Food and Agriculture Organization of the United Nations

Office of Evaluation

Final Evaluation of "Monitoring and Assessment of GHG Emissions and Mitigation Potentials in Agriculture Project" - GCP /GLO/286/GER

Final Report

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Composition of the Evaluation Team

Evaluation team

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FAO Office of Evaluation

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Acronyms and abbreviations

AFOLU	Agriculture, Forestry and Other Land Use
AGAL	Livestock Information, Sector Analysis and Policy Branch (*FAO*)
AR	Assessment Report (*IPCC*)
BH	Budget Holder
BMELV	German Federal Ministry of Food and Agriculture
BUR	Biennial Update Report
CD	Capacity Development
CD-REDD	Capacity Development for REDD+
COP	Conference of the Parties
DRC	Democratic Republic of Congo
ESS	Statistics Division (*FAO*)
FAO	Food and Agriculture Organization
FAOSTAT	Food and Agriculture Organization Statistic (*system*)
FRA	Forest Resources Assessment (*FAO*)
GEF	Global Environment Facility
GER	Germany
GHG	Greenhouse Gas
GIS	Geographical Information System
GLEAM	Global Livestock Environmental Assessment Model
GPG	Good Practice Guidance
HRBA	Human Rights Based Approaches
HQ	Headquarters
IPCC	Intergovernmental Panel on Climate Change
IT	Information Technology
LCA	Life Cycle Analysis
LEAP	Livestock Environmental Assessment and Performance (*Partnership*)
LECB	Low Emission Capacity Building
LEDS	Low Emission Development Strategies
LULUCF	Land Use, Land Use Change and Forestry
M&E	Monitoring and Evaluation
MAGHG	Monitoring and Assessment of GHG Emissions and Mitigation Potentials in Agriculture
MICCA	Mitigation of Climate Change in Agriculture
MOU	Memorandum of Understanding
MRV	Measurement, Reporting and Verification
NAMA	Nationally Appropriate Mitigation Action
NGO	Non-Governmental Organization
NOR	Norway
NRC	Climate, Energy and Tenure Division (*FAO*)
NRL	Land and Water Division (*FAO*)
OECD	Organization for Economic Co-operation and Development
OED	Office of Evaluation Division (*FAO*)
RBM	Results Based Management
REDD	Reducing Emissions from Deforestation and forest Degradation
SBSTA	Subsidiary Body for Scientific and Technological Advice (*to the UNFCCC*)
SC	Steering Committee
SMART	Specific, Measurable, Achievable, Realistic and Time-bound
SO	Strategic Objective
TFI	Task Force Inventory (*IPCC*)

TOR	Terms of Reference
UN	United Nations
UNDG	United Nations Development Group
UNDP	United Nations Development Program
UNEG	United Nations Evaluation Group
UNFCCC	United Nations Framework Convention on Climate Change
UN-REDD	United Nations Programme on REDD
USD	United States Dollar

Executive Summary

ES1. This report presents the findings of the final evaluation of the FAO Project "*Monitoring and Assessment of GHG Emissions and Mitigation Potentials in Agriculture Project*" (GCP/GLO/286/GER), which was conducted between February and April 2014. The purpose of this final evaluation was to provide accountability to all stakeholders, including the donor and project participants, and contributing to organizational learning. It also served as an input to the donor's decision-making on how best to support a second phase of the project in 2014.

ES2. According to the Intergovernmental Panel on Climate Change (IPCC), agriculture accounts for roughly 14 percent of global GHG emissions and about 74 percent of these emissions originate in developing countries. Furthermore, based on the IPCC's 4th Assessment Report, soil carbon sequestration is the largest source of mitigation potential in agriculture, and the majority of this potential - 70 percent - can be realized in developing countries. However, lower GHG-emitting agricultural practices have still not been widely adopted. There are hindrances to their adoption that need to be analyzed, one of which is the lack of quality and accessible information on the GHG mitigation potentials in the sector. To address these issues, IPCC and FAO collaborated in 2009-2010 to develop guidelines on how to provide member countries with advice on the access to and use of FAO datasets on GHG inventories. This collaboration and consultation with experts identified the need for supporting countries in the monitoring and assessment of GHG cycle, emissions and mitigation potentials in the agriculture, forestry and fisheries sectors. As a response to address these needs, the Monitoring and Assessment of GHG Emissions and Mitigation Potential in Agriculture Project (MAGHG) was developed.

ES3. The evaluation was conducted in accordance with the guidance, rules and procedures established by FAO. It was undertaken in line with the principles of *independence, impartiality, transparency, disclosure, ethicality, partnership, competencies/capacities, credibility* and *utility*. Findings were structured around the five internationally accepted evaluation criteria, namely: *relevance, efficiency, effectiveness, impact* and *sustainability*. The exercise provides evidence-based information that is credible, reliable and useful. The findings were triangulated through the concept of "*multiple lines of evidence*" using varied evaluation tools and gathering information from various stakeholders and different levels of management. The following evaluation instruments were employed: an evaluation matrix, documentation review, an interview guide, semi-structured interviews, case studies, and an e-survey.

ES4. The approach to the final evaluation was based on the input of two independent consultants working as a team. They spent seven working days at FAO Headquarters to interview key stakeholders and collect evaluative evidence. A draft report was circulated amongst stakeholders, and the evaluators took comments into consideration before finalization. The findings of this final evaluation are summarized below in the conclusions, from which the recommendations that follow are derived.

Conclusions

Project Concept and Design

ES5. It was a very ambitious project with a limited timeframe (3 years) and a budget of USD 6.7M that included USD 2M funded by the German government. Norway also funded this project with a contribution of USD 4.7M to make it a USD 6.7M project. When considering the goal statement and the targets for most outputs, it was an overly ambitious project. The goal statement

could easily be the long-term goal of the overall FAO mitigation programme in agriculture and some targets are simply not achievable in the given timeframe.

Implementation Process

ES6. The project was managed following FAO project implementation procedures, including the management of financial resources but too focused on managing/administering inputs and less on managing by results. The project management team applied - when needed - an adaptive management approach to secure project outputs while maintaining adherence to the overall project design. The tracking of project expenditures by the FAO financial system was done along budget lines – as opposed to output-based - reinforcing the focus on managing project inputs and preventing the production of meaningful financial reports to the Project Management Team.

ES7. The German grant of USD 2M was disbursed by December 2013 and the contribution from Norway (USD 4.7M) should be spent by the end of 2014 after a one-year no-cost extension. The largest part of both grants (68%) was expended in salaries, consultants and contracts. Despite attempts at allocating actual disbursement figures by output the exercise proved to be more difficult than anticipated and it was finally not completed for this evaluation.

ES8. **The standard of technical assistance used to implement the MAGHG project was excellent**. There were all experts and were well qualified and experienced in their respective areas. The Project Team was also highly regarded by the several member countries that received support to access and use the user-friendly database on GHG emissions for the AFOLU sector.

ES9. **An M&E function too focus on project deliverables as opposed to development results with indicators and targets not enough Specific, Measurable, Achievable, Realistic and Time-bound (SMART).** There is a certain disconnect between the project strategy and the indicators and targets and at times, it is assumed that implementing a particular output will be successful if the planned activities were implemented such as the delivery of training activities. As it is well known, tracking training activities does not lead automatically to the desired change.

Analysis of Results

ES10. The project delivered the expected products including a GHG emissions database, guidelines, manuals, assessments, scientific papers, and delivered four quality regional workshops to disseminate these products and contribute to the development of capacity of national compilers. The core achievement is a GHG emissions database that was inserted in the FAOSTAT system and that provides country-level estimates of GHG emissions and removals from the AFOLU sector. It provides capabilities to browse, download, compare and analyze time series of GHG emissions/removals data per country from 1990 to present. Overall, the process to produce this knowledge and tools was excellent and included an excellent quality assurance process.

ES11. The project delivered its expected outcome that was to "enhance global knowledge base on GHG emissions, and mitigation potentials, within the agriculture sector and that this knowledge base be provided through user-friendly and easily accessible applications". Through its GHG emissions database, the project certainly enhanced the global knowledge base on GHG emissions for the AFOLU sector. However, the provision of information on mitigation potential in this sector, which is the main objective of a proposal for a phase 2 of this project is not completed yet.

ES12. The project delivered four quality regional workshops to disseminate knowledge and tools produced by the project and contributed to the development of the capacity of national compilers. The implementation of these regional workshops was efficient and effective; about

100 national representatives participated to these workshops and gained knowledge and skills to strengthen the GHG emissions inventories in their respective countries.

ES13. As part of developing the capacity of national compilers, the project established linkages with 6 member countries and supported them in various degrees for the development of their national GHG emissions inventories. Through partnerships with other actors that are "on the ground", it was an innovative way to disseminate the project achievements.

Relevance

ES14. **The MAGHG project is well aligned with the FAO Strategic Framework 2010-2019 and the Medium Term Plan 2014-2017**, particularly the SO2 that is to "*increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner*" addressing one guiding principle that is to "*facilitate access to needed information, including on technologies*" and also the sixth objective that is to "*provide technical knowledge, quality and services for the work of the Organization, encompassing core normative work*".

ES15. This project is a provider of valuable knowledge and tools on GHG emissions in the AFOLU sector at global, regional and national levels to be used by a broad range of stakeholders. It includes the country negotiators from developed and developing countries but also the respective ministries, donors, project developers, offset market managers, private investors, researchers, etc.

Impact

ES16. **The MAGHG project has the potential for impacting positively climate change mitigation in the AFOLU sector globally.** Stakeholders have now access to valuable GHG emissions data per country to check, compare, verify country activity data and estimated emissions to support international requirements and commitments. They can now use this data to conduct their work such as developing national inventories, reporting GHG emissions, developing climate change mitigation policies, developing climate change mitigation projects, developing GHG offset credit frameworks, etc.

Sustainability

ES17. Despite a limited sustainability strategy from the outset of the project, the prospect for the long-term sustainability of project achievements is excellent. An early decision by the Project Management Team was made to embed the database on GHG emissions in the FAOSTAT database. As a result, data storage and data updates are done following FAOSTAT procedures and it is now part of the FAO's corporate statistical data framework to "*facilitate access to needed information including on technologies*". Other achievements are/should also be sustainable in the long run.

ES18. The MAGHG project is facing two main challenges to upscale its achievements: disseminate its knowledge and tools to all fifteen groups of stakeholders and complete the database with a comprehensive set of mitigation options for the AFOLU sector. The sooner this knowledge and tools are disseminated to all stakeholders, the sooner they will start using it; ensuring its long-term sustainability.

ES19. The implementation of the MAGHG2 proposal (phase 2) would complete the GHG emissions database with additional features and data to support stakeholders in accessing valuable information on mitigation opportunities in the AFOLU sector. It would provide information on agricultural management practices and production methods in term of GHG emissions and also on the "cost of production" of each practice/method.

Recommendations

ES20. Based on the findings of this final evaluation, the following recommendations are suggested.

Recommendation 1:

Revise and finalize the MAGHG2 proposal based on the assessment provided in this evaluation report.

ES21. The MAGHG2 proposal is about completing the GHG emissions database with additional features and data to support stakeholders in accessing valuable information on mitigation opportunities in the AFOLU sector. It would provide information on agricultural management practices and production methods in term of GHG emissions and also on the "cost of production" of each practice/method. This proposal should also be an opportunity to disseminate this knowledge and tools at a larger scale, targeting all groups of stakeholders.

Recommendation 2:

The MAGHG2 project should focus on the dissemination of knowledge and tools to member countries and other groups of stakeholders.

ES22. As a sub-recommendation to recommendation #1 above, disseminating the knowledge and tools produced by the MAGHG project is the main challenge for ensuring the long-term sustainability of project achievements. The MAGHG2 project should maximize the use by stakeholders of knowledge and tools produced by MAGHG. Disseminating this knowledge and tools globally is recommended through various mechanisms such as the UNFCCC process, the GEF as the financing mechanism of the UNFCCC, using a full range of electronic media to disseminate this information, organizing webinars, e-discussion groups, online courses, remote technical assistance, etc.

Recommendation 3:

Explore the possibility of developing a larger project focusing on supporting member countries to develop their mitigation strategies and actions (NAMAs) and to strengthen their reporting obligations.

ES23. In parallel to the MAGHG2 project to complete the GHG emissions database with additional features and data to support stakeholders in accessing valuable information on mitigation opportunities in the AFOLU sector, it is recommended to develop a larger project focusing on developing the capacity of member countries to develop NAMAs and fulfill their reporting obligations.

Recommendation 4:

FAO should develop/expand its MICCA strategy with objective(s), lines of activities and links to other FAO programmes and projects, including the Climate Smart Agriculture (CSA) initiative and the upcoming FAO-GEF portfolio.

ES24. It is recommended that NRC conducts a review of the entire MICCA programme to provide the basis for developing a MICCA programme strategy in line with related initiatives such as the CSA initiative and linked with related existing FAO programmes and projects, including the upcoming FAO-GEF portfolio of projects under the GEF-6 cycle.

Recommendation 5:

Strengthen the alignment of the database structure to the 2006 IPCC guidelines and UNFCCC requirements.

ES25. A potential misallocation of some subdomains has been detected:

- The subdomain *Energy Use* is currently included in the domain *GHG Agriculture.* Following IPCC methodologies, the inclusion of CO_2 emissions related to the energy

consumptions in the agriculture sector have to be reported in the relevant sector (i.e. energy, industrial process). Therefore it is recommended to report the abovementioned subdomain in a new domain (different from the domains *GHG Agriculture* and *GHG Land Use*), including in the metadata section, the information related to sources for which the emissions have been estimated.

- The N_2O and CO_2 emissions related item cultivated organic soils are currently reported in the domains *GHG Agriculture* and *GHG Land Use*, respectively. As the area of cultivated organic soils is referred to a land use (cropland or grassland), it is recommended to report the abovementioned emissions in the *GHG Land Use* domain, in the relevant items.
- The item "*Net forest conversion*" is currently included in the subdomain *Forest Land* (domain *GHG Land Use*). The abovementioned item is related to forest land converted to other land use (i.e. deforestation). Therefore it is recommended to report the emissions related to the item "*net forest conversion*" under the proper subdomains.

ES26. As part of aligning the GHG emissions database to the 2006 IPCC guidelines and UNFCCC requirements, it is recommended to also include:

- The estimates of emissions and removals of the carbon (C) stock changes in cropland and grassland subdomains and related to the items living biomass and soils in the FAOSTAT GHG database; to be in line with the mandatory pools and subcategories outlined in the 2006 IPCC Guidelines.
- An assessment of the uncertainties related to the basic activity data or to the estimated GHG emissions and removals at the country level in the FAOSTAT GHG database.

Recommendation 6:

Develop some GHG emissions comparison functions in the GHG emissions database in order to perform comparisons with the data officially communicated by Parties under the UNFCCC obligations.

ES27. This is a suggested feature to provide users with an additional tool to help them strengthening their national data sets used to produce national GHG inventories, national communications, and BURs. This feature could also be used for benchmarking national data and conduct QA/QC analyses.

1 Introduction

1. This report presents the findings of the final evaluation of the FAO Project "Monitoring and Assessment of GHG Emissions and Mitigation Potentials in Agriculture Project" (GCP/GLO/286/GER). This final evaluation was designed by the Climate, Land and Energy Division (NRC) and the Office of Evaluation of FAO and was implemented during the period January to April 2014.

2. This final evaluation report documents the achievements of the project and includes eight chapters. Chapter 1 introduces the report and briefly describes the objective, scope, evaluation users, methodology, and limitations of the evaluation; chapter 2 presents the context and an overview of the project; chapter 3 presents the findings of the evaluation on the project concept and design; chapter 4 presents the analysis of the implementation process and the efficiency of the project; chapter 5 presents the analysis of results; chapter 6 presents the analysis with respect to the other evaluation criteria. Finally, conclusions and recommendations are presented in chapters 7, and relevant annexes are found at the end of the report.

1.1 Purpose and Scope of the Evaluation

3. This evaluation had the dual purpose of providing accountability to all stakeholders, including the donor and project participants, and contributing to organizational learning. The evaluation also served as an input to the donor's decision-making on how best to support a second phase of the project in 2014, currently in the pipeline as "*MAGHG2*".

4. This evaluation covered the entire period of the project's duration, from January 2011 to December 2013; including its conceptual phase. Although the MAGHG project has been global in scope in terms of the knowledge products it sought to generate and the capacity development it aimed to provide, the evaluation mission took place solely at FAO Headquarters in Rome. Due to budgetary reasons, results at country level were evaluated through an online survey and phone/skype interviews.

5. According to the TORs for the evaluation, the following elements are covered in this report:

- Relevance

I. Relevance of concept and design

a. Relevance of the initiative to:
   - FAO Global Goals and Strategic Objectives/Core Functions;
   - UNFCCC, IPCC, OECD and Eurostat methodologies and reporting procedures;
   - Methodologies within the global expert community (institutions, universities, etc.) to estimate GHG agricultural emissions and mitigation potentials;
   - National development priorities (in selected countries examined);

b. Clarity, Coherence, and Realism of the log-frame and of the design
   - Robustness and realism of the theory of change underpinning the project;
   - The causal relationship between inputs, activities, outputs, expected outcomes (immediate objectives) and impact (development objectives);
   - Validity of indicators, assumptions and risks;
   - Approach and methodology;
   - Resources (human and financial) and duration;
   - Stakeholder and beneficiary identification and analysis;
   - Institutional set-up and management arrangements.

II. Effectiveness of Outputs and Outcomes

c. Overall effectiveness of the project, actual or potential, in attaining its intermediate/specific objectives: description and analysis of project achievements vs expected outputs and expected outcome; including potential unexpected results.

d. Use made by the project of FAO's normative and knowledge products and actual and potential contribution of the project to the normative and knowledge function of the Organization.

III. Efficiency and Effectiveness of Project Implementation Process

e. Assessment of project management: quality, delivery, delays and remedial measures taken, monitoring, HRM and exit strategy, etc.;

f. Institutional setup: administrative and technical, internal review processes, coordination and steering bodies, inputs and support from governments and resource partners, etc.;

g. Assessment of financial resources management: budget allocations, revisions, rate of delivery and budget balance, etc.;

h. Analysis of the application of the UN common country programming principles, cross-cutting themes, and of the Humanitarian Principles and Minimum Standards in the case of emergency projects
   - Analysis of gender mainstreaming for gender equality;
   - Analysis of the Capacity Development dimension in the design, implementation and results of the project, at individual, organizational and enabling environment levels;
   - Analysis of Partnerships and Alliances;

IV. Impact

i. Overall impact of the project, actual or potential, positive and negative, produced directly or indirectly, intended or unintended

j. Overall contribution of the project to FAO Country Programming Frameworks, Organizational Result/s and Strategic Objectives, as well as to the implementation of the corporate Core Functions

V. Sustainability

k. The prospects for sustaining and up-scaling the project's results by the beneficiaries and the host institutions after the termination of the project. The assessment of sustainability will include, as appropriate:
   - Institutional, technical, social and economic sustainability of proposed technologies, innovations and/or processes;
   - Expectation of institutional uptake and mainstreaming of the newly acquired capacities, or diffusion beyond the beneficiaries or the project.

1.1 Evaluation Approach and Methodology

6. The methodology that was used to conduct this final evaluation complies with international criteria and professional norms and standards; including the norms and standards adopted by the UN Evaluation Group (UNEG).

1.1.1 Overall Approach

7. The evaluation adopted a consultative and transparent approach with internal and external stakeholders throughout the evaluation process. It was conducted in accordance with the guidance, rules and procedures established by OED and was in line with basic evaluation principles such as *independence, impartiality, transparency, disclosure, ethical, credibility* and *utility*.

8. In addition to the FAO guidance for project evaluation, the Evaluation Team applied to this mandate its knowledge of evaluation methodologies and approaches and its expertise in global environmental issues. The Evaluation Team also applied several methodological principles such as (i) *Validity of information*: multiple measures and sources were sought out to ensure that the results are accurate and valid; (ii) *Integrity*: Any issue with respect to conflict of interest, lack of professional conduct or misrepresentation were immediately referred to the client; and (iii) *Respect and anonymity:* All participants had the right to provide information in confidence.

9. The evaluation provides evidence-based information that is credible, reliable and useful. The findings were triangulated through the concept of "*multiple lines of evidence*" using several evaluation tools and gathering information from different types of stakeholders and different levels of management.

10. The Evaluation Team developed evaluation tools in accordance with the FAO policies to ensure an effective project evaluation. The evaluation was conducted and the findings were structured around the five internationally accepted evaluation criteria set out by the UN Evaluation Group and common to the Development Assistance Committee of the Organization for Economic Co-operation and Development. These are:

- Relevance, relating to an overall assessment of whether the project is aligned to FAO's strategic objectives, donor and partner policies, and national and local needs, and whether its design is sound.
- Effectiveness, a measure of the extent to which formally agreed expected project results (outcomes) have been achieved, or can be expected to be achieved.
- Efficiency, a measure of the productivity of the project intervention process, i.e. to what degree the outcomes achieved derive from efficient use of financial, human and material resources. In principle, it means comparing outcomes and outputs against inputs.
- Impact, the long-term results of the project including both positive and negative consequences, whether these are foreseen and expected or not.
- Sustainability, an indication of whether the outcomes (end of project results) and the positive impacts (long term results) are likely to continue after the project ends.

11. Finally, the Evaluation Team was independent, impartial and rigorous. The Evaluation Team had personal and professional integrity and was guided by propriety in the conduct of its business.

1.1.2 Evaluation Instruments

12. To conduct this evaluation the following evaluation instruments were used:

a. Evaluation Matrix: An evaluation matrix was developed based on the evaluation TOR, the project framework and the review of key project documents (see Annex 3). This matrix is structured along the five evaluation criteria (see Section 1.2.1) and

includes all evaluation questions; including the scope presented in the guidance. The matrix provided overall directions for the evaluation and was used as a basis for interviewing people and reviewing project documents.

l. Documentary Review: The Evaluation Team conducted a documentation review during the field mission and at home offices. In addition to being a main source of information, documents were also used as preparation for the mission in Rome of the Evaluation Team. A list of documents was identified during the start-up phase and further searches were done through the web and contacts. The list of documents to be reviewed was completed during the mission (see Annex 4).

m. Interview Guide:

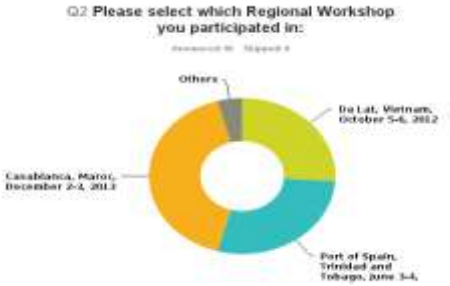
Based on the evaluation matrix, an interview guide was developed (see Annex 5) to solicit information from stakeholders. As part of the participatory approach, the Evaluation Team ensured that all parties view this tool as balanced, unbiased, and structured.

n. Interviews:Key stakeholders were interviewed (see Annex 6). The semi-structured interviews were conducted using the interview guide adapted for each interview. All interviews were conducted in person or with skype with some follow up using emails when needed. Confidentiality was guaranteed to the interviewees and findings were incorporated in the final report (see Annex 7).

o. E-survey: An online survey – using surveymonkey.com - was conducted to survey participants to the regional workshops supported by the project. It provided another data source for triangulating the analysis conducted for this evaluation. The survey was sent to 97 email addresses (1 address was not valid). The questionnaire was available in English and Spanish; it included 16 questions. A total of 46 respondents (47%) completed their questionnaires. Box 1 below shows the overall rate of responses. Some key aspects of these completed questionnaires include:

- 70% (n=32) were completed in English, 2% (n=1) in French and 28% (n=13) in Spanish;
- 26% (n=12) were completed by participants to the workshop in Da Lat, Vietnam (October 5-6, 2012), 28% (n=13) were completed by participants to the workshop in Port of Spain, Trinidad and Tobago (June 3-4, 2013), and 41% (n=19) were completed by participants to the workshop in Casablanca, Morocco (December 2-3, 2013), and 4% (n=2) were completed by participants to other events;
- 24% (n=11) were completed by UNFCCC National Focal Points, 24% (n=11) by National Statistical Agency representatives, 30% (n=14) by Ministry of Agriculture representatives and 22% (n=10) by others;
- Additional comments provided by survey takers in comment boxes gave the Evaluation Team a set of highly valuable and concrete information on the achievements of these regional workshops and on the overall MAGHG project.

Box 1. ***Rate of responses***



p. Case Studies: Through the three regional workshops conducted by the MAGHG project and other contacts, the project established linkages with six countries to support their GHG emissions inventory process. Activities conducted by the project were reviewed including few interviews and the review of reports and activities that were supported by the project in these particular countries. A particular attention was on project achievements/benefits perceived by stakeholders in these countries.

1.1.3 Sequence of Assignment and Schedule

13. On the basis of the TORs, the Evaluation Team conducted the assignment in four phases as presented in the table below; including the 1.5 weeks field mission during the period January 27th to February 5th 2014 inclusive. Box 2 below shows the evaluation calendar.

Box 2. *Evaluation calendar*

Phase / Task	Jan. 20	Jan. 27	Feb. 3	Feb. 10	Feb. 17	Feb. 24	Mar. 3
Inception Phase • Collected and reviewed programme documents • Developed evaluation instruments • Prepared and sent e-survey • Elaborated and submitted Inception Report • Prepared mission: agenda and logistic	*						
Mission / Collect Information • Mission to Rome for the Evaluation Team • Examination of database • Interviews as per mission agenda • Collected related documents • Phone/skype interviews of national focal points, beneficiary trainees and staff in relevant ministries/areas of policy-making (in 3-4 countries) • Debriefing at end of mission • Monitored online e-survey; including drafting/sending 2-3 reminders • Mission debriefings (Debriefing Presentation)			*				
Analyze Information • Finalized phone/skype interviews • Closed e-survey with thank you message • In-depth analysis and interpretation of data collected: interview notes, e-survey results and documents • Followed-up interviews (if necessary) • Drafted and submitted Draft Evaluation Report						*	
Finalize Evaluation Report • Circulated draft report to client • Integrated comments and submit Final Evaluation Report							*

1.2 Limitations and Constraints

14. The approach for this final evaluation was based on a total planned level of effort of 40 days (two consultants), including a 1.5 weeks field mission to Rome to interview key stakeholders and collect evaluative evidence. Due to a limited budget for this evaluation, no visits to specific countries were conducted. Instead, the Evaluation Team conducted an extensive documentation review and gathered feedback from workshop participants through an e-survey. It also used skype to conduct several interviews. Within this context, the Evaluation Team was able to conduct a detailed assessment of actual results against expected results and successfully ascertains whether the project has been meeting its main outcome - as laid down in the project document - and whether the project initiatives are, or are likely to be, sustainable after completion of the project.

15. In the context of assessing the replicability and scaling up of project results, the Evaluation Team reviewed the linkages of the project with six countries to support their GHG emissions inventory process (*see Section 5.1.3*). These linkages were established as a follow up to the regional workshops. Three countries – Ecuador, Indonesia and South Africa – were selected to conduct a more in-depth review. The review consisted mostly in reviewing various documents and in conducting a few interviews and a summary is presented in this report. However, due to the limited number of stakeholders interviewed and the early stages of these linkages, the review is mostly a presentation of facts that were supported by the project in these countries as opposed to a full assessment of efficiency and effectiveness of this support.

16. The Evaluation Team was recruited to evaluate the MAGHG project funded by Germany. Following the review of the project document and of project management reports, it realized that the German funding was only a partial funding (USD 2M) of the MAGHG project and that the government of Norway has also funded this project to the tune of USD 4.7M (two individual project documents sharing the same list of eight outputs). Despite some difficulties in attributing project results to a particular donor, the Evaluation Team in collaboration with the Project Management Team were able to separate MAGHG expenditures per donor. However, any value analyses have to be done in the context of a USD 6.7M project. Once this fact was made clear, the Evaluation Team was able to conduct its assessment as per the TORs.

2 Context of the Project

17. According to the Intergovernmental Panel on Climate Change (IPCC), agriculture accounts for roughly 14 percent of global GHG emissions and about 74 percent of these emissions originate in developing countries. Furthermore, based on the IPCC's 4th Assessment Report, soil carbon sequestration is the largest source of mitigation potential in agriculture, and the majority of this potential - 70 percent - can be realized in developing countries. However, lower GHG-emitting agricultural practices have still not been widely adopted. There are hindrances to their adoption that need to be analyzed, one of which is the lack of quality and accessible information on the GHG mitigation potentials in the sector.

18. Furthermore, the demand and need for GHG data and information from a diverse stakeholder community continues to grow. Within the public domain there is an increasing demand for more information on the ecological impact (including GHG footprint) of consumer products. Customers are increasingly demanding universally accepted and commonly understood measure of the carbon footprint (which includes production, distribution, consumption and disposal) of products they buy.

19. Despite the fact that the IPCC assessment is the internationally agreed-upon science base for GHG emissions and mitigation potentials, including those in agriculture and forestry, there are still large data variations and knowledge gaps in the information. Furthermore, IPCC assessments do not address technical and methodological issues to support production, adaptation and mitigation synergies such as the selection of specific land management practices, processing technologies, crops and other significant elements of the lifecycle of different agricultural and forestry products. These data gaps do not only hinder development processes but also cause limited acceptance and utility of this information for policy and development purposes especially at the national and sub-national level.

20. To address these issues, IPCC and FAO collaborated in 2009-2010 to develop guidelines on how to provide member countries with advice on the access to and use of FAO datasets on GHG inventories. This collaboration and consultation with experts identified the need for supporting countries in the monitoring and assessment of GHG cycle, emissions and mitigation potentials in the agriculture, forestry and fisheries sectors. As a response to address these needs, the Monitoring and Assessment of GHG Emissions and Mitigation Potential in Agriculture Project (MAGHG) was developed.

3 Analysis of Project Concept and Design

21. The concept of the project was born out of a workshop in October 2009 organized jointly by FAO and IPCC. The objective of this workshop was to develop guidelines on how to provide member countries with advice on the access to and use of FAO datasets on GHG inventories. Following this workshop, FAO initiated a consultation process, invited experts to review the state of knowledge on GHG emissions and mitigation potentials and to highlight the need for supporting countries in the monitoring and assessment of GHG cycle, emissions and mitigation potentials in the agriculture, forestry (AFOLU) and fisheries sectors. These consultations highlighted the need for a global assessment, supporting existing monitoring/assessment frameworks at national level, and contributing to ensuring robust data collection, thus meeting a variety of needs including policy design and implementation. The MAGHG project was designed to address some of the issues and needs identified during this consultation.

22. As a result, the project document was developed following this workshop. It includes a brief context of the project, the rationale, framework (strategy), management arrangements and the proposed monitoring and evaluation (M&E) framework. The problem statement formulated in the document stated that there are still large data variations and knowledge gaps when it comes to assessing GHG emissions and mitigation potentials, including those of the agriculture and forestry sectors. In addition, it was recognized that IPCC assessments do not address technical and methodological issues to support production, adaptation and mitigation synergies such as the selection of specific land management practices, processing technologies, crops and other significant elements of the lifecycle of different agricultural and forestry products. The problem statement concluded that these data gaps do not only hinder development processes but also cause limited acceptance and utility of this information for policy and development purposes especially at the national and sub-national level.

23. The rationale for this project was that FAO has a central role in the international arena within the agriculture, forestry and fisheries sectors and the experience and ability to undertake global assessments. FAO has maintained global datasets on agriculture and forestry that constitute an extremely valuable resource for compilation of GHG inventories. Within this context, it was recognized that additional work was needed to fill data gaps, make existing data

compatible and increase the capacity of member countries to gather, process and use these data sets.

24. The project was to build the knowledge base facilitating the integration of climate change mitigation into agricultural policies and practices ensuring rational investments on improved technologies and agricultural practices. The project aimed at improving the understanding of the role of agriculture in the emissions of GHGs and helping the identification of economically viable and sustainable practices and methods to mitigate climate change while increasing resilience of agricultural systems. The development of the project was aligned with the overall FAO Agricultural Mitigation Programme, which supports developing countries in contributing to the mitigation of climate change in agriculture.

