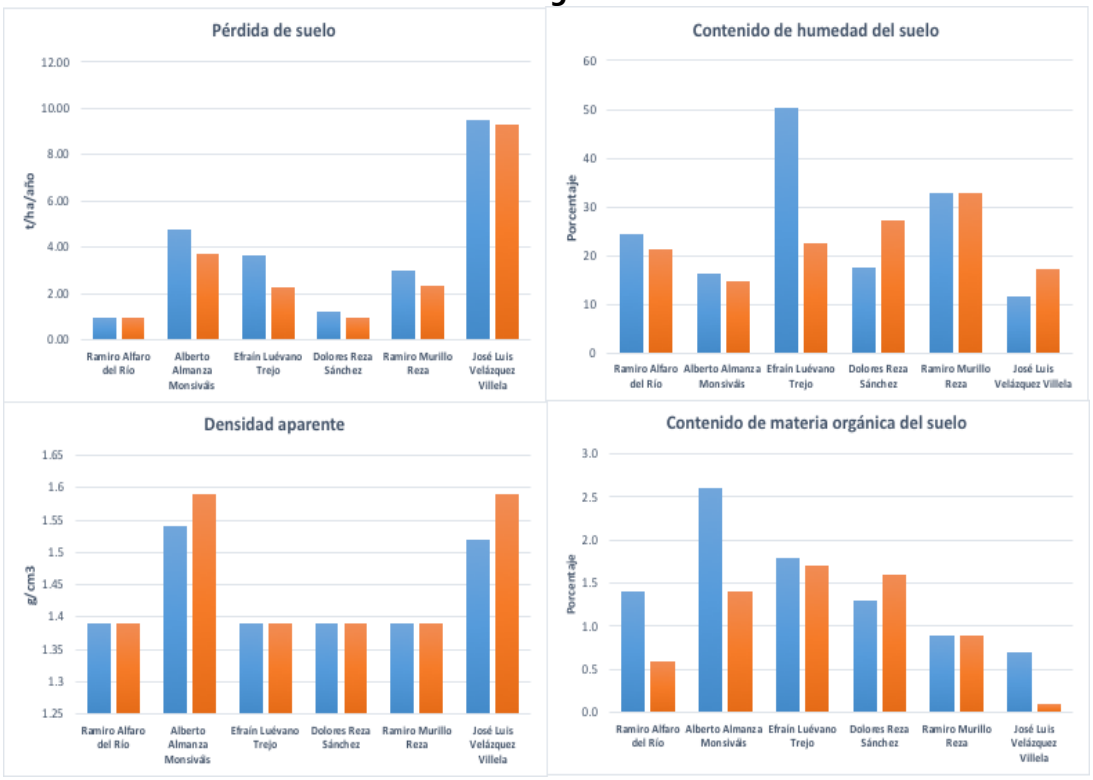


Source: Prepared by the authors based on data provided by the PCU.
The "Mezquital" DRS data correspond to a rainfed plot.

93. In the micro-region of Pánuco, the baseline and final measurements record a favourable trend only in the soil loss indicator for 77% of the sites sampled. However, it is worth mentioning that this measurement was taken with a (MUSLE) model that mainly estimates water erosion (Williams, 1975)[18], which could not be used to estimate wind erosion, which is the main cause of land degradation in the micro-region. The humidity content increased by 54% at the sites. The apparent density remained constant in 81% of the DRS and the organic matter and organic carbon content in the soil decreased in 59% of the samples. The latter can also be explained by the use of organic matter by the crops, which made it possible to increase their yield, according to the statements made by the producers. Figure 4 shows a sample of the DRS analysed, with the initial and final values of some of the indicators measured.

[18] Williams, J. R. 1975. Sediment-yield prediction with universal equation using runoff energy factor. In: *Present and Prospective Technology for Predicting Sediment Yield and Sources*. USDA. ARS-S40. pp: 244-252.

Figure 4 - Comparison of initial (2018) and final (2019) values of some physical and chemical indicators measured in the micro-region of Pánuco.



Source: Prepared by the authors based on data provided by the PCU.

94. The baseline data and final values of the two plots measured by a private laboratory were provided for the Mixteca micro-region. This data corresponds to the sowing beds and *cajete* maize practices, in accordance with these values an increase in the amount of nutrients (N, P and K) was registered and in organic matter content from 1.08 to 1.86%; and in the total surface organic carbon content, from 17 to 32 t/ha, while the other indicators remained constant.

95. The forestry DRS were not included in the measurements of the indicators prepared by the PCU, as the timing for obtaining reliable data did not correspond to that of the project (SEMARNAT-Universidad Autónoma de Chapingo, 2013). In addition, most of the reforestations belong to works performed previously by other institutions (up to 25 years ago). Forest harvesting did not take place in any of the cases, as the beneficiaries only gather some outputs from these sites. In this regard, there is recognition of the initiative and work of the PCU and the LTAs to raise awareness among producers and the community about forestry management, conservation and use, and acknowledge the role of these ecosystems as environmental services suppliers down the watershed. According to the interviews conducted with producers and people from the community in the three micro-regions, it was possible to confirm their understanding of the integrated management of watersheds. It is worth highlighting that as they are not included in the PRODOC, these activities also required additional time and resources.

96. Due to the foregoing, it should be noted that to date there is no clear trend regarding the effect of the SLM practices on land degradation in the micro-regions of Pánuco and of Mezquital, due to the time that these processes require to reverse degradation *per se* and show measurable changes in the soil. However, despite there being no evidence of a decrease in land degradation, there have been physical changes that result directly from the project activities and that could probably lead to decreased degradation in the long term if the practices continue to be replicated.

97. Although it cannot be robustly confirmed that the vulnerability perceived by the producers and members of the community decreased, due to the methodological problems explained in the section regarding effectiveness, the interviews conducted indicate that the producers, primarily, feel less vulnerable. The foregoing is due to the fact that the effectiveness of the SLM practices implemented has brought them economic benefits. However, it is worth restating that this benefit can be momentary if the SLM practices stop being implemented. In addition, it is important to mention that the interviews do not fulfil a statistical criterion that ensures that the indicator was fulfilled in the whole of the population.

98. The record of the *ejido* regulations and the communal statute prepared by the project, as described in the section about effectiveness, contributes to the sustainability of the project benefits at *ejido* level by keeping the topic of land degradation present in its statutes and contributes to the continuity of actions that enable this to be fulfilled. However, at government level, no institutional or public policy change was identified. Only state civil servants from Zacatecas and Oaxaca expressed their intention to adopt some or most of the elements of PROTIERRAS. This means that the continuity of the actions implemented by the project is not ensured.

The progress towards impact criterion is rated as moderately satisfactory.

3.7 Sustainability

Key finding 17: The sustainability of the project benefits and, in particular of the Land Management Model, is the weakest aspect of the project. The model is incomplete, it shows effective elements but also other weak ones, which makes it difficult to scale up.
Key finding 18: The project does not have an exit strategy and the change in government led to modifications to government programmes that make government alignment with PROTIERRAS difficult. Efforts have recently been initiated by FAO Mexico to promote the scaling up of the model in the participating states, but to date there is no specific proposal.
Key finding 19: The possible positive effect achieved by means of the SLM practices implemented in the micro-regions can easily be reversed if the practices stop being implemented and the works do not receive the appropriate maintenance.

99. The sustainability of the project benefits and, in particular of the Land Management Model, is the weakest aspect of the project. This is due to the following reasons:

a) There was not enough time to implement the model to consolidate it and ensure its integrated and autonomous operation, despite some of its elements being effective. The theory of change still remains unclear, questions remain as to how its elements should be coordinated to achieve the desired aim and how it can work when the priorities are not fully aligned at federal level, and as to how to analyse the possibility of incorporating new stakeholders that can counteract this change in priorities. Given that the model is incomplete, there is a risk that it cannot be scaled up.
b) The conceptual and functional weakness of the element regarding land governance and particularly of the LMC, is another of the obstacles that limits the sustainability of the model. In particular, the LMCs of the micro-regions of Pánuco and Mixteca requested support/accompaniment to continue operating. They are unsure of being able to do so alone, although the Mezquital Committee appeared to be more confident and motivated to continue with its work.
c) The project does not have an exit strategy to ensure that the Land Management Model implemented continues to operate in the three micro-regions without the support of the PCU and the LTAs, or specific proposals from any government institution to replicate the model. The lack of leadership by any government institution during the implementation of the project does not facilitate the identification of who could give continuity to the works completed. According to the last interviews conducted, FAO in Mexico requested an extension of the GEF project, without additional cost, to work on the exit strategy and it has had meetings with SEMARNAT and some government representatives of the participating states to address a possible upscaling, but to date there is no knowledge of there being a specific proposal to replicate the model.
d) With regard to the sustainability of the benefits resulting from the implementation of the SLM practices in the DRS, it is considered that although there is not a clear trend of its effect on land degradation to date, some of the indicators – such as soil loss and soil nutrients – show minimal but encouraging outcomes to affirm that a process has begun to stop erosion, mainly water erosion, as some physical soil parameters have changed. However, there is the risk that these changes may disappear if the practices stop being repeated, as the changes are easily reversible. As a result, their continuity is necessary to generate structural modifications in the long term, which would enable the establishment of more biological interactions so that the organic matter is retained inside the soil aggregates and therefore offers more resilience to erosive processes. In this regard, all of the producers interviewed who implemented SLM practices stated that they will continue with them as they were very effective, but that they still need technical support.
e) Equally, the sustainability of the infrastructure works completed (e.g. rainwater harvesting basins, tanks and borders) will depend to a great extent on the work and continuity of the work committees responsible for ensuring their maintenance. It is also expected that the usefulness of the works will encourage their maintenance. However, the sustainability of the works could be different in the three micro-regions, above all in the micro-region of Pánuco given that the voluntary work has been lost, in contrast to the micro-regions of Mezquital and Mixteca where *tequios* and *faenas* still take place.

The sustainability criterion is rated as moderately unlikely.

3.8 Monitoring and evaluation

Key finding 20: All of the elements of the M&E system indicated in the PRODOC were developed.
Key finding 21: The function of the monitoring system as a source of information for the project partners and for decision-making was downplayed, due to the errors in the Spanish version of the PRODOC, which was primarily used by the PCU.
Key finding 22: The measures for addressing the Mid-Term Evaluation recommendations regarding the sustainability of the project were not fully fulfilled.

100. The elements of the M&E system detailed in the PRODOC were developed during the implementation of the project. In particular, the monitoring system developed included seven components: i) beneficiaries; ii) adaptive management; iii) projects; iv) risks; v) DRS; vi) co-financing; and vii) monitoring of indicators, outputs and outcomes. These components constitute an extensive and detailed monitoring system, primarily as regards the reporting of activities conducted on the ground.

101. The revision of each of these components of the monitoring system made it possible to identify that particularly the project indicator, output and outcome monitoring component was based on the Framework of Outcomes included in the Spanish version of the PRODOC, which contains errors in its content compared to the English version.

102. The main errors in the Spanish version of the PRODOC include the extension of the objective of the project to the following: "To decrease land degradation **and the population's vulnerability to climate change** by implementing a land management model…", in other words, the scope of the original objective was increased to also include the decrease in the population's vulnerability to climate change. Equally, there are differences in some indicators with regard to the English version of the PRODOC. According to the PCU, these changes were made as a result of a SMART (Specific, Measurable, Assignable, Realistic and Time-related) analysis. However, in some cases, these modifications were incorrect as they changed the meaning or scope of some indicators. The main errors of the PRODOC in Spanish and the most substantial changes to the indicators are detailed in Annex 9.

103. Although these errors in the Spanish version of the PRODOC and the adjustments made to the indicators for their internal use did not affect the correct reporting of the progress of the project and the progress made in fulfilling the indicators, they did downplay the role of the monitoring system as a reliable source of information for the project partners and for decision-making.

104. According to the PCU, the M&E system was validated in the second session of the SC. However, the minutes of the session do not show an agreement that indicates that the M&E system was validated by the Committee, and no mention is made of it in the section of the minutes detailing how the session progressed.

105. As regards the evaluations, the Mid-Term Evaluation of the project took place in accordance with the terms of the GEF and FAO statutes. It is worth pointing out that the evaluation issued important recommendations to ensure the sustainability of the project benefits, whose measures to address them were not fully fulfilled. These measures involved FAO Mexico doing high level political lobbying to inform the new federal authorities about the project and asking for their support in order to give it continuity, which did not occur.

The monitoring and evaluation criterion is rated as moderately satisfactory.

3.9 Knowledge management

Key finding 23: The project generated new knowledge about successful SLM practices that were systematised and disseminated by means of the World Overview of Conservation Approaches and Technologies (WOCAT) database.
Key finding 24: The project also contributed and will contribute to generating new knowledge about the effectiveness of hybrid wheat seeds, varieties of beans and agronomic practices on locally relevant crops.
Key finding 25: The transfer of knowledge acquired about good SLM practices through the promoters was highly effective.

106. The project generated new knowledge about successful SLM practices that were implemented in each micro-region, which were systematised and incorporated into the WOCAT database[19]. The practices included were: i) pine tree alleys interspersed with feed in the micro-region of Valle del Mezquital[20]; ii) water harvesting micro-watersheds for *Milpa* crops in the micro-region of Mixteca in the state of Oaxaca[21]; and iii) SLM practices systems in soil with scarce precipitation in the semi-desert of Zacatecas in the micro-region of Pánuco[22].

107. These practices were subject to a peer review to endorse their approach and technology, and to be incorporated into the WOCAT database. The main objective of this database is to disseminate reliable information about SLM, and in so doing contribute to informed decision-making in the topic. In view of this, a series of questionnaires were filled in for each practice, and the resulting information was consolidated into a data sheet

[19] The WOCAT database on SLM will provide free access to the documentation of SLM data verified in the field, including SLM practices and maps of different places in the world, and offers practitioners the opportunity to share their own SLM practice or map.
[20] WOCAT GLOBAL DATA BASE. 2018. Pine tree alleys interspersed with feed (Mexico). http://www.fao.org/fileadmin/user_upload/FAO-countries/Mexico/docs/Caso_ValledelMezquital_Hidalgo06022019.pdf
[21] WOCAT GLOBAL DATA BASE. 2018. Water harvesting micro-watersheds for *Milpa* crops in the micro-region of Mixteca in the state of Oaxaca (Mexico). http://www.fao.org/fileadmin/user_upload/FAO-countries/Mexico/docs/Caso_Mixteca_Oaxaca060202019.pdf
[22] WOCAT GLOBAL DATABASE. 2018. SLM practices systems in soil with scarce precipitation in the semi-desert of Zacatecashttp://www.fao.org/fileadmin/user_upload/FAO-countries/Mexico/docs/Caso_Panuco_Zacatecas06022019.pdf

containing the description of the practice, the technological classification (based on the purpose and use of the land), a technical drawing, the costs of establishing/maintaining the practice, characteristics of the land users, the socioeconomic, sociocultural and environmental impact, a cost-benefit analysis, the process of adoption and adaptation of the practice, as well as the conclusions and lessons learned during their implementation.

108. In addition, the project contributed towards generating new knowledge about the effectiveness of hybrid wheat seeds developed by the CIMMYT, and varieties of beans developed by the INIFAP. The hybrid wheat seed is a variety of bread wheat that is resistant to rust and arid conditions, which was used in plots in the three micro-regions, which were monitored by the CIMMYT to determine the physiological and adaptive responses of the seed in the regions. According to the producers interviewed, use of the seed led to increased yields. In relation to the beans, the INIFAP tested varieties that it developed specifically for rainfed and irrigated conditions, and they showed tolerance to multiple diseases and a high productive potential. These varieties were tested exclusively in the micro-region of Pánuco.

109. Additionally, in the micro-region of Pánuco, an experimental evaluation model was installed[23] with the support of the INIFAP, the Universidad Autónoma de Zacatecas (UAZ) and SECAMPO, which will generate new knowledge in the future. The objective of the module is to evaluate the most frequently used practices in crops of five varieties of beans, chilli and maize; to compare different agronomic practices (planting density, composting, vegetation cover and sunflowers to till the soil), and to exhaustively and constantly monitor the impact of the practices on the soil. This module forms part of research for an agronomy degree dissertation, and of INIFAP projects.

110. The effectiveness of the project depended to a great extent on the transfer of knowledge acquired about good SLM practices for its replicability. Producers and members of the community were trained in good SLM practices by means of the field schools approach, and some of them were appointed as promoters to increase the replicability of the practices learned. The reproduction of these practices was highly effective and doubled the target for the area under SLM.

The knowledge management criterion is rated as satisfactory.

[23] Four evaluation modules (one present in the micro-region of Pánuco) were installed in 2018 as a result of the participation of PROTIERRAS in the sustainable agriculture exchange tour and due to the initiative of SECAMPO and the INIFAP. The modules will serve to monitor the effectiveness of five varieties of beans developed by the INIFAP, which are at the stage of being released in the field.

3.10 Gender and equality

Key finding 26: The project did not have resources or a strategy that would effectively address the inclusion of gender and equality in the activities, and as a result, young people and women participated in the project to a limited extent.
Key finding 27: The project obtained Free, Prior and Informed Consent (FPIC) due to the presence of indigenous groups in the micro-regions of Mezquital and Mixteca, which was duly approved. Some of those who benefited from the training and support provided participated in the project.

111. The effort made by the PCU to incorporate the participation of women and young people in the project activities is acknowledged. However, these actions were not framed within a strategy that would effectively facilitate and promote the participation of these vulnerable groups in decision-making and in equal access to the training and project benefits. This resulted in the actions implemented relating to the topic of gender not having the desired effect. In this regard, it is worth pointing out the workshops provided to raise awareness about gender in the three micro-regions with the support of a specialist, in one of which, the lack of consideration about the context and customs of the micro-region of Pánuco bothered some of the women who attended the workshop, and as such its effectiveness was diminished.

112. In addition, it was found that resources were not earmarked in the project budget to support specific activities relating to this topic, and there was consequently a need to make adjustments to the budget to cover these expenses. Similarly, no communication materials or campaigns were realised that effectively encouraged the participation of women and young people in the project. The promotion took place orally, and it was justified as an activity that the project required and not on the basis of the benefits that the project actions could provide to these groups. The project therefore did not manage to cover the 30% participation of women who benefited from the project.

113. Regarding the indigenous groups, at the start of the project the need to have FPIC was identified, as the project would be implemented in areas with indigenous populations. This need was not identified during the project design given that the FAO guidelines for their implementation were still under construction at that point in time. The FPIC was therefore obtained at the start of the project for the micro-regions of Oaxaca and Hidalgo, which was approved halfway through the implementation of such. The project did not follow a specific strategy for the involvement of indigenous groups but they did participate in it, and received the benefits provided by the project.

The gender and equality criterion is rated as moderately unsatisfactory.

3.11 Social and environmental safeguards

Key finding 28: On considering that the SLM practices include *per se* care of the environment and that these were implemented by expert personnel, the progress of the project did not, at any time, pose a risk to the community or the environment.

114. In addition to putting into practice the sustainable management of natural resources approach to reverse land degradation, the SLM practices implemented included criteria compatible with caring for the environment, in other words, development precepts that make it possible to guarantee the continuity of natural resources for future generations. Examples of the practices implemented in the three micro-regions include the use of organic fertilisers (vermicompost, livestock manure from plots), the agroecological treatment of pests, the massal selection of the native seeds of some native species (*cajete* maize or mirasol chilli pepper) and the reduced tillage. One of the most important for promoting the restoration of natural systems was the use of native flora for reforestation work, in contrast to previous works in the regions when introduced species were used such as *Pinus greggii* and eucalyptus (*Eucalyptus globus*). It is worth pointing out that all of the practices implemented comply with the prior experiences and manuals implemented by FAO[24].

115. In addition, it is worth highlighting the work done previously by the LTAs in the micro-regions of the project, which facilitated the appropriate implementation of the practices. This experience was complemented by hiring external consultants when there was no knowledge of the topic or by means of strategic alliances with research centres that use previously verified practices and methodologies. These include the INIFAP with vast experience in the development of field schools[25] and experimental modules[26]; the CIMMYT by developing conservation agriculture modules[27]; and some other collaborations established with local researchers from universities such as Universidad Autónoma de Hidalgo, the UAZ, the Colegio de Postgraduados and the INIFAP itself, with its regional centres.

The social and environmental safeguards criterion is rated as satisfactory.

[24] FAO and MADS. 2018. Guía de buenas prácticas para la gestión y uso sostenible de los suelos en áreas rurales. Bogota, 2018.
[25] INIFAP. 2007. Escuelas de campo: Un modelo de capacitación y transferencia de tecnología en comunidades indígenas. Reporte Anual de Investigación e Innovación Tecnológica INIFAP 2007.
[26] INIFAP 2016. Estrategia de extensionismo en el marco del Programa Apoyo a Pequeños Productores, la SAGARPA y el INIFAP. Online portal http://extensionismo.inifap.gob.mx/acercaDelProyecto.html.
[27] MASAGRO. Modernización Sustentable de la Agricultura Tradicional. Digital platform https://masagro.mx/es/

4. Conclusions and recommendations

4.1 Conclusions

Conclusion 1 (Relevance and importance) - The project and, in particular the Land Management Model, represents an alternative that converges the multi-sectoral policies of the three levels of government. It does this by means of a watershed approach and by reversing land degradation to maximise its effectiveness, while empowering local stakeholders – who act as catalysers and promoters of the model – to make decisions and contribute in an informed manner to the sustainable management of their land.

Conclusion 2 (Design) - The way in which the project objective was formulated led to the understanding that, according to the interviews conducted and the Mid-Term Evaluation, the project would manage to reduce land degradation, and as such the project was classified as ambitious, given its duration. As a result, the project was dismissed by several interviewees, including one of the new federal authorities, who stated that it was not realistic in its scope. In addition, initiatives were generated in order to have a baseline and to measure the impact of the implemented SLM practices on land degradation, which was not included in the PRODOC.

Conclusion 3 (Effectiveness) - The project managed to systematise the Land Management Model and provide more detail in its conceptualisation by defining processes and some of its elements that were not included in the project design. Its four main elements were implemented: governance, land management, production and conservation, as well as knowledge management. However, there was not enough time to fine-tune its conceptualisation and consolidation. The capacities of the Land Management Committee members, which constitute the key part of the governance element have to be strengthened just like the conceptualisation of the committees, as these are viewed as vulnerable. Land management, production and conservation elements must be strengthened in technical terms, as it was understood that the core part of the project was governance. The knowledge management element was the most effective, due to the SLM training being highly effective. In this regard, it was not possible to measure the effectiveness of the model as a whole, given that such is still incomplete; added to this is the impossibility of measuring tangible changes in decreased land degradation because of the model's short implementation period.

Conclusion 4 (Efficiency) - The change in government and in priorities of the Federal Government led to some of the risks identified in the PRODOC arising, and these were not handled and addressed effectively and in a timely manner, which affected the effectiveness, co-financing and sustainability of the project.

Conclusion 5 (Involvement of the stakeholders) - The stakeholders' involvement in the project was not entirely effective. On the one hand, the PCU and the LTAs competently involved the producers, promoters and local authorities in the project, as well as the research centres and other international and private bodies, the participation of which was not initially set forth in the project. On the other hand, it was not possible to fully involve the state authorities, and as such its policies and investments did not contribute satisfactorily to the topic.

Conclusion 6 (Progress towards impact) - The measurement of some soil parameters in an uncoordinated manner not included in the PRODOC, did not provide a clear trend regarding the

effect of the SLM practices on the sampled DRS, as expected. However, some physical changes were recorded in the soil that could lead to decreased degradation in the long term, if the practices continue to be replicated rigorously.