25. The MAGHG project was planned to be a 3-year project. It started formally on January 1, 2011; however, the project team was only fully functional in October 2011 when the Project Coordinator was hired. The project ended at the end of December 2013. The government of Germany gave a grant to FAO of USD 2M to implement the project, which was part of the FAO Agriculture Mitigation Programme. Under this programme, the project was implemented in close collaboration with the five-year project "*Making Agriculture Part of the Solution to Climate Change – Building Capacities for Agriculture Mitigation (MICCA)*", funded by Finland and which aims to build countries capacity on mitigation in the agricultural sector.

26. The logic model of the project consists of an overall goal, an expected outcome and a set of eight distinct expected outputs. There are presented in the table below (*see also Annex 11 for the related planned activities).*

Table 1 Project Logic Model

OVERALL GOAL: To improve climate change mitigation linked to improve long term agricultural productivity, thus contributing to reducing hunger and extreme poverty, enhancing food security and increasing environmental sustainability. In addition, the project seeks to support climate-friendly development coupled with increased resilience and productivity of farming systems and improved capacities of farmers, communities and institutions.
PROJECT OUTCOME: An enhanced global knowledge base on GHG emissions, and mitigation potentials, within the agriculture sector. The knowledge base will be provided through user-friendly and easily accessible applications.
Output 1: Stakeholder requirements and data needs identified.
Output 2: Revised standardized data gathering and reporting allowing improved data generation related to climate change mitigation issues.
Output 3: Guideline and Good Practice Manual and distance learning tool supporting national data compilers developed.
Output 4: International guidelines created for Life Cycle Analysis (LCA) protocols and environmental product labeling.
Output 5: Capacity of national compilers to gather and analyze climate change data strengthened.
Output 6: A Central GHG data portal, which supports developing countries to address agricultural mitigation and other related climate change issues.
Output 7: A comprehensive global GHG assessment of the agricultural sector, which contributes to the IPCC 5th Assessment Report, especially with chapter 11 (WG3), published by 2012.
Output 8: UNFCCC negotiators and policy makers informed and aware of agricultural mitigation options.

27. The review conducted for this evaluation reveals that it was a very ambitious project, especially when considering the goal statement, the targets for most outputs, the timeframe (3 years) and the USD 2M budget. Its goal is particularly ambitious and could easily be the long-

term goal of the overall FAO mitigation programme in agriculture. The same can be said for some targets. Some of these targets such as "*85% of member countries should now report under these new guidelines on the first cycle reporting*" for measuring progress of output 3 were very ambitious. In this particular case, the project did not meet this target during its lifetime, nor it did measure the progress against this target (*see Section 4.7*).

28. Nevertheless, the Evaluation Team found that the same project document was also submitted to Norway for funding - same project document but with a different budget. As a result, FAO got an additional grant of USD 4.7M to finance this project, which made a total budget of USD 6.7M to which BMELV (government of Germany) funded USD 2M (30%) and Norway USD 4.7M (70%). For various practical reasons – including a very tight schedule to submit the proposals to both donors, the same project document was submitted twice but with two different budgets and no mention was made in either document that this was a project funded by two donors for a total amount of USD 6.7M.

29. The Evaluation Team conducted an in-depth review of this situation. It found that this project was to be a USD 6.7M project to fund the strategy that is presented above and it was never intended to be divided into two projects. As one interviewee said in the context of this evaluation of the German contribution "*it has never been a project for USD 2M*". Both donors were involved in the discussions during the development of the project proposal and due to the fact that these particular donors did not want to fund a project through a multi-trust approach – a single common budget - they requested separate documents showing only their share of the total budget.

30. As a result, the current project document has to be viewed in the context of a larger budget of USD 6.7M. Moreover, no particular expected results were earmarked to a particular budget. There is one set of expected results that are presented above (one outcome and eight outputs) and activities implemented to reach these expected results were funded by both the German and Norwegian contributions.

31. The review of the project inputs indicate that generally the GER funds went largely to pay for the Project Coordinator and Consultants, and the NOR funds were spent on the P3 positions and the regional workshops. With some difficulties, the Evaluation Team in collaboration with the Project Management Team was able to separate MAGHG expenditures per donor. Overall, the German contribution focused on enhancing GHG mitigation knowledge of member countries through data generation for direct contribution to the IPCC Fifth Assessment Report, and on regional capacity development on GHG guidelines and tools needed by member countries to improve rural statistics for GHG estimation. By contrast, the Norway contribution focused mostly on the hardware and software development of the underlying FAOSTAT Emissions database. This is an important fact, particularly when trying to assess the value for money of this project. It can only be assessed as a USD 6.7M project.

4 Analysis of the Implementation Process

32. This Section presents the findings on the efficiency of the project, which is a measure of the productivity of the project intervention process. It reviews to what degree achievements are derived from an efficient use of financial, human and material resources. It reviews the overall management approach, the financial management of the project, the institutional arrangements and the monitoring approach to measure the project's progress.

4.1 Project Management Approach

33. The project was managed following FAO project implementation procedures. The project management team applied - when needed - an adaptive management approach to secure project outputs while maintaining adherence to the overall project design. The logframe of the project (*Annex 2 of the project document*) – also called the project framework - was used as a guide to implement the project and track its achievements. Project progress was reported semi-annually following the M&E plan identified at the outset of the project.

34. Management procedures to procure project assets and equipment and to contract consultants followed existing FAO rules and procedures. All project transactions are recorded and classified by expense type and show good internal control mechanisms to manage and control project resources.

35. However, the Evaluation Team also noted that the management of project resources was much focused on managing/administering inputs with little emphasis on managing by results. The project document did not indicate a breakdown of the budget by expected output and the tracking of expenditures were mostly done by budget line such as salaries, consultant fees, travel expenses, etc. (*see also Section 4.4*). Nevertheless, these resources were used efficiently, following FAO procedures.

Implementation Scheduling

36. As discussed above, the MAGHG project started formally on January 1, 2011; however, it was noted that the project team was only fully functional in October 2011 when the Project Coordinator was hired. It was a three-year project and it was terminated in December 2013 as planned. The implementation was conducted in two main phases.

37. The period October 2011 to end of 2011 was the inception period during which the project conducted two major studies on the following:

- Stakeholders needs to provide a comprehensive assessment of the information needs of major stakeholder groups for implementing land-based mitigation.
- Data gaps to provide an analysis of the principal information gaps for the LULUCF and agricultural sectors in compiling global estimates of greenhouse gas emissions and removals for these sectors.

38. 2012 and 2013 were the implementation years during which most activities supported by the project took place. Numerous knowledge products were produced as well as the GHG emissions database (see Section 5). Despite a tight schedule due to the start-up delay, the project team was able to deliver the planned deliverables within the timeframe of the project.

4.2 Quality of Technical Assistance

39. The standard of technical assistance used to implement the MAGHG project was excellent. There were all experts and were well qualified and experienced in their respective areas. The Evaluation Team also noted a clear motivation to achieve the anticipated results; particularly to provide support to member countries to access and use the user-friendly database on GHG emissions in the AFOLU sector.

40. The Project Team was constituted over 2011 and 2012. It started in 2011 with the hiring of the Project Coordinator (October 2011) as a P4 position, two P3 positions (Statistician and Life Cycle Analysis Specialist), two Data Specialists and one Administrative Officer. In 2012, an additional P3 position was hired as a Capacity Development (CD) Specialist, one Land Degradation Specialist and two Information Technology (IT) Specialists for the development and

insertion of the GHG emissions database in the FAOSTAT system. Finally, in 2013, one P2 position was added to the CD team, three Specialists were hired for IPCC support, climate policy and energy use and finally one intern was selected to provide support to the Project Team as well as an additional administrative assistant.

41. The Project Team implemented the project strategy as stated in the project document. However, as previously discussed in chapter 3, it was noted that this team of Specialists was not only funded by the German contribution but by both sources of funding; i.e. Germany and Norway. The FAO administrative system kept track of who was paid by which funding sources; however, it is another fact that renders the attribution rule of which result was funded by which funding source difficult to apply in this project.

4.3 Financial Resources Management

42. Project finances were managed using the FAO financial system and procedures; including the production of financial reports. However, as discussed in section 4.1 above, the project document did not indicate a breakdown of the budget by expected output; it only presented a breakdown of the budget (USD 2M) by budget line such as salaries, consultant fees, travel expenses, training expenses, etc. Subsequently, the tracking of project expenditures by the FAO financial system was done along the same budget lines.

43. When considering this constraint, it was noted during this review that the focus of the Project Management Team was more on managing/administering inputs with less emphasis on managing by results. The FAO financial system could only store and report financial data by budget lines; it could not provide Project Managers with financial reports by project output[1]. This type of reports could only be done through a manual allocation of expenses by outputs; hence a time consuming task with limited accuracy and not timely and preventing the production of meaningful financial reports to the Project Management Team. With the support of the Project Management Team, the Evaluation Team attempted to disaggregate this financial information by output or at least by major work component. This exercise proved to be more difficult to do than anticipated; nevertheless, the review of project expenditures indicates that about 37% of project resources were allocated to knowledge development, 23% to capacity development and 40% to policy development..

44. The Project Management Team was able to provide the Evaluation Team the following financial information about the finances of the project. As of the end of December 2013, the entire grant funded by the government of Germany was disbursed. The utilization of funds by budget line is presented in the following table:

Table 2 Status of Project Funds Utilization

Budget Line	Budget	2011-2012	2013	Actual Expenditures	Total/ Budget
Salaries (5011)	$605,000	$422,330	$433,767	$856,097	142%
Consultants (5013)	$565,500	$171,383	$393,223	$564,606	100%
Contracts (5014)	$240,000	$4,591	$30,702	$35,293	15%

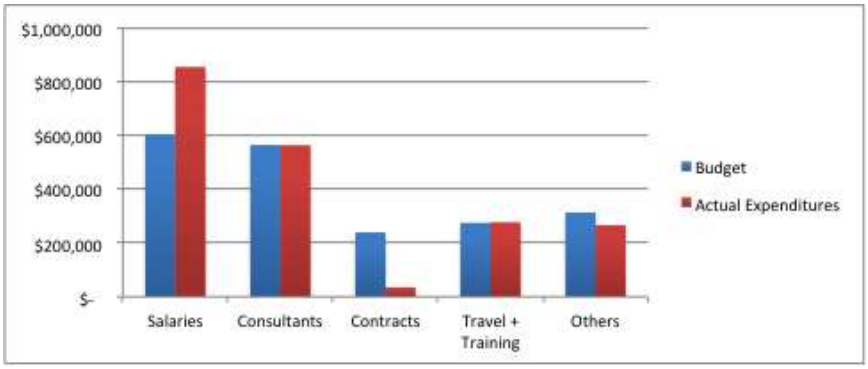
[1] It was also noted that since mid-2013, a Results-Based Budget system has been created in the FAO-FPMIS that can financially report up to the output level.

Travel + Training (5021+5023)	$275,500	$58,621	$218,880	$277,501	101%
Others (5024+5028+5029+ 5040+5050)	$314,000	**$107,461**	**$159,042**	$266,503	85%
TOTAL	**$2,000,000**	**$764,386**	**$1,235,614**	**$2,000,000**	**100%**

(*) Figures obtained from the project document and from the Project Management Team

45. The table above indicates that salaries allocated to the project were over the budget by 42%; this is illustrated on the diagram below. In the meantime, only 15% of the contract budget was used and 85% of the budget lines grouped under others. The table above also shows that from October 2011 to December 2012, only 38% of the budget was expended; then 62% was expended in one year in 2013. The same data are shown in graphic format in Box 3 below.

Box 3. ***Utilization of project funds***

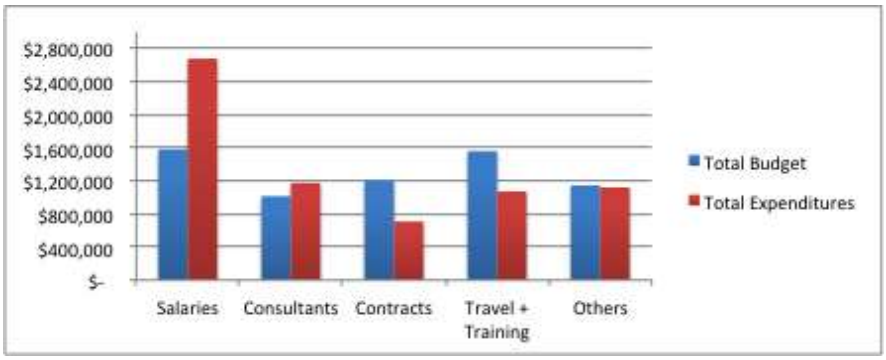


46. As discussed in Chapter 3, both the German government and the Norwegian government funded the MAGHG project to a total amount of USD 6.7M. In order to assess the value of this project, it is, therefore, necessary to replace the financial figures within the overall financial framework of the project to present a true financial picture for the MAGHG project. The table below presents this overall financial information.

Table 3 Consolidated Financial Status of MAGHG

Budget Line	Budget GER	Budget GER	Total Budget	GER Expenditures	NOR Expenditures	Total Expenditures	Total/ Budget
Salaries	$605,000	$978,000	$1,583,000	856,097	$1,821,600	$2,677,697	169%
Consultants	565,500	450,000	1,015,500	564,606	610,499	1,175,105	116%
Contracts	240,000	967,500	1,207,500	35,293	673,376	708,669	59%
Travel + Training	275,500	1,285,000	1,560,500	277,501	794,747	1,072,248	69%
Others	314,000	831,522	1,145,522	266,503	854,797	1,121,300	98%
TOTAL	**$2,000,000**	**$4,512,022**	**$6,512,022**	**$2,000,000**	**$24,755,019**	**$6,755,019**	**104%**

Box 4. ***Consolidated financial status of the project***



47. It was noted that the figures above in the "NOR Expenditures" column include over USD 2M that are budgeted for this year (2014). This amount is also reflected in the total expenditures of USD 6.755M presented above. The German contribution was expended by December 2013 and the project was closed. However, the Norwegian project was extended by one year until end of 2014 (as a no-cost extension).

48. This table is the consolidated finances of the MAGHG project. The analysis of these figures reveals the same fact found with the GER contribution above that is the expenditures allocated to the salary line are over-budget by 69%. On the other hand, the contract line and travel + training lines are under-budget by 41% and 31% respectively.

49. The Evaluation Team noted that regular financial reports on expenditures and budgets were presented and approved by the SC, including the change of budget per line item. The differences presented above between budget and actual expenditures per line item were the results of these approvals over time to respond to management needs at the time. Overall, it was decided by the Management Team to spend fewer dollars on contracts and more on salaries to produce the expected results of this project. This was also done transparently and with approval of the SC. The Evaluation Team noted the use of adaptive management to adapt the use of financial resources to the project needs and fully support this approach. Considering the constraint of the FAO financial system (no reporting by results), the financial resources were used efficiently to secure project outputs.

4.4 Institutional Arrangements

50. The management structure of the MAGHG project were as follows:

- The FAO was the Implementing Agency for this project.
- The Climate, Land and Energy Division (NRC) of FAO - as the designated Lead Technical Unit and Operational Unit (Budget Holder) - coordinated the project in close coordination with the FAO Statistics Division (ESS). There have also been departmental collaborations with Agriculture and Consumer Protection, Forestry and Fisheries.
- The project was guided by a project Steering Committee (SC), chaired by the Director of the Climate, Energy and Tenure Division at FAO. The SC serves as the SC for both the German and Norwegian contributions to the MAGHG project. It also serves as the SC for the MICCA project (funded by Finland). Its members comprised Directors of divisions of FAO implementing the project and the MICCA project, representatives of donors and related institutions. The SC provided global strategic guidance and ensured coordination among various divisions in FAO that are implementing project activities.

- The Project Coordinator was the Alternate Budget Holder and was located at FAO-HQ-NRC. He oversaw the implementation of the project, managed it and provided overall support to the project. He reported to the Director of the Climate, Energy and Tenure Division of FAO.

51. This project was mostly implemented from FAO headquarters in Rome. It involves inter-divisional work and the cooperation between NRC and ESS has been particularly good and productive. The institutional arrangements were adequate, though one question remains: "Should the project be under the leadership of NRC or ESS?" The key output of this project is the GHG emissions database that was incorporated into the web-based FAOSTAT database. The statistical division of FAO (ESS) maintains this system. They also played a key role in the development of the GHG emissions database and are also a key division to ensure the long-term sustainability of the GHG emissions database.

52. The SC met eight times during the period February 2010 to the time of this evaluation. Donors – Finland, Norway and Germany – were members of this SC and participated to these meetings. The progress of both, the MICCA project and the MAGHG project, were regularly reviewed as well as their respective work plans. Together these two projects have formed the mitigation programme of FAO in the AFOLU sector and the SC has been the main mechanism to direct this programme at FAO, using the opportunity to have three donors as members. The SC worked efficiently to monitor the progress of the MAGHG project; it provided an adequate forum where donors and project management teams met to discuss the MAGHG project but also the MICCA project funded by Finland.

53. Despite an adequate institutional arrangement within FAO, the effectiveness of the MAGHG project is hampered by the weak definition of the mitigation programme at FAO under which the MAGHG project is located. This programme was mostly made up of 2 projects: the MICCA project funded by Finland and the MAGHG project funded by both Germany and Norway. The funding from Germany stopped in December 2013, Finland funding of MICCA ends at the end of 2014 and the Norwegian part of MAGHG will also terminate at the end of 2014. At it stands today, only Germany is discussing the possibility to add another USD 2M into this mitigation programme. Within this context, it is difficult to position the MAGHG project and its impact over the long-term. A lot depend on what FAO will do in the climate change mitigation area over the coming years.

4.5 Risks and Assumptions / Risk Mitigation Management

54. A number of risks were analyzed at the outset of this project and summarized in the project document. As mentioned in this document, none of them were seen as a severe threat to the implementation of the project and the achievements of its expected results. The table below presents these risks identified at the outset of the project with their respective mitigation measures.

Table 4: List of Risks

Risk	Probability	Mitigation
Consensus on praxis regarding reporting processes and requirements is not reached between the member states	Low	• Member states are already committed to reporting under a number of protocols and agreements. Access to financial mechanisms will require countries to adhere to agreed reporting methods.
International organizations don't engage	Low	• Key organizations have already been engaged to

Risk	Probability	Mitigation
		ensure interest and commitment.
User needs are not properly assessed	Medium	• Initial project product will be a comprehensive assessment of stakeholders and their needs.
Member states don't submit comprehensive data collection	Medium	• Ensure that member states realize self-interest and provide adequate capacity building when required.
Ownership issues related to data	Medium	• FAO as a neutral party, stores data and makes it available to member states, FAO member are obliged to submit annual reports.
Data compilers do not have the capacity to use the data optimally	Medium	• Provide training and capacity building for data compilers and other users
Decision makers make suboptimal policy choices	Medium	• Provide decision makers with policy briefs allowing them to grasp concepts and understand the functioning of mitigation potentials, thus facilitating informed policy choices. Ensure UNFCCC negotiations are fully informed of project results.

Source: Project Document

55. The review of these risks confirms the analysis conducted at the outset of this project. They are all valid risks and none of them were a severe threat to the implementation of the project. However, it was also noted that the semi-annual progress reports did not update this log of risks over the lifetime of the project. No formal process was conducted for managing project risks. In this particular case, the implementation did not face any major problem; however, as a good project management practice it is recommended that risks should be regularly monitored and updated as well as their respective mitigation measures.

4.6 Monitoring Approach and Progress Reporting

56. A monitoring and reporting plan was presented in the project document. It was stated that the project would be monitored according to annual work plans and progress reported in annual reports. Furthermore, the Project Coordinator would monitor the project to ensure that the project was on track both time-wise and financially. It was also anticipated that the data portal, once created, would also allow the monitoring in real time of the progress being made on data compilation and the development of guidelines and protocols. Additionally, the monitoring was also to be done through annual consultations and reviews with partners/donors to ensure that the project was on schedule. Finally an evaluation was planned at the end of the project by an independent team.

57. The reporting was planned as follows:

- A project inception report
- Semi-annual progress reports, including: (i) an account of actual implementation of the activities compared to that scheduled in the work plan; (ii) identification of achievements of outputs and immediate objectives, based on the objectively-verifiable indicators; (iii) identification of any problems and constraints encountered during

implementation; (iv) recommendations for corrective measures; and (v) a detailed work plan for the following reporting period.
- Quarterly project implementation reports
- A terminal report
- Other reports as required.

58. Finally, the basis for monitoring the project was a set of indicators/targets that were developed in a logframe (Annex 2 of project document). It includes about 16 indicators and their respective targets, which are often mixed together. This list of indicators/targets and the assumptions made at the outset of the project is presented in Annex 8.

59. The review of the M&E function of the project reveals a moderately satisfactory monitoring system. The review of indicators/targets indicates a focus mostly on project deliverables as opposed to development results. Furthermore, the Evaluation Team found that these indicators are not enough Specific, Measurable, Achievable, Realistic and Time-bound (SMART). For instance, under output 5, the tracking of training activities is an implementation matter but it does not indicate that capacity was increased; i.e. through the information that the Evaluation Team gathered, it is not known if the training was delivered effectively and that it "strengthened the capacity of national compilers to gather and analyze climate change data" (output 5 statement). Most of these indicators and targets are mostly tracking the delivery of planned activities.

60. Another example is the target to measure progress at outcome level stating, "at least 20 countries adopt national agriculture mitigation policy and practices". This target could be valid if the project had a particular emphasis on supporting member countries to adopt national agriculture mitigation policy and practices. However, this target is not measuring a specific area that the project tried to improve; and it is not realistic enough. Furthermore, the same comment can be made for 2 other targets: under output 3 "85% of member countries should now report under these new guidelines on the first cycle reporting" and under output 5 "quality of data meeting the necessary standards with regard to accuracy and standardization is achieved in 80 percent of countries where capacity building is provided". These two indicators and their targets are not realistic enough.

61. As discussed in chapter 3 above, it was a very ambitious project; particularly its goal statement. This fact may explain partly why the review of the project strategy and the indicators and targets reveals a certain disconnect between the two. To assume that the project was successful in implementing a particular output, one needs to assume that because the planned activities were implemented, the particular output was reached. For instance, for output 8, the targets were a set of deliverables that included technical submissions, side events at COPs and policy briefs. This monitoring system implies that if these products were delivered, "UNFCCC negotiators and policy makers would be (more) informed and aware of agricultural mitigation options" (output 8 statement). However, based only on these indicators one cannot ascertain that this output was reached.

62. Nevertheless, progress reports were produced semi-annually using this monitoring framework. These reports included Section A as a major section to report project progress. Against each expected output, the "status of achievement towards indicators/targets" was given using the targets set at the beginning of the project. This section in each progress report gives a good update on the progress of the report. What is missing in these reports are targets to measure how well the expected outputs and the project outcome were reached, particularly for outputs 5, 6 and 8: Was capacity of national compilers to gather and analyze climate change data strengthened? Does the developed GHG data portal support developing countries to address

agricultural mitigation and other related climate change issues? Were UNFCCC negotiations and policy makers more aware of agriculture mitigation options due to the project?

5 Analysis of Results

63. This section presents the findings on the effectiveness of the project, which is a measure of the extent to which formally agreed expected project results (outputs) have been achieved, or will be achieved in the future.

5.1 Attainment of Project's Expected Outputs

64. The project had eight expected outputs: in brief these are (i) identification of stakeholder needs, (ii) standardized reporting process and requirements devised, (iii) guidelines and good practice manual supporting national data compilers developed, (iv) international guidelines for LCA created, (v) capacity building and training completed, (vi) GHG agriculture data portal, (vii) GHG assessment report for the agriculture sector, and (viii) UNFCCC negotiations and policy makers aware of agriculture mitigation options. The implementation progress towards these expected outputs has been reported in semi-annually reports. A table listing key achievements reached by the project against each output and their corresponding indicators/targets is presented in Annex 9.

65. The review of these achievements against the eight expected outputs reveals that overall the project produced a lot of knowledge and tools including:

- A GHG emissions database providing country-level estimates of GHG emissions and removals from the AFOLU sector. This database was built based on the IPCC Tier 1 approach and following the 2006 IPCC Guidelines for National Greenhouse Gas Inventories;
- Assessments of stakeholders requirements and reporting systems;
- A revised FAO questionnaire to collect information on land use change;
- Guidelines on methods to estimate GHG emissions and removals in the AFOLU sector;
- Life cycle assessments of the GHG emissions of the supply chain in the dairy sector, pig and chicken and ruminant;
- A global GHG assessment of the agriculture sector what were used to draft the chapter 11 of the IPCC 5th Assessment Report;
- Several scientific papers and report on GHG emissions assessments for the agriculture sector and on related potential mitigation measures;
- Organized/participated to several events to disseminate this knowledge and tools such as four regional workshops (Asia (2), Africa and Latin America-Caribbean), side-events at UNFCCC COP and collaboration with IPCC Task Force on national GHG inventories;
- Linked/participated/contributed to GHG emissions inventories initiatives in six countries: South Africa, Indonesia, Columbia, Ecuador, Costa Rica and DRC.

66. When these results are compared to the expected outputs, the project delivered the expected products such as database, guidelines, manuals and assessments. However, the Evaluation Team found that some targets were somewhat too ambitious to be met in the timeframe and budget of the project. A review by output is presented below:

- *Output 1*: Two studies were conducted and stakeholders requirements were identified as well as the data needs;

- *Output 2*: The FAO questionnaire was revised to now include land use change and member countries should now report using this revised FAO questionnaire;
- *Output 3*: The "*Guidelines and Good Practice Manual of GHG Emissions Statistics*" focusing on the AFOLU sector was drafted and should be released in the spring of 2014. One target was that 85% of member countries should now report under these new guidelines on the first cycle reporting. These guidelines are still in draft and they should be published later this spring. The target was just too ambitious when considering the timeframe of the project;
- *Output 4*: A set of guidelines on Life Cycle Analysis (LCA) was developed to assess the GHG emissions from the dairy sector, pig and chicken and ruminant supply chains;
- *Output 5*: Four regional workshops were conducted: Da Lat, Vietnam; Indonesia; Port of Spain, Trinidad and Tobago; and Casablanca, Morocco. These workshops focused on GHG emissions inventories in the agriculture sector, using the knowledge and tools produced by the project. A total of about 100 "national compilers" participated in these workshops. The targets set for this output were ambitious. The Evaluation Team reviewed the reports of these training workshops in GHG emissions assessment – including final workshop surveys and information on project activities in several countries, however, it found limited information to measure how these trained participants were able to develop the capacity in their respective institutions, and particularly to assess if "*80 percent of these countries produces data now that meet the new standards with regard to accuracy and standardization*" (*target for output 5*). In order to assess the effectiveness of these workshops, the Evaluation Team conducted an e-survey as part of this evaluation (*see results below*). In addition to these workshops, the project also established some linkages with 6 countries: South Africa, Indonesia, Columbia, Ecuador, Costa Rica and Congo to support them in their respective GHG emission inventories/assessments (*see more below*).
- *Output 6*: A GHG emissions database for the AFOLU sector was developed and integrated to the FAOSTAT system including its web interface to give public access to this information. This expected output and its related targets were somewhat more ambitious here with the aim that was to provide mitigation methodologies and practices to support developing countries to address agriculture mitigation issues. This area – mitigation methodologies and practices - is the focus on the proposal for phase 2 of this project.
- *Output 7*: A global GHG emissions assessment for the AFOLU sector was conducted and integrated to the IPCC 5th Assessment Report (chapter 11). This assessment was also used to publish several scientific papers and reports.
- *Output 8*: Technical submissions on GHG emissions assessment were made to UNFCCC sessions (especially SBSTA) and the project collaborated with the IPCC Task Force on National GHG Inventories. As per the expected output 8, the project certainly informed and made the UNFCCC negotiators and policy makers more aware of agricultural mitigation options. However, this contribution was not measured by the project and the Evaluation Team recognizes the difficulty to assess this kind of contribution. As a positive sign, recent discussion between the Project Coordinator and a representative from the UNFCCC Secretariat may lead to a greater collaboration between the MAGHG project and the UNFCCC process to bring the project expertise, knowledge and tools related to GHG emissions inventories in developing countries.

67. Overall, the process to produce these knowledge and tools was excellent and included an excellent quality assurance process. A good example was the development of the GHG emissions database. In-house FAO experts developed this database. However, before the

database was made public a peer review was conducted to collect feedback on the database. About 100 experts were contacted for their feedback on the database, including representatives of UNFCCC, IPCC, FAO and national compilers from developing countries. Their inputs were then collated together, reviewed and, if accepted, actions were taken to improve the database. Another example is the development of LCA guidelines in the livestock sector. This development has been made through the Livestock Environmental Assessment and Performance (LEAP) Partnership, which involves stakeholders across the livestock sectors that share an interest in improving the environmental performance of livestock supply chains. The LCA guidelines were drafted within the context of this partnership bringing numerous experts from different organizations to review these guidelines and following this phase, a public review is now underway before they are published and made public.

5.1.1 Overview of Data Portal, Related Methodologies, Technologies and Guidelines

68. The FAOSTAT Emissions database is embedded in the FAOSTAT database and is aimed to support member countries on the following activities:

- Provides regular updates of global and regional trends in GHG emissions from AFOLU sector;
- Bridges gaps in capacity of member countries in assessing and reporting GHG emissions, considering UNFCCC requirements;
- Establishes a GHG emission benchmark for quality control and quality assurance;
- Provides a coherent framework for national-level analysis and dialogue on GHG assessment and gaps.

69. The FAOSTAT Emissions database provides country-level estimates of GHG emissions, on the basis of the FAOSTAT activity data and using IPCC Tier 1 approach, following 2006 IPCC Guidelines for National Greenhouse Gas Inventories. The data covers the period 1990 to present for all FAOSTAT countries. The database is comprised of three major data components:

i Activity data (e.g., livestock numbers; fertilizer application; manure management; land use etc.);
ii GHG emission factors;
iii GHG emission values.

70. Following the FAOSTAT structure, GHG data are available in the domains "Emissions – Agriculture" and "Emissions - Land Use". In the abovementioned domains, the following subdomains, items and elements are included:

- ***Emissions - Agriculture***: Enteric Fermentation; Manure Management; Rice Cultivation; Synthetic Fertilizers; Manure applied to Soils; Manure left on Pasture; Crop Residues; Burning - crop residues; Burning – Savanna; Energy Use; Drained organic soils.
- ***Emissions - Land use***: Forest land; Cropland; Grassland; Burning biomass.

71. For each subdomain, items and elements, and metadata information are available, detailing information on methodology, classification, units and glossary (see Annex 10 – section 2.1.1 and 2.1.2).

72. Using annual data from FAOSTAT, the FAOSTAT Emissions database has been built and it is automatically updated when FAOSTAT activity data are updated. An exception is given by all the categories assessed through the use of spatial data (i.e. GIS based data).

73. The FAOSTAT Emissions database has been reviewed through a survey targeting the national inventory compilers, UNFCCC reviewers, climate change focal points, FAO Divisions, UNFCCC secretariat and IPCC Task Force Inventory (TFI). The survey resulted in several comments, related to the different section of the database (i.e. metadata, methodology, data functions, data relevance, graphical content, browse data, download, data comparison). All comments were considered and a revised version of the database was developed accordingly.

74. A draft Guidelines and Good Practice - Manual of GHG Emissions statistics was developed by the MAGHG project, describing the methods used to estimates emissions and removals for the AFOLU sector and included in the FAOSTAT Emissions database, and providing information on activity data, emission factors and metadata related to each category (item) of the 2 domains (GHG Agriculture and GHG Land Use).

75. Based on the review of the GHG emissions database, the Evaluation Team detected a potential misallocation of some subdomains:

- The subdomain Energy Use is currently included in the domain GHG Agriculture. Following IPCC methodologies, the inclusion of CO2 emissions related to the energy consumptions in the agriculture sector have to be reported in the relevant sector (i.e. energy, industrial process).
- The N2O and CO2 emissions related item cultivated organic soils are currently reported in the domains GHG Agriculture and GHG Land Use, respectively. As the area of cultivated organic soils is referred to a land use (cropland or grassland), the abovementioned emissions should be reported in the GHG Land Use domain, in the relevant items.
- The item "Net forest conversion" is currently included in the subdomain Forest Land (domain GHG Land Use). The abovementioned item is related to forest land converted to other land use (i.e. deforestation). Therefore the emissions related to the item "net forest conversion" should be reported under the proper subdomains (in absence of additional information, an assumption could be made and the net forest conversion could be referred to a unique land use).

76. The Evaluation Team concluded that it is a robust database providing critical data for national compilers but also for a full range of Stakeholders. It noted that good GHG emissions data is now available per country but also that no function allows a user to perform comparisons with the data that is officially communicated by Parties under the UNFCCC obligations (national communications and BURs). Recommendations to address the misallocations presented above are made in section 7.2. Additional information on Data Portal, Related Methodologies, Technologies and Guidelines related to the GHG emission database can be found in Annex 10.

5.1.2 Effectiveness of Regional Workshops

77. As described in annex 9, the project produced a lot of knowledge and tools on GHG emissions in the AFOLU sector such as database, guidelines, manuals and assessments. This knowledge and tools were made available to member countries through the web and disseminated through four regional workshops as well as the participation of the Project Team to other events such as UNFCCC COPs and the collaboration with IPCC Task Force on national GHG inventories. Ultimately, the main beneficiaries of project achievements are member countries, particularly the developing countries.

78. Output 5 was the main channel to disseminate this information to beneficiaries and the organization of regional workshops was the main activity under this output to disseminate this

new knowledge and tools. Three regional workshops and one sub-regional workshop were organized by the project:

- *Asia* - Da Lat, Vietnam on October 5-6, 2012 as a side event to the 24th Asia and Pacific Commission on Agricultural Statistics meeting;
- *Latin America and the Caribbean* - Port of Spain, Trinidad and Tobago on June 3-4, 2013;
- *Asia* – Indonesia with the participation of Malaysia and Papa New Guinea, November 2013;
- *Africa* - Casablanca, Morocco on December 2-3, 2013.

79. As mentioned in Section 1.1.2, the Evaluation Team decided to survey the participants to these three regional workshops organized by the project. The intent was to provide another data source for triangulating the analysis conducted for this evaluation but also to obtain feedback on these workshops and more generally on the MAGHG project from their viewpoints as project beneficiaries. The survey – which included 16 questions (see Annex 12) - was sent to 97 people who participated to one of the three regional workshops; 46 respondents (47%) completed their questionnaires. Some highlights on these respondents:

- 26% of respondents participated to the Asia workshop, 28% to the Latin America and Caribbean workshop and 41% to the Africa workshop and 5% to other events;
- 24% of respondents were UNFCCC Focal Points, 24% were representative from national statistical agencies, 30% were from Ministries of Agriculture and 22% from other organizations;

80. Responses on the quality of these workshops reveal the following:

- 93% of respondents rated the overall quality of these regional workshops as either "*highly satisfactory*" or "*satisfactory*", and the rest (7%) responded as marginally satisfactory;
- 59% of respondents said that they used the knowledge presented at these regional workshops as either "*to a great extent*" or "*to a fairly great extent*", and a further 24% responded "*to a small extent*"; on the contrary 9% responded "*not at all*";
- 96% of respondents rated the efficiency of the FAO-MAGHG Team in organizing these regional workshops as either "*highly satisfactory*" or "*satisfactory*".

81. The responses indicate that high quality regional workshops were conducted by the project and that the knowledge that was disseminated at these workshops was used by a large number of respondents (83%). Comments made by some respondents include:

- Excellent workshop, one of the best I participated. Participants felt motivated to continue the process. Knowledge of great interest to both our institutions and staff. (translated from Spanish);
- Facilitation was excellent and my expectations were fully met;
- It was a very nice awareness workshop, it motivated me. It was also a good experience to share within member countries.
- Logistics, conference material and preparation during and after the workshop was very good
- Information and knowledge on FAOSTAT at this workshop were shared with my institution, and with the service in charge of the management of the database within the Department. The potential and benefits of using the FAOSTAT for our GHG inventory process were presented. The sharing of this information and awareness of other

stakeholders on the possible establishment of an institutional mechanism is still expected shortly (translated from French);
- We plan to use (this knowledge) in the preparation of our 3rd National Communication;
- In preparation of national communication on GHG
- Shared information with the GHG study team and other concerned ministries;
- Used to cross-check data from our national data
- I am involved in developing the land based NAMAs in Indonesia and the materials from the workshop were good references;
- Rwanda is preparing now its 3rd National Communication on GHG emissions. My institution is involved. It was good to get knowledge and picture on GHG study updates from the region, exchange with the colleagues involved in similar studies in their countries, and access FAOSTAT GHG database!
- Now, some of us especially from the National Statistics Offices also know the types of indicators that we need for the estimation of greenhouse gases emissions from agricultural activities;
- At my institution we are using IPCC guidelines (1996) but still we need to have more capacity development on IPCC guidelines 2006 because it's more complicated to collect all data from the agriculture sector. Also we still need to increase the cooperation between my institution and the statistical agency and your team (FAO-MAGHG).

82. The effectiveness of these regional workshops was also good. Below are some responses made to the question "*what were the main strengths of the regional workshop you participated in*?"

- The approach adopted by the FAO-MAGHG team to conduct the workshop was very effective and beneficial for participants. The sharing of experiences was very rewarding and active participation of participants was able to identify any potential barriers in the GHG inventory process and provide solutions for strengthening the institutional mechanism (translated from French);
- The possibility to have agricultural data in a holistic database in order to evaluate or manage inventories with accurate default activity data for GHG inventory in my country;
- Workshop design is very effective so that everyone participate actively. Presentations are short to the points, consume less time and allow more discussions.
- The linkage between the agriculture and the statistical agencies with the experts from FAO through (MAGHG project team) and the experts from the intergovernmental panel on climate change IPCC.
- The relevance of subjects, the effectiveness of methods for conducting the workshop and the active and dynamic participation of participants (translated from French);
- Majority practical work, very dynamic, very participatory, fair amount of people, most countries were represented (translated from Spanish);
- The design, organization, facilitation, applied methodology, content (terms and concepts), all useful for designing research programs that are required for producing agricultural (AFOLU) GHG emissions statistics and for the development of national BURs and the promotion of national mitigation actions (NAMAs) and adaptation to climate change (translated from Spanish);
- The main point of the regional workshop was to highlight the need to strengthen interagency coordination between the various entities that produce GHG information (translated from Spanish);

- Facilitated the coordination and interaction among statistical agencies, agriculture and climate change (translated from Spanish);
- Several positive comments were made about the presentation of the FAOSTAT GHG Emissions Database and its benefits for member countries.

83. When asked, "*What were the main Weaknesses of the regional workshop you participated in?*", the dominant response from respondents was the lack of time to cover all the material. As one respondent wrote "little time to address the whole issue", overall participants liked these workshops, the exchanges among participants from countries in the same region and the practical approach of these workshops.

84. Two questions were also asked to assess the GHG emission database in FAOSTAT. A summary of these responses are given below:

- 67% of respondents stated that "*to a great extent*" or "*to a fairly great extent*" they know how to access the information on GHG emissions in the FAOSTAT database;
- 75% of respondents rated the content, user-friendliness and access to the information on GHG emissions in FAOSTAT as either "*highly satisfactory*" or "*satisfactory*".

85. Respondents like the FAOSTAT and its module on GHG emissions for AFOLU. They mentioned as positive the easy access to the database per country and the good information at national level. One comment mentioned that FAO has the role to coordinate the data collection from each national statistical agency and compile this information into a global database. The approach used by the project for the GHG emissions will also contribute to the standardization of data both at country level and at international level and thus strengthen the processes in each country, avoiding duplication of effort and better use of resources and data.

5.1.3 Linkages with Member Countries

86. Through the regional workshops conducted by the MAGHG project and other contacts, the project ended up establishing linkages with several countries to support their GHG emissions inventory process. The engagement of the project in term of resources and focus vary from country to country. Summaries are presented below.

87. **Columbia**: Following the second regional workshop on statistics for GHG emissions held in Trinidad and Tobago in June 2013, contacts were established with a key person in the country to learn more about the Colombian National Agricultural System. In the context of the UN-REDD National Joint Programme, the MAGHG project helped to include a GHG inventory component in this programme including the important role of the Departamento Administrativo Nacional de Estadísticas in this process. It is anticipated that the involvement of the MAGHG project in Columbia be similar to the one in Ecuador.

88. **Costa Rica**: Similar to Columbia, following the second regional workshop, contacts were made with the Regional Statistician for Latin America. Costa Rica has created an Ad hoc working group on GHG emissions statistics for the AFOLU sector for the Biennial Update Report (BUR). In parallel to the support provided by the project to Costa Rica, a Meso-American working group was created for the preparation of BURs and a DGroup (Grupo de discusión en línea sobre las emisiones de gases de efecto invernadero en agricultura) was created for knowledge sharing in Spanish. This DGroup targets all 20 Spanish speaking Latin American countries plus Belize, representing all Caribbean countries on behalf of the Caribbean Climate Change Community Centre (CCCC). It is anticipated that the MAGHG project will support a Meso-American course-workshop in 2014 on agricultural statistics, BURs, NAMAs, etc.

89. **Democratic Republic of Congo**: DRC representatives participated to the third FAO regional workshop on statistics for GHG emissions held in Casablanca, Morocco in December 2013. Following this workshop, coordination with the UN-REDD/FAO team has been taking place with a national GHG workshop on GHG emission inventories to identify activity data and GHG estimation capacity development needs.

90. **Ecuador**: The MAGHG project is part of a joint effort with UNDP-LECB, UN-REDD and CD-REDD to support capacity development on greenhouse gas (GHG) inventory in the AFOLU sector in collaboration with the Undersecretary of Climate Change of the Ministry of Environment of Ecuador (MAE) as the GHG Inventory leader in Ecuador and the UNFCCC focal point.

91. **Indonesia**: Discussions started in February 2013 with government agencies responsible for data analysis and for the REDD programme for the development of a collaboration for the assessment of GHG emissions from peatlands, and for the identification of appropriate mitigation actions. A sub-regional workshop with the participation of representatives from Indonesia, Malaysia and Papa New Guinea took place in November 2013 with the participation of the MAGHG project. In agreement with the donor, this workshop was part of the programme of regional workshops supported by the project. As a follow up to this workshop, a national dialogue in Indonesia on statistics for GHG estimations has started with a focus on land use and peatlands. A joint FAO team (NRC, Forestry, Fisheries) was created to support national institutions involved in this area. The participant from Indonesia to the sub-regional workshop has been recently appointed focal point for the newly formed REDD+ National agency and is using his knowledge and support gathered through project activities to develop a GHG inventory and mitigation plan for peatlands in Indonesia, jointly with FAO. A GEF project was also prepared for submission by Indonesia.

92. **South Africa**: The GHG emissions Coordinator for South Africa contacted the MAGHG project in 2012. Since this initial contact, this person was invited as a presenter at the third FAO regional workshop on statistics for GHG emissions held in Casablanca, Morocco in December 2013.

93. **West Africa**: Recently, the MAGHG project was contacted by UNFCCC to be a partner in a regional GEF funded project to support seven countries in West Africa in preparing their BURs.

94. As part of this evaluation, the Evaluation Team chose 3 countries to review the collaboration between the MAGHG project and these country teams. These are summarised below

95. **Ecuador**: The collaboration between the MAGHG project, UNDP-LECB, UN-REDD, CD-REDD and the Undersecretary of Climate Change of the Ministry of Environment was defined in a joint work plan issued in early 2013. The objective of this joint work plan was to support capacity development for conducting the GHG inventory in the Agriculture, Forestry and Other Land Use (AFOLU) sector and to report to the UNFCCC. All partners are now implementing this joint workplan. It includes five phases: phase 1: Start up; phase 2: Lay the foundation; phase 3: Establish database; phase 4: Generate inventory; and phase 5: Close draft inventory. The role of MAGHG within this collaboration was identified through 7 specific actions: 1. Initial analysis between National Communication data and the FAOSTAT Emission database: 2. Support in the preparation of the agenda for the kick off meeting in Ecuador (high level and technical); 3. Technical advice for the agriculture sector component of the GHG inventory in Ecuador during the meeting in Ecuador; 4. Technical and methodological advice regarding GHG inventories for the agriculture sector; 5. Identification of data gaps and

facilitation of a national process to link official data from Ecuador from the Ministry of agriculture (MAGAP) with international sources such as FAOSTAT [liaise with the ESS from FAO and MAGAP to get the FAOSTAT questionnaire on fertilizers compiled by Ecuador]; 6. Facilitate knowledge exchange on the IPCC 2006 software functions related to AFOLU GHG inventory reporting requirements in order to link the draft inventory from Ecuador with the Third National Communication process and the Biennial Update Report (BURs); and 7. Technical support for the verification (cross-check/ benchmarking process) of the draft agriculture GHG emission inventory with the FAOSTAT Emission database.Interviews with some key stakeholders involved in this joint programme revealed that the support from MAGHG was much appreciated. They particularly appreciated the access to the GHG emissions database on the agriculture sector; a difficult sector to assess in Ecuador. It provided a benchmark that was used to compare/validate the data from the national inventory against the data set in FAOSTAT.

96. **Indonesia**: In term of GHG emissions, Indonesia is the 3rd country emitter in the world for the AFOLU sector. It is due mostly to the degradation of vast tropical peatlands – including peat fires - emitting GHG. However, the country does not have an accepted map of its forested areas and of its peatlands, which is a major impediment in calculating the GHG emissions for the country. In order to address this issue but also to identify measures to address the degradation of these peatlands, the government is working on several initiatives. In 2007, it also set the target of reducing CO2 by 26% by 2020; which was also set at 41% by 2020 if they get international support. Finally, the government of Norway committed the financing of up to USD 1B during this period to 2020 to address GHG emissions and contribute to the reduction of GHG emissions in Indonesia.

97. Within this context, FAO became a partner to Indonesia to support the goal of reducing GHG emissions from peatlands. A first step was to make FAO a partner of the GEF funded Coral Triangle Initiative (CTI), it is planned to be confirmed in 2014. Then, FAO developed two project proposals: one on restoring mangrove and one on addressing peatlands degradation. In the meantime, the MAGHG project developed peatland guidelines to calculate GHG emissions. Then, following the November 2013 workshop, a NAMA project concept on peatlands was developed and submitted to GEF for funding. More recently, another project proposal on peatlands restoration has been developed – with the FAO-MAGHG project as a partner - and will be submitted to the government of Norway for financing.

98. Similar to Ecuador, the stakeholders interviewed stated their appreciation of being able to work with the MAGHG project and accessing the GHG emissions database. They also stated that this information was useful in preparing their latest national communication to UNFCCC. As one interviewee stated, this collaboration provided the government of Indonesia with good references - a quality benchmark dataset to vet their national GHG emissions inventory and the weight of FAO as a global authority on this aspect.

99. **South Africa**: The GHG emissions Coordinator for South Africa is a GHG emissions reviewer for UNFCCC. Since the start of his collaboration with the MAGHG project, he has been using the FAOSTAT-GHG emissions database to verify and compare national GHG emissions inventories, including extracting information on emissions from the database when information gaps need to be filled such as informal charcoal production. In February 2014, a meeting took place in FAO-Rome to discuss further collaboration. It includes the search for sponsoring a South African Officer to FAO for one to three months for getting acquainted with the GHG emissions database and trained on GHG emissions inventories. In the meantime, South Africa is currently preparing their BUR, planned to be completed by April-May 2014 and to be submitted to the UNFCCC in December 2014 after Cabinet approval.

100. The interview indicated his appreciation on how useful this database was for his work and the member countries to conduct and complete their national inventories. He views the MAGHG project as a knowledge base providing quality data on GHG emissions and tools to help member countries to develop their inventories and report factual information on GHG emissions to the UNFCCC as part of their obligations.

101. Overall, it was noted by the Evaluation Team that these linkages were not really planned at the outset of the project. However, there were innovative ways to support the development of GHG emissions inventories for the AFOLU sectors in these countries and allowed the project to be "grounded" with concrete experiences of countries attempting at developing their GHG emissions inventories. In most cases, the project partnered with other projects/organizations that are "on the ground" to develop the capacity of key stakeholders involved in GHG emissions inventories in these countries such as CD-REDD, UN-REDD and Coalition of Rainforest Nations. The feedback obtained from stakeholders that were interviewed during this evaluation indicates that they appreciate the access to quality information on GHG emissions and tools provided by the MAGHG project. It provided them with valuable knowledge to pursue their work on GHG emissions in the AFOLU sector. Finally, the Evaluation Team noted that the demand for such collaborations seems to grow exponentially since the GHG emissions database was recently made public; another indicator of success of this project.

5.2 Achievements of Project's Outcome

102. As discussed in chapter 3, the project had an ambitious goal that was *"to improve climate change mitigation linked to improve long term agricultural productivity, thus contributing to reducing hunger and extreme poverty, enhancing food security and increasing environmental sustainability. In addition, the project seeks to support climate-friendly development coupled with increased resilience and productivity of farming systems and improved capacities of farmers, communities and institutions"*. Furthermore, its expected outcome was *"an enhanced global knowledge base on GHG emissions, and mitigation potentials, within the agriculture sector. The knowledge base will be provided through user-friendly and easily accessible applications"*.

103. The table below presents the key achievements at the outcome level, against the targets that were set at the outset of the project to measure the progress made.

Table 5: Attainment of Project Outcome

Project Outcome	Targets at End of Project	Key Results
Overall goal: To improve climate change mitigation linked to improve long term agricultural productivity, thus contributing to reducing hunger and extreme poverty, enhancing food security and increasing environmental sustainability. In addition, the project seeks to support climate-friendly development coupled with increased resilience and productivity of farming systems and improved capacities of farmers, communities and institutions. **Expected Outcome:** An	• International consensus on agriculture being an eligible mitigation sector (UNFCCC). • At least 20 countries adopt national agriculture mitigation policy and practices. • Improved productivity and production. • Global GHG database which includes "raw" national data, regional and global estimates, GHG per sector and GHG LCA for individual products (e.g. beef, milk, corn, etc.). Mitigation potentials of different agriculture methodologies and practices	• FAOSTAT GHG Emissions Database • Contribution to the IPCC 5th Assessment Report (AR5, especially chapter 11) • Global Life Cycle Assessments (LCA) of GHG emissions from pig and chicken supply chains and from ruminant supply chains • A global assessment of emissions and mitigation opportunities for the livestock sector • Guidelines and Good

enhanced global knowledge base on GHG emissions, and mitigation potentials, within the agriculture sector. The knowledge base will be provided through user-friendly and easily accessible applications.	and effectiveness in different ecotypes. Database serves needs of numerous stakeholders including: data compilers, modellers, policy makers and negotiators, international entities and national/local practitioners. • Comprehensive global assessment of GHG emissions and mitigation potentials from the Agricultural sector. The assessment will contain global and regional reviews, sectoral analyses, product life cycle chains and identification and evaluation of mitigation potentials in the different sectors, and will be published in 2012.	Practice Manual of GHG Emissions statistics • Dissemination of knowledge products - including the GHG emissions database – to member countries through regional workshops, participation to global events such as COPs and global workshops

Source: project document and notes/information collected during interviews at FAO-Rome

104. The review found that overall the project delivered its expected outcome. It certainly *"enhanced global knowledge base on GHG emissions, and mitigation potentials, within the agriculture sector and that this knowledge base has been provided through user-friendly and easily accessible applications".* When reviewing the key achievements against the targets set at the outcome level, the Evaluation Team found the same fact as for the targets at the output level in that some targets were somewhat too ambitious to be reached within the project timeframe. This is the case here with the target stating, *"at least 20 countries adopt national agriculture mitigation policy and practices"*. The project provided knowledge and tools on GHG emissions that is now accessible by all member countries. The project conducted three regional workshops to disseminate this knowledge and tools to member countries. However, the project did not focus on supporting countries to adopt national agriculture mitigation policy and practices; in this case it is hoped and encouraged that countries will use this knowledge and tools on GHG emissions for developing and adopting agriculture mitigation policy and practices.

105. When it comes to comparing the achievements against the goal of the project, as discussed in chapter 3, this goal statement was ambitious. Nevertheless, the achievements of the project have been contributing to improving climate change mitigation linked to long-term agricultural productivity. Better knowledge on GHG emissions in the AFOLU sector will help stakeholders in member countries to develop mitigation strategies for the agriculture sector when ensuring their long-term agricultural productivity.

5.3 Gender equality

106. FAO has a defined policy on gender equality. Its goal is to achieve equality between women and men in sustainable agricultural production and rural development for the elimination of hunger and poverty. Furthermore, it has five objectives to accomplish this goal:

- Women participate equally with men as decision-makers in rural institutions and in shaping laws, policies and programs;
- Women and men have equal access to and control over decent employment and income, land and other productive resources;
- Women and men have equal access to goods and services for agricultural development and to markets;

- Women's work burden is reduced by 20% through improved technologies, services and infrastructure; and
- Percentage of agricultural aid committed to women/gender-equality related projects is increased to 30% of total agricultural aid.

107. The policy recognizes that the major responsibility for achieving this goal and objectives lies with its member countries. However, FAO is accountable for the quality, efficiency and timeliness of its contribution at the output level; including the monitoring of progress toward the achievement of its gender equality goal and objectives. FAO's contributions toward achieving its gender equality goal and objectives include the generation and communication of gender disaggregated data; the development and sharing of gender equality norms and standards; the incorporation of gender analysis in the formulation, implementation and evaluation of all field programs and projects; the development of internal structures and systems to promote gender equality and ensure equal participation of men and women in decision making in FAO; and other similar actions.

108. There are two strategic directions in its implementation: (1) adopt gender mainstreaming internally in all its work; and (2) carry out programs and projects specifically targeted at women in cases where the gender equality gap is so large that women cannot access opportunities that are available. Furthermore, the policy states that the function of an evaluation is to assess the extent to which FAO addresses gender equality issues in the project.

109. Clearly, MAGHG falls under the first strategic direction stated above that was to adopt a gender mainstreaming approach in the implementation of the project. It was recognized in the project document that the impact of climate change was not gender neutral but that gender-specific roles and responsibilities were often conditioned by farming systems, household structure, access to resources, specific impacts of the global economy, and other locally relevant factors such as ecological conditions. It also stated that gender related policies and cultural practices need serious consideration when selecting suitable policies and practices.

110. The project was to review the need for gender disaggregated data which was to be assessed in collaboration with other FAO activities and projects looking specifically at gender related climate change issues. However, the Evaluation Team found limited focus on gender related project information. The progress reports do not focus on gender analysis and do not report gender disaggregated data. A search through documents collected during this evaluation reveals that gender is barely mentioned throughout the large amount of knowledge produced by the project.

111. Furthermore, it is interesting to note that one recommendation made at the 23rd session of the African Commission on Agriculture Statistics in Morocco on December 7, 2013 was to increase the collection of gender disaggregated data in the World Census of Agriculture (WCA) 2020, particularly with respect to inclusion of items regarding land ownership and/or management and providing clearer guide about their collection. The recommendation also included variables to capture the impacts of climate change and other emerging issues that affect the agricultural production environment. Nevertheless, the guidance document titled "*National planning for GHG mitigation in agriculture*" published in 2013 by the MICCA programme of FAO – including the support from the MAGHG project - as part of its series on mitigation of climate change in agriculture (no 8) does not mention the need for gender disaggregated data. The document provides guidance on the policy dimensions for national mitigation planning as well as the technical and institutional dimensions but there is no guidance on the need to address a gender disaggregated approach when planning for mitigation activities in agriculture.

112. From the observations made by the Evaluation Team, the profile of the MAGHG project with respect to gender equality is good. Taking sex ratio as the simplest means of quantifying and assessing "gender equality" the review indicates that the project oversight is done by one man (Budget Holder) leading the project implementation, then a total of 7 women (44%) help positions within the project out of a total of 16 positions, which existed at some point if the lifetime of the MAGHG project.

5.4 Capacity Development

113. The FAO Corporate Strategy on Capacity Development (2010)[2] states that FAO's approach to capacity development (CD) is intended as a principal 'modus operandi' underpinning FAO's programme of work. At the core of this strategy, there is a CD framework that is an analytical tool to assess existing capacities and identify appropriate types of interventions for developing the required capacities in counties. This CD framework encompasses the need for technical capacities in the food and agriculture areas. It also focuses on four functional capacities that would enable countries to sustain the change initiatives supported by FAO: (1) policy and normative capacity; (2) knowledge capacity; (3) partnering capacity; and (4) implementation capacity. Finally, the framework has three dimensions: (i) enabling environment; (ii) organizations; and (iii) individuals.

114. This corporate strategy on CD also states that *"some of FAO's work (e.g. in the development of standards, global information systems, or international treaties) is not focused primarily on CD, but national and regional actors do need to develop their capacities to contribute to and use these products and services"*. That is the case for the MAGHG project; the core part of this project was the development of the GHG emissions database that is now embedded in the FAOSTAT system, a global information system. The project produced knowledge and tools on GHG emissions per country and mitigation potential. Under output 5, it disseminated these information products through various ways including the organization of four regional workshops that targeted the national compilers responsible for gathering and analyzing climate change data in their respective country.

115. As discussed in section 4.3, these workshops were of high quality and they were effective events to transfer knowledge and tools produced by the project. Over 80% respondents to the e-survey said that they have used the knowledge obtained at these workshops. These workshops definitely raised the awareness of these national compilers; it was confirmed by the respondents to the e-survey.

116. However, as the FAO corporate strategy on CD states, "*national and regional actors do need to develop their capacities to contribute to and use these products and services"*. A lot more CD activities are needed at country and regional levels to strengthen the capacity of national compilers. Through contacts with several countries (*see Section 5.1.3)*, the MAGHG project initiated some innovative ways to support the development of GHG emissions inventories for the AFOLU sectors in these countries. This support is mostly done through partnering with other projects/organizations that are "on the ground" to develop the capacity of key stakeholders involved in GHG emissions inventories in these countries such as CD-REDD, UN-REDD and Coalition of Rainforest Nations. The feedback obtained from some of these stakeholders during this evaluation indicates that they appreciated the access to information and tools provided by the MAGHG project. It provided them with valuable knowledge to pursue their work on GHG emissions in the AFOLU sector.

[2] http://www.fao.org/capacitydevelopment/en/

5.5 The Human- Rights Based Approach (HRBA)

117. The UN Common Understanding on Human Rights Based Approach (HRBA) was adopted by the UN Development Group (UNDG) in 2003. It is part of the FAO's five UN Country Programming Principles that were introduced mid-2012 in FAO's Project Cycle Guidelines, which includes normative principles: Human Rights Based Approaches (HRBA)/Right to Food/ Decent Work; Gender equality, and Environmental sustainability and two enabling principles: Capacity Development (CD) and Results-Based Management (RBM).

118. The purpose of the UN common understanding on HRBA was to ensure that UN agencies, funds and programmes apply a consistent Human Rights-Based Approach to common programming processes at global and regional levels, and especially at the country level in relation to the Common Country Assessment (CCA) and the UN Development Assistance Framework (UNDAF). The statement of this common understanding on HRBA includes three main directions: (1) All programmes of development co-operation, policies and technical assistance should further the realization of human rights as laid down in the Universal Declaration of Human Rights and other international human rights instruments; (2) Human rights standards contained in, and principles derived from, the Universal Declaration of Human Rights and other international human rights instruments guide all development cooperation and programming in all sectors and in all phases of the programming process; and (3) Programmes of development cooperation contribute to the development of the capacities of duty-bearers to meet their obligations and of 'rights-holders' to claim their rights.

119. The project was designed before the HRBA guidelines were put in place. The review also found that the nature of the MAGHG project was not to "produce" a change by targeting beneficiaries but rather to develop and give access to new knowledge and tools in the climate change mitigation area. Therefore, the need to apply a specific human rights-based approach to this project consisted mostly in applying some HRBA principles to the day-to-day management of the project team, ensuring that the staff was managed with the respect of basic human rights standards when following FAO procedures. In addition, the Evaluation Team found that the implementation process applied some of the elements of a human rights-based approach such as assessing the capacity of stakeholders (output 1) and developing the capacity of data compilers to gather and analyzed climate change data (output 5).

5.6 Partnership and alliances

120. Partnerships were not much emphasized in the MAGHG project document; it is not really mentioned. Furthermore, the review of the project strategy indicates that developing partnerships was not really part of the implementation strategy of the project. However, during its implementation the need to collaborate and coordinate was recognized; particularly with UNFCCC Secretariat and IPCC Secretariat. At the time of this evaluation, few partnerships existed though more on an informal basis than through formal detailed collaborative agreements. They include:

- Collaborated with the IPCC Working Group III to draft chapter 11 of the 5th Assessment Report. The Project Team also collaborated with the IPCC Task Force on National GHG Inventories. Further collaboration/coordination is planned under the second phase of this project;
- Submitted technical papers to the SBSTA, a permanent subsidiary body to the UNFCCC, which provides timely information and advice on scientific and technological matters as they relate to the Convention or its Kyoto Protocol. The Project Team also coordinated with UNFCCC Secretariat to finalize the GHG emissions

database and the development of guidelines. Currently, further discussions are underway to coordinate schedules of regional workshops where the Project Team may participate to UNFCCC workshops to present the knowledge and tools produced by the MAGHG project;

- Established some contacts with a few member countries. It includes ***Ecuador*** where the MAGHG project is now part of a joint workplan to support the government to develop its GHG emissions inventory in the agriculture sector. It also includes at different stages of collaboration five other countries: ***Columbia***, ***Costa Rica***, ***South Africa***, ***Indonesia*** and ***Democratic Republic of Congo*** (*see more in Section 5.1.3*).

121. These partnerships are part of FAO strategy to disseminate the MAGHG achievements. The recent discussions with IPCC and UNFCCC Secretariats to collaborate more on common activities – particularly through workshops with developing countries – is a welcome development and will contribute to the scaling-up of the use of the knowledge and tools produced by MAGHG (*see also Section 6.2*).

6 Analysis by Other Evaluation Criteria

122. This section presents the findings of this final evaluation by the internationally recognized five major evaluation criteria: Relevance, Efficiency, Effectiveness, Impact and Sustainability.

6.1 Relevance of the project

123. Within the context of the UNFCCC reporting requirements and IPCC methodologies, the project developed a global database on GHG emissions that is now available on the FAOSTAT webpage. This section discusses the relevance of the project in this context.

6.1.1 To FAO's Strategic Objectives

124. FAO has revised its Strategic Framework 2010-19 as part of the established planning, programme and budget system. This new strategic framework was presented and endorsed by the FAO Conference at the 38th Session in Rome in June 15-22, 2013. It is accompanied by the Medium Term Plan 2014-2017 which was also tabled at the same session. The FAO's vision is "*of a world free of hunger and malnutrition where food and agriculture contributes to improving the living standards of all, especially the poorest, in an economically, socially and environmentally sustainable manner*". The set of core functions in this framework is made up of five strategic objectives (SOs). They represent the main areas of work on which FAO concentrates its efforts in striving to achieve its Vision and Global Goals. There are:

- Eradicate hunger, food insecurity and malnutrition;
- Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner;
- Reduce rural poverty;
- Enable more inclusive and efficient agricultural and food systems at local, national and international levels; and
- Increase the resilience of livelihoods to threats and crises.

125. A sixth objective covers the provision of technical knowledge, quality and services for the work of the organization, encompassing core normative work.

126. The review of the Strategic Framework 2010-2019, and the Medium-Term Plan 2014-2017 accompanied by the Programme of Work and Budget 2014-2015 indicates that the project falls under the SO-2 that is to "*increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner*". The project is a response to one guiding principle under this SO2 that is to "*facilitate access to needed information, including on technologies*". However, the project also falls under the sixth Objective that is to "*provide technical knowledge, quality and services for the work of the Organization, encompassing core normative work*".

127. Furthermore, in the results framework set to allocate resources for the period 2014-2015, the project is falling under the SO2 "*output 4.1 – Information for understanding the status, trends and perspectives for further development of agricultural sector production systems and of resources (land, water, genetic resources and biodiversity), including threats from climate change is produced and disseminated*". It also falls under the Objective 6 "*Quality and integrity of the data produced and analyzed by the Organization*", which includes the development of technical skills and competencies of national statisticians and improving the country methods for the collection and dissemination of relevant and timely data.

128. As discussed in section 5.1, the MAGHG project produced a large amount of knowledge and tools. This information was disseminated to member countries through several channels including regional workshops and side events to global forum such as UNFCCC COPs. The project is clearly aligned with the strategies of FAO and is a key component of the emerging FAO mitigation of climate change in agriculture (MICCA) programme. However, as noted in section 4.5, this programme was mostly made up of 2 projects: the MICCA project and the MAGHG project. The funding from Germany stopped in December 2013, Finland funding of MICCA ends at the end of 2014 and the Norwegian part of MAGHG will also terminate at the end of 2014. At it stands today, only Germany is discussing the possibility to add another USD 2M into this mitigation programme. The MAGHG project was highly relevant for this programme but its continued relevance depends a lot on what FAO will do in the climate change mitigation area over the coming years.