Conclusion 7 (Sustainability) - The sustainability of the benefits of the project and, particularly of the Land Management Model, is the weakest aspect of the project, as the model is incomplete, the project does not have an exit strategy, and lacks a strategy that enables the continuity of the implementation of SLM practices to ensure the project's contribution to decreased land degradation.

Conclusion 8 (Gender and equality) - The project did not have earmarked resources or a strategy that would effectively address the inclusion of gender and equality in the activities, and as a result, young people and women participated in the project to a limited extent.

Conclusion 9 (Knowledge management) - The project generated and contributed to the production of new knowledge regarding SLM practices, some of which were systematised and shared by means of the WOCAT global database.

4.2 Recommendations

Recommendations geared towards strengthening the project outcomes

Recommendation 1 to the GEF - FAO's initiative in Mexico to request an extension of the project by five months, without additional cost, in order to strengthen the conceptualisation of the Land Management Model and strengthen its weak elements such as the Land Management Committees, the technical aspects of the land management plans and the selection of the SLM practices, as well as address the new challenges that the change in federal government created for the model, is endorsed. In addition, it is necessary to define an exit strategy that will make it possible to ensure the operation of the Model without the presence of the LTAs and FAO, and that establishes the bases (for example, the signing of agreements with state or federal governments) for the replicability of the Model in other regions of the country.

Recommendation 2 to FAO - In particular, it is suggested that FAO strengthen the technical sturdiness of the model, by incorporating a guide or technical guidelines that make it possible to ensure the technical foundation of the LMP, with primary emphasis on the soil regulation and the selection of reference sites and SLM practices; as well as the inclusion of a soil specialist in the profile of the LTAs and the official participation of research centres so that researchers and students also strengthen the capacities of the LTAs.

Recommendation 3 to FAO - With regard to the sustainability of the project benefits, and in the understanding that the effects of the SLM practices implemented in the three micro-regions will be evident in three or five years, if the practices continue to be implemented, it is recommended that FAO in Mexico review the environmental wholeness indicators proposed by the PCU and enter into collaboration agreements with the federation, states, municipalities and/or participating research centres, with the support and participation of the LMCs, to ensure that the SLM practices continue to be implemented, and to continue monitoring the project reference sites and fully document the effect of the practices, and of the Model, in general. In

this regard, the most can be made of the individual actions that the research centres such as the CIMMYT and the INIFAP perform in the micro-regions, as well as the actions of the state governments like that of Zacatecas, in relation to the topic. In addition, the conceptualisation of the model has to be reinforced to ensure it is sustainable.

Recommendation 4 to FAO - It is suggested that FAO in Mexico design and implement a campaign to disseminate the PROTIERRAS model and outcomes, to give greater visibility to FAO's contribution to conservation and the sustainable use of natural resources and adaptation to climate change. And to highlight FAO's role as a neutral and strategic facilitator in a bid to increase the harmonisation of multi-sector and inter-institutional climate policies.

Recommendations for future projects

Recommendation 5 to FAO - Taking into consideration that the objective of the project was classified as ambitious due to the way in which it was formulated and the repercussions that this had on the implementation of the project, it is recommended that FAO ensures that the key stakeholders properly understand the objectives of new projects and makes any necessary adjustments to their formulations to achieve said understanding. It is important that there is clarity between what the project can manage in the established implementation period, and other global environmental benefits or impacts that are generated in the medium or long term. In addition, it is essential that in the design phase the LTO is involved and participates in a satisfactory manner to ensure close alignment in how the activities put forth in a project will be implemented.

Recommendation 6 to the GEF and to FAO - It is suggested that the effect that major political events (for example, presidential elections), which arise during the implementation of the project, can have on the government leadership and the project co-financing, should not be underestimated. To this end, an explicit risk must be included in the PRODOC that specifically covers this potential problem and strategic mitigation measures that are aligned with the level of the impact that the risk may have should it materialise.

Recommendation 7 to the GEF and to FAO - In order to ensure the proper inclusion of the gender and equality perspective, it is suggested that when designing these kinds of projects, an analysis should be conducted of the role of young people and women in the areas where the project will be implemented and the barriers that could stop them from participating in such be identified. The context is extremely important to primarily promote the participation of women, due to the fact that in some rural areas of Mexico, the customs and traditions are highly ingrained and impede the work or involvement of women in activities other than taking care of their home and children. Based on this analysis, during the implementation of the project a campaign could be developed to raise awareness about gender and equality that addresses the barriers identified. Subsequently, it would be necessary to develop training and projects regarding SLM practices that reduce women's workload in the field (for example, improved crop management practices), as the women interviewed had exhausting working days because they had to attend to their homes as well as work on the crops, and this meant that some of them stopped participating. It is important for women and young people to have a financial remuneration that encourages their participation even more, and as such linking SLM practices with value chains, which make it

possible to gain environmental and economic benefits more effectively, is also recommended. The foregoing requires resources to be earmarked specifically for the design and implementation of the gender strategy. Highlighting the importance of the participation of women and young people, and other vulnerable groups, in the PRODOC without providing the necessary support and tools is not considered sufficient.

Recommendation 8 to FAO - In order to ensure and increase the competitiveness of FAO in Mexico, it is suggested that it review its own administrative processes and identify areas of opportunity to make them more efficient, without breaching the rules and guidelines issued by the central offices of the Organization.

5. Lessons learned

Lesson 1: Projects with scarce resources but with innovative, comprehensive and relevant proposals, such as PROTIERRAS, can generate significant benefits and impacts just like a project with more resources. PROTIERRAS encountered difficulties with regard to its acceptance and implementation due to being a project with a low budget. However, PROTIERRAS initiated FAO Mexico's collaboration with SEMARNAT and the GEF, and effectively gave visibility to the role of FAO as a facilitator in the harmonisation and convergence of multi-sector federal policies on the topic of climate change and the environment, and generated genuine local trust, in Mexico.

Lesson 2: The strategic, timely and effective participation of the LTO in the project must be guaranteed. To this end, it is considered useful that they and the project team jointly, at the beginning of the project, define the aspects or actions that require the LTO's contribution or monitoring and plan their field visits and meetings on this basis.

Lesson 3: The implementation of SLM practices with a productive and conservationist approach facilitated the participation of producers and promoters, and the understanding of the watershed approach. For example, the producers and the promoters understood the importance of reforestation in the upper part of the watershed taking into account the positive effects it would have on their plots located in the middle or low part of the watershed, which motivated their participation in conservationist practices.

Lesson 4: During the implementation of the project, clarity must be maintained regarding the objectives and duties of the consultation and decision-making bodies created for the project. The LC did not function as a space for making strategic decisions, because the meetings were primarily informative in nature and because of the participation of a high number of technical and operational invitees, which made it difficult to have a strategic discussion. On its part, in most of the meetings the SC addressed the same topics about the problem of co-financing and inter-institutional coordination, very little use was made of the space to have discussions about other relevant matters (e.g. how to supply the training that SEMARNAT would provide). The LTAs or regional coordinators were not invited to their sessions, in contrast to the LC where they did take part. In practice, they mixed up the duties of each and neither of the two committees managed to operate effectively.

Lesson 5: The team that prepared the PRODOC was different to the team that implemented the project. This affected the project implementation and led to adjustments being made to its activities. Consequently, an effort must be made to ensure that the team that designs the project is the same as the team that implements it.

Annex 10 shows the GEF criteria ratings table.

6. Annexes

Annex 1 Evaluation matrix

Evaluation criteria	Key evaluation questions	Sub-questions	Indicators	Methods	Sources of information
Relevance	• Have the project objectives been consistent with the operational strategies of the GEF programme, the national priorities and the Country Programming Framework?	• To what extent do the project objectives contribute to the fulfilment of the GEF strategy? • To what extent do the project objectives contribute to the fulfilment of the FAO Mexico Country Programming Framework? • To what extent do the project objectives contribute to the fulfilment of the National Development Plan?	• Level of consistency of the operational strategies of the GEF programme, the national priorities and the Country Programming Framework with the project objectives	Documentation analysis and review	PRODOC, GEF strategies, FAO Mexico Country Programming Framework, National Development Plan
	• To what extent has the design of the project been the correct one to achieve the objectives proposed?	• Are the proposed activities sufficient for fulfilling the objectives? • How sufficient was the budget to fulfil the activities of the project? • To what extent will the expected outcomes contribute to achieving the objective of the project?	• Level of consistency and alignment of the objectives with the activities, outputs and outcomes of the project		
Social and environmental safeguards	• To what extent do, or did, the demonstration reference sites (DRSe [with field schools] and DRSr [replicated]) and their replication in other areas fulfil the SLM criteria?	• Did the SLM practices implemented in the DRS promote the conservation of biodiversity or of natural resources such as water and soil? • Did the SLM practices implemented in the DRS maintain or increase the productive capacity of the ecosystem, its health and vitality? • Did the SLM practices implemented in the DRS maintain or improve the mid or long-term socioeconomic benefits to cover the needs of society?	• Level of environmental effect (positive or negative) observed or measured in the DRS. • Level of social effect (positive or negative) observed or measured in the DRS	Direct observation during field visits, review of outcomes obtained in productive or crop cycles and interviews with participants in the implementation	PIR, half-yearly progress reports, reports on the outcomes of the reference sites, testimonies from the participants in the implementation of the intervention (producers, promoters, LTA) and the DRS and replicated sites themselves

Evaluation criteria	Key evaluation questions	Sub-questions	Indicators	Methods	Sources of information
				of the intervention	
Effectiveness	• To what extent was the Land Management Model, focused on SLM, effective? Which factors were promoters or obstacles?	• To what extent was participatory governance established? • How effective was the implementation of integrated land management practices? • Which factors were promoters or obstacles?	• Level of satisfaction of the members of the LMCs • Level and perception of the environmental and social effects resulting from the practices	Interviews, direct observation during the field visits	PIR, half-yearly progress reports, reports on the outcomes of the reference sites, testimonies from those participating in the implementation of the intervention (producers, promoters, LTAs); the DRS and replicated sites themselves; government publications of programmes or strategies
	• To what extent are the stakeholders trained in SLM implementing new practices?	• Did the producers trained in SLM know any of the new techniques implemented? • Were any of the techniques implemented suggested by the producers?	• Number of new practices implemented by the trained stakeholders		
	• To what extent have the capacities generated been useful in preventing or reversing land degradation?		• Level of environmental effect (positive or negative) observed or measured in the DRS • Level of social effect (positive or negative) observed or measured in the DRS		
	• To what extent has the topic been included in public policies and strategies in the responsible institutions?		• Number of SLM initiatives included in public policies, strategies or programmes in the responsible institutions		
Progress towards impact	• Is there any evidence of decreased land degradation, or any change in the political/legislative/regulatory frameworks?	• Which changes have been identified in the land that the project is addressing? • Which political, legislative or regulatory changes have resulted from the activities of the project?	• Increase in the fertility/productivity of the land • Decrease in water or wind erosion • Number of land regulations issued • Number of other types of policy or legislative instruments prepared	• Documentation review • Interviews with community representatives, *ejido* rightsholders, farmers, local authorities	PIR, half-yearly progress reports, reports on the outcomes of the reference sites; testimonies from the community representatives, *ejido* rightsholders, farmers, extensionists of the