6.1.2 To UNFCCC Requirements and IPCC Methodologies

129. The global database on GHG emissions, one of the main project's output, has been developed following the Tier 1 approach as reported in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. The emissions have been estimated and reported for almost all categories included in the AFOLU sector, divided into the main domains of Agriculture and Land Use. The subdomains, items included in the GHG emissions database are in line with the IPCC categories and subcategories (*see Annex 10 for further details*). The emission factors and the basic parameters used in the estimation process are consistent with the IPCC ones.

130. Regarding the UNFCCC requirements, the GHG emissions database may be used, at country level, as a GHG emission benchmark for quality control and quality assurance of national estimates, and may be considered in the preparation of National Communications and Biennial Update Reports (BURs), as these reports have to include information on national GHG emissions/removals.

6.1.3 To Stakeholders

131. As per a comprehensive assessment of the information needs of major stakeholder groups for implementing land-based mitigation conducted by the MAGHG project, country negotiators – under the UNFCCC - are working to develop a global climate treaty within which

land-based mitigation is an issue of growing importance and increasing technical sophistication. Additionally, it is recognized that the greatest land-based mitigation potential resides in developing countries, which also face a range of social and environmental challenges. As a result, policy dialogues within the UNFCCC generally focus on creation of incentives, to be mostly funded by developed country governments and private investors, for mitigation actions within developing countries.

132. As negotiators from all countries participate in crafting the mechanisms that enable land-based mitigation incentives such as REDD+, this assessment identifies a rather large number of stakeholders/beneficiaries of this project and further states that stakeholders have different information needs depending where there are based. This assessment identified fifteen major public and private groups that are key players in land-based mitigation and are potential users of the GHG emissions database:

- ***Developed Country Negotiators***: they need to understand the types of land-based mitigation they would like to see incentivized and strategies for ensuring accountability as well as the capacity within their public and private sectors to finance mitigation action within developing countries;
- ***Developing Country Negotiators***: they need to understand the types of mitigation incentives and commitments that align with their national self-interest and capacity.
- ***Developing Country Ministries*** *(particularly forestry, agriculture and finance)*: they play a key role in setting domestic policy that effectively meets mitigation commitments and facilitates participation in incentive schemes;
- ***Donor Governments***: individually or collectively they may engage in rule-making and oversight for offset credit schemes under cap-and-trade programs or bilateral agreements, funding and conducting research, technical transfers, financing and risk mitigation.
- ***Land Managers*** (*ranging from smallholder farmers and local communities to industrial-scale farm and forestry operations*): they are the on-the-ground practitioners who can implement mitigation strategies;
- ***Project Developers***: they need to evaluate technical and financial feasibility, engage local stakeholders, access investment capital to finance mitigation and reporting activities, establish baselines, implement alternative management practices, monitor over time, and meet reporting quality guidelines.
- ***Offset Market Managers***: they structure and maintain frameworks for financing GHG offset credit production through mitigation projects and ensuring compliance with technical standards;
- ***Private Investors***: while still nascent in the land sector, financing by private investors is considered essential for achieving mitigation at scale. Commercial banks, venture capital funds and wealthy individuals need information that enables them evaluate projects and reduce risk;
- ***Independent Auditors***: as a key component of credibility in offset markets, they are technical experts who are hired for third-party validation of proposed projects or verification of GHG emissions reductions;
- ***Food and Fiber Companies***: they can incentivize climate-friendly land management through their supply chains, but do not yet have the full technical or analytical base to maximize these opportunities. Increasingly, the private sector is ready to converge on standard measurement and reporting for GHGs;
- ***Multilateral Institutions***: they play a central role in accelerating land-based mitigation through a broad array of programs that provide technical and financial support for research, pilot projects and capacity building;

- ***Researchers***: at universities, agencies and other institutions, they deliver the basic and applied science and measurement and modeling tools that are essential to mitigation policy and practice;
- ***Philanthropic Foundations***: they provide financial resources for research, synthesis, infrastructure and pilot projects as well as catalyze engagement across sectors and regions (e.g. through programs delivered by recipient NGOs);
- ***International Oversight Bodies***: under global agreements, they are responsible for providing reporting guidance and ensuring that emission reduction targets have been achieved (e.g. UNFCCC review of national reporting under the Kyoto Protocol);
- ***Platform Providers***: a wide variety of platform providers deliver access to datasets (e.g. FAO's Forest Resources Assessment) and analytical tools (e.g. Google Earth Engine) and enable open source innovation.

133. Within this context, the achievements of the MAGHG project provide good knowledge and tools on GHG emissions in the AFOLU sector. This knowledge/information is highly relevant to all stakeholders listed above. Through a robust GHG emissions database contained in FAOSTAT system, any of these groups of stakeholders can access quality GHG emissions per country, per region and globally. It provides good quality information on GHG emissions per country and can also be used as benchmark data and/or control data to verify national and regional data. It is a valuable set of tools and information to help countries to fulfill their reporting obligations under the UNFCCC such as GHG emissions inventory, national communications and BURs.

134. The relevance to national compilers is also confirmed by the results of the e-survey. To the question "*how would you rate the relevance of the regional workshop on GHG emissions database to your country's GHG emission monitoring and Climate Change mitigation opportunities*?" over 78% of respondents said that the MAGHG initiative was either highly relevant (28%) or relevant (50%). A further 20% said marginally relevant. Some comments provided by respondents include: "*this workshop addresses a real lack of data availability for our country. We have scattered and imprecise statistics on agricultural data*"; "*Has inspired the country team to work together in order to produce the indicators needed*"; and "*This is where I learnt some of the data requirements for proper monitoring of GHG emissions*".

135. At the same time, respondents to the e-survey also rated the adequacy of policies, laws and institutions supporting the development of mitigation priorities in their countries. The results indicate that 20% of respondents rated these frameworks as adequate *to a great extent*, a further 50% rated them as *to a fairly great extent* and finally another 20% said *to a moderate extent*. The overall view of these respondents is that the policy, legislation and institutional frameworks in their countries are – *to a fairly great extent* – adequate. However, when asked about the linkage between the national statistic agency and the entity in charge of UNFCCC communications on GHG emissions in their countries, the results indicate the need for improvement; 9% said that this linkage was *highly satisfactory*, 28% said *satisfactory*, and 35% said *marginally satisfactory*.

6.2 Potential Impacts of the Project

136. This section discusses the progress made so far toward the achievement of strategies and outcomes of the project and the likelihood that project achievements will have a long-term positive impact on the climate change mitigation strategies.

137. Assessing the impact of a project of this nature is not an easy task. As discussed in section 6.1.3, there are many stakeholders that should be positively impacted by the achievements of the project. They now have access to valuable GHG emissions data per country

to conduct their work such as developing national inventories, reporting GHG emissions, developing climate change mitigation policies, developing climate change mitigation projects, developing GHG offset credit frameworks, etc. The key point in having an impact in the medium and long-term is to disseminate this knowledge and tools. The sooner all these stakeholders are aware of this valuable information, the sooner the project achievements will have an impact on these stakeholders.

138. Based on the results of the e-survey conducted as part of this evaluation, they confirm the potential for positive impacts over the medium and long-term. These results include:

- The data produced by the MAGHG project started to be used by developing countries to conceive new strategies for GHG mitigation in agriculture; 11% of respondents said t*o a great extent*, 26% said *to a fairly great extent*, and 30% said *to a moderate extent*. 20% of respondents said *to a small extent* and 13% said *not at all*.
- Respondents were satisfied with the contribution of the project in improving the information base for climate change mitigation in their countries; 15% were rated this contribution as *highly satisfactory*, 70% rated it as *satisfactory*, and 11% as *marginally satisfactory*.
- The GHG emissions data in FAOSTAT already assisted these countries for UNFCCC communications; 7% said *to a great extent*, 35% said *to a fairly great extent*, and 28% said *to a moderate extent*.

139. Some comments made by respondents to the e-survey include:

- This database is already being used to prepare 3rd National Communication methodology;
- Encourage other structures involved in the national GHG inventory system to use the information base to evaluate and compare results and use accurate default activity data;
- GHG emissions measurement data measured by FAO will become an important reference for Indonesia in determining the amount of carbon emissions in agriculture, plantation, fishery and forestry. Indonesia will have agriculture, plantation, fishery management guidelines with low carbon emissions, based on the guidelines published by FAO;
- A reference for national communication reports;
- Getting idea on rough GHG emissions and access the methodology used helped to improve local methodology for GHG studies and compare own country to the region.

140. The assessment conducted for this evaluation reveals that the project achievements have the potential for positive impacts in the medium and long-term. Additionally, this potential should also be reinforced with the implementation of phase 2 of this project (MAGHG2) (*see Section 6.3.3*).

6.3 Sustainability of Project Achievements

141. This section discusses the potential for the long-term sustainability of project achievements. It is an indication of whether outputs (end of programme results) and positive impacts (long-term results) are likely to continue after the project ends.

6.3.1 Sustainability of Results Achieved

142. The sustainability strategy included in the project document was not well developed and somewhat limited. It consisted mostly in stating that project achievements will be sustainable in the long-term because the project will address expressed and prioritized need by member states,

FAO, UNFCCC and other UN organizations. It also stated that due to the fact that the project will expand the FAOSTAT infrastructure and that member states are required to report to, the project achievements will, therefore, be sustainable. It is true that these 2 main facts – a responsive project to established needs and the insertion of the GHG emission database in FAOSTAT – are key elements that will contribute to the long-term sustainability of project achievements. However, there are not sufficient to ensure this long-term sustainability. Fortunately, being a part of the FAO agriculture mitigation programme (MICCA) supported by a multi-donor trust fund, and the normative nature of FAO's mandate will also contribute to the long-term sustainability of project achievements.

143. Nevertheless, regarding the technical and economic sustainability of the main achievement of MAGHG – the GHG emissions database - it is important to note that this global database on GHG emissions is embedded into the FAOSTAT database. This was an early decision made by the Project Management Team that contributes to ensure the long-term sustainability of this database. The data storage procedures are, therefore, following the same FAOSTAT data storage procedures. In addition, the insertion of the GHG emissions database in FAOSTAT has been developed in such a way as to allow the automatic update of the GHG emissions database when FAOSTAT activity data are updated. An exception was noted when using spatial data (i.e. GIS based data). Overall, this database is now part of FAOSTAT and this system is part of the FAO strategic objective #2 - output 4.1 that is to "*produce and disseminate information for understanding the status, trends and perspectives for further development of agricultural sector production systems and of resources, including threats from climate change*". It will be maintained as part of FAOSTAT that is part of the FAO's corporate statistical data framework and which is a strategic element of FAO to "*facilitate access to needed information, including on technologies*" (*SO2 guiding principle*);

144. The other achievements are/should also be sustainable in the long run. The contribution to the IPCC 5th Assessment Report, Chapter 11 is done and published, the FAO questionnaire was expanded to include land use change and the revised version will now be used by member countries. The various scientific papers, technical reports, assessments - including the LCAs – were/are being published and this knowledge will certainly be used by relevant stakeholders/partners for subsequent work. The review conducted for this evaluation concluded that there is no particular issue for the project achievements to be sustainable in the long-term.

6.3.2 Upscaling of Project Achievements

145. The main challenge for the MAGHG project is to upscale its achievements, which is to ensure that stakeholders will use the knowledge and tools produced by the project. As discussed in section 6.1.3, there are about fifteen groups of stakeholders; they could all use this knowledge and tools one way or the other. However, stakeholders that are involved in monitoring, developing GHG emissions inventories and reporting on GHG emissions are critical targets in the medium term. The sooner these stakeholders know about this knowledge and tools the sooner they will start using it, which will contribute to the long-term sustainability of project achievements. Activities to disseminate this knowledge and tools are needed (*see Recommendations Section 7.2*).

146. Another important challenge to upscale these achievements is also to complete the database with a comprehensive set of mitigation options taking into account the supply-side (e.g., changes in management practices and land use; the focus of the AR4 assessment) and the demand side (e.g., waste reduction, diet changes). There is a need to provide useful and readily available information and analysis tools to stakeholders in order to allow them to identify and

take advantage of climate change mitigation opportunities linked to food security, resilience, adaptation and rural development goals.

147. These 2 challenges are addressed in a proposal developed by FAO for a phase 2 of this project. As mentioned in section 1.1, one purpose of this evaluation was to review this proposal and possibly make some recommendations for the way forward. A summary of this review is presented below.

6.3.3 Review of the MAGHG2 Proposal

148. Currently, the knowledge produced by the MAGHG project, using the IPCC Tier 1 approach, allows countries to check and verify their national data set used to report GHG national inventory and included in their national communications submitted to UNFCCC. The GHG emission database may be seen as a benchmark of national activity data and emissions reported in the framework of GHG emissions inventories. As discussed in other part of this evaluation report, the project provides valuable information to member countries and other stakeholders involved in climate change mitigation, focusing mostly in GHG emissions.

149. However, as discussed in the previous section, there is a need for information on mitigation opportunities in the AFOLU sector. In order to develop climate change mitigation policies and programmes, policy-makers need to have more information on agricultural management practices and production methods in term of GHG emissions and also on the "cost of production" of each practice/method. This information is critical to link the mitigation potential with the socio-economic cost related to the implementation of the mitigation activities (i.e. agricultural management practices and production methods). This valuable information could facilitate the identification of climate change mitigation options/opportunities and support the development and implementation of climate change mitigation strategies by member countries.

150. As a result, and following initial discussion with the German government, the Project Management Team identified a second phase of the MAGHG project, called "*MAGHG2*". A project document had been drafted; it is a $2M project expected to run from January 2014 to December 2016 (3 years). The logic model of this proposed project is presented in the table below:

Table 6: Logic Model of the Proposed MAGHG2 Project

PROJECT IMPACT: To contribute to climate change mitigation and long-term agricultural productivity, reducing hunger and extreme poverty in member countries under new climate agreements and financing mechanisms linked to sustainable rural development.	**Target**
PROJECT OUTCOME: Capacity of developing countries to identify, assess and report their GHG emissions and mitigation strategies is increased, allowing them to successfully access new climate finance for agriculture.	At least one country per FAO region has secured international climate finance for mitigation actions in agriculture
Output 1: New GHG Mitigation Database Built.	Database developed and available
Output 2: Decision Support Tools for Mitigation Analysis developed and made available to member countries and international partners.	Decision Support Tools Software developed and available
Output 3: Framework for coherent cross-agency cooperation established in support of Member Countries.	Cross-agency MOUs discussed and implemented
Output 4: Capacity of member countries to submit NAMAs and BURs improved.	At least one country per region has developed and submitted an agricultural NAMA; at least 15

	countries have completed BUR submission using the project tools

151. The Evaluation Team was tasked to review this proposal as part of this evaluation. Below are comments from the Evaluation Team.

i The review of this proposal reveals that this project is about expanding the knowledge and tools to member countries to develop their GHG emissions inventories, to produce better national communications and develop AFOLU mitigation strategies and programmes. As stated in the project proposal, it will "*provide useful and readily available information and analysis tools that will allow users to identify and take advantage of the large opportunities that exist for climate change mitigation linked to key food security, resilience, adaptation and rural development goals*" (*section 1.1.4*). As a result, the Evaluation Team found that the current proposed project outcome is not the best statement to describe the above overview of this proposal. Instead of "*developing the capacity of countries to identify, assess and report their GHG emissions and mitigation strategies*", it would be recommended to set the project outcome as "*providing knowledge and tools to member countries to develop their GHG emissions inventories, their national communications and their climate change mitigation strategies for their AFOLU sectors*".

ii The presentation of the context of the project is good with excellent statements in this section to support/rationalize this proposed project.

iii The rationale of this proposed project is based on three major barriers that need to be addressed. These barriers are key to justify this proposed project. They are well described and clear; however, it would be good if these barrier statements could be supported by assessments, declarations, reviews or observations made by phase 1 of this project.

iv Considering the first comment, the review indicates a weak coherence between the outcome, outputs (4) and the proposed targets (5). 2 outputs (out of 4 and 38% of the proposed budget) focus on developing knowledge on climate change mitigation for the AFOLU sector and tools to access this knowledge. The other 2 outputs focus on coordination and cross-agency cooperation (output 3) and on developing the capacity of member countries to submit NAMAs and BURs. The targets to measure the progress of the project are somewhat too simplistic. There is only a set of 5 targets to measure the performance of this proposed project.

- The review of these expected results and targets indicates that the focus of this project should be to expand/continue to produce high quality knowledge and tools (output 1 and 2) and emphasize the dissemination of this knowledge and tools globally through various mechanisms such as the UNFCCC process, the GEF as the financing mechanism of the UNFCCC, using a full range of electronic media to disseminate this information, organizing webinars, e-discussion groups, online courses, remote technical assistance, etc.
- The Evaluation Team has doubt about the feasibility of output 3. This is a complex area and it is difficult to see how this project with a relatively small budget could lead the development and establishment of a framework for cross-agency cooperation[3]. This is an area that would need to be supported by longer-term strategies and a clear mandate to lead this process globally.

[3] Related to this coordination issue, the 3 Rio Conventions already set up a Joint Liaison Group (JLG) between the Secretariats of CBD, UNFCCC and the UNCCD to enhance coordination and explore options for further coordination. A review of this process highlights the complexity involved in coordinating these global processes.

- As for output 4, the project may pilot the support to a few countries to develop and submit NAMAs and BURs. However, it should not take away resources from disseminating the knowledge and tools globally to focus only on a few countries. Additionally, if piloting is kept as an option, a careful selection of countries should be done – clear selection criteria - to test an approach and to report back on what are the lessons learned and best practices to support countries to submit NAMAs and BURs.

v The section 1.2 – Expected Results is not clear enough, the description of each output is too vague and does not provide a good accountability framework. It needs to be revised to sharpen the expected results anticipated under each output. Furthermore, at the end of each output description, it is recommended to add a list of anticipated activities to help understand what the project will do (it was noted that some of these activities are already presented in the workplan presented in the proposed project document as appendix II).

vi The current proposal contains some "harsh" statements without any references. In some cases, the Evaluation Team found out that some of these statements might not be needed in this document. A good example is on page 9 of the document "*In addition, a significant problem is the lack of coordination among all these programmes, leading to duplication of efforts, overload and confusion of practitioners in member countries who are often invited to similar meetings by different agencies, with no clear explanation of how the different activities –and the solutions and tools they propose— may be usefully related*". It would be good to have a clear reference to this kind of statement or, if possible, to have a direct link to the official position of FAO. This coordination issue is a well-known fact and many people/organizations are trying to address this issue; the Evaluation Team is not sure that this project has the adequate strategy and resources to change this.

152. In conclusion, after considering the comments above, the Evaluation Team recommends the phase 2 of the MAGHG project. It should also be considered as a second phase to <u>*complete*</u> the GHG emissions database with additional features and data to support stakeholders in accessing valuable information on mitigation opportunities in the AFOLU sector. It should also be an opportunity to disseminate this knowledge and tools at a larger scale, targeting all groups of stakeholders.

7 Conclusions and Recommendations

7.1 Main Conclusions

153. The following conclusions are based on the analysis conducted for this final evaluation; they are arranged by sections used in the analysis. A scoring matrix is also provided in annex 13.

<u>*Project Concept and Design*</u>

154. **It was a very ambitious project with a limited timeframe (3 years) and a budget of USD 6.7M that included USD 2M funded by the German government**. Norway also funded this project with a contribution of USD 4.7M. Despite a "passable optic" – same project document but with 2 different budgets - this project was never intended to be a USD 2M but a USD 6.7M project. Nevertheless, when considering the goal statement and the targets for most outputs, it was an overly ambitious project. The goal statement could easily be the long-term goal of the overall FAO mitigation programme in agriculture and some targets are simply not achievable in the given timeframe.

Implementation Process

155. **The project was managed following FAO project implementation procedures, including the management of financial resources but too focused on managing/administering inputs and less on managing by results**. The project management team applied - when needed - an adaptive management approach to secure project outputs while maintaining adherence to the overall project design. The project document did not indicate a breakdown of the budget by expected output (8); it only presented a breakdown of the budget (USD 2M) by budget line such as salaries, consultant fees, travel expenses, training expenses, etc. Subsequently, the tracking of project expenditures by the FAO financial system was done along the same budget lines reinforcing the focus on managing project inputs and preventing the production of meaningful financial reports to the Project Management Team. The project oversight was done by a Steering Committee (SC), which included the representatives from the donors.

156. **The German grant of USD 2M was disbursed by December 2013 and the contribution from Norway (USD 4.7M) should be spent by the end of 2014 after a one-year no-cost extension.** The largest part of both grants (68%) was expended in salaries, consultants and contracts. Despite attempts at allocating actual disbursement figures by output the exercise proved to be more difficult than anticipated and it was finally not completed for this evaluation. As for attributing project achievements to a particular donor contribution (GER/NOR), it is one project of USD 6.7M and specific results cannot be attributed to a particular donor.

157. **The standard of technical assistance used to implement the MAGHG project was excellent**. There were all experts and were well qualified and experienced in their respective areas. The Project Team was also highly regarded by the several member countries that received support to access and use the user-friendly database on GHG emissions for the AFOLU sector.

158. **An M&E function too focus on project deliverables as opposed to development results with indicators and targets not enough** *Specific***,** *Measurable***,** *Achievable***,** *Realistic* **and** *Time-bound* **(SMART)**. There is a certain disconnect between the project strategy and the indicators and targets and at times, it is assumed that implementing a particular output will be successful if the planned activities were implemented such as the delivery of training activities. As it is well known, tracking training activities does not lead automatically to the desired change.

Analysis of Results

159. **The project delivered the expected products including a GHG emissions database, guidelines, manuals, assessments, scientific papers, and delivered four quality regional workshops to disseminate these products and contribute to the development of capacity of national compilers**. The core achievement is a GHG emissions database that was inserted in the FAOSTAT system and that provides country-level estimates of GHG emissions and removals from the AFOLU sector. This database was built based on the IPCC Tier 1 approach and following the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. It provides capabilities to browse, download, compare and analyze time series of GHG emissions/removals data per country from 1990 to present. Data gap filling procedures were applied using spatial and sectoral models. Overall, the process to produce this knowledge and tools was excellent and included an excellent quality assurance process.

160. **The project delivered its expected outcome that was to *"enhance global knowledge base on GHG emissions, and mitigation potentials, within the agriculture sector and that this knowledge base be provided through user-friendly and easily accessible applications"***. Through its GHG emissions database, the project certainly enhanced the global knowledge base on GHG emissions for the AFOLU sector. However, the provision of information on mitigation

potential in this sector, which is the main objective of a proposal for a phase 2 of this project is not completed yet.

161. **The project delivered four quality regional workshops to disseminate knowledge and tools produced by the project and contributed to the development of the capacity of national compilers**. The feedback received by respondents to an e-survey revealed a high quality rating for these workshops including 59% of respondents who said that the knowledge presented at the workshops has been used to a great extent or to a fairly great extent. The implementation of these regional workshops was efficient and effective; about 100 national representatives participated to these workshops and gained knowledge and skills to strengthen the GHG emissions inventories in their respective countries.

162. **As part of developing the capacity of national compilers, the project established linkages with 6 member countries and supported them in various degrees for the development of their national GHG emissions inventories**. Through partnerships with other actors that are "on the ground", it was an innovative way to disseminate the project achievements. These stakeholders appreciated the access to the knowledge and tools produced by the MAGHG project as well as the provision of "remote" technical assistance.

Relevance

163. **The MAGHG project is well aligned with the FAO Strategic Framework 2010-2019 and the Medium Term Plan 2014-2017,** particularly the SO2 that is to "*increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner*" addressing one guiding principle that is to "*facilitate access to needed information, including on technologies*" and also the sixth objective that is to "*provide technical knowledge, quality and services for the work of the Organization, encompassing core normative work*". The project contributes clearly to the FAO results framework set for the period 2014-2015 through the provision of quality data and data integrity for understanding climate change threats on the agricultural sector resources and production systems. It is a key component of the emerging FAO mitigation of climate change in agriculture (MICCA) programme in agriculture.

164. **This project is a provider of valuable knowledge and tools on GHG emissions in the AFOLU sector at global, regional and national levels to be used by a broad range of stakeholders**. A comprehensive assessment conducted at the start of the project inventoried 15 major groups of stakeholders. It includes the country negotiators from developed and developing countries but also the respective ministries, donors, project developers, offset market managers, private investors, researchers, etc.

Impact

165. **The MAGHG project has the potential for impacting positively climate change mitigation in the AFOLU sector globally**. Stakeholders have now access to valuable GHG emissions data per country to check, compare, verify country activity data and estimated emissions to support international requirements and commitments. This robust database provides valuable emission data for decision-makers in climate change mitigation for the AFOLU sector. Stakeholders can now use this data to conduct their work such as developing national inventories, reporting GHG emissions, developing climate change mitigation policies, developing climate change mitigation projects, developing GHG offset credit frameworks, etc. This potential impact will also be related to how well this knowledge and tools are disseminated over the medium term. The sooner all these stakeholders are aware of this valuable information, the sooner it will be used and the sooner project achievements will have an impact on these stakeholders.

Sustainability

166. **Despite a limited sustainability strategy from the outset of the project, the prospect for the long-term sustainability of project achievements is excellent**. An early decision by the Project Management Team was made to embed the database on GHG emissions in the FAOSTAT database. As a result, data storage and data updates are done following FAOSTAT procedures and it is now part of the FAO's corporate statistical data framework to "*facilitate access to needed information including on technologies*". Other achievements are/should also be sustainable in the long run. The contribution to the IPCC 5th Assessment Report, Chapter 11 was published and the FAO questionnaire used by member countries was expanded to include land use change. Finally, the various scientific papers, technical reports, assessments - including the LCAs – were/are being published and this knowledge will certainly be used by relevant stakeholders/partners for subsequent work.

167. **The MAGHG project is facing two main challenges to upscale its achievements: disseminate its knowledge and tools to all fifteen groups of stakeholders and complete the database with a comprehensive set of mitigation options for the AFOLU sector**. The sooner this knowledge and tools are disseminated to all stakeholders, the sooner they will start using it; ensuring its long-term sustainability. It was found that there is a need to provide useful and readily available information and analysis tools to stakeholders in order to allow them to identify and take advantage of climate change mitigation opportunities linked to food security, resilience, adaptation and rural development goals.

168. **The implementation of the MAGHG2 proposal (phase 2) would complete the GHG emissions database with additional features and data to support stakeholders in accessing valuable information on mitigation opportunities in the AFOLU sector**. It would address the challenges described above. It would provide information on agricultural management practices and production methods in term of GHG emissions and also on the "cost of production" of each practice/method. This proposal should also be an opportunity to disseminate this knowledge and tools at a larger scale, targeting all groups of stakeholders.

7.2 Recommendations

169. Based on the findings of this final evaluation, the following recommendations are suggested. They are in no particular order of hierarchy.

Recommendation 1: To Project Team / NRC

Revise and finalize the MAGHG2 proposal based on the assessment provided in this evaluation report.

Who: Project Team / NRC

Issues to address

170. The GHG emission database can be seen as a benchmark of national activity data and emissions reported in the framework of GHG emissions inventories. The project provides now valuable information to member countries and other stakeholders involved in climate change mitigation, focusing mostly in GHG emissions. However, there is also a related need for information on mitigation opportunities in the AFOLU sector. More information on agricultural management practices and production methods in term of GHG emissions and also on the "cost of production" of each practice/method is needed. This information is critical to link the mitigation potential with the socio-economic cost related to the implementation of mitigation activities.

171. The MAGHG2 proposal is about completing the GHG emissions database with additional features and data to support stakeholders in accessing valuable information on mitigation opportunities in the AFOLU sector (*see Section 6.3.3*). It would provide information on agricultural management practices and production methods in term of GHG emissions and also on the "cost of production" of each practice/method. This proposal should also be an opportunity to disseminate this knowledge and tools at a larger scale, targeting all groups of stakeholders.

172. Comments on the proposal reviewed by the Evaluation Team were made in this evaluation report and it is recommended to review those comments and revised the proposal accordingly.

Recommendation 2: To Project Team / MICCA Program

The MAGHG2 project should focus on the dissemination of knowledge and tools to member countries and other groups of stakeholders.

Who: Project Team / MICCA Program

Issues to address

173. As a sub-recommendation to recommendation #1 above, disseminating the knowledge and tools produced by the MAGHG project is the main challenge for ensuring the long-term sustainability of project achievements. The MAGHG2 project should maximize the use by stakeholders of knowledge and tools produced by MAGHG. The focus in the medium term should be on stakeholders that are involved in developing GHG emissions inventories and reporting GHG emissions in developing countries. However, this review also noted that there are a broad range of stakeholders, which could use this information and products. The sooner the various groups of stakeholders know about this knowledge and tools the sooner they will start using it, which will contribute to the long-term sustainability of project achievements.

174. Disseminating this knowledge and tools globally is recommended through various mechanisms such as the UNFCCC process, the GEF as the financing mechanism of the UNFCCC, using a full range of electronic media to disseminate this information, organizing webinars, e-discussion groups, online courses, remote technical assistance, etc.

Recommendation 3: To NRC / MICCA Program

Explore the possibility of developing a larger project focusing on supporting member countries to develop their mitigation strategies and actions (NAMAs) and to strengthen their reporting obligations.

Who: NRC / MICCA Program

Issues to address

175. As discussed in sections 4.3 and 5.1.2, the project conducted three effective regional workshops. Participants appreciated the content and over half of them already used the knowledge presented at these workshops. However, in the meantime, some comments from respondents indicate that more support to develop their capacity at country level is needed.

176. In parallel to the MAGHG2 project to complete the GHG emissions database with additional features and data to support stakeholders in accessing valuable information on mitigation opportunities in the AFOLU sector, it is recommended to develop a larger project focusing on developing the capacity of member countries to develop NAMAs and fulfill their reporting obligations.

Recommendation 4: To NRC / MICCA Program

FAO should develop/expand its MICCA strategy with objective(s), lines of activities and links to other FAO programmes and projects, including the Climate Smart Agriculture (CSA) initiative and the upcoming FAO-GEF portfolio.

Who: NRC / MICCA Program

Issues to address

177. As discussed in this report, the MAGHG project is a key component of the emerging Mitigation of Climate Change in Agriculture (MICCA) programme at FAO. This programme has been mostly made up of two projects: the MICCA project funded by Finland and the MAGHG project funded by Germany and Norway. However, these two projects funded by three grants are all coming to an end in 2014. The funding from Finland is ending in December 2014, the Norway funding is also ending in December 2014 (including a one-year no-cost extension in 2014) and the funding from Germany was terminated in December 2013. Current discussions are underway with the German government to fund the MAGHG2 proposal with a grant of USD 2M.

178. It is recommended that NRC conducts a review of the entire MICCA programme to provide the basis for developing a MICCA programme strategy in line with related initiatives such as the CSA initiative and linked with related existing FAO programmes and projects, including the upcoming FAO-GEF portfolio of projects under the GEF-6 cycle.

Recommendation 5: To Project team

Strengthen the alignment of the database structure to the 2006 IPCC guidelines and UNFCCC requirements.

Who: Project Team

Issues to address

179. Through the review of the GHG emissions database by the Evaluation Team, a potential misallocation of some subdomains has been detected:

- The subdomain *Energy Use* is currently included in the domain *GHG Agriculture.* Following IPCC methodologies, the inclusion of CO2 emissions related to the energy consumptions in the agriculture sector have to be reported in the relevant sector (i.e. energy, industrial process). Therefore it is recommended to report the abovementioned subdomain in a new domain (different from the domains *GHG Agriculture* and *GHG Land Use*), including in the metadata section, the information related to sources for which the emissions have been estimated.
- The N_2O and CO_2 emissions related item cultivated organic soils are currently reported in the domains *GHG Agriculture* and *GHG Land Use*, respectively. As the area of cultivated organic soils is referred to a land use (cropland or grassland), it is recommended to report the abovementioned emissions in the *GHG Land Use* domain, in the relevant items.
- The item "*Net forest conversion*" is currently included in the subdomain *Forest Land* (domain *GHG Land Use*). The abovementioned item is related to forest land converted to other land use (i.e. deforestation). Therefore it is recommended to report the emissions related to the item "*net forest conversion*" under the proper subdomains (in

absence of additional information, an assumption could be made and the net forest conversion could be referred to a unique land use).