Evaluation criteria	Key evaluation questions	Sub-questions	Indicators	Methods	Sources of information
	• To what extent can the progress made towards decreased land degradation in the long term be attributed to the project?	• What is the link between the changes observed in the land and the activities of the project? • What evidence backs this link?	• Description of the technical foundation of the cause-effect relationship of the activities implemented • Perception of farmers or *ejido* rightsholders regarding the effects of the activities of the project	• Brief survey regarding capacities • Focus groups • Field visits	LTAs and research centres, local authorities. Where applicable, results of the brief survey conducted.
	• To what extent has the vulnerability of the population to climate change decreased?	• Which changes have arisen in the communities due to the project? • Have the quality of life and livelihoods of people improved due to the project?	• Increased income • Increased harvest volume • Decrease in harvest losses • Increased SLM knowledge		
3) Efficiency	• To what extent did FAO fulfil its role as an implementing agency with regard to identifying the project, preparing the concept, forecasting, preparation, approval and launch, monitoring and supervision? How well have the risks been identified and managed?	• What was FAO's level of (technical and operational) performance as an implementing agency (including the National Coordinator of the project, the LTO, the office of operations, among others)? • How effective have the inclusion and communication mechanisms established with the key stakeholders, beneficiaries and so on, been?	Level of performance of FAO perceived by the primary and key stakeholders of the project	• Interviews with representatives of the community, *ejido* rightsholders, farmers, local authorities and other project participants, National Coordinator, regional coordinators, LTO, operations manager. • Documentation review of financial statements	Project background reports, financial reports on the project, community representatives, *ejido* rightsholders, farmers, local authorities and other project participants, National Coordinator of the project, regional coordinators, LTO, operations manager
	• To what extent did FAO fulfil its executing role (as regards cost-efficiency and whether the management was able to adapt to the changing conditions to ensure the efficiency of the project)?	• Do the benefits exceed the costs? Which adaptational measures were implemented to deal with the changing conditions of the project and ensure its effectiveness?	Number of adaptive actions implemented		
Involvement of the	• To what extent has effective participation and involvement of the key project stakeholders been	• Which activities and decisions were the national partners involved in?	• Number of stakeholders interviewed who participated in the project	• Documentation review	• Minutes of the meetings of the LMCs, the SC and the LC

Evaluation criteria	Key evaluation questions	Sub-questions	Indicators	Methods	Sources of information
stakeholders	achieved (for example, producers, indigenous people, non-governmental agencies and local authorities)?	• Was the participation of the key stakeholders constant during the entire project? • Which participation mechanisms were implemented?	• Frequency of participation of the key stakeholders • Number of participation mechanisms implemented	• Interviews with community representatives, *ejido* rightsholders, farmers, federal and local authorities, PCU • Focus groups	• PIR and half-yearly progress reports • Testimonies of the community representatives, *ejido* rightsholders, farmers, federal and local authorities
Co-financing	• To what extent has the co-financing materialised and how has lower than expected co-financing affected the project outcomes, particularly with regard to the replication of SLM practices?	• What level of co-financing materialised compared to what was pledged? • In the event it was lower, how did the lower co-financing affect the development of the project? • Were fewer than planned replicated projects developed?	• Percentage of co-financing materialised compared to what was pledged • Number of replicated projects executed with co-financing compared to the number of replicated projects planned	• Documentation review • Interviews with the operational area of FAO Mexico, the PCU, *ejido* rightsholders, farmers, federal and local authorities	• PCU • Financial breakdowns of the operational area of FAO Mexico • Community representatives, *ejido* rightsholders, farmers, federal and local authorities
Monitoring and Evaluation (M&E)	• Did the M&E system work according to the M&E plan?	• Were the required PIR and half-yearly reports prepared? • Did the Mid-term Evaluation of the project take place? • Were the mechanisms for exchange of knowledge established?	• Number of PIR and half-yearly progress reports available • Mid-term Evaluation report • Number of exchanges of knowledge with international bodies	• Documentation review • Interviews with the PCU	• PIR • Half-yearly progress reports • M&E system
	• Was the information gathered in a systematic manner, using appropriate methodologies?	• Is there a systematised tool for monitoring the project activities? • Where applicable, how practical and useful was the tool created?	• Systematised and published PROTIERRAS management model		
	• Was the information from the M&E system used to make relevant decisions during the implementation of the project?		Number of adaptive actions implemented in response to unexpected changes during the implementation of the project		

Evaluation criteria	Key evaluation questions	Sub-questions	Indicators	Methods	Sources of information
4) Sustainability	• How likely is it that the project outcomes will continue to be useful or endure once the project is over?	• How likely is it that other communities will be prepared to replicate the SLM practices on seeing the outcomes of PROTIERRAS in the original micro-regions? • How likely is it that the project activities will continue to be implemented once the project is over? • How likely is it that the knowledge acquired during the project will continue to be used once the project is over?	• Factors that may favour the replicability of SLM practices according to the knowledge and experience in the replicated sites • Number of local authorities and other key stakeholders that show an interest in the continuation of the activities	• Interviews with federal and local authorities, community representatives, *ejido* rightsholders, farmers, indigenous groups and local technical agencies • Focus groups with the LMCs • Brief survey regarding capacities	• Testimonies of the LMCs, local and federal authorities, communities, farmers, local technical agencies • Possible results of the survey • Field visits
	• How likely is it that the LMCs created during the project will continue to operate once the project is over?	• How likely is it that the municipal and state authorities will think about including the LMCs in their government plans for decision-making?	• Number of committee members that show an interest in the continuation of the activities		
	• What are the risks and learned lessons that may affect the sustainability of the project benefits?	• Is the project aligned with the objectives and programmes of the new Federal Government? • Would it be possible to have alternative sources of economic support in addition to the government support? • Which activities/projects were successful, which were not and why?	• Degree of compatibility of the project objectives with the objectives and programmes of the new Federal Government • Number of alternative sources of economic support • List of potential risks		
5) Knowledge management	• Was new knowledge generated during the implementation of the project? Where applicable, in which areas or topics?	• Were new forms of applying the SLM practices found? • Were new SLM practices developed? • What other new knowledge was generated?	• Number of new forms of applying SLM • Number of new SLM practices	• Interviews with the PCU, federal and local authorities, community representatives, indigenous groups, *ejido*	Evidence of the exchanges of knowledge, testimonies of the LMCs, local and federal authorities, communities, farmers, LTAs, project
	• Were there mechanisms and platforms that enabled the systematisation of knowledge and	• Were the communication mechanisms, strategies and platforms appropriate for the	• Number of knowledge exchange mechanisms implemented		

Evaluation criteria	Key evaluation questions	Sub-questions	Indicators	Methods	Sources of information
	the communication of good practices and lessons learned?	beneficiary (rural and indigenous) communities? • Was the same communication strategy used in the three micro-regions?	• Number of information and communication platforms generated • Number of dissemination documents published • Number of disclosure documents published	rightsholders, farmers, and local technical agencies • Focus groups with the LMCs	documents, reports from the LTAs
	• Has the project promoted the strengthening and replicability of the good practices and lessons? Which and how?	• Were good practices identified during the development of the project? • Were lessons learned identified during the project? • If this is the case, were the good practices identified disseminated? • Were the lessons learned used to improve the performance of the project?	• Good practices and lessons learned identified and systematised • Publication of the LMM systematised and published		
6) Gender and equality	• What did the project contribute to the FAO policy on gender equality objectives?	• To what extent did women participate in the decision-making in the spaces and bodies generated by the project? • To what extent was the access and control of income and access to other productive resources, as well as to the goods and services generated by the project ensured? • Did women participate in the decision-making in the spaces and bodies generated by the project? • Did the workload for women reduce in any way? • What was the percentage of agricultural aid geared towards women with regard to the total aid provided by the project?	• Level of participation of women in decision-making • Level of access by women to income and other productive resources, and to the goods and services generated by the project • Reduction in the percentage of the workload of women • Percentage of agricultural aid geared towards women with regard to the total aid provided by the project	• Interviews with vulnerable groups, executors of the project • Focus group with the LMCs • Direct observation during the field visits. • Documentation review	PIR, half-yearly progress reports, testimonies from the vulnerable groups, minutes of the meetings of the LMCs
	• To what extent was the strategy for involving vulnerable groups (women, young people and	• Which strategy was adopted to involve vulnerable groups in the project activities?	• Level of participation of the vulnerable groups in the project activities		

Evaluation criteria	Key evaluation questions	Sub-questions	Indicators	Methods	Sources of information
	indigenous people) in the project activities effective?	• What was the level of participation of vulnerable groups in each micro-region? • To what extent were the activities proposed or the opportunities granted to the vulnerable groups sufficient?			
	• Has the project made specific contributions to the wellbeing of vulnerable groups (empowerment, reduced vulnerability)?	• Did the project contribute to the wellbeing of vulnerable groups? If yes, how? What proof is there of its contribution?	• Level of contribution of the project to the wellbeing of vulnerable groups		

Annex 2 List of documents reviewed

- Land Evaluation based on the Management Plan in the micro-region of Valle del Mezquital, Hgo. Local Technical Agency, Servicios Integrales de Consultoría y Desarrollo de Agronegocios SC.
- Land Evaluation based on the Management Plan and analysis of SLM practices for priority areas. Pánuco-Zacatecas micro-region. Local Technical Agency, Centro de Calidad para el Desarrollo A.C.
- Land Evaluation based on the Management Plan and analysis of SLM practices for the establishment of priority areas. Micro-region of Mixteca, Oaxaca Local Technical Agency, Mixteca Sustentable A.C.
- Promotion of Sustainable Land Management - PROTIERRAS Project Document (PRODOC)
- FAO-PROTIERRAS. 2015. Diagnosis of the micro-region Valle del Mezquital, Hidalgo, Mexico.
- FAO-PROTIERRAS. 2015. Diagnosis of the micro-region of Mixteca-Oaxaca, Mexico.
- Land Management Plan of the micro-region of Valle del Mezquital, Hidalgo.
- Land Management Plan of the micro-region of Pánuco, Zacatecas. Local Technical Agency, Centro de Calidad para el Desarrollo A.C.
- Land Management Plan of the part of the municipality of Santiago Tilantongo, located in the micro-watershed of Diuxu, within the framework of the PROTIERRAS project
- Sustainable land management capacity-building plans with the involvement of young people and the inclusion of women and their land in the micro-region of Mixteca, Oaxaca.
- Sustainable land management capacity-building plans with the involvement of young people and the inclusion of women and their land in the micro-region of Pánuco, Zacatecas.
- Reports about the execution of the project (PIR) prepared during the implementation of the project.
- Report on the characterisation of the demonstration reference sites, replicas and field schools, in the micro-region of Valle del Mezquital, Hidalgo.
- Report on the characterisation of the demonstration reference sites, replicas and field schools, in the micro-region of Mixteca, Oaxaca.
- Report on the characterisation of the demonstration reference sites, replicas and field schools, in the micro-region of Pánuco, Zacatecas.
- Sustainable land management capacity-building plans with the involvement of young people and the inclusion of women and their land in the micro-region of Valle del Mezquital, Hgo.
- PROTIERRAS system. PCU database for the monitoring and evaluation of the project.

Annex 3 List of people interviewed

	Name	Position	Affiliation	Micro-region/city
1	Oscar Mauricio Espinosa Henao	Community Planning Specialist	FAO PROTIERRAS	Mexico City
2	Benjamín Sánchez Bernal	Sustainable Land Management Specialist	FAO PROTIERRAS	Mexico City
3	Nayeli Almanza Lazcano	Monitoring and Evaluation Specialist	FAO PROTIERRAS	Mexico City
4	Diana Carolina Martínez Ceja	Communication and Systematisation Specialist	FAO PROTIERRAS	Mexico City
5	Araceli Vargas Mena y Amezcua	National Coordinator of PROTIERRAS	FAO PROTIERRAS	Mexico City
6	Clara Padilla López	Coordinator of the micro-region of Pánuco	FAO PROTIERRAS	Zacatecas
7	Eloy Fernández González	Coordinator of the micro-region of Mixteca	FAO PROTIERRAS	Oaxaca
6	Ramón Giles López	Forestry Regulation Director	SEMARNAT-DGSPRNR	Mexico City
7	Adelita San Vicente Tello	General Director	SEMARNAT-DGSPRNR	Mexico City
8	Claudia Arely Sánchez Castro	Sub-director of Soil	SEMARNAT-DGSPRNR	Mexico City
9	Martha Concepción Merino Pérez	Sub-director of Sustainable Rural Training	SEMARNAT-CECADESU	Mexico City
10	Mauricio García de la Cadena	Short Chain Projects Coordinator	FAO - Mexico	Mexico City
11	Astrid Álvarez Heredia	Operations Officer	FAO - Mexico	Mexico City
12	Eduardo Benítez	Programme Assistant Representative	FAO - Mexico	Mexico City
13	Lina Pohl	FAO Representative in Mexico	FAO - Mexico	Mexico City
14	Elizabeth Landa Franco	General Director of Sustainable Rural Production in Priority Areas	SADER	Mexico City
15	Fernando Romero Santillán	Director of Sustainable Primary Production	SADER	Mexico City
16	Valeria González Riggio	FAO-GEF Coordination Unit	FAO - Rome	Rome
17	Ronald Vargas	Lead Technical Officer	FAO - Rome	Rome
19	Cirino Mejía Escamilla	Head of Productive Projects	Santiago de Anaya Municipal Presidency	Hidalgo
20	Mtro. José Luis Flores Hernández	Director of Social Development	Santiago de Anaya Municipal Presidency	Hidalgo
21	Elvis Monter Ángeles	President of the *ejido* Commissariat	*Ejido* of Santiago de Anaya	Hidalgo
22	Liliana Hernández (Zootechnician)	LTA Facilitator	LTA-SEICODESA	Hidalgo
23	Felipe Heredia Reyes	LTA Coordinator	LTA-SEICODESA	Hidalgo
24	Elvia Quiterio	Field Schools Facilitator	LTA-SEICODESA	Hidalgo
25	Julio Rangel Romero	LTA Facilitator	LTA-SEICODESA	Hidalgo
26	Esteban Gamero	FFS Facilitator	LTA-SEICODESA	Hidalgo

	Name	Position	Affiliation	Micro-region/city
27	Juan González	FFS Facilitator	LTA-SEICODESA	Hidalgo
28	Juan Pablo Pérez C	Field Schools Coordinator	LTA-SEICODESA	Hidalgo
29	Marlene León Cruz	Vegetable Promoter and Secretary	Land Management Committee	Hidalgo
30	Herón Gachuz Ramírez	Fruit Promoter and President	Land Management Committee	Hidalgo
31	Martin Pérez Hernández	Maguey and Forestry Promoter and Monitoring	Land Management Committee	Hidalgo
32	Guillerma López Mendoza	Vegetable and Fruit Promoter	PROTIERRAS project	Hidalgo
33	Lucas Moreno Ramírez	Vegetable Promoter	PROTIERRAS project	Hidalgo
34	Pablo Ramírez Aguilar	Vegetable Promoter	PROTIERRAS project	Hidalgo
35	Aurelio Mejía Acosta	Maguey and Afforestation Promoter	PROTIERRAS project	Hidalgo
36	Laurencio López Flores	Maguey Promoter	PROTIERRAS project	Hidalgo
37	Antonio Gómez Acosta	Maguey Promoter	PROTIERRAS project	Hidalgo
38	Rosalba Gómez Mejía	Vegetable Promoter and Producer	PROTIERRAS project	Hidalgo
39	Cándida	Vegetable Promoter	PROTIERRAS project	Hidalgo
40	Julio César Cervantes	State Director	CONAFOR (state delegation)	Hidalgo
41	Víctor Islas	Professional Services Supplier	CONAFOR (state delegation)	Hidalgo
42	Arturo Sánchez Espinoza	Operations Manager of the state of Hidalgo	CONAZA-SADER	Hidalgo
43	Jaime Ortega Bernal	Director of the Centre for Technological Development and Innovation of Valle del Mezquital	SEDAGROH	Hidalgo
44	Justina Cruz Rodríguez	Producer	Peasant Woman Plot	Hidalgo
45	Janet de los Santos Cruz	Producer	Peasant Woman Plot	Hidalgo
46	Inés Gachuz Cruz	Producer	Peasant Woman Plot	Hidalgo
47	Inés Ramírez Mejía	Producer	Peasant Woman Plot	Hidalgo
48	Casilda Cruz Rodríguez	Producer	Peasant Woman Plot	Hidalgo
49	Hilda Santos Pedro	Santiago Tilantongo Municipal President	Land Management Committee	Oaxaca
50	Abelina Pedro Montesinos	Director of Agricultural Development Liaison between municipality and PROTIERRAS	Land Management Committee	Oaxaca
51	Peregrino Gutiérrez Pablo	President of the Commissariat of Communal Lands	Land Management Committee	Oaxaca

	Name	Position	Affiliation	Micro-region/city
52	Inés Pedro Cruz	Tourism Councillor	Land Management Committee	Oaxaca
53	Elipio García Pablo	Works Councillor	Land Management Committee	Oaxaca
54	Floriberta José Miguel	Director of Health and Ecology	Land Management Committee	Oaxaca
55	Juvencio Pablo León	Characterised person	Land Management Committee	Oaxaca
56	Aarón Fidelio Santiago Cruz	Promoter	Deputy President of the *ejido* Commissariat	Oaxaca
57	Rutilio Pablo	San Antonio Police Officer	San Antonio Community Authority	Oaxaca
58	Valerio Pedro Santiago	Promoter	DRSe El progreso	Oaxaca
59	Adolfo Santiago Marcial	Producer	DRSe El progreso	Oaxaca
60	Domitila Bacilio Cruz	Producer	DRSe El progreso	Oaxaca
61	Lucia Pedro Cruz	Producer	DRSe El progreso	Oaxaca
62	Fausto Pedro López	Producer	DRSe El progreso	Oaxaca
63	Feliciana Cruz Santiago	Producer	DRSe El progreso	Oaxaca
64	Bernardo Yahir Cruz Pedro	Producer	DRSe El progreso	Oaxaca
65	Nohemí Vicente Domínguez	Producer	DRSe El progreso	Oaxaca
66	Rocío Benítez Pedro	Producer	DRSe El progreso	Oaxaca
67	Porfiria Santiago López	Producer	DRSe El progreso	Oaxaca
68	Tranquilino Pedro López	Producer	DRSe El progreso	Oaxaca
69	Cirila Minerva Pedro Pedro	Producer	DRSe El progreso	Oaxaca
70	Rey Fuentes Santiago	Producer	DRSe El progreso	Oaxaca
71	Roberto Pedro Pedro	Chairman	IPASSA works committee	Oaxaca
72	José Santiago Pedro	Secretary	IPASSA works committee	Oaxaca
73	Constantino Cruz Bacilio	Treasurer	IPASSA works committee	Oaxaca
74	José Luis Cruz Bacilio	Secretary	IPASSA works committee	Oaxaca
75	Gilberto Cruz Bacilio	Secretary	Drinking water works committee	Oaxaca
76	Saúl Cruz Pedro	Treasurer	Drinking water works committee	Oaxaca
77	Felicita Lucia Pedro Martínez	Spokesperson	Drinking water works committee	Oaxaca
78	José Pedro Santiago	Secretary	Guadalupe neighbourhood works committee	Oaxaca
79	Antonio Cruz Bacilio	Secretary	Reconnection Committee	Oaxaca

	Name	Position	Affiliation	Micro-region/city
80	Ángel Fabián Cruz Pedro	Forestry promoter	PROTIERRAS project	Oaxaca
81	Roberto Cruz Pedro	Forestry promoter	PROTIERRAS project	Oaxaca
82	Joaquín García	Producer	DRSe La Providencia	Oaxaca
83	Judith Santiago Cruz	Producer	La Providencia nursery	Oaxaca
84	Nancy Vicente Ramírez	Producer	La Providencia nursery	Oaxaca
85	Norma Rocío Vicente Domínguez	Producer	La Providencia nursery	Oaxaca
86	Itandehui Cruz Santiago	Producer	La Providencia nursery	Oaxaca
87	Israel García Benítez	Producer	DRSe La Providencia	Oaxaca
88	José Pérez	Producer	DRSe La Providencia	Oaxaca
89	Alfonso Senobio	Producer	DRSe La Providencia	Oaxaca
90	Sofía López Vicente	Producer	DRSe La Providencia	Oaxaca
91	Juvencio Pablo León	Forestry promoter	PROTIERRAS project	Oaxaca
92	Teresa Hernández García	*Milpa* Crop Grains Promoter	PROTIERRAS project	Oaxaca
93	Isaac Benítez	*Milpa* Crop Grains Promoter	PROTIERRAS project	Oaxaca
94	Ana María Mejía Alonso	Forestry Promoter	PROTIERRAS project	Oaxaca
95	Lourdes Miguel García	Spokesperson	IPASSA works committee	Oaxaca
96	Jorge Cruz Vicente	Agent	La Providencia communal agency	Oaxaca
97	Feliciano Miguel Cruz	Secretary	Monitoring committee	Oaxaca
98	Abel Jaime Leal González	Head of the Pacific South Hub	CIMMYT	Oaxaca
99	Bernardo Aguilar García	Head of the Restoration Department	CONAFOR state management	Oaxaca
100	Gerardo Calderón Pérez	Technical Personnel of State Management	CONAFOR state management	Oaxaca
101	Rigoberto Gómez Arellanez	Assistant Deputy of Planning and Rural Development	SADER	Oaxaca
102	José Luis Santiago Jiménez	CONAZA Regional Representative	SADER	Oaxaca
103	Rene Hernández Espinoza	Director of Promotion of Investment and Development of Markets	SEDAPA	Oaxaca
104	Gustavo Sánchez Benítez	Director	LTA, Mixteca Sustentable A.C.	Oaxaca
105	Enrique Montes Hernández	Communication Coordinator	LTA, Mixteca Sustentable A.C.	Oaxaca
106	Miguel Ángel Montañez Acuña	President of the *ejido* Commissariat San Antonio del Ciprés	*Ejido* San Antonio del Ciprés	Zacatecas
107	Edwin Edu Castillo Martínez	Former Civil Servant of Agricultural Development	Pánuco Town Council	Zacatecas

	Name	Position	Affiliation	Micro-region/city
108	Juan Manuel Iracheta López	Supervisory Board of the General Committee	*Ejido* of Pánuco	Zacatecas
109	Francisco Javier Guajardo López	Secretary of the General Committee	*Ejido* of Pánuco	Zacatecas
110	Jesús Badilla Ávila	Teacher	Benito Juárez Primary School	Zacatecas
111	Oswaldo Herrera Sandoval	Secretary	Land Management Committee	Zacatecas
112	Jorge Luis Velázquez Villela	President and Promoter	Land Management Committee	Zacatecas
113	Mario Mauricio Valdez	Councillor	Municipality of Pánuco	Zacatecas
114	Ramiro Mauricio Maldonado	Producer and Promoter of Vermicomposting	*Ejido* of Pánuco (Pozo de Gamboa)	Zacatecas
115	Alfredo Trejo Torres	Producer	*Ejido* of Pánuco (Pozo de Gamboa)	Zacatecas
116	Guillermo Libreros González	Programme Manager	SADER Representation in Zacatecas	Zacatecas
117	Rodolfo Guillen Lara	Operational Liaison of CONAZA in Zacatecas	CONAZA	Zacatecas
118	Ricardo Sánchez	Producer and Promoter	Lampotal	Zacatecas
119	Dolores Reza	Producer and Promoter	El Bordo	Zacatecas
120	Mario Román Ortiz	Deputy Secretary of Rural Development	SECAMPO	Zacatecas
121	José Rodríguez Elías Acevedo	Deputy Secretary of Soil and Water Conservation	SECAMPO	Zacatecas
122	Catalina Hernández Corpos	School Garden Promoter	Municipality of Pánuco	Zacatecas
123	Humberto García Juárez	Promoter	Municipality of Pánuco	Zacatecas
124	Abelardo García Medina	Promoter	Municipality of Pánuco	Zacatecas
125	Lorenzo Trejo Hernández	Director	LTA, Centro de Capacitación para el Desarrollo A.C.	Zacatecas
126	Alejandra Castillo Espejel	Technician	LTA, Centro de Capacitación para el Desarrollo A.C.	Zacatecas
127	Netzahualcóyotl Dorado Mejía	Technician	LTA, Centro de Capacitación para el Desarrollo A.C.	Zacatecas
128	Alfredo Rocha Vázquez	Technician	LTA, Centro de Capacitación para el Desarrollo A.C.	Zacatecas
129	Sandra Villegas	"Jóvenes construyendo el futuro" [young people building the future] Programme Intern	LTA, Centro de Capacitación para el Desarrollo A.C.	Zacatecas

Please note: CECADESU: Centre of Education and Training for Sustainable Development; CONAZA: National Commission on Arid Zones; IPASSA: Productive Infrastructure for Sustainable Soil and Water Use; SEDAGROH: Secretariat of Agricultural Development of the State of Hidalgo; SEICODESA: Comprehensive Agribusiness Development and Consultancy Services; SEDAPA: Secretariat of Agricultural Development, Fisheries and Aquaculture of the State of Oaxaca.