180. As part of aligning the GHG emissions database to the 2006 IPCC guidelines and UNFCCC requirements, it is recommended to also include:

- The estimates of emissions and removals of the carbon (C) stock changes in cropland and grassland subdomains and related to the items living biomass and soils in the FAOSTAT GHG database; to be in line with the mandatory pools and subcategories outlined in the 2006 IPCC Guidelines.
- An assessment (qualitative or quantitative where possible) of the uncertainties related to the basic activity data or to the estimated GHG emissions and removals at the country level in the FAOSTAT GHG database.

Recommendation 6: To Project team

Develop some GHG emissions comparison functions in the GHG emissions database in order to perform comparisons with the data officially communicated by Parties under the UNFCCC obligations.

Who: Project Team

Issues to address

181. This is a suggested feature to provide users with an additional tool to help them strengthening their national data sets used to produce national GHG inventories, national communications, and BURs. This feature could also be used for benchmarking national data and conduct QA/QC analyses.

Annex 1 Evaluation terms of reference

1 Background of the Project

1. As the global population and therefore the demand for food continue to increase there is a growing pressure on the agriculture, forestry and fisheries sectors to meet food and income needs. At the same time, given the problem of climate change countries are expected to take measures to mitigate their greenhouse gas (GHG) emissions in these sectors. According to the Intergovernmental Panel on Climate Change (IPCC), agriculture accounts for roughly 14 percent of global GHG emissions and about 74 percent of these emissions originate in developing countries. Furthermore, soil carbon sequestration is the largest source of mitigation potential in agriculture, based on the IPCC's 4th Assessment Report and the majority of this potential - 70% - can be realised in developing countries. However, despite this and the fact that many abatement costs in the sector are cost neutral or net-profit-positive, lower GHG-emitting agricultural practices have still not been widely adopted. This indicates that there are hindrances to their adoption that need to be analyzed, one of which is the lack of quality and accessible information on the GHG mitigation potentials in the sector.

2. In October 2009, FAO and the IPCC organised a joint workshop to develop guidelines on how to provide member countries with advice on the access to and use of FAO datasets on GHG inventories. Experts reviewed the state of knowledge on GHG emissions and mitigation potentials and highlighted the need for supporting countries in the monitoring and assessment of GHG cycle, emissions and mitigation potentials in the agriculture, forestry and fisheries sectors. The consultation highlighted the need for a global assessment, supporting existing monitoring/assessment frameworks at national level, and contributing to ensuring robust data collection, thus meeting a variety of needs including policy design and implementation. The Monitoring and Assessment of GHG Emissions and Mitigation Potential in Agriculture Project (MAGHG) meant to address the issues and needs identified in the expert consultation.

3. There are a host of specific challenges that the project seeks to address. Although the COP15 accord was non-binding and failed to specifically mention agriculture or food security, it requested developed countries to submit quantified economy-wide emissions targets and developing countries to submit proposed mitigation actions for 2020, and many developing countries plan to adopt mitigation actions in the agricultural sector, indicating that agriculture could become a key component of Nationally Appropriate Mitigation Action (NAMAs). However, the category "Agriculture, Forestry and Other Land Use" (AFOLU) of annual inventories of GHG emissions and removals to be reported to the UNFCCC is difficult for the inventory compilers, especially from developing countries, due to the scarcity of such data at national level. The project has intended to assist FAO member countries in gathering and analyzing this data for both reporting and decision-making purposes.

4. Related to this, although the IPCC assessment is the internationally agreed-upon science base for GHG emissions and mitigation potentials, including those in agriculture and forestry, there are still large data variations and knowledge gaps in the information. In addition, IPCC assessments do not address technical and methodological issues to support production, adaptation and mitigation synergies such as the selection of specific land management practices, processing technologies, crops and other significant elements of the life-cycle of different agricultural and forestry products. These data gaps hinder the acceptance and utility of the information for policy and development purposes especially at the national and sub-national levels. The project has

hence sought to address the accuracy and uncertainties of the GHG data by developing the key baselines on GHG emissions and mitigation potentials in the sector.

5. The project has thus aimed to build the knowledge base on GHG mitigation and provide an improved understanding of the role of agriculture in GHG emissions. In doing so, it hopes to help countries identify economically viable and sustainable practices to mitigate climate change while increasing the resilience of agricultural systems. This could serve as the basis for more rational, climate-friendly policies and investments in the sector, and facilitate the agriculture sector to adopt GHG-mitigation practices for the purpose of qualifying for climate change financing. The project will work in collaboration with government entities, especially national institutes involved in national statistics, inventories and reporting. It also seeks to support the work of national negotiators to the UNFCCC in discussions on the mechanisms for agriculture-based mitigation payments.

6. The Government of Germany has supported the three-year MAGHG project in the amount of USD 2 million. The project started on 1st January 2011 and ends on 31st December, 2013. It should be noted that the project is a part of FAO's broader climate change in agriculture mitigation programme, and has run parallel to and supported other initiatives in it, such as the five year multi-donor trust fund project "Making Agriculture Part of the Solution to Climate Change – Building Capacities for Agriculture Mitigation (MICCA, GCP/GLO/270/MUL). MICCA aims to build country capacity on mitigation in the agricultural sector.

Project goal and main outputs

7. The overall goal of the project is to improve climate change mitigation linked to improved long term agricultural productivity, thus contributing to reducing hunger and extreme poverty, enhancing food security and increasing environmental sustainability. In addition, the project seeks to support climate-friendly development coupled with increased resilience and productivity of farming systems and improved capacities of farmers, communities and institutions.

8. The Outcome of the project is "*an enhanced global knowledge base on GHG emissions, and mitigation potentials, within the agriculture sector*". The knowledge base will be provided through user-friendly and easily accessible applications. The outcomes will be achieved through the collaboration with member states and other national and international entities. Assistance will be provided to member states which require additional capacity to gather, process, analyse and use the data. Eight Outputs were set to achieve the Outcome, as follows:

- Stakeholder requirements and data needs identified
- Revised standardized data gathering and reporting allowing improved data generation related to climate change mitigation issues.
- Guideline and Good Practice Manual and distance learning tool supporting national data compilers developed.
- International guidelines created for Life Cycle Analysis (LCA) protocols and environmental product labelling.
- Capacity of national compilers to gather and analyse climate change data strengthened.
- A central GHG data portal which supports developing countries to address agricultural mitigation and other related climate change issues.
- A comprehensive global GHG assessment of the agricultural sector which contributes to the IPCC 5th Assessment Report, especially with chapter 11 (WG3), published in 2012.

- UNFCCC negotiators and policy makers informed and aware of agricultural mitigation options.

9. All FAO Member Countries were to receive support from the project given its global scope. The specific intended immediate beneficiaries were the national entities involved in environmental statistics, natural resources and environmental management, and the related survey departments in the relevant ministries of the recipient countries. Additionally, focused capacity building was to be provided to countries that are identified as requiring additional support to allow them to implement, gather and analyze their GHG data in an appropriate way. The capacity building component of the project was directly targeted to the staff members of the units mentioned above.

10. The MAGHG Project achieved the outputs across three main dimensions:

i Global and Regional GHG Assessment within FAOSTAT;
ii Regional Capacity Development; and
iii Contribution to IPCC AR5 and 2013 IPCC Guidelines for the Kyoto Protocol

11. Key events included:

- Oct 2012 First FAO GHG Regional Workshop, for Asia-Pacific, Vietnam
- Oct 2012 Endorsement of GHG Database and Mitigation tools by the Asia-Pacific Regional Commission on Agricultural Statistics (AFCAS)
- Dec 2012 Launch of the New FAOSTAT Emissions database
- Feb 2013 Publication of Global GHG data
- Mar First FAO-IPCC Workshop on GHG data and software tools
- Apr 2013 National Conference on Statistical Systems for GHG, Ecuador
- May 2013 Publication of Global Mitigation Assessment
- Jun 2013 Second FAO GHG Regional Workshop, for Latin America, Trinidad & Tobago
- Jun 2013 Endorsement of GHG Database and Mitigation tools by the Latin American Regional Commission on Agricultural Statistics (IICA)
- Jul 2013 Final Meeting of IPCC AR5 Lead Authors, FAO data submitted to AFOLU Chapter
- Sep 2013 Draft of LCA International Guidelines (planned)
- Nov 2013 GHG Regional Workshop, for Indonesia, Malaysia, Papua New Guinea, Indonesia
- Dec 2013 Completion of LCA International Guidelines (planned)
- Dec 2013 Third FAO GHG Regional Workshop, for Africa, Morocco
- Dec 2013 Endorsement of GHG Database and Mitigation tools by the African Regional Commission on Agricultural Statistics (AFCAS, planned)
- Dec 2013 Launch of the full AFOLU FAOSTAT database and Dissemination of Online Guidelines (planned)

Implementation Arrangements

12. Although the project formally started on 1 January 2011, a full team was only assembled and become fully functional in October 2011, with the hiring of the Project Coordinator. The project's institutional set-up includes coordination by the FAO Climate, Land and Energy Division (NRC) with the FAO Statistics Division (ESS). There have also been departmental collaborations with Agriculture and Consumer Protection, Forestry and Fisheries.

13. A project steering committee (SC), chaired by the ADG Natural Resources and Environment Department was established. The SC coincides with that of the MICCA project and its members have comprised the Directors of the FAO divisions implementing the present project and the MICCA one, along with representatives of donors and related institutions. The SC's purpose has been to provide global strategic guidance and ensure coordination among the various implementing divisions in FAO and the regional and decentralised offices.

2 Purpose of the Evaluation

14. This will be the final evaluation for the project. It has the dual purpose of providing accountability to all the stakeholders, including the donor and project participants, and contributing to organizational learning. In addition, it aims to assist the relevant stakeholders in their decision-making. These include:

a. Member Countries, including the Donor;
b. International Partners (e.g. IPCC, UN-REDD);
c. FAO Coordinating Divisions NRC and ESS; and
d. Other FAO contributing divisions.

15. As per discussions with the Donor in September 2013, the evaluation will also serve as an input to the donor's decision on how best to support a second phase of the project in 2014, currently in the pipeline as MAGHG2.

16. Key external partners in the evaluation will include:

- International organizations such as the UNFCCC, IPCC, Eurostat and OECD, with which the project has sought to harmonize and align efforts on data-gathering and reporting;
- Scientific bodies such as universities, national research centres and international institutes; and
- Public and private sector entities in the Member Countries

3 Evaluation framework

3.1 Scope

17. This evaluation will cover the entire project's duration, from January 2011 to December 2013, and include its conceptual phase. The MAGHG Project has been global in scope in terms of the knowledge products it sought to generate and capacity development provided. For this and budgetary reasons, the evaluation mission will therefore take place in FAO Headquarters, where project and other involved staff will be interviewed. Outcomes and experiences at country level will be evaluated through surveys. Additionally, a feasible number of countries (approximately four) will be selected in consultation with the project team for obtaining additional information and developing case studies.

3.2 Evaluation criteria

18. The project will be critically assessed through the internationally accepted evaluation criteria, i.e. relevance, efficiency, effectiveness, impact, and sustainability. In line with the new FAO project cycle, the evaluation will assess compliance with the following UN Common Country Programming Principles: Human Rights Based Approaches (HRBA)/ Right to Food/ Decent Work; Gender equality, Environmental sustainability, Capacity Development and Results Based Management. Additional characteristics to guide the analysis are: robustness, clarity, coherence, realism and technical quality.

3.3 Evaluation issues

I. **Relevance of concept and design**

a. Project relevance to:
   - FAO Global Goals and Strategic Objectives/Core Functions;
   - UNFCCC, IPCC, OECD and Eurostat methodologies and reporting procedures;
   - The global expert community (institutions, universities, etc.) involved in estimating GHG agricultural emissions and mitigation potentials;
   - National development priorities (in selected countries examined);

q. Robustness and realism of the theory of change underpinning the project;

r. Clarity, coherence and realism of the Logical Framework[4] of the project and of its design, including:
   - The causal relationship between inputs, activities, outputs, expected outcomes (immediate objectives) and impact (development objectives);
   - Validity of indicators, assumptions and risks;
   - Approach and methodology;
   - Resources (human and financial) and duration;
   - Stakeholder and beneficiary identification and analysis;
   - Institutional set-up and management arrangements.

VI. **Effectiveness of outputs and outcomes**

s. Overall effectiveness of the project, actual or potential, in attaining its intermediate/specific objectives. In this respect, the evaluation will focus on the three dimensions of project outputs and outcomes in terms of Global/Regional Assessment; Regional Capacity Development; and Contributions to the IPCC.
   - Description and analysis of the outputs produced, in terms of quantity, quality and timeliness (MAGHG Project Outputs outlined above);
   - Description and analysis of the outcomes achieved, expected and unexpected, their robustness and expectations for further uptake and diffusion.[5]

19. In addition, the evaluation will give special attention to the following questions regarding the project's main aims:

   - What was the quality of the project's identification of data gaps and national governments' capacity needs;
   - How user-friendly has the web portal been?
   - How robust has been the data generated on GHG emissions and mitigation potentials, and LCA?
   - To what extent has the data being used at country level by agriculture and other relevant ministries to conceive of new strategies for GHG mitigation in agriculture, and how useful has it been to negotiators to UNFCCC?

[4] The Logical Framework embodies the Results-Based Management approach in a project

[5] 'FAO projects should have (only) one outcome. Programmes may have more.' From FAO Project Cycle Guidelines, 2012

t. Use made by the project of FAO's normative and knowledge products and actual and potential contribution of the project to the normative and knowledge function of the Organization.

VII. Efficiency and effectiveness of project implementation process

u. Assessment of project management:
- Quality, realism and focus of work plans;
- Assessment of delivery, causes and consequences of delays and of any remedial measure taken, if any;
- Monitoring and feed-back loop into improved management and operations;
- Staff management;
- Development and implementation of an exit strategy;

v. Institutional Setup:
- Administrative and technical support by FAO HQ, regional, sub-regional and country office, as appropriate;
- Institutional set-up, internal review processes, coordination and steering bodies. In particular, the evaluation will examine how well the project functioned as a cross-sectoral initiative in FAO, or as one involving several technical departments;
- Inputs and support by the Government/s and resource partner/s.

w. Assessment of financial resources management, including:
- Adequacy and realism of budget allocations to achieve intended results;
- Adequacy and realism of Budget Revisions in matching implementation needs and project objectives;
- Rate of delivery and budget balance at the time of the evaluation and in relation to work-plans.

VIII. Analysis of the application of the UN common country programming principles, and cross-cutting themes[6]

x. Analysis of gender mainstreaming for gender equality. This will include assessing the following aspects:
- The extent to which the project analyzed the need for gender-disaggregated data in the context of GHG emissions mitigation, and in collaboration with other activities under the broader FAO Agriculture Mitigation Programme (AMP) addressing in greater depth gender-related climate change issues;
- The degree to which the data generated on GHG mitigation potentials for different land uses is informing the AMP regarding the roles of gender-based practices in climate change mitigation;
- Extent to which gender equality considerations were taken into account in project implementation and management[7] ;

y. Analysis of the Capacity Development dimension in the design, implementation and results of the project, at individual, organizational and enabling environment levels.[8] This will include CD on both technical and soft-skills, i.e. planning, budgeting, partnering and negotiating. The evaluation will assess in particular:

[6] Given the nature of the project, the evaluation will not assess it against the Human-Rights Based Approach principle

[7] See: http://typo3.fao.org/fileadmin/templates/gender/docs/FAO_FinalGender_Policy_2012.pdf

[8] See: http://www.fao.org/capacitydevelopment/en/

- the effectiveness of the project's efforts to build the capacity of Member Countries in data-gathering and analysis, especially those with lower skills in the relevant areas;
- the extent to which the methodologies for data-gathering and analysis have been used within the
- Finally, since the project sought as an output to have UNFCCC negotiators and policy makers informed and aware of agricultural mitigation options, the evaluation will also assess to what extent the knowledge provided has strengthened the capacity of government negotiators to report on GHG emissions to the UNFCCC. The evaluation, however, recognizes that the degree to which negotiators have actually used the data does not fall entirely within the project's sphere of influence, but would nevertheless be interesting for all stakeholders, including the donor, to know.

z. Analysis of Partnerships and Alliances, namely:
- how they were planned in the project design and developed through implementation, particularly with respect to the IPCC, OECD and Eurostat;
- their focus and strength; and
- their effect on project results and sustainability.[9]

aa. Where project activities are likely to affect the environment the evaluation assesses whether environmental impacts were taken into consideration and addressed by the project, following the steps and criteria contained in the FAO Environmental Impact Assessment guidelines. Since the project was to build a knowledge base at country and FAO Headquarters levels, with the long-term aim of reducing adverse effects on the global climate, it will not include an analysis of environmental impacts.

IX. Impact

bb. Overall impact of the project, actual or potential, positive and negative, produced directly or indirectly, intended or unintended; and

cc. Overall contribution of the project to FAO Country Programming Frameworks, Organizational Result/s and Strategic Objectives, as well as to the implementation of the corporate Core Functions.

X. Sustainability

20. This Evaluation will assess the following dimensions:

dd. The prospects for sustaining and up-scaling the project's results by the beneficiaries and the host institutions after the termination of the project. The assessment of sustainability will include, as appropriate:
- Institutional, technical, social and economic sustainability of proposed technologies, innovations and/or processes;
- Expectation of institutional uptake and mainstreaming of the newly acquired capacities, or diffusion beyond the beneficiaries or the project;

[9] See: http://www.fao.org/partnerships/partners-home/en/

4 Evaluation methodology

4.1 Approach and tools

21. The evaluation will adhere to the UNEG Norms & Standards[10].

22. The evaluation will adopt a consultative and transparent approach with internal and external stakeholders throughout the evaluation process. Triangulation of evidence and information gathered will underpin its validation and analysis and will support conclusions and recommendations.

23. The evaluation will make use of the following methods and tools: review of existing reports; semi-structured interviews with key informants, stakeholders and participants, supported by check lists and/or interview protocols; surveys and questionnaires.

24. Given the global nature of the project and the limited evaluation budget, the evaluation will not include any country visits. To obtain a more detailed picture of the project's outputs and outcomes at country level, the evaluation, in consultation with the project team, will select 3-4 developing countries, distributed geographically across the regions, on which it will conduct an examination in some greater depth. These studies will consist of telephone interviews with the national focal points, beneficiary trainees in the relevant ministries and staff in the relevant areas of policy-making, and an analysis of the data and any documents from these countries. The countries will be selected among those which received focused training under the project.

25. Where possible, particular attention will be devoted to ensure that women and other under-privileged groups will be consulted in adequate manner. Insofar as possible and appropriate, interaction will also take place with non-participants to canvass their opinions. The Sustainable Livelihoods Framework;[11] the Strengths, Weaknesses, Opportunities and Threats (SWOT) framework can be used for assessment of project results.[12]

4.2 Stakeholders and consultation process

26. For the briefings and debriefing, the evaluation team will discuss in detail with the key stakeholders of the project and will take into account their perspectives and opinions. Key stakeholders will include:

- Project Task Force members;
- Representatives from partner organizations;
- the resource partner;
- FAO staff from the contributing departments; and
- potential stakeholders from the countries selected for case studies.

27. The evaluation team will maintain close liaison with: the FAO Office of Evaluation, the Project Task Force members and Project staff at headquarters, regional, sub-regional or country level. Although the mission is free to discuss with the authorities concerned anything relevant to

[10] United Nations Evaluation Group, http://www.uneval.org/normsandstandards

[11] The Sustainable Livelihoods Framework identifies five different capitals (human, social, natural, financial, and physical), each including different assets. It helps in improving understanding of livelihoods, in particular of the poor. For more information, among others: http://www.livelihoods.org/info/guidance_sheets_pdfs/section2.pdf

[12] SWOT is a widely used strategic planning tool, useful also in the assessment of development interventions, to canvass their strengths and weaknesses, as well as future perspectives. It is particularly used in focus groups, but it can be adapted to individual interviews as well.

its assignment, it is not authorized to make any commitment on behalf of the Government, the donor or FAO.

28. The team will present its preliminary findings, conclusions and recommendations to the project stakeholders in the visited country/ies and insofar as possible, in the relevant FAO Decentralized Office and in HQ, to obtain their feedback at the end of the data-gathering phase.

29. The draft ToR will be circulated among key stakeholders for comments before finalisation; suggestions will be incorporated as deemed appropriate by OED. The draft evaluation report will also be circulated among key stakeholders for comments before finalisation; suggestions will be incorporated as deemed appropriate by the evaluation team.

5 Roles and responsibilities

30. The FAO Budget Holder (BH); the Lead Technical Officer (LTO); and the Project Task Force (PTF) members will participate in meetings with the evaluation team, make available information and documentation as necessary, and comment on the draft final report. Involvement of different members of the project Task Force will depend on respective roles and participation in the project.

31. The BH is also responsible for leading and coordinating the preparation of the FAO Management Response and the Follow-up Report to the evaluation, fully supported in this task by the LTO and PTF. OED guidelines for the Management Response and the Follow-up Report provide necessary details on this process.

32. The Evaluation Team is responsible for conducting the evaluation, applying the methodology as appropriate and for producing the evaluation report. All team members, including the Team Leader, will participate in briefing and debriefing meetings, discussions, field visits, and will contribute to the evaluation with written inputs for the final draft and final report.

33. The Team Leader guides and coordinates the team members in their specific work, discusses their findings, conclusions and recommendations and prepares the final draft and the final report, consolidating the inputs from the team members with his/her own.

34. The Evaluation team will be free to expand the scope, criteria, questions and issues listed above, as well as develop its own evaluation tools and framework, within time and resources available.

35. The team is fully responsible for its report which may not reflect the views of the Government or of FAO. An evaluation report is not subject to technical clearance by FAO although OED is responsible for Quality Assurance of all evaluation reports.

36. As a contribution to the OED Knowledge Management System:

- the Team Leader will be responsible for completing the OED quantitative project performance questionnaire, to be delivered at the same time with the final evaluation report;
- OED will ask all team members to complete an anonymous and confidential questionnaire to get their feedback on the evaluation process.

6 Evaluation team

37. Mission members will have had no previous direct involvement in the formulation, implementation or backstopping of the project. All will sign the Declaration of Interest form of the FAO Office of Evaluation.

38. The evaluation team will consist of two persons and comprise the best available mix of skills that are required to assess the project. As a whole, it will have expertise in the following subject matters:

- Climate Change Mitigation in Agriculture and Land-use, International Climate Processes;
- Capacity Development for Agriculture Statistics;
- Management of knowledge databases in international development;
- Project and programme evaluation.

39. Furthermore, to the extent possible, the team will be balanced in terms of geographical and gender representation to ensure diversity and complementarity of perspectives.

7 Evaluation deliverables

40. The evaluation report will illustrate the evidence found that responds to the evaluation issues, questions and criteria listed in the ToR. It will include an executive summary. Supporting data and analysis should be annexed to the report when considered important to complement the main report.

41. The recommendations will be addressed to the different stakeholders and prioritized: they will be evidence-based, relevant, focused, clearly formulated and actionable.

42. The evaluation team will agree on the outline of the report early in the evaluation process, based on the template provided in Annex I of this ToR. The report will be prepared in English, with numbered paragraphs, following OED template for report writing. Translations in other languages of the Organization, if required, will be FAO's responsibility.

43. The team leader bears responsibility for submitting the final draft report to FAO within one week from the conclusion of the mission. Within one additional week, FAO will submit to the team its comments and suggestions that the team will include as appropriate in the final report within maximum two weeks.

44. Annexes to the evaluation report will include, though not limited to, the following as relevant:

- Terms of reference for the evaluation;
- Profile of team members;
- List of documents reviewed;
- List of institutions and stakeholders interviewed by the evaluation team;
- List of project outputs;
- Evaluation tools.

8 Evaluation timetable

45. The evaluation is expected to take place from late January to early March 2014. The timetable in the box below shows a tentative programme of travel and work for the evaluation team. It will be finalised upon the recruitment of the evaluation team.

Box 5. Tentative timetable of the evaluation

Task	Dates	Duration	Responsibility
ToR finalization	December 2013		OED
Team identification	December 2013	1 ½ weeks	OED, with PTF
Mission organization	December 2013	One week	OED, with PTF support
Reading background documentation	January 2014	2 days	ET
Survey questionnaire development and dissemination	Mid-January	3 days	ET and OED, with PTF support
Travel to Rome HQ	Late January	1 day	ET
Mission in Rome	Late January-Early February	8 days	ET
Preparation and presentation of debriefing on draft findings to PTF and other FAO stakeholders	Mid-February	2 days	ET
Preparation of first draft of report	Mid-February	10 days	ET
Delivery of comments on draft report from OED to Team Leader (TL)	late February	Within 7 days	OED
Preparation of final draft report by TL and circulation to project stakeholders by OED	Late February	Within 2 days	ET and OED
Comments from project team and stakeholders	Late February	Two weeks	Stakeholders
Finalization of report and its circulation	Early March	Within 2 days	ET
OED sends request for Management Response to BH	Early March	Within 1 day	OED
BH submits Management Response to OED	Mid-March	Within 2 weeks	BH

9 Annexes to the TOR

Annex 1. Evaluation report outline
Annex 2. OED evaluated project questionnaire
(both separate files)

Annex 2 Terms of Reference for the Technical Review

GHG Emissions Data Portal and its Related Methodologies, Technologies and Guidelines

Context of the MAGHG Project

The project was to address issues identified by the expert consultation conducting in 2009 by strengthening data generation, processing, analysis and access. A single entry data portal was to be created to improve data access; national capacity was to be strengthened through training; methodologies, practices and international reporting guidelines were to be harmonized; and the accuracy and uncertainties in GHG figures would be improved, which should also facilitate the agriculture sector to qualify for climate change financing mechanisms.

The project was to build the knowledge base facilitating the integration of climate change mitigation into agricultural policies and practices ensuring rational investments on improved technologies and agricultural practices. The project was to lead to an improved understanding of the role of agriculture in the emissions of GHGs and help to identify economically viable and sustainable practices and methods to mitigate climate change while increasing resilience of agricultural systems.

Planned Activities to be Reviewed by this Technical Review:

Output 1: Stakeholder requirements and data needs identified

- Detailed characterisation of the data and information needs of major stakeholder groups will be undertaken: tables of information needs that specify desired variables, temporal / spatial scale of data, form of data products, etc. for major stakeholder groups and will also identify opportunities and barriers for integrated information delivery.
- Characterization of current reporting systems / methodologies currently being used

Output 2: Revised standardized data gathering and reporting allowing improved data generation related to climate change mitigation issues.

- Develop a standardised process for reporting

Output 3: Guideline and Good Practice Manual and distance learning tool supporting national data compilers developed.

- Develop a detailed manual on guidelines and good practises for supporting national data compilers: data concepts, definitions, collection procedures, validation and processing, analyses and access as well as guidelines on preparation adequate metadata.
- Improve availability and accuracy of data in close collaboration with other internal and external key data collectors and member states; addressing major data gaps and inconsistencies and improve data coverage related to food security and climate change especially in regards to GHGs emissions.

Output 4: International guidelines created for Life Cycle Analysis (LCA) protocols and environmental product labeling.

- Develop a set of guidelines on LCA and provide examples of how LCA can be used not only in estimating GHG but also in identifying mitigation "hotspots".

Output 5: Capacity of national compilers to gather and analyze climate change data strengthened.

- No technical component under this output

Output 6: A central GHG data portal, which supports developing countries to address agricultural mitigation and other related climate change issues.

- Develop a single portal, which contains the raw and processed data and related metadata.
- Supporting information, guidelines (data concepts, definitions, collection, validation and processing), policy briefs and information on practices and methods for agricultural mitigation.

Output 7: A comprehensive global GHG assessment of the agricultural sector, which contributes to the IPCC 5th Assessment Report, especially with chapter 11 (WG3), published by 2012.

- The assessment will contain global and regional reviews, sectorial analyses, product life cycle chains and identification and evaluation of mitigation potentials in the different sectors.

Output 8: UNFCCC negotiators and policy makers informed and aware of agricultural mitigation options

- No technical component under this output

Scope of the Review

The Evaluation Team Member will, under the supervision of the Team Leader, conduct a technical review of the data portal and its related methodologies, technologies and guidelines that were developed with the support of the project as per the list of activities presented above.

The Evaluation Team Member will visit the project staff and offices at FAO, Rome and will perform the following tasks:

- Review documents, files and information systems
- Conduct interviews; incl. by telephone and email
- Analyze and synthesize interviews findings and desk-review findings
- Write and Submit Technical Review Report to Evaluation Team

Output of the Review

A report will be submitted by the Evaluation Team Member to the Evaluation Team by February 14th, 2014. It will contain a description of the GHG Emissions Data Portal and its related methodologies, technologies and guidelines; a summary of the analysis conducted for this review; and potential recommendations.

This report will be integrated in the main evaluation report; a summary will be integrated in the main body of the report and the technical report will be included as an annex to the final evaluation report. A draft outline for this report is presented below:

Technical Review Report Outline

1. Introduction

2. Description of Data Portal, Methodologies, Technologies and Guidelines

2.1 Overview of Data portal

2.1.1 Scope/ Data architecture

2.1.2 Data format/Metadata

2.1.3 Accessibility/Communication

2.1.4 Design and maintenance

2.2 Methodologies and Guidelines

2.2.1 Methodologies and quality information

2.2.2 Guidelines and Manual

3. Analysis of these Technological Elements

3.1 Data Needs Analyses

3.2 Data gathering and collection

3.3 Data storing

3.4 End-Users Inputs

3.5 QA/QC and data compatibility

3.6 Data uncertainty

3.6 Web Access

4. Recommendations

(They will be incorporated in the main section on recommendations of the main report)

Annex 3 Evaluation Matrix

The evaluation matrix below served as a general guide for the evaluation. It provided directions for the evaluation; particularly the collect of relevant data. It was used as a basis for interviewing people and reviewing programme documents. It also provided a basis for structuring the evaluation report as a whole.

Evaluated component	Sub-Question	Indicators	Sources	Data Collection Method
Evaluation criteria: Relevance *- How did the Project relate to the main objective of the FAO's agricultural mitigation programme, the IPCC and UNFCCC requirements and to the climate change mitigation priorities of beneficiaries countries?*				
Was the Project relevant to FAO's agricultural mitigation programme?	▪ How did the Project support the objectives of FAO's agricultural mitigation programme? ▪ How did the Project relate to the overall mandate of FAO?	▪ Level of coherence between project objectives and those of FAO and of its agriculture mitigation programme	▪ Project documents ▪ FAO policies and strategies ▪ FAO web site	▪ Documents analyses ▪ Interviews with FAO staff
Was the Project relevant to IPCC and UNFCCC requirements?	▪ How did the Project relate to the IPCC Assessment process and to UNFCCC strategies? ▪ Did technologies and methodologies used by the project comply (compatible) with existing global, regional and national processes?	▪ Existence of a clear relationship between project outcome and IPCC and UNFCCC requirements ▪ Potential use of the project main outputs in the country reporting activities in the UNFCCC context (national communications, GHG inventories, etc.)	▪ Project documents ▪ IPCC and UNFCCC strategies and programmes ▪ IPCC methodologies ▪ UNFCCC decisions	▪ Documents analyses ▪ Interviews with partners' representatives
Was the Project relevant to Recipient Countries' CC mitigation priorities?	▪ How did the Project support the CC mitigation priorities of Recipient Countries? ▪ How country-driven was the Project? ▪ Did the Project adequately take into account national realities, both in terms of institutional capacity and knowledge base, in its design and its implementation? ▪ To what extent were national partners involved in the design of the Project? ▪ Was the Project relevant to increase the Country's awareness concerning the need of national system in place for the UNFCCC reporting requirements?	▪ Degree to which the project support GHG emission monitoring and CC mitigation priorities of Recipient Countries ▪ Degree of coherence between the project and related nationals priorities, policies and strategies ▪ Appreciation from national stakeholders with respect to adequacy of project design and implementation to national realities and existing capacities? ▪ Level of involvement of Government officials and other partners into the project ▪ Coherence between needs expressed by national stakeholders and FAO strategy	▪ Project documents ▪ National policies, strategies and programmes ▪ Key government officials and other partners	▪ Documents analyses ▪ Interviews with government officials and other partners

Evaluated component	Sub-Question	Indicators	Sources	Data Collection Method
Did the Project address the needs of target beneficiaries?	▪ How did the Project support the needs of target beneficiaries? ▪ Was the implementation of the Project inclusive of all relevant Stakeholders? ▪ Were local beneficiaries and stakeholders adequately involved in Project design and implementation?	▪ Strength of the link between project expected results and the needs of target beneficiaries ▪ Degree of involvement and inclusiveness of beneficiaries and stakeholders in project design and implementation	▪ Beneficiaries and stakeholders ▪ Needs assessment studies ▪ Project documents	▪ Document analysis ▪ Interviews with beneficiaries and stakeholders
Was the Project internally coherent in its design?	▪ Clarity, coherence and realism of the Logical Framework of the project and of its design ▪ Is there a direct and strong link between project expected results (log frame) and the Project design (in terms of Project components, choice of partners, structure, delivery mechanism, scope, budget, use of resources etc.)? ▪ Robustness and realism of the theory of change underpinning the project ▪ Is the length of the Project conducive to achieve project outcomes?	▪ Level of coherence between project expected results and project design internal logic ▪ Level of coherence between project design and project implementation approach	▪ Program and project documents ▪ Key project stakeholders	▪ Document analysis ▪ Key Interviews
How was the Project relevant in light of other donors?	▪ With regards to Recipient Countries, did the Project remain relevant in terms of areas of focus and targeting of key activities? ▪ How did the project helped to fill gaps (or give additional stimulus) that are crucial but are not covered by other donors?	▪ Degree to which program was coherent and complementary to other donor programming in Recipient Countries ▪ List of programs and funds in which the future developments, ideas and partnerships of the project are eligible?	▪ Other Donors' policies and programming documents ▪ Other Donor representatives ▪ Project documents	▪ Documents analyses ▪ Interviews with other Donors
Future directions for similar Projects	▪ What lessons have been learnt and what changes could have been made to the Project in order to strengthen the alignment between the project and the Partners' priorities and areas of focus? ▪ How could the project better target and address priorities and development challenges of targeted beneficiaries?		▪ Data collected throughout evaluation	▪ Data analysis
Evaluation criteria: Effectiveness *– To what extent are the expected outputs of the Project being achieved?*				
Has the Project been effective in achieving its expected outputs?	▪ Has the project been effective in achieving its expected outputs? o Stakeholder requirements and data needs identified o Revised standardized data gathering and reporting allowing improved data generation related to climate change mitigation issues. o Guideline and Good Practice Manual and distance	▪ New methodologies, skills and knowledge ▪ Change in capacity for information management: Knowledge acquisition and sharing; Effective data gathering, methods and procedures for monitoring. ▪ Change in capacity for awareness raising o Stakeholder involvement and government awareness o Change in local stakeholder behavior	▪ Project documents ▪ Key stakeholders including FAO, Project Team, Representatives of Gov. and other Partners ▪ Research findings	▪ Documents analysis ▪ Meetings with main Project Partners ▪ Interviews with project beneficiaries

Evaluated component	Sub-Question	Indicators	Sources	Data Collection Method
	learning tool supporting national data compilers developed. o International guidelines created for Life Cycle Analysis (LCA) protocols and environmental product labelling. o Capacity of national compilers to gather and analyse climate change data strengthened. o A central GHG data portal which supports developing countries to address agricultural mitigation and other related climate change issues. o A comprehensive global GHG assessment of the agricultural sector which contributes to the IPCC 5th Assessment Report, especially with chapter 11 (WG3), published by 2012(1). o UNFCCC negotiators and policy makers informed and aware of agricultural mitigation options. ▪ What was the quality of the project's identification of the data gaps and national government capacity needs, and how user-friendly has the web portal been? ▪ How robust has the data generated on GHG emissions and mitigation potentials, and LCA, been? ▪ How is the data produced by the project being used at country level by agriculture and other relevant ministries to conceive of new strategies for GHG mitigation in agriculture, and how useful has it been to negotiators to UNFCCC?	▪ Change in capacity in policy making and planning o Policy reform for GHG emissions monitoring and CC mitigation activities o Legislation/regulation change to improve the monitoring of GHG emissions and the implementation of mitigation strategies in the agriculture sector o Development of national and local strategies and plans supporting CC mitigation in the agriculture sector ▪ Change in capacity in implementation and enforcement o Design and implementation of risk assessments o Implementation of national strategies and action plans through adequate institutional frameworks and their maintenance o Monitoring, evaluation and promotion of pilots ▪ Change in capacity in mobilizing resources o Leverage of resources o Human resources o Appropriate practices o Mobilization of advisory services		
How was risk and risk mitigation being managed?	▪ How well are risks and assumptions being managed? ▪ What is the quality of risk mitigation strategies developed? Are these sufficient? ▪ Are there clear strategies for risk mitigation related with long-term sustainability of the project?	▪ Completeness of risk identification and assumptions during project planning ▪ Quality of existing information systems in place to identify emerging risks and other issues? ▪ Quality of risk mitigations strategies developed and followed	▪ Project documents and evaluations ▪ FAO, Project Staff and Project Partners	▪ Document analysis ▪ Interviews
Future directions for similar Projects	▪ What lessons have been learnt for the project to achieve its outputs? ▪ What changes could have been made (if any) to the design of the project in order to improve the achievement of the project's expected results? ▪ How could the project be more effective in achieving its results?		▪ Data collected throughout evaluation	▪ Data analysis

Evaluated component	Sub-Question	Indicators	Sources	Data Collection Method
Evaluation criteria: *Efficiency* - *How efficiently was the Project implemented?*				
Were Project resources channeled in an efficient way?	▪ Was adaptive management used or needed to ensure efficient resource use? ▪ Were the project logical framework and work plans and any changes made to them used as management tools during implementation? ▪ Were accounting and financial systems in place adequate for project management and be able to produce accurate and timely financial information? ▪ Were progress reports produced accurately, timely and responded to reporting requirements? ▪ Was project implementation as cost effective as originally proposed (planned vs. actual) ▪ Were financial resources utilized efficiently? Could they be used more efficiently? ▪ How was RBM used during project implementation? ▪ Were there institutionalized or informal feedback or dissemination mechanisms to ensure that findings, lessons learned and recommendations pertaining to project design and implementation effectiveness were shared among project stakeholders, FAO staff and project partners and other relevant organizations for ongoing project adjustment and improvement? ▪ Did the project mainstream gender considerations into its implementation?	▪ Availability and quality of financial and progress reports ▪ Timeliness and adequacy of reporting provided ▪ Level of discrepancy between planned and utilized financial expenditures ▪ Planned vs. actual funds leveraged ▪ Cost in view of results achieved compared to costs of similar projects from other organizations ▪ Adequacy of project choices in view of existing context, infrastructure and cost ▪ Quality of RBM reporting (progress reporting, monitoring and evaluation) ▪ Occurrence of change in project design/ implementation approach (i.e. restructuring) when needed to improve project efficiency ▪ Existence, quality and use of M&E, feedback and dissemination mechanism to share findings, lessons learned and recommendation on effectiveness of project design. ▪ Cost associated with delivery mechanism and management structure compare to alternatives ▪ Gender disaggregated data in project documents	▪ Project documents and evaluations ▪ FAO, Representatives of Gov. and Project Staff ▪ Beneficiaries and Project partners	▪ Document analysis ▪ Key Interviews
How efficient were partnership arrangements for the Project?	▪ To what extent partnerships/linkages between institutions/organizations are encouraged and supported? ▪ Which partnerships/linkages are facilitated? Which one can be considered sustainable? ▪ What is the level of efficiency of cooperation and collaboration arrangements? (between regional and global actors, FAO and relevant government entities) ▪ Which methods are successful or not and why?	▪ Specific activities conducted to support the development of cooperative arrangements between partners, ▪ Examples of supported partnerships ▪ Evidence that particular partnerships/linkages will be sustained ▪ Types/quality of partnership cooperation methods utilized	▪ Project documents and evaluations ▪ Project Partners ▪ Beneficiaries	▪ Document analysis ▪ Interviews
Did the Project efficiently utilize local capacity in implementation?	▪ Is an appropriate balance struck between utilization of international expertise as well as national capacity? ▪ Does the Project take into account national capacity in design and implementation of the project? ▪ Is there an effective collaboration with scientific	▪ Proportion of total expertise utilized taken from Recipient Countries ▪ Number/quality of analyses done to assess national capacity potential and absorptive capacity	▪ Project documents and evaluations ▪ FAO, Project Team and Project partners ▪ Beneficiaries	▪ Document analysis ▪ Interviews

Evaluated component	Sub-Question	Indicators	Sources	Data Collection Method
	institutions with competence in GHG emissions and CC mitigation?			
Future directions for similar Projects	▪ What lessons can be learnt from the project on efficiency? ▪ How could the project have more efficiently addressed its key priorities (in terms of management structures and procedures, partnerships arrangements etc.…)? ▪ What changes could have been made (if any) to the project in order to improve its efficiency?		▪ Data collected throughout evaluation	▪ Data analysis
Evaluation criteria: *Impacts* - *What are the potential and realized impacts of activities carried out in the context of the Project?*				
How is the Project effective in achieving its long-term outcome?	▪ Will achievements contribute to its goal that is to improve climate change mitigation linked to improved long term agricultural productivity, thus contributing to reducing hunger and extreme poverty, enhancing food security and increasing environmental sustainability? ▪ Will the project achieve its outcome that is an enhanced global knowledge base on GHG emissions, and mitigation potentials, within the agriculture sector?	▪ Change in capacity: o To pool/mobilize resources o For related policy making and strategic planning, o For implementation of related laws and strategies through adequate institutional frameworks and their maintenance, ▪ Change in use and implementation of sustainable alternatives ▪ Change to the quantity and strength of barriers such as change in o Institutions in charge of monitoring GHG emissions and of developing CC mitigation strategies o Institutions in charge of statistics production o Data quality on GHG emissions o Methodology for reporting and monitoring GHG emissions o Policy and legislation governing GHG emission monitoring and CC mitigation o Livelihood of farmers affected by CC	▪ Project documents ▪ Key Stakeholders ▪ Research findings; if available	▪ Documents analysis ▪ Meetings with FAO, Project Team and project Partners ▪ Interviews with project beneficiaries and other stakeholders
How is the Project impacting climate change mitigation globally?	▪ What are the impacts or likely impacts of the project? o On the environment; o On poverty; and, o On other socio-economic issues.	▪ Provide specific examples of impacts at those three levels, as relevant	▪ Project documents ▪ Key Stakeholders ▪ Research findings	▪ Data analysis ▪ Interviews with key stakeholders
Future directions for	▪ How could the project build on its successes and learn from its weaknesses in order to enhance the potential for impact of ongoing and future initiatives?		▪ Data collected throughout evaluation	▪ Data analysis

Evaluated component	Sub-Question	Indicators	Sources	Data Collection Method
the Project				
Evaluation criteria: Sustainability *- Are the initiatives and results of the Project allowing for continued benefits?*				
Were sustainability issues adequately integrated in Project design?	▪ Were sustainability issues integrated into the design and implementation of the project?	▪ Evidence/Quality of sustainability strategy ▪ Evidence/Quality of steps taken to address sustainability	▪ Project documents and evaluations ▪ FAO, project staff and project Partners	▪ Document analysis ▪ Interviews
Are project achievements technically and financially sustainable?	▪ Does the project adequately address technical sustainability issues? ▪ Does the project adequately address financial and economic sustainability issues? ▪ Are the recurrent costs after project completion sustainable?	▪ Level and source of future financial support to be provided to relevant sectors and activities after Project end? ▪ Evidence of commitments from international partners, governments or other stakeholders to financially support relevant sectors of activities after Project end ▪ Level of recurrent costs after completion of project and funding sources for those recurrent costs	▪ Project documents and evaluations ▪ FAO, project staff and project Partners ▪ Beneficiaries	▪ Document analysis ▪ Interviews
Are project achievements mainstreamed in beneficiary countries and in regional/global organizations?	▪ Are results of efforts made during the project implementation period well assimilated by organizations and their internal systems and procedures? ▪ Is there evidence that project partners will continue their activities beyond project support? ▪ What degree is there of local ownership of initiatives and results? ▪ Were appropriate 'champions' being identified and/or supported?	▪ Degree to which project activities and results have been taken over by national counterparts or institutions /organizations ▪ Level of financial support to be provided to relevant sectors and activities by in-country actors after project end ▪ Number/quality of champions identified	▪ Project documents and evaluations ▪ FAO, project staff and project Partners ▪ Beneficiaries	▪ Document analysis ▪ Interviews
Is there an adequate enabling environment for the sustainability of project achievements?	▪ Are laws, policies and programmes at regional and national levels adequate to ensure sustainability of project achievements? ▪ Are the necessary related capacities for lawmaking and enforcement built? ▪ What is the level of political commitment to build on the results of the project?	▪ Efforts to support the development of relevant laws and policies ▪ State of law making capacity ▪ Evidences of commitment by the political class through speeches, enactment of laws and resource allocation to priorities	▪ Project documents and evaluations ▪ FAO, project staff and project Partners ▪ Beneficiaries	▪ Document analysis ▪ Interviews

Evaluated component	Sub-Question	Indicators	Sources	Data Collection Method
How is the institutional uptake in beneficiary countries?	▪ Is the capacity in place at the regional and national levels adequate to ensure sustainability of results achieved to date?	▪ Elements in place in those different management functions, at the appropriate levels (regional and national) in terms of adequate structures, strategies, systems, skills, incentives and interrelationships with other key actors	▪ Project documents and evaluations ▪ FAO, Project staff and project Partners ▪ Beneficiaries ▪ Capacity assessments available, if any	▪ Interviews ▪ Documentation review
Will the project achievements be replicated and/or scaled up?	▪ Are project activities and results replicated and/or scaled up? ▪ What is the project contribution to replication or scaling up of innovative practices or mechanisms that support global knowledge on GHG emissions and mitigation potentials in the agriculture sector?	▪ Number/quality of replicated initiatives ▪ Number/quality of replicated innovative initiatives ▪ Volume of additional investment leveraged	▪ Other donor programming documents ▪ Beneficiaries ▪ FAO, project staff and project Partners	▪ Document analysis ▪ Interviews
What are the main challenges to the sustainability of the project	▪ What are the main challenges that may hinder sustainability of efforts? ▪ Have any of these been addressed through project management? ▪ What could be the possible measures to further contribute to the sustainability of efforts achieved with the project?	▪ Challenges in view of building blocks of sustainability as presented above ▪ Recent changes which may present new challenges to the Project	▪ Project documents and evaluations ▪ Beneficiaries ▪ FAO, project staff and project Partners	▪ Document analysis ▪ Interviews
Future directions for the Project	▪ Which areas/arrangements under the project show the strongest potential for lasting long-term results? ▪ What are the key challenges and obstacles to the sustainability of results of the project initiatives that must be directly and quickly addressed? ▪ How can the experience and good project practices influence the strategies for building and maintaining global knowledge on GHG emissions and mitigation potentials in the agriculture sector? ▪ Are national decision-making institutions (Parliament, Government etc.) in Recipient Countries ready to enhance their climate change mitigation strategies in the agriculture sector?		▪ Data collected throughout evaluation	▪ Data analysis

Annex 4 List of Documents Consulted

FAO, 2013, *The Director-General's Medium Term Plan 2014-17 and Programme of Work and Budget 2014-15*

FAO, April 19, 2012, *MICCA-MAGHG Presentation*

FAO, September 2013, *MAGHG Projects*

FAO, CGIAR, CCAFS, *National Integrated Mitigation Planning in Agriculture: A Review Paper*

FAO, CGIAR, U of Vermont, CCAFS, Nicholas Institute, April 18-19, 2012, *Workshop on Improving the Quantification of Agricultural GHG in Low Income Countries*

FAO, December 4-7, 2013, *AFCAS Recommendations – Rabat, Morocco*

FAO, *FAO Statistical Programme of Work 2012-2013*

FAO, *GHG Emissions from Pig and Chicken Supply Chains – A Global Life Cycle Assessment*

FAO, *GHG Emissions from Ruminant Supply Chains – A Global Life Cycle Assessment*

FAO, *GHG Emissions from the Dairy Sector – A Life Cycle Assessment*

FAO, *Government Cooperation Programme – Project Document (MAGHG)*

FAO, January 27, 2014, *MAGHG Presentation, Opening Meeting*

FAO, *Mitigating Agriculture GHG Emissions - Towards Wider Opportunities (MAGHG-2 Proposal)*

FAO, October 25-29, 2010, *104th Session: Corporate Strategy on Capacity Development*

FAO, October 8-12, 2012, *Report of the Twenty Fourth Session of the Asia and Pacific Commission on Agricultural Statistics*

FAO, *Project Progress Report – Trust Fund Programme (2011, Jan-Jun. 2012, Jul-Dec. 2012, Jan-Jun. 2013, Jul-Dec. 2013)*

FAO, *Status of Ongoing Collaboration Between FAO and IPCC TFI and Proposed Future Work*

FAO, *Tackling Climate Change Through Livestock – A Global Assessment of Emissions and Mitigation Opportunities*

FAO Trust Fund Project-MAGHG, November 2011, *Project Report – 1.2 Gaps*

FAO Trust Fund Project-MAGHG, November 2011, *Project Report – 1.3 Stakeholders*

FAO Trust Fund Project-MAGHG, November 2011, *Project Report – 1.5 FAO Data Gaps*

FAO Trust Fund Project-MAGHG, December 2011, *Project Report – 2.1 FOASTAT Land-Use Change Questionnaire*

IICA, FAO, June 5-7, 2013, *FAO-OEA/CIE-IICA Working Group on Agricultural and Livestock Statistics for Latin America and the Caribbean – Twenty Sixth Session, Port of Spain – Recommendations*

IPCC Working Group III, *Chapter 11 – Agriculture, Forestry and Other Land Use (AFOLU)*

MAGHG, *Capacity Development Activities for MAGHG*

MAGHG, *Working Document: Capacity Development for MAGHG*

MAGHG, March 11, 2013, *Workshop on GHG Emissions Statistics and Reporting*

MAGHG, MICCA, December 2013, *Guidelines and Good Practice – Manual of GHG Emissions Statistics*

MAGHG, *MICCA Steering Committee Meetings Minutes (1 to 8) with additional Material*

MAGHG, MICCA, June 3-4, 2013, *Report of the Second FAO Workshop on Statistics for GHG Emissions, Port of Spain, Trinidad and Tobago*

MAGHG, MICCA, October 8-12, 2012, *Inception Workshop on GHG Emissions Statistics Report*

MAGHG, November 7-8, 2013, *Spatial Distribution of GHG Emissions from Peatlands and Assessments of these Emissions in the Guidelines of IPCC, Bogor, Indonesia*

MAGHG, *The African Context: Emissions, Projections and Mitigation Plans*

Mayo Robert, Reuben Sessa, *Challenges and Solutions for Data on Agricultural GHG Emissions*

MICCA, July 2013, *Workshop Report Summary - Towards Sustainable Land Management Practices for Peatlands: Special Focus on Drained Areas, May 7-9, 2013, Rome*

MICCA, *National Planning for GHG Mitigation in Agriculture: A Guidance Document*

MICCA, *Wetlands International, Peatlands – Guidance for Climate Change Mitigation through Conservation, Rehabilitation and Sustainable Use*

Olander Lydia, Eva Wollenberg, Francesco Tubiello and Martin Herold, 2013, *Advancing Agricultural GHG Quantification (in Environmental Research Letters)*

Rocio Condor, March 17-22, 2013, *BTOR-Mission to Quito*

Tubiello Francesco, Mirella Salvatore, Simone Rossi, Alessandro Ferrara, Nuala Fitto, Pete Simth, 2013, *The FAOSTAT Database of GHG Emissions from Agriculture (in Environmental Research Letters)*

UNFCCC, UNEP, UNDP, *Low Emission Capacity Building Programme – Guidance for NAMA Design: Building on Country Experiences*

_____, April 22, 2013, *Notes from meeting with German donor April 15-17, 2013*

_____, December 2-3, 2013, *Third FAO Regional Workshop on Statistics for GHG Emissions*

_____, *FAOSTAT Replies*

_____, *Joint Activities to Build Capacities for the National GHG Inventory System of Ecuador*

_____, *Joint Workplan: Ecuador*

_____, July 16-17, 2012, *Expert Workshop on NAMAs: National Mitigation Planning and Implementation in Agriculture*

_____, March 14, 2013, *Report Capacity Development (CD) Awareness Raising, NRC-MAGHG Team*

_____, October 5-6, 2012, *Inception Workshop on GHG Emissions Statistics Report – Side Event to the APCAS 24 – Da Lat, Vietnam*

_____, *Reduction of GHG emissions in Indonesia through peatland restoration and improved fishery and forest production in Central Kalimantan*

_____, September 13, 2013, *Notes from meeting with German donor September 9-11, 2013*

Websites Consulted:

FAO Website http://www.fao.org/home/en/

FAOSTAT Website: http://faostat3.fao.org/faostat-gateway/go/to/home/E

UNFCCC Website: http://unfccc.int

UNDP-LECB Website: http://lowemissiondevelopment.org

Annex 5 Discussion Guide

Note: This was only a discussion guide for the Interviewers; it is a simplified version of the evaluation matrix presented in Annex 3 above. All questions were not asked to each meeting/interview; it was a reminder for the Evaluators on the type of information required to complete the evaluation exercise and a guide to prepare the semi-structured interviews.

I. RELEVANCE - *How did the Project relate to the main objective of the FAO's agricultural mitigation programme, the IPCC and UNFCCC requirements and to the climate change mitigation priorities of beneficiaries countries?*

I.1. Was the Project relevant to FAO's agricultural mitigation programme?
I.2. Was the Project relevant to IPCC and UNFCCC requirements?
I.3. Was the Project relevant to Recipient Countries' CC mitigation priorities?
I.4. Did the Project address the needs of target beneficiaries?
I.5. Was the Project internally coherent in its design?
I.6. How was the Project relevant in light of other donors?

Future directions for similar projects

I.7. What lessons have been learnt and what changes could have been made to the project in order to strengthen the alignment between the project and the Partners' priorities and areas of focus?
I.8. How could the project better target and address priorities and development challenges of targeted beneficiaries?

II. EFFECTIVENESS – *To what extent are the expected outputs of the project being achieved?*

II.1. Has the Project been effective in achieving its expected outputs?
- Stakeholder requirements and data needs identified
- Revised standardized data gathering and reporting allowing improved data generation related to climate change mitigation issues.
- Guideline and Good Practice Manual and distance learning tool supporting national data compilers developed.
- International guidelines created for Life Cycle Analysis (LCA) protocols and environmental product labelling.
- Capacity of national compilers to gather and analyse climate change data strengthened.
- A central GHG data portal which supports developing countries to address agricultural mitigation and other related climate change issues.
- A comprehensive global GHG assessment of the agricultural sector which contributes to the IPCC 5th Assessment Report, especially with chapter 11 (WG3), published by 2012(1).
- UNFCCC negotiators and policy makers informed and aware of agricultural mitigation options.

II.2. What was the quality of the project's identification of the data gaps and national government capacity needs, and how user-friendly has the web portal been?
II.3. How robust has the data generated on GHG emissions and mitigation potentials, and LCA, been?
II.4. How is the data produced by the project being used at country level by agriculture and other relevant ministries to conceive new strategies for GHG mitigation in agriculture, and how useful has it been to negotiators to UNFCCC?
II.5. How was risk and risk mitigation being managed?

Future directions for similar projects

II.6. What lessons have been learnt for the project to achieve its ouptuts?
II.7. What changes could have been made (if any) to the design of the project in order to improve the achievement of project' expected results?
II.8. How could the project be more effective in achieving its results?

III. EFFICIENCY - *How efficiently was the project implemented?*

III.1. Was adaptive management used or needed to ensure efficient resource use?

III.2. Were the project logical framework and work plans and any changes made to them used as management tools during implementation?
III.3. Were accounting and financial systems in place adequate for project management and producing accurate and timely financial information?
III.4. Were progress reports produced accurately, timely and responding to reporting requirements including adaptive management changes?
III.5. Was project implementation as cost effective as originally proposed (planned vs. actual)
III.6. Were financial resources utilized efficiently? Could financial resources be used more efficiently?
III.7. How was RBM used during project implementation?
III.8. Were there an institutionalized or informal feedback or dissemination mechanism to ensure that findings, lessons learned and recommendations pertaining to project design and implementation effectiveness were shared among project stakeholders, FAO Staff and other relevant organizations for ongoing project adjustment and improvement?
III.9. Did the project mainstream gender considerations into its implementation?
III.10. To what extent were partnerships/ linkages between institutions/ organizations encouraged and supported?
III.11. Which partnerships/linkages were facilitated? Which one can be considered sustainable?
III.12. What was the level of efficiency of cooperation and collaboration arrangements? (between local actors, FAO and relevant government entities)
III.13. Was an appropriate balance struck between utilization of international expertise as well as local capacity?

Future directions for the project

III.14. What lessons can be learnt from the project on efficiency?
III.15. How could the project have more efficiently addressed its key priorities (in terms of management structures and procedures, partnerships arrangements etc…)?

IV. IMPACTS - *What are the potential and realized impacts of activities carried out in the context of the project?*

IV.1. Will achievements contribute to its goal that is to improve climate change mitigation linked to improved long term agricultural productivity, thus contributing to reducing hunger and extreme poverty, enhancing food security and increasing environmental sustainability?
IV.2. Will the project achieve its outcome that is an enhanced global knowledge base on GHG emissions, and mitigation potentials, within the agriculture sector?
IV.3. How is the Project impacting climate change mitigation globally such as impacts or likely impacts on the environment; on poverty; and, on other socio-economic issues?

Future directions for the project

IV.4. How could the project build on its apparent successes and learn from its weaknesses in order to enhance the potential for impact of ongoing and future initiatives?

V. SUSTAINABILITY - *Are the initiatives and results of the project allowing for continued benefits?*

V.1. Were sustainability issues adequately integrated in project design?
V.2. Are project achievements technically and financially sustainable?
V.3. Are project achievements mainstreamed in beneficiary countries and in regional/global organizations?
V.4. Is there an adequate enabling environment for the sustainability of project achievements?
V.5. How is the institutional uptake in beneficiary countries?
V.6. Will the project achievements be replicated and/or scaled up?
V.7. What are the main challenges that may hinder sustainability of efforts?

Future directions for the project

V.8. Which areas/arrangements under the project show the strongest potential for lasting long-term results?
V.9. What are the key challenges and obstacles to the sustainability of results of project initiatives that must be directly and quickly addressed?

-------- End --------

Annex 6 Evaluation Mission Agenda

Final Evaluation of Monitoring and Assessment of GHG Emissions and Mitigation Potentials in Agriculture Project - (GCP/GLO/286/GER)

Agenda

Approx. Date	Name or Group	Department/Title/Role
Monday January 27th		
10.00-11.00	Francesco N Tubiello	NRC Officer MAGHG Project Coordinator
11:00-13.00	Presentation by project team	ESS SIRC Room
14.00 – 15.30	Herwig Hahn	GIZ
14.30 – 15.00	FAOSTAT Database presentation	
15.00-16.00	Rocio Condor	Officer, Capacity Development Climate, Energy and Tenure Division (NRC)
16.00 – 17.00	Riccardo Biancalani	Climate Change Officer, NRC-MAGHG team/Land Degradation
Tuesday January 28th		
8.30-09.30	Kaisa Karttunen	Senior Climate Change Officer, MICCA team, NRC
9.30-10.30	Robert Mayo	Sr. Statistician, ESS - Project Task Force
10.30 – 11.30	Alessandro Ferrara Simone Rossi	Agronomist – Greenhouse Gas inventory, Environmental Scientist - Greenhouse Gas Inventory, ESS-MAGHG team
11.30 – 12.30	Olivier Dubois Alessandro Flammini	Senior Officer NRC, Energy Team Leader Consultant, NRC-MAGHG and NRC
14.00- 15.00	Pierre Gerber Carolyn Opio	Senior Policy Officer, AGAL MAGHG Contributor Staff, MAGHG Project (LCA)
15.00-16.00	Indroyono Soesilo	Director, FIR Project Steering Committee
16.00 – 17.00	Maria Sanz Sanchez	Senior Officer, FOM and UN-REDD Team Leader, Project Steering Committee
17.00 – 18.00	Sandro Federici	Climate Policy Expert NRC-MAGHG team
Wednesday January 29th		
9.00 – 10. 00	Heather Jacobs Paulina Prasula	NRC-MAGHG team Climate Mitigation Intern, NRC-MAGHG team
10.00 – 11.00	Angela Piersante	Statistician, Statistics Division (ESS)
11. 00 – 12.00	Reuben Sessa (TBC)	NRC Officer, Climate Change Coordination
14.30-15.30	Xiangjun Yao Fred Snijders	NRC Director NRC Coordinator for Climate Change, MICCA Teams & MAGHG Budget Holder
15.30-16.00	Caroline von Gayl	Programme Officer, donor liaison for Germany
Thursday January 30th		
8:30 – 9:30	Francesco N Tubiello	FAO, Project Coordinator
10.00-10.30	Pietro Gennari Josef Schmidhuber	Director, ESS— Project Task Force Deputy Director, ESS— Project Task Force
15:30 – 16:30	Rocio Condor	FAO

Approx. Date	Name or Group	Department/Title/Role
Friday January 31st		
9:00 – 10:00	Jigme	UNFCCC
10:00 – 11:00	Kiyoto Tanabe	IPCC
11:00 – 12:00	Catherine Bodard	FAO UN-REDD
Monday February 3rd		
11:00 – 12:00	Till Neeff	Forestry Expert
13:30 – 14:30	Mirella Salvatore	Officer, Statistics Climate, Energy and Tenure Division (NRC)
14:30 – 15:30	Ms. Pamela Sangoluisa	Especialista en Agricultura, Silvicultura y Otros Usos del Suelo Proyecto FOCAM Ecuador Ministerio Del Ambiente
Tuesday February 4th		
9:00 – 10:00	Danilo Mollicone	CD-REDD
14:00 – 15:00	Jongikhaya Witi	South Africa
16.30 – 17.30	Serena Fortuna	FAO/FOM
17.30 – 18.00	Wrapping session	Ashwin, Marina, JJo
Wednesday February 5th		
12:30 - 14:00	Debriefing Presentation	
Tuesday February 11th		
9:00 – 10:00 (Ottawa time)	Ángel Valverde	National Director of Mitigation, Ecuador angel.valverde@ambiente.gob.ec
21:00 – 22:00 (Ottawa time)	Dr. Karsidi	Badan Informasi Geospasial Jl. Raya Jakarta-Bogor KM.46 Cibinong Bogor, Indonesia
Thursday February 13th		
21:00 – 22:00 (Ottawa time)	Bambang Setiadi	Indonesia

Annex 7 List of People Met

Title	Name	Institution	Position
Mr. Mr.	Alessandro Ferrara Simone Rossi	FAO	Agronomist – Greenhouse Gas inventory, Environmental Scientist - Greenhouse Gas Inventory, ESS-MAGHG team
Mr.	Ángel Valverde	Ministerio Del Ambiente, Ecuador	National Director of Mitigation
Ms.	Angela Piersante	FAO	Statistician, Statistics Division (ESS)
Mr.	Bambang Setiadi	Indonesia	
Ms.	Caroline von Gayl	FAO	Programme Officer, donor liaison for Germany
Ms.	Catherine Bodard	FAO	UN-REDD
Mr.	Danilo Mollicone	FAO	CD-REDD
Mr.	Francesco N Tubiello	FAO	NRC Officer MAGHG Project Coordinator
Ms. Ms.	Heather Jacobs Paulina Prasula	FAO	NRC-MAGHG team Climate Mitigation Intern, NRC-MAGHG team
Mr.	Herwig Hahn	GIZ	Adviser Bilateral Trust Fund for Food Security
Mr.	Indroyono Soesilo	FAO	Director, FIR Project Steering Committee
Mr.	Jigme	UNFCCC	Team Leader NC Support – Non-Annex 1 Support
Mr.	Jongikhaya Witi	South Africa	
Mr.	Josef Schmidhuber	FAO	Deputy Director, ESS— Project Task Force
Ms.	Kaisa Karttunen	FAO	Senior Climate Change Officer, MICCA Team, NRC
Dr.	Karsidi	Badan Informasi Geospasial Jl. Raya Jakarta-Bogor Cibinong Bogor, Indonesia	
Mr.	Kiyoto Tanabe	IPCC	
Ms.	Maria Sanchez	FAO	Senior Officer, FOM and UN-REDD Team Leader, Project Steering Committee
Ms.	Mirella Salvatore	FAO	Officer, Statistics Climate, Energy and Tenure Division (NRC)
Mr. Mr.	Olivier Dubois Alessandro Flammini	FAO	Senior Officer NRC, Energy Team Leader Consultant, NRC-MAGHG and NRC
Ms.	Pamela Sangoluisa	Proyecto FOCAM Ministerio Del Ambiente, Ecuador	Especialista en Agricultura, Silvicultura y Otros Usos del Suelo