Annex 4 Prioritisation matrix for DRS selection

Criteria	DRSe		DRSr	
	High/Satisfactory	Low/Unsatisfactory	High/Satisfactory	Low/Unsatisfactory
Level of budgetary implementation or cost of the practices implemented (approximate estimate)	[List of names or references of the DRSe, geolocation and promoter responsible]	[List of names or references of the DRSe, geolocation and promoter responsible]	N/A?	N/A?
Number of activities implemented	[List of names or references of the DRSe, geolocation and promoter responsible]	[List of names or references of the DRSe, geolocation and promoter responsible]	[List of names of the owner of the DRSr, geolocation and promoter responsible for the replication]	[List of names of the owner of the DRSr, geolocation and promoter responsible for the replication]
Outcomes achieved through the incorporation of SLM practices	[List of names or references of the DRSe, geolocation and promoter responsible]	[List of names or references of the DRSe, geolocation and promoter responsible]	[List of names of the owner of the DRSr, geolocation and promoter responsible for the replication]	[List of names of the owner of the DRSr, geolocation and promoter responsible for the replication]
Number of practices implemented for the first time or number of relevant practices re-introduced in the micro-region	[List of names or references of the DRSe, geolocation and promoter responsible]	[List of names or references of the DRSe, geolocation and promoter responsible]	[List of names of the owner of the DRSr, geolocation and promoter responsible for the replication]	[List of names of the owner of the DRSr, geolocation and promoter responsible for the replication]
Level of participation of women and young people	[List of names or references of the DRSe, geolocation and promoter responsible]	[List of names or references of the DRSe, geolocation and promoter responsible]	[List of names of the owner of the DRSr, geolocation and promoter responsible for the replication]	[List of names of the owner of the DRSr, geolocation and promoter responsible for the replication]
Level of participation of indigenous groups	N/A?	N/A?	N/A?	N/A?

Annex 5 Programmes of the mission

Micro-region of Valle del Mezquital, Hidalgo

Date	Name	Position	Contact or place	Time
16 August 2019				
Interview with two municipal authorities	Ing. Cirino Mejía Prof. José Luis Flores	Head of Productive Projects Director of Social Development	Santiago de Anaya Municipal Presidency	10:00 - 12:30
Interview with agrarian authorities	Elvis Monter Ángeles	Santiago de Anaya *Ejido* Commissariat	*Ejido* Hall, Municipal Capital of Santiago de Anaya	12:30 -14:00
Group interview with the LTA	Felipe Heredia Juan González Liliana Hernández Julio Cesar Rangel Esteban Gamero Elvia Quiterio Juan Pablo Pérez	General Coordinator Technician Technician Technician Technician Technician DRS Coordinator	Offices of the LTA SEICODESA in Santiago de Anaya, Hidalgo	15:00 - 18:00
17 August 2019				
Group interview with the Land Management Committee	Herón Gachuz Ramírez Marlene León Cruz Martín Pérez Hernández	Chairman Secretary Supervision	Offices of the LTA SEICODESA in Santiago de Anaya, Hidalgo	10:00 - 12:30
Group interview with promoters	Promoters of the micro-region	Promoters of PROTIERRAS	Offices of the LTA SEICODESA in Santiago de Anaya, Hidalgo	12:30 - 15:00
Interview with the Regional Coordinator	Benjamín Sánchez Bernal	Regional Coordinator (deputy)	Offices of the LTA SEICODESA in Santiago de Anaya, Hidalgo	15:00 - 17:00
19 August 2019				
Interview with federal delegates	Ing. Julio Cesar Cervantes	CONAFOR State Director	CONAFOR offices - Hidalgo	10:00 - 11:00

	Víctor Islas Ing. Diego Rogelio Reséndiz García	Professional Services Supplier CONAZA-SADER Regional Delegate	CONAZA offices - Hidalgo	11:00 - 12:00
Interview with state authorities (one or two)	Ing. Jaime Ortega Bernal	Director of the Centre for Technological Development and Innovation-SEDAGROH	Santiago de Anaya, Hidalgo	13:30 - 14:30
Visits to successful DRSe and DRSr	DRSe-Forestry and DRS-Maguey	Producers and Promoters of each DRS	Santa Mónica	16:30 - 18:00
20 August 2019				
Visit to unsuccessful DRSe	DRS-Yolotepec Secondary DRS-*Milpa* Crop Grains DRSe-Maguey DRSr-Vegetables	DRS Producer and Coordinator Juan Pablo Pérez Camarillo and the DRS team	El Mezquital	10:00 - 13:00
Visit to DRSe	DRSe-Vegetables	Producers and Promoters	Peasant Woman Plot, community of Hermosillo	14:00 - 18:00

Micro-region of Mixteca, Oaxaca

Date	Name	Position	Contact or place	Time
22 August 2019				
Visits to DRSe	DRSe, reforestations, rainwater harvesting basins, soil and water conservation works (intermediate) DRSe soil and water conservation practices (borders, gabions and dams), agroecology and livestock practices and native flora nursery	Promoters of PROTIERRAS	Community of Progreso, Santiago Tilantongo Community of Providencia, Santiago Tilantongo	10:00 - 12:30 13:00 - 15:30
23 August 2019				

Interview with the CIMMYT researcher	Abel Jaime Leal González	Head of the Pacific South Hub	City of Oaxaca	09:00 - 10:00
Interview with federal delegates	Bernardo Aguilar García Gerardo Calderón Pérez Rigoberto Gómez Arellanez José Luis Santiago Jiménez	Head of the Restoration Department Technical Personnel of State Management Assistant Deputy of Planning and Rural Development CONAZA Regional Representative	City of Oaxaca	10:00 - 11:00 12:00 - 13:30 16:00 - 17:00
Interview with the state authority	Rene Hernández Espinoza	Director of Promotion of Investment and Development of Markets, SEDAPA	City of Oaxaca	19:00 - 20:00
Group interview with the LTA	Gustavo Sánchez Benítez Enrique Montes Hernández	Director of the LTA Communication Coordinator	City of Oaxaca	20:00 - 21:30
26 August 2019				
Interview with one or two municipal authorities	Hilda Santos Pedro Abelina Pedro Montesinos	Municipal President Agricultural Development	Santiago Tilantongo Municipal Capital	10:00 - 11:00
Group interview with the Land Management Committee	Hilda Santos Pedro Abelina Pedro Montesinos Peregrino Gutiérrez Pablo Inés Pedro Cruz Elipio García Pablo Floriberta José Miguel Juvencio Pablo León	Members of the Land Management Committee	Santiago Tilantongo Municipal Capital	11:00 -12:30

Interview with promoters	Promoters of the micro-region	Promoters of PROTIERRAS	Santiago Tilantongo Municipal Capital	12:30 – 15:30
DRS reforestation	San Juan Diuxi *Ejido* Commissariat	Promoters of PROTIERRAS	San Juan Diuxi	16:00 – 17:30
27 August 2019				
Visit to successful DRS	San Isidro DRSe (reforestations, conservation works, domestic vegetable gardens, greenhouses and agricultural practices)	Promoters of PROTIERRAS	San Isidro Yuku yoko	09:00 – 12:00
Interview with the Regional Coordinator	Eloy Fernández	Regional Coordinator FAO-PROTIERRAS	City of Oaxaca	15:00 – 17:00

Pánuco micro-region, Zacatecas

Date	Name	Position	Contact or place	Time
17 September 2019				
Interview with agrarian authority	Miguel Ángel Montañez Acuña	*Ejido* Commissariat	San Antonio del Ciprés	9:00 - 10:00
Interview with municipal authorities	Edwin Edu Castillo Martínez	Agricultural Development	San Antonio del Ciprés	10:00 - 11:00
DRSe and DRSr visit	Cementerio water basin, *Ejido* of Panuco School Garden Benito Juárez Primary school in Casa de Cerros	Pro-works committee (Francisco Javier López) School Director and members (Prof. Ángel Carrillo Gaucin, Teacher in charge of the school garden and one family parent, two students)	Casa de Cerros	11:30 - 12:30 12:40 - 14:10
DRSe and DRSr visit	Reforestation with *Pinus sembroides*	Pro-works committee (Juan Manuel Iracheta Guajardo)	Pánuco	14:20 - 15:30

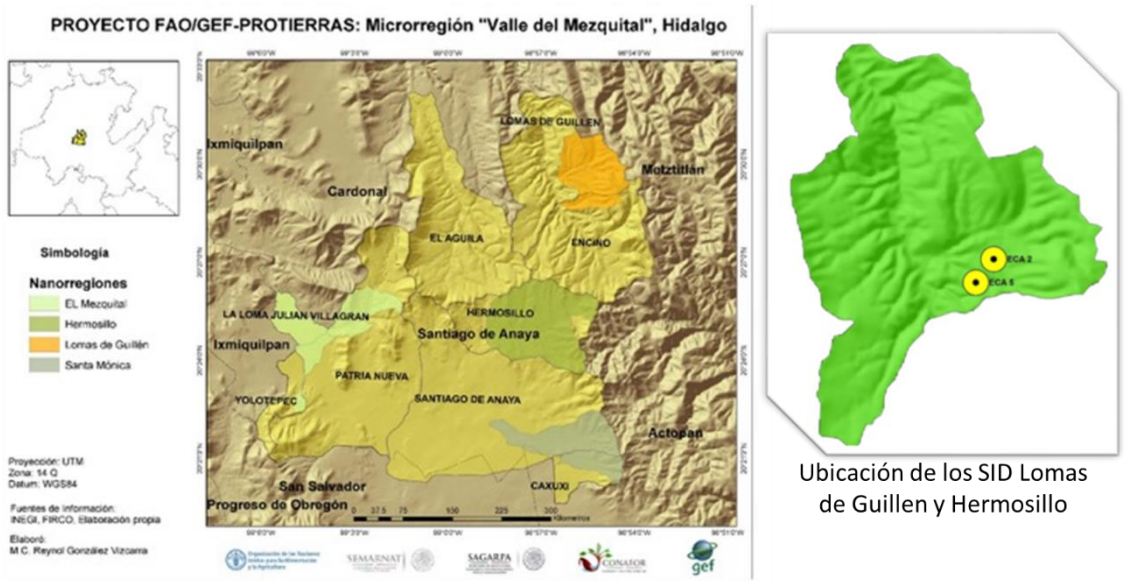
Group interview with the Land Management Committee	Jorge Luis Velázquez Villela Oswaldo Herrera Sandoval	Chairman Secretary	LTA office	17:15 - 18:45
18 September 2019				
Interview with federal delegates	Ing. Guillermo Libreros González Ing. Rodolfo Guillen Lara	Programme Manager CONAZA Manager	SADER offices CONAZA offices	10:00 - 12:00
Visits to DRSe and DRSr	Ricardo Sánchez Bernal Chilli pepper production (application of organic fertilisers and viniculture)	Promoter/Producer	*Ejido* Lampotal, Vetagrande (plot)	15:30 - 16:30
	Dolores Reza (production of organic fertiliser, wormery)	Promoter/Producer	*Ejido* El Bordo, Guadalupe (Plot)	16:45 - 17:45
19 September 2019				
Interview with the state authority	Lic. Mario Román Ortiz	Deputy Secretary of Rural Development (SECAMPO)	SECAMPO offices	10:00 – 11:00
Visits to DRSe or DRSr	Ramiro Alfaro. Viniculture "chilli pepper drying under cover", *ejido* San Juan	Promoter/Producer	*Ejido* San Juan (plot)	11:30 - 13:00
Visits to DRSe or DRSr	Ricardo Sánchez Bernal, SLM practices evaluation module (DRS)	Promoter/Producer	*Ejido* El Lampotal (Plot)	13:30 - 15:00
Group interview with promoters	Everardo García Medina, Ricardo Sánchez Bernal, J. Dolores Reza Sánchez, Irma Reyes Puentes, Martha Elena García Becerra, Héctor Calixto García, María de los Ángeles Vázquez de Lira, Arturo Reyes de la Rosa, José Ortiz, Jorge Velázquez Villela	Promoter/Producer	*Ejido* El Bordo, Guadalupe, "El Rebote el Colorado"	16:15 - 18:00

Interview with the state authority	Ing. José Rodríguez Elías Acevedo	Deputy Secretary of Soil and Water Conservation (SECAMPO)	Zacatecas Centre	19:00 – 20:00
20 September 2019				
Regional Coordinator	Clara Luz Padilla López	Regional Coordinator FAO-PROTIERRAS	LTA office	08:00 – 11:00
Group interview with the LTA	Lorenzo Trejo Hernández Alejandra Castillo Espejel and Netzahualcóyotl Dorado Mejía Alfredo Rocha Vázquez Sandra Villegas	Director LTA-CECADE A.C. Technicians LTA-CECADE A.C. "Jóvenes construyendo el futuro" [young people building the future] Programme Intern	LTA office	14:00 – 16:00

Please note: CECADE A.C.: Centro de Calidad para el Desarrollo Asociación Civil.

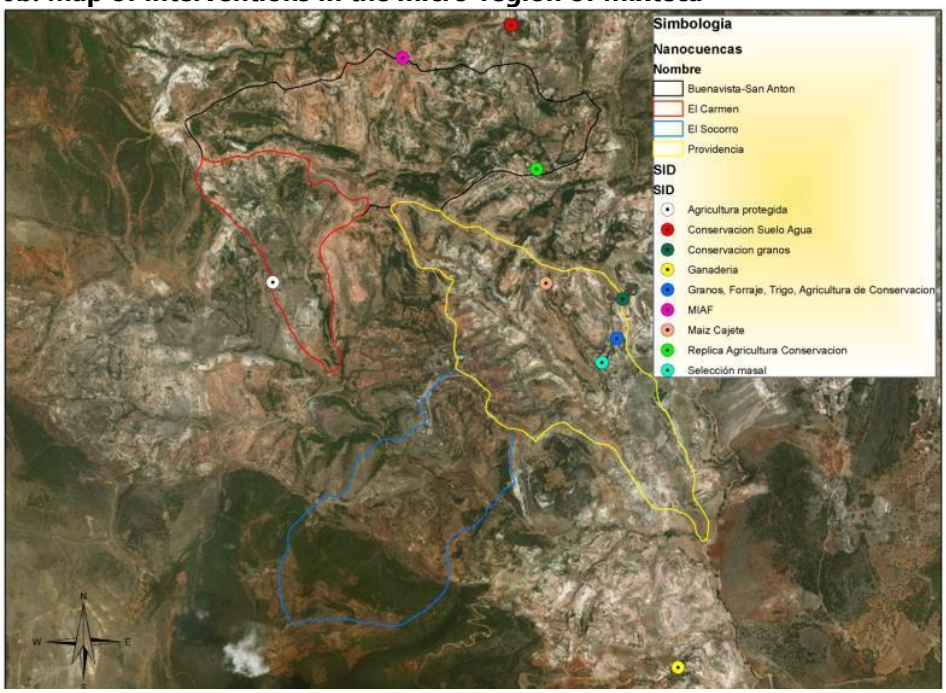
Annex 6 Geographical location of the interventions

6a. Map of interventions in the micro-region of Mezquital



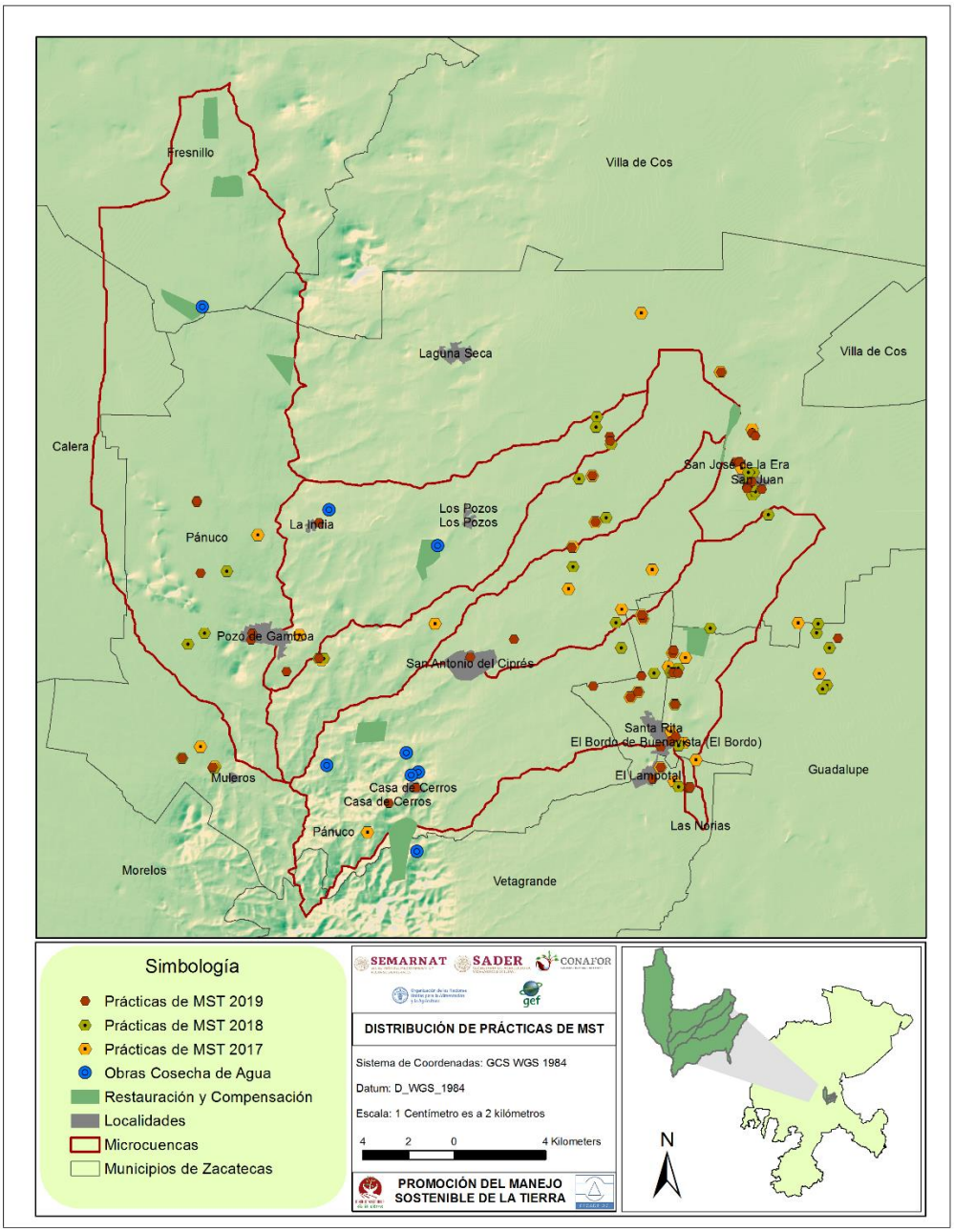
Source: LMP of Valle del Mezquital

6b. Map of interventions in the micro-region of Mixteca



Source: DRS characterisation report prepared by the LTA Mixteca Sustentable A.C.

6c. Map of interventions in the micro-region of Pánuco.



Source: Executing LTA CECADE A.C.

Annex 7 Level of fulfilment of the outputs reported by the PCU.

Output	Indicator	Final target	Level of fulfilment
Output 1.1.1. Land Management Committees established	Land management bodies established	3 committees	100% (The LMCs were set up in each of the three micro-regions and regularly hold sessions)
Output 1.1.2. Local stakeholders trained in land management and SLM (local institutions, extensionists, local organisations of producers)	Stakeholders trained in land management for SLM	300 stakeholders	138% (414 stakeholders trained in land management for SLM, of which 199 are men and 215 are women)
	Training and information sessions	8 sessions	138% (11 training and information sessions took place for local stakeholders based on the capacity-building strategy)
Output 1.2.1. Land management plans formulated with the participation of stakeholders	Land management plans approved (LD3-i)	Three LMPs	100% (The LMPs of the three micro-regions were prepared, approved and disseminated)
Output 1.2.2. Land regulations formulated with the land users to promote SLM	Territorial regulations for the promotion of SLM approved	Three regulations	100% (Basic document for the updating of *ejido* regulations and IPASSA works regulations in the micro-region of Pánuco; two *ejido* regulations updated in the micro-region of Valle del Mezquital; IPASSA works regulations in the micro-region of Mixteca and updating of the communal statute approved by the *ejido* assembly)
Output 1.3.1. Integrated SLM financing strategies formulated on a participatory basis, including public and private sources of financing	Integrated SLM financing strategies formulated	Three strategies	100% (the integrated financing strategies were prepared and updated for the three micro-regions)
Output 2.1.1. Demonstration units with SLM practices established (500 ha), involving young people and women.	Demonstration units established	3 units	3800% (114 DRS were established across the three micro-regions)
		500 ha	128% (The DRS cover 639.41 hectares distributed across the three micro-regions. They amount to 37 DRSe across 293.4 ha and 77 replicated DRS across 346.02 ha)
	Technical assistance sessions	108 sessions	263% (284 technical training sessions were carried out for promoters. Of these, 76 were in the micro-region of Valle del Mezquital, Hidalgo; 116 in the

Output	Indicator	Final target	Level of fulfilment
			micro-region of Mixteca, Oaxaca; 92 in the micro-region of Pánuco, Zacatecas)
Output 2.1.2. Project profiles formulated and implemented for Replicated Units over 3 300 ha	SLM projects implemented	30 projects	450% (135 projects were implemented across the three micro-regions. Of these, 58 were managed directly by the PROTIERRAS project with coverage of 2 470.34 hectares and 77 were implemented by the partner institutions in the micro-regions in 5 892 ha)
		3 300 ha	253% (The projects have a coverage of 8 362.34 hectares distributed across the three micro-regions)
	Technical assistance sessions	150 sessions	231% (347 technical assistance sessions were carried out with a total of 102 for the monitoring of projects, as well as 245 sessions in the replicated DRS)
Output 2.2.1. Capacity-building plans for SLM, with special emphasis on the involvement and reintegration of young people and women with their land	Capacity-building plans formulated	Three plans	100% (Three capacity-building plans for the three micro-regions)
	Producers trained in SLM (disaggregated by gender and age)	580 (at least 30% women, at least 10% young people)	284% (1 645 beneficiaries trained with the participation of 32% women and 22% young people)
Output 2.2.2. Establishment of an experience exchange mechanism with special emphasis on young people and women in the three micro-regions	Experience exchange strategy designed	1 strategy	100% (The experience exchange strategy is proposed in the project capacity-building strategy (Output 1.1.2))
	Exchanges completed	20 exchanges	140% (28 exchanges of experiences with the SLM approach took place for local stakeholders with the accompaniment of specialists from the CIMMYT, INIFAP, CINVESTAV, UAQ, UACh and COLPOS)
Output 3.1.1. PROTIERRAS communication strategy designed and implemented with a special emphasis on young people and women	Communication materials designed and distributed	30 materials	197% (1 communication strategy and 59 materials designed and disseminated, resulting from such)
Output 3.1.2. Mechanism for knowledge exchange with international initiatives such as LADA-WOCAT implemented	International experiences identified	4 experiences	100% (4 international experiences of SLM were identified: • Quesungual system in Honduras • RETESA in Angola