Title	Name	Institution	Position
Mr. Ms.	Pierre Gerber Carolyn Opio	FAO	Senior Policy Officer, AGAL MAGHG Contributor Staff, MAGHG Project (LCA)
Mr.	Reuben Sessa (TBC)	FAO	NRC Officer, Climate Change Coordination
Mr.	Riccardo Biancalani	FAO	Climate Change Officer, NRC-MAGHG team/Land Degradation
Mr.	Robert Mayo	FAO	Sr. Statistician, ESS - Project Task Force
Ms.	Rocio Condor	FAO	Officer, Capacity Development Climate, Energy and Tenure Division (NRC)
Mr.	Sandro Federici	FAO	Climate Policy Expert NRC-MAGHG team
Ms.	Serena Fortuna	FAO	FOM
Mr.	Till Neeff	Coalition of Rainforest	Forestry Expert
Ms. Mr.	Xiangjun Yao Fred Snijders	FAO	NRC Director NRC Coordinator for Climate Change, MICCA Teams & MAGHG Budget Holder

Annex 8 List of Performance Indicators, Targets and Assumptions

Expected Results	Indicators / Targets	Assumptions
Overall goal: To improve climate change mitigation linked to improve long term agricultural productivity, thus contributing to reducing hunger and extreme poverty, enhancing food security and increasing environmental sustainability. In addition, the project seeks to support climate-friendly development coupled with increased resilience and productivity of farming systems and improved capacities of farmers, communities and institutions.	1. International consensus on agriculture being an eligible mitigation sector (UNFCCC) 2. At least 20 countries adopt national agriculture mitigation policy and practices 3. Improved productivity and production	• Global community sees advantages and practicality of agriculture mitigation options. • Sufficient mechanisms developed and investments undertaken in agriculture mitigation/productivity programmes. • Climate change continues to be international priority.
Expected Outcome: An enhanced global knowledge base on GHG emissions, and mitigation potentials, within the agriculture sector. The knowledge base will be provided through user-friendly and easily accessible applications.	4. Global GHG database which includes "raw" national data, regional and global estimates, GHG per sector and GHG LCA for individual products (e.g. beef, milk, corn, etc.). Mitigation potentials of different agriculture methodologies and practices and effectiveness in different ecotypes. Database serves needs of numerous stakeholders including: data compilers, modellers, policy makers and negotiators, international entities and national/local practitioners 5. Comprehensive global assessment of GHG emissions and mitigation potentials from the Agricultural sector. The assessment will contain global and regional reviews, sectoral analyses, product life cycle chains and identification and evaluation of mitigation potentials in the different sectors, and will be published in 2012	• Countries maintain their commitments and have the capacity to provide the GHG data. • International organisations continue to work as partners and have resources to support analysis work. • IPCC maintains agreed timelines for 5th report.
Output 1: Stakeholder requirements and data needs identified.	6. Key stakeholders and their requirements identified and reported 7. Current reporting systems and data gaps analyzed	• Requirements will remain relatively constant over time.
Output 2: Revised standardized data gathering and reporting allowing improved data generation related to climate change mitigation issues.	8. An improved and harmonized gathering and reporting procedure is designed that decreases the reporting burden on the individual countries by: improving the efficiency of reporting, reducing and streamlining reporting requests, synchronizing reporting cycles, harmonizing data collection methods, increasing data comparability and compatibility, and facilitating the accessibility and flows of existing information	

Expected Results	Indicators / Targets	Assumptions
	• Analysis completed within 6 months on the key data needs of stakeholders and current reporting requirements • Partners (The United Nations Statistics Division, OECD, Eurostat and FAO) establish procedures for gap filling (month 9 to 12) • List of new data and metadata requirements created (month 12) • Consensus reached between member states on reporting processes is reached • Member states are reporting in a continuous and systematic way according to the adjusted process supported by the guidelines produced by output 5 by 24 months into the project • The reporting burden is reduced	
Output 3: Guideline and Good Practice Manual and distance learning tool supporting national data compilers developed.	9. A set of guidelines that will supplement and support existing national communication and reporting requirements such as FAO Statistics, FRA 2010, IPCC 2006 IPCC Guidelines AFOLU and 2003 GPG LULUCF • Draft set of Guidelines and Good Practice Manual developed (month 14) • Draft set pilot tested and revised and finalized (month 16) • New guidelines sent out to focal points of each FAO member state and posted on portal by month 17 • At least 85 percent of member states are reporting under the new guidelines on the first cycle reporting after training has been completed	• Data requirements needs submitted on time.
Output 4: International guidelines created for Life Cycle Analysis (LCA) protocols and environmental product labeling.	10. LCA guideline developed which includes recommendations on scope (boundaries), terms and definitions, data and metadata to be provided to allow verification and ensure end users can adequately interpret and verify the results	• To become fully used requires uptake by broad stakeholder community (including private sector).
Output 5: Capacity of national compilers to gather and analyze climate change data strengthened.	11. 1 representative from 35 to 40 countries trained in 4 regional 5 day training sessions 12. Trained participants able to develop capacity in national institutions 13. Quality of data meeting the necessary standards with regard to accuracy and standardization is achieved in 80 percent of countries where capacity building is provided	• Additional funding is being sought and partnerships with other events to allow the increase in the number of participants. Other countries that cannot be supported to attend training will have individuals trained through e-learning tools.
Output 6: A Central GHG data portal, which supports developing countries to address	14. An operational data portal • Operational infrastructure developed by month 10 • Finalization of testing by month 12	• Use of FAO Stat expertise and infrastructure (list servers, etc.). • Bandwidth of national

Expected Results	Indicators / Targets	Assumptions
agricultural mitigation and other related climate change issues.	• Population from month 12 onwards • Launch of product month 18 • Content of portal will include raw and analyzed data, information, guidelines and protocols, mitigation methodologies and practices, policy briefs and LCA products	compilers adequate of remote uploading of data. • Communication (advertising) on portal through standard FAO channels sufficient.
Output 7: A comprehensive global GHG assessment of the agricultural sector, which contributes to the IPCC 5th Assessment Report, especially with chapter 11 (WG3), published by 2012.	15. A comprehensive report on the global GHG assessment of the agricultural sector • Outline of content developed by month 6. • Individual components (chapters) developed from 9 months on wards. • Draft report developed by July 2012 (deadline for IPCC AR5) • Final report by March 2013	• All required data can be obtained through partners and member states. • Sufficient FAO internal capacity to undertake the required processing and analysis.
***Output 8*:** UNFCCC negotiators and policy makers informed and aware of agricultural mitigation options.	16. Awareness raising of UNFCCC negotiators and policy makers on agricultural mitigation options • Technical submissions made at UNFCCC SBSTA 32, 33, 34 and 35 and COP 15 and 16 • Side events held at COP 15 and 16 • Minimum of 3 policy briefs will be developed which contain a summary of the results to quickly grasp concepts and issues. One policy brief at the end of each year • Submission/support to UNFCCC on NAMAs	• Operational and economically viable solutions proposed are of interest to negotiators. • Consensus can be achieved by negotiators to allow progress to be made agriculture mitigation.

Source: Project Document

Annex 9 List of MAGHG Achievements

Expected Results	Project Targets	Key Achievements
<u>Overall goal</u>: To improve climate change mitigation linked to improve long term agricultural productivity, thus contributing to reducing hunger and extreme poverty, enhancing food security and increasing environmental sustainability. In addition, the project seeks to support climate-friendly development coupled with increased resilience and productivity of farming systems and improved capacities of farmers, communities and institutions. **<u>Expected Outcome</u>: An enhanced global knowledge base on GHG emissions, and mitigation potentials, within the agriculture sector. The knowledge base will be provided through user-friendly and easily accessible applications.**		
Output 1: Stakeholder requirements and data needs identified.	• Key stakeholders and their requirements identified and reported. • Current reporting systems and data gaps analyzed.	• Conducted a review of key data gaps to highlight information gaps in the data used to calculate the GHG emissions in the agriculture sector. This review also provided key recommendations on how to address these information gaps • Conducted a comprehensive assessment of the information needs of major stakeholder groups for implementing land-based mitigation. This assessment also provided recommendations on how to improve efficiency and integration in information delivery by identifying clusters of information uses and users • Following the October 2009 FAO-IPCC joint workshop, FAO conducted a review of FAO data and assessment of data gaps
Output 2: Revised standardized data gathering and reporting allowing improved data generation related to climate change mitigation issues.	• Analysis completed within 6 months on the key data needs of stakeholders and current reporting requirements. • Partners (The United Nations Statistics Division, OECD, Eurostat and FAO) establish procedures for gap filling (month 9 to 12). • List of new data and metadata requirements created (month 12). • Consensus reached between member states on reporting processes is reached • Member states are reporting in a continuous and systematic way according to the adjusted process supported by the guidelines produced by output 5 by 24 months into the project. • The reporting burden is reduced	• Revised the FAO land use questionnaire to collect data and information on land use change. The fertilizer questionnaire has been revised too. Data gaps may be filled when necessary using spatial and sectoral models, e.g., Life Cycle Assessment of Livestock GHG emissions (FAO AGAL); Agro-ecological model for land use distribution (FAO NRL). • Outlined the Guidebook Towards responsible peatland management practices, following the May 2013 FAO workshop on peatlands.
Output 3: Guideline and Good Practice Manual and distance learning tool supporting national data compilers	• Draft set of Guidelines and Good Practice Manual developed (month 14). • Draft set pilot tested and revised and finalized (month 16).	• Developed a draft "*Guidelines and Good Practice Manual of GHG Emissions Statistics*" (to be released in spring 2014), describing the methods used to estimate emissions and removals for the AFOLU sector and supplying information on activity data, emission factors and metadata related to each category (item) of the 2 domains (GHG Agriculture and GHG Land Use).

Expected Results	Project Targets	Key Achievements
developed.	• New guidelines sent out to focal points of each FAO member state and posted on portal by month 17. • At least 85 percent of member states are reporting under the new guidelines on the first cycle reporting after training has been completed.	
Output 4: International guidelines created for Life Cycle Analysis (LCA) protocols and environmental product labeling.	• LCA guideline developed which includes recommendations on scope (boundaries), terms and definitions, data and metadata to be provided to allow verification and ensure end users can adequately interpret and verify the results.	• Developed a set of guidelines on Life Cycle Analysis (LCA), assessing the GHG emissions from dairy sector, pig and chicken and ruminant supply chains • Published several reports: o "*Greenhouse gas emissions from pig and chicken supply chains – A global life cycle assessment*" o "*Greenhouse Gas Emissions from Ruminant Supply Chains – A Global Life Cycle Assessment*" o "*Tackling climate change through livestock: A global assessment of emissions and mitigation opportunities*". The aim of these guidelines were to develop a methodology based on the LCA approach for the livestock supply chain, through the use of the Global Livestock Environmental Assessment Model (GLEAM), developed at FAO, with the support from partner organizations and related initiatives, such as the MICCA programme, and the LEAP Partnership.
Output 5: Capacity of national compilers to gather and analyze climate change data strengthened.	• 1 representative from 35 to 40 countries trained in 4 regional 5 day training sessions. • Trained participants able to develop capacity in national institutions. • Quality of data meeting the necessary standards with regard to accuracy and standardization is achieved in 80 percent of countries where capacity building is provided.	• Conducted an inception workshop on Greenhouse Gas Emissions Statistics as a side event at the 24th Asia and Pacific Commission on Agricultural Statistics meeting, held in Da Lat, Vietnam, to present the statistical framework of the project and the FAO update questionnaires, identifying the methodological and institutional gaps and steps needed to improve national and sub-national statistics for GHG reporting. • Conducted a workshop on statistics for GHG emissions, for Latin America and the Caribbean, held in Port of Spain, Trinidad and Tobago. Its aim was to raise awareness on the importance of agriculture statistics to estimate GHG emissions and identify mitigation strategies, to facilitate dialogue among member countries (sharing experiences, identifying opportunities to improve activity data, methodologies, addressing institutional gaps) • Conducted a workshop on statistics for GHG emissions, held in Casablanca, Morocco, with the objective to raise awareness on the importance of agricultural and forestry statistics for the national (GHG) inventories and identify the needs for NAMA and Biennial Update Reports (BUR) preparation. • Participated to a workshop on thematic geospatial information in tropical peatland for agriculture (held in Indonesia), aimed to share various experience in peatland mapping and to raise awareness of the importance for developing new updated national inventory and mapping of tropical peatland based on existing data, standardized of method used for the assessment tropical peatland.

Expected Results	Project Targets	Key Achievements
		• Developed a joint workplan to support capacity development on GHG inventory implementation in the AFOLU sector reporting, supporting the Ministry of Environment of Ecuador (MAE) as GHG Inventory leader in Ecuador and UNFCCC focal point. The partners of this joint workplan includes: UNDP/Low Emission Capacity Building (LECB) Programme; FAO/UN-REDD; FAO MAGHG project; and CD-REDD of GIZ/TI/Coalition for Rainforest Nations
Output 6: A Central GHG data portal, which supports developing countries to address agricultural mitigation and other related climate change issues.	• Operational infrastructure developed by month 10. • Finalization of testing by month 12. • Population from month 12 onwards. • Launch of product month 18. • Content of portal will include raw and analyzed data, information, guidelines and protocols, mitigation methodologies and practices, policy briefs and LCA products.	• Built a FAOSTAT GHG Emissions Database that provides country-level estimates of GHG emissions and removals from the AFOLU sector, on the basis of the FAOSTAT activity data and using IPCC Tier 1 approach and following the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. The data covers the period 1990 to present for all FAOSTAT countries. • Developed a MAGHG web site, embedded in the MICCA programme portal to provide information on the project, with a particular focus on data and analysis, metadata and methodology and capacity development activities.
Output 7: A comprehensive global GHG assessment of the agricultural sector, which contributes to the IPCC 5th Assessment Report, especially with chapter 11 (WG3), published by 2012.	• Outline of content developed by month 6. • Individual components (chapters) developed from 9 months on wards. • Draft report developed by July 2012 (deadline for IPCC AR5). • Final report by March 2013.	• Carried out a global GHG assessment, including global and regional reviews, sectorial analyses, product life cycle chains and identification and evaluation of mitigation potentials in the different sectors; the assessment contributed to the drafting of the IPCC 5th Assessment Report (AR5 (Working group III) chapter 11) • Contributed to the report "*Peatlands - Guidance for Climate Change Mitigation through Conservation, Rehabilitation and Sustainable Use*", which provides information on management and finance options to achieve emissions reductions from peatlands. • Published several scientific papers and reports on GHG emissions assessment for the agriculture sector and on related potential mitigation measures: o The FAOSTAT database of greenhouse gas emissions from agriculture o National integrated mitigation planning in agriculture: A review paper o Advancing agricultural greenhouse gas quantification o Analysis of global emissions, carbon intensity and efficiency of food production o How much land based greenhouse gas mitigation can be achieved without compromising food security and environmental goals? o The use of soil organic carbon as an indicator of soil degradation o Climate change adaptation and mitigation: challenges and opportunities in the food sector o Linking Climate Change Financing and Sustainability
***Output 8*:** UNFCCC negotiators and policy makers informed and	• Technical submissions made at UNFCCC SBSTA 32, 33, 34 and 35 and COP 15 and 16.	• Carried out technical submissions to UNFCCC sessions (especially SBSTA) on the basis of the knowledge and experience of the MAGHG project, including:

Expected Results	Project Targets	Key Achievements
aware of agricultural mitigation options.	• Side events held at COP 15 and 16. • Minimum of 3 policy briefs will be developed which contain a summary of the results to quickly grasp concepts and issues. One policy brief at the end of each year. • Submission/support to UNFCCC on NAMAs.	○ Modalities and procedures for a new market-based mechanism ○ Issues related to agriculture • Presented the MAGHG project at 4 side-events at UNFCCC-COP17 to inform government negotiators on the agricultural sectors mitigation potential • Participated to the Informal Dialogue for the Land Sector (provided technical advice on reporting GHG emissions and removals from land management activities being cognizant that the scope of the Informal Dialogue has been to explore options for a comprehensive reporting of: ○ Anthropogenic GHG emissions and removals from the land sector, and of ○ Mitigation achieved by implemented activities/actions in the land sector • Collaborated with the IPCC Task Force on National Greenhouse Gas Inventories on the use of FAOSTAT emissions database as a verification tool of the IPCC software • Contributed to the development of: ○ "*National planning for GHG mitigation in agriculture*": A guidance document on main approaches to GHG mitigation planning in developing countries: Low-Emission Development Strategies (LEDS) and NAMAs, detailing their status within the UNFCCC ○ "*National integrated mitigation planning in agriculture*": A review paper with the objectives: (i) to provide national policy makers and others in the agriculture sector with an overview of national mitigation planning processes; (ii) to provide policy makers with an overview of mitigation planning in the agriculture sector.

Source: project document and notes/information collected during interviews at FAO-Rome

Annex 10 Overview of Data Portal, its Related Methodologies, Technologies and Guidelines

1. **Introduction**
2. **Description of Data Portal, Methodologies, Technologies and Guidelines**
   - 2.1 Overview of Data portal
     - *2.1.1 Scope/ Data architecture*
     - *2.1.2 Data format/Metadata*
     - *2.1.3 Accessibility/Communication*
     - *2.1.4 Design and maintenance*
   - 2.2 Methodologies and Guidelines
     - *2.2.1 Methodologies and quality information*
     - *2.2.2 Guidelines and Manual*
3. **Analysis of these Technological Elements**
   - 3.1 Data Needs Analyses
   - 3.2 Data gathering, collection and storing
   - 3.3 End-Users
   - 3.4 QA/QC and data compatibility
   - 3.5 Data uncertainty
   - 3.6 Web Access
4. **Recommendations**

1. Introduction

The *United Nations Framework Convention on Climate Change* (UNFCCC) was approved and signed during the summit of the Earth in Rio the Janeiro in June 1992 with the main objective of stabilizing greenhouse gas concentrations in the atmosphere.

As an obligation of the convention, all Parties to the Climate Convention (UNFCCC) must submit national reports on the implementation of the Convention to the Conference of the Parties (COP). The required contents of national communications and the timetable for their submission are different for Annex I and non-Annex I Parties. This is in accordance with the principle of "common but differentiated responsibilities" enshrined in the Convention.

Annex I Parties must submit:

a. An annual inventory of their GHG emissions, including data for their base year and all years since, except for the two years before submission. The inventory is annually reviewed by international review teams. National GHG inventories are submitted (3/CP.5) by Annex I Parties annually. They are prepared on the basis of reporting guidelines agreed by the COP (14/CP.11) and on methodologies developed by the *Intergovernmental Panel on Climate Change* (IPCC). National inventory arrangements should be in place to ensure that a GHG Inventory is fully compliant with reporting requirements and is submitted on time. Submissions by Annex I Parties can be found here: http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/7383.php.

b. A national communication, containing information related to national GHG emissions/removals, climate-related policies and measures, GHG projections, vulnerability and adaptation to climate change, financial assistance and technology transfer to non-Annex I Parties, and actions to raise public awareness on climate change; the national communications are also reviewed by international review teams. National communications are to be submitted by Annex I Parties every 4 years (decisions 8/CP.1, 11/CP.4). They are prepared and reported periodically by Annex I Parties based on agreed reporting guidelines (decision 4/CP.5). Submissions by Annex I Parties can be found here: http://unfccc.int/national_reports/annex_i_natcom/submitted_natcom/items/7742.php.

c. Biennial Reports (BRs), which outline progress in achieving net emissions reductions and provision of financial, technological, and capacity-building support to non-Annex I Parties for dealing with climate change. Biennial Reports are to be submitted (2/CP.17) by developed country Parties every 2 years, starting from the 1st January 2014. They are prepared on the basis of agreed reporting guidelines (2/CP.17 Annex I) and on methodologies developed by IPCC. Submissions by Parties can be found here: http://unfccc.int/national_reports/biennial_reports_and_iar/submitted_biennial_reports/items/7550.php

Each report is subject to a review process assisted by the UNFCCC Secretariat and implemented by experts taken from the UNFCCC Roaster of Experts (RoE).

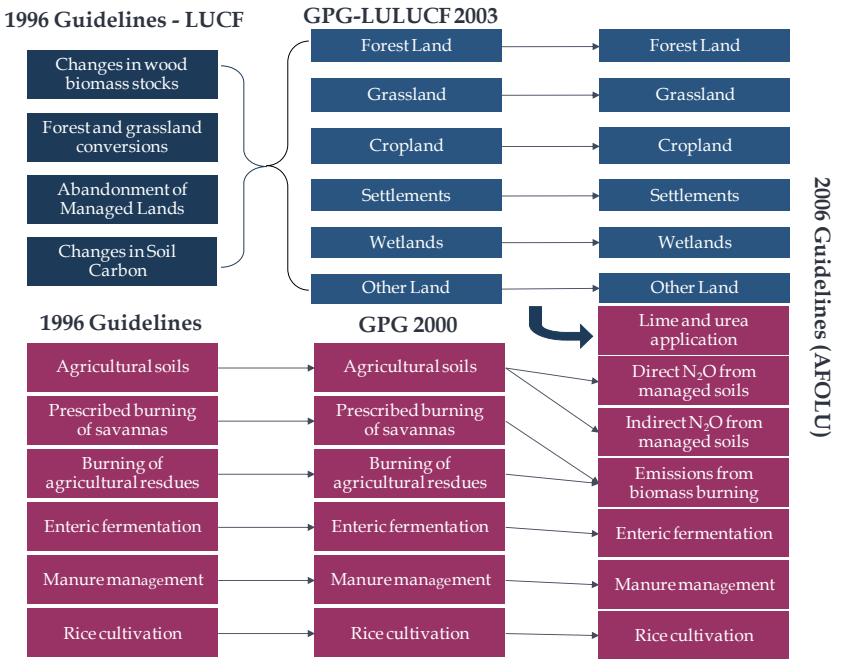
Non-Annex I Parties: must report in more general terms on their actions to address climate change and to adapt to its effect.

a. National Communications, including information on national circumstances, national GHG emissions/removals, steps taken or envisaged to implement the Convention, and any other information considered relevant to the achievement of the objective of the Convention including, if feasible, material relevant to calculations of global emissions and emission trends. National communications may be submitted (decision 10/CP.2) by non-Annex I Parties every 4 years following decisions for each submission taken by the COP. They are prepared and reported periodically by non-Annex I Parties based on agreed reporting guidelines (decision 17/CP.8) based on methodologies developed by the IPCC and adopted by the COP. Submissions by non-Annex I

can be found here: http://unfccc.int/national_reports/non-annex_i_natcom/submitted_natcom/items/653.php

b. Biennial Update Reports (BURs), containing updated information on national circumstances and institutional arrangements for reporting on a continuous basis, national GHG emissions/removals information, including a national inventory report, and information on mitigation actions, effects, needs, and support received. Non-Annex I Parties, consistent with their capabilities and the level of support provided for reporting, should submit their first biennial update report by December 2014; the least developed country Parties and small island developing States may submit biennial update reports at their discretion. Biennial Update Reports are to be prepared on the basis of agreed reporting guidelines (decision 2/CP.17) based on methodologies developed by the IPCC and adopted by the COP. The first biennial update report submitted by non-Annex I Parties shall cover, at a minimum, the inventory for the calendar year no more than four years prior to the date of the submission, or more recent years if information is available, and that subsequent biennial update reports shall cover a calendar year that does not precede the submission date by more than four years;

According to the guidelines provided by the UNFCCC, Parties should use for estimations the following methodologies reported by the IPCC[13]. The *2006 IPCC Guidelines for national greenhouse gas inventories* has merged the agriculture and LULUCF (*Land Use, Land Use Change and Forestry*) sectors into the Agriculture, forestry and land uses (AFOLU) sector. The Subsidiary Body for Scientific and Technological Advice (SBSTA[14]) at its thirtieth session considered the use by Parties of the 2006 IPCC *guidelines for national greenhouse gas inventories* 2006 starting in 2015.



2. Description of Data Portal, Methodologies, Technologies and Guidelines

2.1 Overview of Data portal

The FAOSTAT Emissions database is embedded in the FAOSTAT database, which is a corporate database for substantive statistical data on food and agricultural. The FAOSTAT Emissions Agriculture database provides country-level estimates of greenhouse gas (GHG) emissions, on the basis of the

[13] IPCC Guidelines are: *Revised 1996 IPCC guidelines for national greenhouse gas inventories*, *2000 Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*, *2003 Good practice guidance for land use, land use change and forestry for LULUCF*.
[14] http://unfccc.int/national_reports/annex_i_ghg_inventories/reporting_requirements/items/5333.php

FAOSTAT activity data and using IPCC Tier 1 approach, following 2006 *IPCC Guidelines for National Greenhouse Gas Inventories*. Data cover the period 1990-present for all FAOSTAT countries. The database is comprised of three major data components:

(i) Activity data (e.g., livestock numbers; fertilizer application; manure management; land use etc.); Three main data sources have been used to derive activity data to estimate GHG emissions and removals from AFOLU sector:
   1. *The FAOSTAT database*[15]
   2. *FRA*[16] *- Global Forestry Resources Assessment of 2010*
   3. *Geo- Spatial data*[17]*: for the subdomains cultivated organic soils and biomass burning, activity data have been assessed on the basis of the Geographic information system (GIS) analysis and the satellite data processing.*

(ii) GHG emission factors;
(iii) GHG emission values.

2.1.1 Scope/ Data architecture

The FAOSTAT Emissions database has been created with the aim to support the member countries on the following activities:

- Providing regular updates of global and regional trends in GHG emissions from AFOLU sector;
- Bridging gaps in capacity of member countries in assessing and reporting GHG emissions, considering UNFCCC requirements;
- Establishing a GHG emission benchmark for quality control and quality assurance;
- Providing a coherent framework for national-level analysis and dialogue on GHG assessment and gaps.

The FAOSTAT Emissions database is available on the FAOSTAT website: http://faostat3.fao.org/faostat-gateway/go/to/home/E[18]. GHG data are available in the domains "Emissions – Agriculture" and "Emissions - Land Use".

In the abovementioned domains, the following subdomains, items and elements are included:

Emissions - Agriculture	Emissions - Land use
Enteric Fermentation	Forest land
Manure Management	Cropland
Rice Cultivation	Grassland
Synthetic Fertilizers	Burning biomass
Manure applied to Soils	
Manure left on Pasture	
Crop Residues	
Burning - crop residues	

[15] It mainly includes official data collected by the national questionnaires *on Production, Use of Land, Pesticides and Fertilizers*; trade data from Custom Offices; data from International sources and estimated data by imputation methods. Detailed information on definition and classification adopted for FAOSTAT database is available: http://www.fao.org/economic/ess/ess-standards/en/#.Uqc48NJDtLc; http://faostat3.fao.org/faostat-gateway/go/to/mes/glossary/*/E

[16] Information has been collated from 233 countries and territories for four points in time: 1990, 2000, 2005 and 2010. It covers the extent, condition, uses and values of forests and other wooded land, with the aim of assessing all benefits from forest resources: http://www.fao.org/forestry/fra/fra2010/en/

[17] The following database have been considered: HWSD - Harmonized World Soil (http://www.fao.org/nr/lman/abst/lman_080701_en.htm), GLC 2000- Global Land Cover 2000 (http://bioval.jrc.ec.europa.eu/products/glc2000/glc2000.php), GFED4 - Global Fire Emission Database 4 (http://www.globalfiredata.org/), Climatic map (JRC) based on IPCC methodology (http://eusoils.jrc.ec.europa.eu/projects/RenewableEnergy/), FAO-FRA GEZ - Global Ecological Zones (http://www.fao.org/forestry/fra/fra2010/en/ and http://www.fao.org/docrep/017/ap861e/ap861e00.pdf)

[18] The database currently online does not include information on Burning savanna, Energy Use, Forest land (only net forest conversion is available), Grassland and Burning biomass subdomains. The final version of the database is going to be released at the end of February 2014.

Emissions - Agriculture	Emissions - Land use
Burning - Savanna	
Energy Use	
Drained organic soils	

Enteric Fermentation
Items: *Asses, Buffalo, Camels, Dairy cattle, Goat, Horses, Llamas, Mule, Non-dairy cattle, Sheep, Swine market, Swine breeding*

Elements*: Stocks, Implied emission factor for CH_4, Emissions (CH_4), Emissions (CO_2eq)*

Manure Management
Items: *Asses, Buffalo, Camels, Chickens layers, Chickens broilers, Dairy cattle, Ducks,Goat, Horses, Llamas, Mule, Non-dairy cattle, Swine market, Swine breeding, Sheep, Turkeys*

Elements*: Stocks, Implied emission factor for CH_4, Emissions (CH_4), Emissions (CO_2eq), Manure (N content), Implied emission factor for N_2O, Direct Emissions (N_2O), Indirect Emissions (N_2O), Direct emissions (CO_2eq), Indirect emissions (CO_2eq), Emissions (N_2O), Emissions (CO_2eq) from N_2O, Emissions (CO_2eq)*

Rice cultivation
Items: *Rice, paddy*

Elements*: Area harvested, Implied emission factor for CH_4, Emissions (CH_4), Emissions (CO_2eq)*

Synthetic Fertilizers
Items: *Nitrogen Fertilizers (N total nutrients)*

Elements*: Consumption in nutrients, Consumption, Implied emission factor for N_2O, Direct Emissions (N_2O), Indirect Emissions (N_2O), Direct emissions (CO_2eq), Indirect emissions (CO_2eq), Emissions (N_2O), Emissions (CO_2eq)*

Manure Applied to Soil
Items: *Buffaloes, dairy cattle, non-dairy cattle, Sheep, Goats, Swine market, Swine breeding, Chickens layers, Chickens broilers, Ducks, Turkeys, Horses, Asses, Mules, Camels, Llamas*

Elements*: Manure (N content), Implied emission factor for N_2O, Direct Emissions (N_2O), Indirect Emissions (N_2O), Direct emissions (CO_2eq), Indirect emissions (CO_2eq), Emissions (N_2O), Emissions (CO_2eq)*

Manure left on pasture
Items: *Buffaloes, dairy cattle, non-dairy cattle, Sheep, Goats, Swine market, Swine breeding, Chickens layers, Chickens broilers, Ducks, Turkeys, Horses, Asses, Mules, Camels, Llamas*

Elements*: Manure (N content), Implied emission factor for N_2O, Direct Emissions (N_2O), Indirect Emissions (N_2O), Direct emissions (CO_2eq), Indirect emissions (CO_2eq), Emissions (N_2O), Emissions (CO_2eq)*

Crop residues
Items: *Barley, dry Beans, Maize, Millet, Oats, Potatoes, Rice paddy, Rye, Sorghum, Soybeans, Wheat, All GHG Crops + Total*

Elements*: Residues (N content), Implied emission factor for N_2O, Direct Emissions (N_2O), Indirect Emissions (N_2O), Direct emissions (CO_2eq), Indirect emissions (CO_2eq), Emissions (N_2O), Emissions (CO_2eq)*

Drained Organic soils

Items: *Cultivated organic soils, Grassland organic soils*

Elements*: Area, Implied emission factor for N_2O, Emissions (N_2O), Emissions (CO_2eq)*

Burning - Crop residues
Items: *Wheat, Maize, Rice paddy, Sugarcane*

Elements*: Biomass burned (dry matter), Implied emission factor for N_2O, Implied emission factor for CH_4, Emissions (N_2O), Emissions (CH_4), Emissions (CO_2eq) from N_2O, Emissions (CO_2eq) from CH_4, Emissions (CO_2eq)*

Burning - Savanna
Items: *Savanna, Woody Savanna, Closed Shrublands, Open Shrublands, Grasslands*

Elements*: Burned Area, Biomass burned (dry matter), Implied emission factor for N_2O, Implied emission factor for CH_4, Emissions (N_2O), Emissions (CH_4), Emissions (CO_2eq) from N_2O, Emissions (CO_2eq) from CH_4, Emissions (CO_2eq)*

Energy Use
Items: *Gasoline, Gas - diesel oils, Natural gas (including LNG), Gas - diesel oils in fisheries, Residual fuel oil, Liquefied petroleum gas (LPG), Residual fuel oil in fisheries, Electricity, Energy for power irrigation, Total Energy + (Total), Transport fuel consumed in agriculture (excl. fishery) + (Total), Energy consumed in fishery + (Total)*

Elements*: Consumption in Agriculture, Consumption in Agriculture, Emissions (CO_2) (Energy), Implied emission factor for CO_2, Implied emission factor for CO_2, Implied emission factor for CH_4 (Kg/TJ), Implied emission factor for N_2O (Kg/TJ), Emissions (CH_4) (Energy), Emissions (N_2O) (Energy), Emissions (CO_2eq) (Energy), Emissions (CO_2eq) from N_2O (Energy), Emissions (CO_2eq) from CH_4 (Energy)*

Forest Land
Items: *Forest Land, Net forest conversion*

Elements*: Area, Net Area Difference, Total Forest Area, Carbon stock in living biomass, Net stock change (C), Implied emission factor for CO_2, Net emissions/removals (CO_2), Net emissions/removals (CO_2eq)*

Cropland
Items: *Cultivated organic soils*

Elements*: Area, Implied emission factor for C, Net stock change (C), Net emissions/removals (CO_2), Net emissions/removals (CO_2eq)*

Grassland
Items: *Cultivated organic soils*

Elements*: Area, Implied emission factor for C, Net stock change (C), Net emissions/removals (CO_2), Net emissions/removals (CO_2eq)*

Biomass Burning
Items: *Humid tropical forest, Other forest, Organic soils*

Elements*: Burned Area, Biomass burned (dry matter), Implied emission factor for N_2O, Implied emission factor for CH_4, Implied emission factor for CO_2, Emissions (N_2O), Emissions (CH_4), Emissions (CO_2eq) from N_2O, Emissions (CO_2eq) from CH_4, Emissions (CO_2), Emissions (CO_2eq)*

2.1.2 Data format/Metadata

The data have been including in the FAOSTAT Emissions database using the following units:

Enteric Fermentation
Unit: head (*Stocks)*, kg CH_4/head (*Implied emission factor for CH_4) Gg (Emissions (CH_4)), Gg (Emissions (CO_2eq))*

Manure Management
Unit: head (*Stocks)*, kg CH_4/head (*Implied emission factor for CH_4)* Gg *(Emissions (CH_4))*, Gg *(Emissions (CO_2eq))*, Tonnes (*Manure (N content))*, kg N_2O/kg N applied (*Implied emission factor for N_2O)*, Gg *(Direct Emissions (N_2O))*, Gg *(Indirect Emissions (N_2O))*, Gg (*Direct emissions (CO_2eq))*, Gg (*Indirect emissions (CO_2eq))*, Gg (*Emissions (N_2O))*, Gg (*Emissions (CO_2eq) from N_2O, Emissions (CO_2eq))*

Rice cultivation
Unit: ha (*Area harvested)*, g CH_4/m^2 (*Implied emission factor for CH_4), Gg (Emissions (CH_4)), Gg (Emissions (CO_2eq))*

Synthetic Fertilizers
Unit: kg of nutrients *(Consumption in nutrients)*, kg *(Consumption)*, kg N_2O/kg N applied (*Implied emission factor for N_2O), Gg (Direct Emissions (N_2O))*, Gg *(Indirect Emissions (N_2O))*, Gg *(Direct emissions (CO_2eq))*, Gg *(Indirect emissions (CO_2eq))*, Gg *(Emissions (N_2O))*, Gg *(Emissions (CO_2eq))*

Manure Applied to Soil
Unit: Tonnes (*Manure (N content))*, kg N_2O/kg N applied *(Implied emission factor for N_2O)*, Gg *(Direct Emissions (N_2O))*, Gg *(Indirect Emissions (N_2O))*, Gg *(Direct emissions (CO_2eq))*, Gg *(Indirect emissions (CO_2eq))*, Gg *(Emissions (N_2O))*, Gg *(Emissions (CO_2eq))*

Manure left on pasture
Unit: Tonnes *(Manure (N content)*, kg N_2O/kg N deposited (*Implied emission factor for N_2O)*, Gg *(Direct Emissions (N_2O))*, Gg *(Indirect Emissions (N_2O))*, Gg *(Direct emissions (CO_2eq))*, Gg *(Indirect emissions (CO_2eq))*, Gg *(Emissions (N_2O))*, Gg *(Emissions (CO_2eq))*

Crop residues
Unit: Tonnes *(Residues (N content))*, kg N_2O/kg N in residues (*Implied emission factor for N_2O)*, Gg *(Direct Emissions (N_2O))*, Gg *(Indirect Emissions (N_2O))*, Gg *(Direct emissions (CO_2eq))*,Gg *(Indirect emissions (CO_2eq))*, Gg *(Emissions (N_2O), Emissions (CO_2eq))*

Drained Organic soils
Unit: ha *(Area)*, kg N_2O-N/ha (*Implied emission factor for N_2O)*, Gg *(Emissions (N_2O))*, Gg *(Emissions (CO_2eq))*

Burning - Crop residues
Unit: Tonnes *(Biomass burned (dry matter)*, g N_2O/kg dry matter (*Implied emission factor for N_2O)*, g CH_4/kg dry matter (*Implied emission factor for CH_4)*, Gg *(Emissions (N_2O))*, Gg *(Emissions (CH_4))*, Gg *(Emissions (CO_2eq) from N_2O)*, Gg *(Emissions (CO_2eq) from CH_4, Emissions (CO_2eq))*

Burning - Savanna
Unit: ha *(Burned Area)*, tones (*Biomass burned (dry matter))*, g N_2O/kg dry matter (*Implied emission factor for N_2O)*, g CH_4/kg dry matter *(Implied emission factor for CH_4)*, Gg *(Emissions (N_2O))*, Gg *(Emissions (CH_4))*, Gg *(Emissions (CO_2eq) from N_2O)*, Gg *(Emissions (CO_2eq) from CH_4, Emissions (CO_2eq))*

Energy Use
Unit: million kWh (*Consumption in Agriculture)*, TJ (*Consumption in Agriculture)*, Gg *(Emissions (CO_2) (Energy))*, kg/TJ *(Implied emission factor for CH_4)*, kg/TJ *(Implied emission factor for N_2O)*, Gg *(Emissions (CH_4))*, Gg *(Emissions (N_2O))*, Gg *(Emissions (CO_2eq))*, Gg *(Emissions (CO_2eq) from N_2O)*, Gg *(Emissions (CO_2eq) from CH_4)*

Forest Land
Unit: ha *(Area)*, ha *(Net Area Difference)*, ha *(Total Forest Area)*, t C/ha (*Carbon stock in living biomass)*, Gg (*Net stock change (C))*, t CO_2/ha (*Implied emission factor for CO_2)*, Gg *(Net emissions/removals (CO_2))*, Gg *(Net emissions/removals (CO_2eq))*

Cropland
Unit: ha *(Area)*, t C/ha (*Implied emission factor for C)*, Gg *(Net stock change (C))*, Gg *(Net emissions/removals (CO_2))*, Gg *(Net emissions/removals (CO_2eq))*

Grassland
Unit: ha *(Area)*, t C/ha (*Implied emission factor for C)*, Gg *(Net stock change (C))*, Gg *(Net emissions/removals (CO_2))*, Gg *(Net emissions/removals (CO_2eq))*

Biomass Burning
Unit: ha *(Burned Area)*, tonnes (*Biomass burned (dry matter))*, g N_2O/kg dry matter (*Implied emission factor for N_2O)*, g CH_4/kg dry matter (*Implied emission factor for CH_4)*, g CO_2/kg dry matter (*Implied emission factor for CO_2)*, Gg (*Emissions (N_2O))*, Gg (*Emissions (CH_4))*, Gg (*Emissions (CO_2eq) from N_2O)*, Gg (*Emissions (CO_2eq) from CH_4)*, Gg (*Emissions (CO_2))*, Gg (*Emissions (CO_2eq))*

Metadata information are available, for each subdomain, items and elements are reported at the following links:

- Methodology: http://faostat3.fao.org/faostat-gateway/go/to/mes/methodology_list/*/E
- Classification: http://faostat3.fao.org/faostat-gateway/go/to/mes/classifications/*/E
- Units: http://faostat3.fao.org/faostat-gateway/go/to/mes/units/*/E
- Glossary: http://faostat3.fao.org/faostat-gateway/go/to/mes/glossary/*/E

2.1.3 Accessibility/Communication

In 2012, a new FAOSTAT data dissemination system (FAOSTAT) was launched. This system is based on an open-source software platform (FENIX) and offers easy and free access to all FAOSTAT data. Features include among others: browsing and analysis of data, interactive data downloading, cross-domain data searching by using free-text, and data exchange through web services.

Data include all elements needed to enable systems to properly handle data and metadata information, regardless of the content and the technology used. Accordingly, FAO is fully committed to strengthening the worldwide data-sharing network under the umbrella of open data. To enable and support an active user contribution throughout the network, the FAO Statistics Division has implemented a communications strategy to facilitate the dialogue and to respond to user feedback. In this context, FAOSTAT has established a network of collaborators among different agencies on various data integration aspects (e.g. classifications, standards, statistical harmonization and data exchange) as the Agricultural Market Information System (AMIS[19]), CountrySTAT[20], the Global Strategy[21] and the Global Administrative Unit Layers (GAUL[22]).

[19] A multi-agency initiative that has created a network of key international and inter-governmental organizations with the capacity to collect, analyze and disseminate information on major food crops.
[20] Strengthens national capacities of the partnering countries in improving data management and harmonization using FAOSTAT standards.
[21] Aims at improving the quality of agricultural and rural statistics. Developed by the World Bank and FAO, it addresses the weakness in basic data and information availability in developing countries
[22] Compiles and disseminates the most reliable spatial information on administrative units for all countries in the world. It also promotes a unified coding system to be a standard reference for geocoding data associated to administrative units.

2.1.4 Design and maintenance

Using annual data from FAOSTAT, the FAOSTAT Emissions database has been built and it is automatically updated, in case of updating of FAOSTAT activity data. An exception is given by all the categories assessed through the use of spatial data (i.e. GIS based data).

The FAOSTAT Emissions database has been reviewed through a survey targeting the national inventory compiler, UNFCCC reviewers, climate change focal points, FAO Divisions, UNFCCC secretariat and IPCC Task Force Inventory (TFI). The survey has resulted in several comments, related to the different section of the database (i.e. metadata, methodology, data functions, data relevance, graphical content, browse data, download, data comparison). All comments have been considered and a revised version of the database has been developed accordingly.

2.2 Methodologies and Guidelines

MAGHG project has included information on metadata and methodological information on the estimates of GHG emissions in the *Mitigation of Climate Change in Agriculture* (MICCA) Programme website: http://www.fao.org/climatechange/micca/78838/en/.

2.2.1 Methodologies and quality information

A draft *Guidelines and Good Practice - Manual of GHG Emissions statistics* has been developed by the MAGHG project, providing the institutional and technical framework on the GHG emissions inventory process. The *Guidelines and Good Practice - Manual of GHG Emissions statistics* describes the methods used to estimates emissions and removals for the AFOLU sector and included in the FAOSTAT Emissions database, supplying also information on activity data, emission factors and metadata related to each category (item) of the 2 domains (GHG Agriculture and GHG Land Use).

2.2.2 Guidelines and Manual

A set of guidelines on Life Cycle Analysis (LCA) has been developed by the MAGHG project, assessing the GHG emissions from dairy sector, pig and chicken and ruminant supply chains.

a. Greenhouse gas emissions from the dairy sector - A Life Cycle Assessment http://www.fao.org/docrep/012/k7930e/k7930e00.pdf
b. Greenhouse gas emissions from pig and chicken supply chains – A global life cycle assessment http://bit.ly/16QNQhx
c. Greenhouse gas emissions from ruminant supply chains – A Global Life Cycle Assessment http://bit.ly/17Nz7je

The specific aim of the guidelines was to develop a methodology based on the LCA approach for the livestock supply chain, encompassing the life cycle of products from the production and transport of inputs (fertilizer, pesticide, and feed) for farming, transportation, processing, the production of packages, and the distribution of products to retailers. Methane (CH_4), nitrous oxide (N_2O) and carbon dioxide (CO_2) emissions have been estimated, through the use of the Global Livestock Environmental Assessment Model (GLEAM), developed at FAO, with support from partner organizations and related initiatives, such as the MICCA programme, and LEAP[23] Partnership.

3. Analysis of these Technological Elements

3.1 Data Needs Analyses

[23] Livestock Environmental Assessment and Performance (LEAP) Partnership www.fao.org/partnerships/leap

Following a FAO-IPCC joint workshop[24], a consultative process has been undertaken by FAO to assess the state of knowledge on GHG emissions and mitigation potentials, addressing key institutions. On the basis of the above-mentioned assessment, a review[25] of FAO data has been carried out, resulting in an assessment of the availability of global information. The assessment has identified the data currently present in FAO and ready to be used, data that should be calculated from FAO data or required an adjustment and data not present in FAO.

3.2 Data gathering, collection and storing.

The data are deduced by the FAOSTAT activity data, collected through an electronic questionnaire; a revised version of FAO land use questionnaire has been developed to collect data and information on land use change. The fertilizer questionnaire has been revised too. Data gaps may be filled when necessary using spatial and sectoral models, e.g., Life Cycle Assessment of Livestock GHG emissions (FAO AGAL[26]); Agro-ecological model for land use distribution (FAO NRL).

The FAOSTAT emission database is embedded into the FAOSTAT database. The data storage is therefore following the same FAOSTAT procedure. FAO is actively engaged in developing a ICT strategy for a data warehouse system for integrating FAO statistics systems, using data exchange standards such as SDMX[27] which will allow information systems, and legacy databases, on different platforms to efficiently link data over network infrastructures. The initial linking of data systems will be followed by a concerted effort to bring FAO data systems to an agreed common set of standards and classifications, under the governance of Statistical Programme Steering Committee (SPSC) and Statistics Coordination Working Group (SCWG).

3.3 End-Users

The end-users of the FAOSTAT emissions database are national inventory compilers, national institutions involved in gathering and compiling national data and statistics, and policy decision makers, at country level, involved in the national reporting (national GHG inventories, national communications, Biennial Update Reports) to address the international requirements.

3.4 QA/QC and data compatibility

The FAOSTAT emissions database is embedded in the FAOSTAT database; FAO‘s work on the collection and dissemination of statistical information on food and agriculture represents a core element of the Organization‘s mandate. Another area of priority for FAO is to develop Corporate Statistical Norms[28], Standards and Principles for its statistical systems, based, among others, on international agreed standards, and international statistical classification schemes. It will also include a FAO Data Quality Framework, which is in line with what other international organizations have implemented and a FAO metadata standard.

Dealing with quality issues is a priority of the FAO Statistics Programme - from the quality of the collection methods, through the quality of the data as it comes to FAO from the national source, to the quality of the FAO data as it reaches the user.

3.5 Data uncertainty

[24] IPCC – FAO joint workshop to develop guidelines on how to provide advice to access and use of FAO datasets on GHG inventories, October 2009

[25] FAO data review and assessment of data gaps – MAGHG project report 1.5, November 2011

[26] FAO's Livestock Information, Sector Analysis and Policy Branch (**AGAL**) http://www.fao.org/ag/againfo/themes/en/Environment.html

[27] Statistical Data and Metadata eXchange http://sdmx.org/

[28] FAO Statistical Programme of Work: http://www.fao.org/fileadmin/templates/ess/ess_test_folder/statistics_coordination/FAO_STATISTICAL_PROGRAMME_Abbreviated__010313.pdf

Up to now, uncertainties related to the basic activity data or to the estimated GHG emissions and removals have been not estimated or assessed.

3.6 Web Access

Two new domains within FAOSTAT database allow the web access: GHG Agriculture (http://faostat3.fao.org/faostat-gateway/go/to/download/G1/*/E) and GHG Land Use (http://faostat3.fao.org/faostat-gateway/go/to/download/G2/*/E).

From the summary statistics[29] related to the FAOSTAT portal traffic and downloads, FAOSTAT emissions database results as one of the three top domains, since its launch, in march 2012.

4. Recommendations

The evaluation team has identified some issues for improvement. Recommendations in this area are integrated in section 7.2.

[29] ESS 2013 March – Usage Report – ESS web application

Annex 11 Project Expected Results and Planned Activities

Expected Results	Activities
Expected Outcome: An enhanced global knowledge base on GHG emissions, and mitigation potentials, within the agriculture sector. The knowledge base will be provided through user-friendly and easily accessible applications.	
Output 1: Stakeholder requirements and data needs identified	• Identify key stakeholder groups and determine main institutions (universities, institutes, etc.) who should be part of the expert network • Review literature on current needs and gaps • Assess stakeholder needs • Develop tables of information needs • Review current reporting mechanisms and data gaps • Crosscheck these with stakeholder representatives • Develop a summary report which includes linkages and synergies in meeting common information needs
Output 2: Revised standardized data gathering and reporting allowing improved data generation related to climate change mitigation issues	• With partners (FAO, OECD, UNFCCC, etc.) using the report on stakeholder requirements and data gaps develop new reporting protocols • Develop a coherent coordinated reporting system which allows for periodical transparent, consistent and accurate updating and reporting of data which harmonizes data collection methods and reporting cycles. • Test with selected member state the feasibility of gathering the requested data and verify what are the main constraints • Improve system based on findings of activity 6.3 and then ensure consensus of all member state institutions • Once guidelines are developed (output 5) launch new reporting requirements (note this will be supported by capacity building and training)
Output 3: Guideline and Good Practice Manual and distance learning tool supporting national data compilers developed	• Using output 6 elaborate a detailed guidelines and good practice manual to facilitate the task of data compilation and reporting • Test, verify, modify and finalize • Using finished guidelines develop supporting e-learning tools and materials • Use results of training programmes to further improve the materials if required
Output 4: International guidelines created for Life Cycle Analysis (LCA) protocols and environmental product labeling	• Present initiative to main stakeholders • Assess the requirements and objectives that the LCA guidelines need to achieve • Review currently available international and national LCA specifications and evaluate benefits and limitations. • Develop a draft specification • Undertake a review phase with key partners identified • Convene consultation to finalize LCA specification, guidelines and protocols • Final guidelines published
Output 5: Capacity of national compilers to gather and analyze climate change data strengthened	• Identify main countries which require assistance and are key to the GHG assessment • Ascertain main government institutions that should be involved and select appropriate participants to attend the training • Develop the resources and materials required for the training (supplemented with outputs 5 and 6) • Undertake capacity building through 4 regional workshops • Undertake follow-up activities to ensure participants are using and sharing their new knowledge with colleagues and related national institutions • Undertake remote support and capacity building for other countries

Expected Results	Activities
Output 6: A Central GHG data portal, which supports developing countries to address agricultural mitigation and other related climate change issues	• Establish data portal infrastructure requirements in consultation with stakeholders • Based on 2.1 develop conceptual design, website architecture, and implementation plan • Identify system requirements and web technologies that better serve the needs of the website • Start prototyping the site by developing graphical user interface, server database, and client/server communication mechanisms, and any other functions needed • Test product and implement any feedback provided by users evaluating the prototype • Finalize site (make sure that it is consistent with FAO standards on the matter, Web Quality Assurance Checklist) and implement it on the production server • Produce technical report on implementation and functionalities • Develop outreach material (online/printable guide on using the site) for final users • Upload data, information, etc. and assist national focal points to contribute and upload their inputs • Monitor portal usage, functionality and assess if structural modifications are required
Output 7: A comprehensive global GHG assessment of the agricultural sector, which contributes to the IPCC 5th Assessment Report, especially with chapter 11 (WG3), published by 2012	• Identify key stakeholder groups and determine main institutions (universities, institutes, etc.) who should be part of the expert network • Develop GHG assessment outline (i.e. determine scope and parameters the assessment will cover). Based on consultations, results of output 8 and discussion with IPCC 5th assessment report lead authors • Establish working groups to undertake different components of the assessment • Facilitate meetings of the network both virtually and physically • Working groups to screen and review the state of knowledge on GHG emissions and mitigation potentials and identify data gaps they require for their analysis (feeds into output 8) • Analysis, modelling, development and validate products • Cross check, to ensure consistency and agreement once components are integrated • External review • Inputs into IPCC 5AR (as individual components and as a whole assessment) • Finalization of Assessment • Document layout • Final review and approval of ODG, partners, etc. • Printing and distribution of electronic and printed versions
Output 8: UNFCCC negotiators and policy makers informed and aware of agricultural mitigation options	• Prepare technical submissions to UNFCCC SBSTA • Prepare Policy briefs • Participate and engage with CC negotiators • Organize side events at COP sessions • Showcase agriculture mitigation options • Promote the importance of having a SBSTA agenda item on agriculture

Annex 12 E-survey Questionnaire

MAGHG Survey

Welcome to the MAGHG ESurvey!

Between 2012 and 2013, FAO conducted a series of regional workshops with its Member Countries to present and request feedback on a GHG emissions database it had developed. The database and workshops were produced and organized under the FAO project, *"Monitoring and Assessment of GHG Emissions and Mitigation Potentials in Agriculture (MAGHG).*"

The objective of this esurvey is to collect views and recommendations of individuals and organizations that were involved in these regional workshops.

This esurvey forms parts of the evaluation of the MAGHG project conducted currently by the Office of Evaluation of FAO. The objective of this evaluation is to provide accountability to all stakeholders, including the donor and project participants, and contributing to organizational learning.

More information about the MAGHG project can be found in the FAO web site (click here).

Your inputs through this questionnaire are considered extremely valuable. All information provided will be kept strictly confidential and no specific reference to individuals will be made in the analysis and reporting. Please fill out this questionnaire and submit it by clicking on the submit button at the end of the questionnaire. Your cooperation in the completion of this esurvey is very much appreciated.

Thank you in advance for your cooperation.

Evaluation Team
FAO Office of Evaluation

Note: If you have questions or in case you cannot submit your input electronically, please contact Mr. Jean-Joseph Bellamy Email:
JJ@Bellamy.net

Respondent Information

Please select which Regional Workshop you participated in:

Da Lat, Vietnam, October 5-6, 2012
Port of Spain, Trinidad and Tobago, June 3-4, 2013
Casablanca, Maroc, December 23,2013
Others
Other (please specify)

In what capacity did you participate in the Regional Workshop?

UN Framework Convention of Climate Change National Focal Point or Representative
National Statistical Agency Representative
Ministry of Agriculture

Other
Other (please specify)

Questionnaire

How effective were these Regional Workshops?

1. How would you rate the overall quality of the regional workshop you participated in?

Highly Satisfactory
Satisfactory
Marginally Satisfactory
Marginally Unsatisfactory
Unsatisfactory'
Highly Unsatisfactory
Not Applicable
Any Comments?

2. Have you and your institution used the knowledge presented at the regional workshop?

to a great extent
to a fairly great extent
to a moderate extent
to a small extent
Not at all
Please provide examples

3. Was the FAOMAGHG team effective in the overall organization of the regional workshop?

Highly Satisfactory
Satisfactory
Marginally Satisfactory
Marginally Unsatisfactory
Unsatisfactory'
Highly Unsatisfactory
Not Applicable
Any Comments?

4. What were the main Strengths of the regional workshop you participated in?

5. What were the main Weaknesses of the regional workshop you participated in?

What are the achievements of the MAGHG project?

6. Do you know how to access the information on GHG emissions in the FAOSTAT database?

to a great extent
to a fairly great extent
to a moderate extent
to a small extent
Not at all
Any comments?

7. How would you rate the information on GHG emissions contained in FAOSTAT?

Content
User-friendliness
Access

Highly Satisfactory
Satisfactory
Marginally Satisfactory
Marginally Unsatisfactory
Unsatisfactory'
Highly Unsatisfactory
Not Applicable
Any Comments?

8. Has the data produced by the MAGHG project been used in your country by agriculture and other relevant ministries to conceive new strategies for GHG mitigation in agriculture?

to a great extent
to a fairly great extent
to a moderate extent
to a small extent
Not at all
Please provide examples

9. How would you rate the contribution of the regional workshop and the overall MAGHG project towards improving the information base for climate change mitigation in your country?

Highly Satisfactory
Satisfactory
Marginally Satisfactory
Marginally Unsatisfactory
Unsatisfactory
Highly Unsatisfactory
Not Applicable

10. To what degree has the GHG emissions data in FAOSTAT assisted your country for UNFCCC communications?

to a great extent
to a fairly great extent
to a moderate extent
to a small extent
Not at all
Please provide examples

11. How would you rate the linkage between the national statistic agency and the entity in charge of UNFCCC communications on GHG emissions in your country?

Highly Satisfactory
Satisfactory
Marginally Satisfactory
Marginally Unsatisfactory
Unsatisfactory
Highly Unsatisfactory
Not Applicable

12. How could the project build on its achievements to further enhance the assessment of GHG emissions and mitigation opportunities?

How relevant is the MAGHG project to the climate change mitigation challenges faced by your country?

13. How would you rate the relevance of the Regional Workshop to your Countries' GHG emission monitoring and CC mitigation opportunities?

Highly Relevant
Relevant
Marginally Relevant
Irrelevant
Highly irrelevant
Not Applicable

14. Could the project have better targeted priorities and development challenges related to GHG emission assessment and CC mitigation priorities in your country?

Yes
No
I don't know
Please provide examples

15. To what extent are there adequate policies, laws and institutions supporting the development of mitigation priorities in your country?

to a great extent
to a fairly great extent
to a moderate extent
to a small extent
Not at all
Please provide examples

16. Any other comments regarding these regional workshops and the MAGHG project?

Thank you very much for your valuable responses to this questionnaire.

Annex 13 Project Scoring Matrix

OED project scoring matrix						
A. Background information						
Project Title:	Monitoring and Assessment of GHG Emissions and Mitigation Potentials in Agriculture Project					
Project Symbol:	MAGHG					
Projec Start Date (EOD) (dd/mm/yy)	01-Jan-11					
Project NTE (at time of TORs) (dd/mm/yy)	31-Dec-13					
Project LTO						
Project Budget (DWH budget at time of TORs):	USD					
Type of Project:	TCD		Emergency			
Type of Evaluation:	Separate X		Joint		Programme	
Timing of Evaluation:	Mid-Term		Final X		Ex-post	
Mission dates in the country (dd/mm/yy) in Rome	From:	27-Jan-14	To:	06-Feb-14		

B. Assessment of the project - Questions and issues that require scoring are intended to read as "assess the degree to which...."											
Item No	Question/Issue	Item included			Scoring*						
		Yes	No	NA/NR	1	2	3	4	5	6	
	I. Project Relevance to:										
1	***National/regional development priorities, programmes, needs of the population***			X							
2	***FAO Country Programming Framework***			X							
3	***FAO Global Goals, MDGs, Strategic Objectives and Organizational Results (list relevant and score)***	X									
3.1	SO-2: to increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner									X	
3.2	Objective 6: Quality and integrity of the data produced and analyzed by the Organization									X	
3.3											
3.4											
4	***FAO Core Functions (list relevant and score)***		X								
4.1											
4.2											
4.3											
5	***Clarity, robustness and realism of the Theory of Change***	X					X				
6	***Quality and realism of project design***	X				X					

B. Assessment of the project - Questions and issues that require scoring are intended to read as "assess the degree to which...."										
Item No	Question/Issue	Item included			Scoring*					
		Yes	No	NA/NR	1	2	3	4	5	6
6.1	*Quality of the Logical Framework - validity of indicators, assumptions and risks*	X				X				
6.2	*Approach and methodology - stakeholder and beneficiaries identification and analysis*	X				X				
6.3	*Duration*	X					X			
6.4	*Institutional set-up and management arrangements*	X						X		
	II. Effectiveness of outputs and outcomes									
7	***Outputs***	X							X	
7.1	*Extent to which the expected outputs have been produced*	X							X	
7.2	*Quality of produced outputs*	X								X
7.3	*Timeliness of produced outputs*	X							X	
8	***Outcomes***	X								X
8.1	*Actual or potential achievement of outcomes*	X								X
9	***Feed-back loop for normative - knowledge products***	X							X	
9.1	*Use by the project*	X							X	
9.2	*Actual or potential contribution*	X							X	
	III. Efficiency and Effectiveness of Project Implementation Process									
10	***Management and implementation***	**X**						X		
10.1	*Quality, realism and focus of workplan*	**X**						X		
10.2	*Assessment of delivery, causes and consequences of delays and of any remedial measure taken*	**X**						X		
10.3	*Monitoring and feed-back loop into improvement management and operations*	**X**						X		
10.4	*Staff management*	**X**							X	
10.5	*Development and implementation of an exit strategy*	**X**					X			
11	***Institutional set-up***	**X**							X	
11.1	*Admin. and technical support by FAO HQ, regional, sub-reg. and country office*			X						
11.2	*Institutional set-up, internal review processes, coordination and steering bodies*	**X**							X	
11.3	*Input and support by the Government/s and resource partners*	**X**							X	
12	***Assessment of financial resource management***	**X**						X		
12.1	*Adequacy and realism of budget allocations to achieve intended results*	**X**					X			
12.2	*Adequacy and realism of Budget Revisions in matching implem. needs and prj objectives*	**X**						X		
12.3	*Rate of delivery and budget balance at the time of the evaluation and in relation to work-plans*	**X**							X	
	IV. Analysis of the application of the UN common country programming principles									

B. Assessment of the project - Questions and issues that require scoring are intended to read as "assess the degree to which...."										
Item No	Question/Issue	Item included			Scoring*					
		Yes	No	NA/NR	1	2	3	4	5	6
13	***Gender equality***	**X**				X				
13.1	*Extent to which gender issues were reflected in prj objectives, design and identif. of beneficiaries*	**X**						X		
13.2	*Extent to which gender issues were taken into account in project implementation and management*	**X**			X					
13.3	*Extent to which gender relations and equality are likely to be affected by the initiative*	**X**						X		
14	***Extent and quality of Project/Programme Work on Capacity Development at***	**X**					X			
14.1	*individual*	**X**							X	
14.2	*organizational/institutional*	**X**					X			
14.3	*enabling environment*	**X**				X				
14	***Analysis of the adoption of the Human-Rights Based Approach***	**X**							X	
15	***Design, implementation and effects on results and sustainability of partnerships and alliances***	**X**						X		
16	***Analysis of how environmental impacts were taken into consideration and addressed***	**X**						X		
17	***Extent of compliance with the Humanitarian Charter and Minimum Standards (emergency projects)***		X							
	V. Impact									
18	***Actual/potential impact on people***	**X**						X		
19	***Actual/potential impact on institutions***	**X**					X			
20	***Contribution to FAO SOs and Organizational Outcomes***	**X**								X
21	***Contribution to FAO Core Functions***		X							
	VI. Sustainability									
22	***Technical, economic and social***	**X**							X	
23	***Institutional uptake and mainstreaming of newly acquired capacities***	**X**						X		
24	***Diffusion among beneficiaries***	**X**						X		
	VII. Overall project performance	**4.5**								
	VIII. Recommendations(not for scoring)									
List		Addressed to:								
	Recommendation 1: Revise and finalize the MAGHG2 proposal based on the assessment provided in this evaluation report	Project Team / NRC								
	Recommendation 2: The MAGHG2 project should focus on the dissemination of knowledge and tools to member countries and other groups of stakeholders.	Porject Team / MICCA Program								

B. Assessment of the project - Questions and issues that require scoring are intended to read as "assess the degree to which...."										
Item No	Question/Issue	Item included			Scoring*					
		Yes	No	NA/NR	1	2	3	4	5	6
	Recommendation 3: Explore the possibility of developing a larger project focusing on supporting member countries to develop their mitigation strategies and actions (NAMAs) and to strengthen their reporting obligations.	NRC / MICCA Program								
	Recommendation 4: FAO should develop/expand its MICCA strategy with objective(s), lines of activities and links to other FAO programmes and projects, including the Climate Smart Agriculture (CSA) initiative and the upcoming FAO-GEF portfolio.	NRC / MICCA Program								
	Recommendation 5: Strengthen the alignment of the database structure to the 2006 IPCC guidelines and UNFCCC requirements.	Project Team								
	Recommendation 6: Develop some GHG emissions comparison functions in the GHG emissions database in order to perform comparisons with the data officially communicated by Parties under the UNFCCC obligations.	Project Team								

Scoring* 1 very poor; 2 poor; 3 inadequate; 4 adequate; 5 good; 6 excellent