Output	Indicator	Final target	Level of fulfilment
			• The project "Decision Support for Mainstreaming and Scaling Out Sustainable Land Management (DS-SLM)" in Colombia • The "Combating Desertification and Drought Programme Support" Country Pilot Partnership (CPP) in Cuba)
	Local stakeholders participate in the exchanges	8 experiences	100% (Eight experience exchanges completed, two international experience exchanges, in which one specialist and the national coordinator participated; LTO missions to each of the micro-regions where several local stakeholders participated)
Output 3.1.3. PROTIERRAS intervention model systematised and published, including lessons learned	Publication of the PROTIERRAS model	1 model	100% (Final draft of the publication that summarises the Model in a detailed manner. Includes: vision, challenges, orientation, programme framework including conventions and strategies for combating desertification, theory of change and crucial route for its development, as well as instruments for the systematisation of experiences, success stories and for measuring the impact indicators)
Output 3.2.1. Monitoring and evaluation system established	Project results achieved demonstrating sustainability	100% reach in achieving results	98% (A M&E system was implemented that includes several systems to monitor the implementation of the Project and its work plan [including an online system], the achievement of the indicator targets, risk monitoring and co-financing. Seven half-yearly PPR, two annual PIR and one final report were prepared)
Output 3.2.2 Mid-Term Review and Final Evaluation	One Mid-Term Review and one Final Evaluation	Final Evaluation Report	100% (The recommendations made by the mid-term review [concluded] were incorporated and the final evaluation was participated in within the limits established for the Project team's participation [completed process])

Please note: CINVESTAV: The Center for Research and Advanced Studies of the National Polytechnic Institute; UAQ: Universidad Autónoma de Querétaro; UACh: Universidad Autónoma de Chihuahua; COLPOS: Colegio de Postgraduados en Ciencias Agrícolas; LADA: Land Degradation Assessment in Drylands

Annex 8 Co-financing pledged and materialised

Name of co-financier	Type of co-financier	Type of co-financing	Co-financing at the start of the project (in USD)			Co-financing materialised as at June 2019 (in USD)		
			In kind	In cash	Total	In kind	In cash	Total
SEMARNAT - DGSPRNR	Federal Government		0	0	0	0	0	0
SEMARNAT - CECADESU	Federal Government	Contributions in cash and in kind	250 000		250 000	75 686.33	73 290.64	148 976.97
CONAFOR	Federal Government	Contributions in cash and in kind	1 728 492		1 728 492	232 086.40	1 396 968.35	1 629 054.75
SAGARPA	Federal Government	Contributions in cash	0	6 000 000	6 000 000		2 617 715.02	2 617 715.02
FAO	United Nations agency	Contributions in kind	100 000		100 000	106 804.20	0	106 804.20
CONABIO (Oaxaca)	Federal Government	Contributions in kind	0	0	0	11 333.33	0	11 333.33
WWF - Carlos Slim Foundation Alliance (Oaxaca)	Civil society organisation	Contributions in cash	0	0	0	0	44 600.00	44 600.00
State Government of Oaxaca	State Government	Contributions in cash	0	0	0	0	13 643.67	13 643.67
The National Institute of Indigenous Peoples (Oaxaca)	Federal Government	Contributions in cash	0	0	0	0	16 666.67	16 666.67
Municipality of Santiago Tilantongo, Oaxaca	Municipal government	Contributions in kind	0	0	0	22 000	0	22 000
GIZ (Oaxaca)	Deutsche Gesellschaft für Internationale Zusammenarbeit [German International Cooperation Agency]	Contributions in kind	0	0	0	111 933.33	0	111 933.33
CIMMYT (Oaxaca)	International body	Contributions in kind	0	0	0	15 333.33	0	15 333.33
SEMARNAT (Zacatecas)	Federal Government	Contributions in cash and in kind	0	0	0	3 000.00	27 344.00	30 344.00
State government of Zacatecas (SECAMPO)	State Government	Contributions in cash	0	0	0	0	449 633.64	449 633.64

INIFAP Hidalgo	Federal Government	Contributions in kind	0	0	0	6 506.67	0	6 506.67
BIOSUVA (Hidalgo)	Private sector	Contributions in kind	0	0	0	33.33	0	33.33
Biofábrica Siglo XXI (Hidalgo)	Private sector	Contributions in kind	0	0	0	66.67	0	66.67
Squid Pheromones (Hidalgo)	Private sector	Contributions in kind	0	0	0	66.67	0	66.67
Fertilex (Hidalgo)	Private sector	Contributions in kind	0	0	0	133.33	0	133.33
DANHER CONSTRUCCIONES (Hidalgo)	Private sector	Contributions in kind	0	0	0	260	0	260
People from the community and beneficiaries (Hidalgo)	Private sector	Contributions in kind	0	0	0	0	149 984.75	149 984.75
							Overall total	5 375 090.34

Source: PPR shared by the PCU.

Annex 9 Changes to indicators and targets in the monitoring system component and errors included in the Spanish version of the PRODOC

Description of the change	Amended version	Comments
The target of the indicator *Amount of investment in integrated land management* was changed from: USD 8 524 995	Amended target: USD 7 821 589	Although the percentage of progress reported is consistent with the original target, the system shows an erroneous target, which causes confusion.
The indicator was rephrased: *Area under land planning with an SLM approach*	Amended indicator: *Number of hectares under integrated land management with a Sustainable Land Management approach, framed within a Land Management Plan*	The rephrasing amended its main objective to be understood as an area under management and not an area under planning.
The indicator *Publication of the PROTIERRAS model* was amended	Amended indicator: *Existence of an intervention model that can be replicated*	Its publication was omitted without providing a justification for the change.
The indicator *Mid-Term Review* was amended	Amended indicator: *Level of sustainability of the outcomes halfway through the project*	The indicators were substantially modified, and their objectives and targets were changed although the reporting of progress is consistent with the original indicators and targets.
The indicator *Final Review* was amended	Amended indicator: *Level of sustainability of the outcomes at the end of the project*	
The indicator *Producers trained in SLM* was amended	Amended indicator: *Number of people trained*	The indicator was extended to include not only producers without providing a justification for the change.
The target of the indicator *Land management approved by the Land Management Committees of the Micro-regions* was extended. Initially the original target was: 3	The additional target is: *Guide for the participatory implementation of the land management plans of each micro-region (total: 1).*	A target was added to the indicator without providing a reason for the addition.

Annex 10 GEF criteria ratings table

FAO-GEF ratings table	Rating	Brief comments
1) RELEVANCE		
General reference to the project	HS	The project covers a topic that is a national priority that fully aligned with the national priorities during the design phase. Its design enables the convergence of government efforts with an approach that maximises their effectiveness and strengthens local government for sustainable land management.
1.1 Design	MU	The project design is innovative and comprehensive. However, the objective of the project was classified as ambitious, which led to the project being dismissed, and relevant stakeholders were not involved in this phase.
2) ACHIEVEMENT OF THE PROJECT OUTCOMES (EFFECTIVENESS)		
General evaluation of the project outcomes	MS	The Land Management Model is the central outcome of the project and is still unfinished. Although targets were exceeded for some outcomes, the fulfilment of other outcomes cannot be measured, and one outcome was lower than expected. Some of the SLM practices did not contribute substantially to the main causes of land degradation.
Outcome 1.1 Local stakeholders committed to and trained in SLM practices	S	Local stakeholders were effectively trained and involved in the project. However, whereas in some micro-regions the target number of stakeholders involved was exceeded, in another it was not fully met.
Outcome 1.2 SLM approach mainstreamed into local land management	S	The target for the area under land planning was exceeded by 9%. However, methodological flaws were found in the preparation of the land management plans.
Outcome 1.3 Investment for SLM increased in the micro-regions	MU	53% of the investment pledged was fulfilled, which meant that the outcome was lower than expected.
Outcome 2.1 SLM implemented in degraded watersheds	S	The target for the area under SLM was exceeded by 120%. However, in some cases the SLM practices did not focus on the main cause of degradation in the micro-regions.
Outcome 2.2 Technical SLM capacities strengthened, contributing to improve the communities' livelihoods	IE	There are inaccuracies in the indicators and methodological flaws that make it impossible to determine with certainty this outcome's level of fulfilment.

Outcome 3.1 Systematised information on project results and other relevant experiences disseminated at the micro-regional, state, national and regional levels	MS	The Land Management Model is unfinished, the way in which it works and its theory of change still needs to be explained. In addition, the adjustments that will be necessary or how the model can be adapted to a change in government priorities has to be clarified.
Outcome 3.2 Project implemented on a results-based management approach	S	The project was managed under this approach but in some cases attention was lost in ensuring the quality of the outcomes.
3) EFFICIENCY, IMPLEMENTATION AND EXECUTION OF THE PROJECT		
General quality of the adaptive management and implementation (implementation agency)	MS	Although most of the outcomes were completed on time, there were some that were not fulfilled, such as the increased investment for SLM, which also resulted in the lack of full materialisation of the co-financing. The latter is attributed to limited adaptive management, in which the magnitude of the risks was not adequately calculated and, for others, the mitigation measures were not strategic.
Quality of execution (execution agencies)	S	Taking into account that it is the first project financed by the GEF, it is an innovative project and that the administrative processes were highly demanding, it is considered that the project was executed with satisfactory quality.
Efficiency (including the cost-effectiveness ratio and punctuality)	S	Taking into account that the project had a low budget *per se* and that the co-financing did not fully materialise, it is considered that it was highly effective given the resources available. However, it is worth highlighting that the LTAs had a higher workload that may not have corresponded to the fees received.
3) Co-financing		
General evaluation of the co-financing	MU	63% of the co-financing pledged materialised.
6) INVOLVEMENT OF THE STAKEHOLDERS		
General quality of the involvement of the stakeholders	MS	The level of involvement of producers, promoters and local authorities as well as of some federal authorities and research centres was effective and genuine. The involvement of state authorities was limited and this affected the full implementation of the Land Management Model, which also identifies them as central bodies for the convergence of inter-institutional policies.
4) PROGRESS TOWARDS IMPACT		

General evaluation of progress towards impact	MS	Some physical changes were registered in the soil at the reference sites that could possibly lead to a reversal of the damage. However, continuity must be given to the practices, as the progress can be easily reversed, and they must be better focused to address the main causes of degradation as a priority.
5) SUSTAINABILITY		
General sustainability	MU	The project does not have an exit strategy. The Land Management Model is not ready to be disseminated and to be replicated, it needed more time to become consolidated. To decrease land degradation in the DRS, the SLM practices must continue to be rigorously implemented, and to date there is no measure that guarantees this.
4) MONITORING AND EVALUATION		
General quality of the M&E	MS	The information provided by the M&E system is generally complete although it shows deficiencies in the component that monitors the fulfilment of the project's Framework of Outcomes.
M&E design at the start of the project	MS	The design is complete and fulfils the GEF requirements. The monitoring system in particular is exhaustive, with seven elements that as a whole monitor the project comprehensively. However, the element that monitors the project's outcomes and outputs shows information different to the Framework of Outcomes in the English version of the PRODOC. In addition, some indicators were amended as a result of a SMART analysis that changed the scope of some of them, but the reporting on the project's progress and on the indicators was not affected.
Plan for the implementation of the M&E system	S	All of the elements of the plan were implemented, providing comprehensive monitoring of the project.
4) KNOWLEDGE MANAGEMENT		
General quality of knowledge management	S	New knowledge was generated about SLM practices in each micro-region and this was systematised and disseminated by means of the LADA WOCAT database.
4) GENDER AND EQUALITY		
General quality of the inclusion of the gender and equality perspective	MU	The PCU made an effort to incorporate the gender perspective but lacked a strategy to take into account the context of each micro-region

		and did not have resources for such. The project obtained FPIC due to the presence of indigenous groups in the micro-regions of Mezquital and Mixteca.
4) SOCIAL AND ENVIRONMENTAL SAFEGUARDS		
General quality of the social and environmental safeguards	S	SLM practices include *per se* care of the environment and as such the progress of the project did not, at any time, pose a risk to the community or the environment.

Please note: HS: highly satisfactory; S: satisfactory; MS: moderately satisfactory; MU: moderately unsatisfactory; IE: impossible to evaluate.