Carbon Finance Possibilities for Agriculture, Forestry and Other Land Use Projects in a Smallholder Context







34 2 0 5 ש ∢ Z V ⋝ ഗ 2 s o u ш 2 CHANGE RA TUF Z Z ∢ Z ш Σ z 0 2

Background image in this page elaborated from "L'Encyclopédie Diderot et D'Alembert"

Other images: the photos on the cover page and within the document were taken and kindly provided by FAO

Copies of FAO publications can be requested from Sales and Marketing Group - Communication Division Food and Agriculture Organization of the United Nations Viale delle Terme di Caracalla - 00153 Rome, Italy

> E-mail: publications-sales@fao.org Fax: (+39) 06 57053360 Web site: http://www.fao.org



Carbon Finance Possibilities for Agriculture, Forestry and Other Land Use Projects in a Smallholder Context

Christina Seeberg-Elverfeldt

Natural Resources Management and Environment Department Food and Agriculture Organization of the United Nations (FAO) Rome, 2010

2 Z ш 0_ \geq < S ۵. S ш J Z S $\mathbf{\Sigma}$ 2 Z 0 2 Z Z Ω. ш Σ \vdash ш Z U 4 \geq z < Σ > S <u>م</u> ш ш Z 2 0 ഗ ш 2 ш U _ Z 4 ٩ 2 т υ 4 ш \mathbf{E} Z ٩ Σ Z _ 4 υ 1 Z ш \geq Σ ш Z \geq 0 Z Ľ с > > Z Z The conclusions given in this report are considered appropriate for the time of its preparation. They may be modified in the light of further knowledge gained at subsequent stages of the project.

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO in preference to others of a similar nature that are not mentioned.

All rights reserved. Reproduction and dissemination of material in this information product for educational or other non-commercial purposes are authorized without any prior written permission from the copyright holders provided the source is fully acknowledged. Reproduction of material in this information product for resale or other commercial purposes is prohibited without written permission of the copyright holders.

Applications for such permission should be addressed to:

Chief Electronic Publishing Policy and Support Branch Communication Division FAO Viale delle Terme di Caracalla, 00153 Rome, Italy

or by e-mail to: copyright@fao.org

© FAO 2010

FOREWORD

Climate change adds another challenge to the global food system – a system that is expected to feed a world population growing from today 6.8 billion to 9.1 billion in the year 2050. Sustainable management of the natural resource base of agriculture, forestry and fisheries is the only way to deal with this challenge. Many parts of the world already struggle with grave deterioration of their food production systems and the number of people suffering from chronic hunger has now exceeded one billion. To make matters worse, the world's poor and food insecure are often the most vulnerable to the negative impacts of climate change and have the least capacity to adapt. They are often highly exposed to natural hazards, greatly dependent on climate-sensitive resources and possess limited economic and technological resources. The ability of individuals to cope with climate change impacts is affected by economic development and institutional support. However, it is the local people, who manage the land and have to adapt and manage agriculture, forestry and other land uses (AFOLU) to climate change.

While the agriculture, forestry and other land use sectors are suffering from climate change impacts, they also contribute significantly to greenhouse gas emissions. Conversely, this gives them a unique potential for restricting climate change by reducing or avoiding emissions and enhancing carbon sinks. Under the United Nations Framework Convention on Climate Change (UNFCCC) of the Kyoto Protocol, different market-based mechanisms have been created to help countries meet their emissions targets and support climate change mitigation. This has evolved into a regulated carbon market, which has been growing rapidly over the last years to more than US\$ 100 billion. Currently, the only AFOLU practices accepted by the UNFCCC regulatory markets are afforestation and reforestation, biogas, methane avoidance and energy generation through biomass. Agricultural land management activities are not allowed. The voluntary carbon market has therefore become very promising for agriculture and forestry projects. There are, however, many challenges ahead. While a few small-scale AFOLU projects exist, the entry barriers are still high to the carbon markets, due to high transaction costs, as well as lack of information how these markets work.

This guide has been assembled for extension services and institutions working with smallholders to support them in their advisory role on developments of the carbon markets and financial mechanisms. It aims to enhance knowledge on carbon finance and facilitate the integration of small-scale farmers into AFOLU mitigation activities. The participation of these farmers allows them to be involved in the development and implementation of the project, influence its design to generate positive impacts for the farmers and increase their knowledge about climate change mitigation and carbon finance.

It is my hope that in the future small-scale farmers will increasingly participate in the mitigation of greenhouse gas emissions and receive a fair remuneration for the environmental services they provide.

Alexander Müller Assistant Director General Natural Resources Management and Environment Department FAO

ABSTRACT

This booklet is intended to guide extension service advisors and institutions who work with small-scale farmers and foresters with an interest in Carbon Finance and Carbon Projects. Its aim is to support setting-up carbon projects which involve small-scale farmers. Their participation allows them to be involved in the development and implementation of the project, influence the design of the project to generate positive impacts for the farmers and increase their knowledge about carbon finance. The definition of a small-scale farmer differs between and within countries. In most cases it is a farmer who cultivates less than one hectare of land and has diverse sources of livelihood.

The guide is structured into five sections: first, the background of climate change is explained (1); second, an introduction is given to how the carbon market works (2); this is followed by an explanation of carbon project development and the timeline and project size to take into account for planning (3); four, costs to be expected during the development of carbon projects are summarised, as well as benefits (4); finally, different funds and grants are presented (5). This booklet will need constant updating, as the political framework is changing very fast, causing changes in legislation, as well as actors, funds and regulations. In addition, the available data, research and knowledge for the development of carbon projects is constantly improving which will facilitate their future upgrowth.

CONTENTS

- iii Foreword
- iv Abstract
- vii Acronyms

1 1. THE BACKGROUND FOR CARBON FINANCE AND CARBON CREDITS

- 1 The link between climate change, GHG emissions, agriculture and forestry
- 4 Carbon finance: carbon markets and climate change

5 2. CARBON MARKETS – WHICH TYPES EXIST AND HOW THEY WORK

- 6 Clean Development Mechanism (CDM)
- 9 Voluntary Market

13 3. DESIGN AND DEVELOPMENT OF A CARBON PROJECT

- 17 4. COSTS AND BENEFITS INVOLVED IN THE DEVELOPMENT OF A CARBON PROJECT
- 19 5. FUNDING POSSIBILITIES FOR AFOLU CARBON PROJECTS
- 23 REFERENCES

25 ANNEX

25 Annex 1: Agricultural land management practices which have GHG mitigating effects

v

- 27 Annex 2: Standards
- 29 Annex 3: Two case studies of Carbon Projects

ACRONYMS

CCC 4

AFOLU	Agriculture, Forestry and Other Land Use
AGRA	Alliance for Green Revolution in Africa
A/R	Afforestation/Reforestation
BioCF	BioCarbon Fund World Bank
CBO	Community Based Organization
CCX	Chicago Climate Exchange
CDM	Clean Development Mechanism
CDCF	Community Development Carbon Fund World Bank
CER	Certified Emission Reductions
CH_4	methane
CPF	Collaborative Partnership on Forests
CO ₂	carbon dioxide
DOE	Designated Operational Entity
ETS	EU Trading System
FAO	Food and Agriculture Organization of the United Nations
GEF	Global Environmental Facility
GHG	Greenhouse gas
GWP	Global Warming Potential
ICRAF	World Agroforestry Centre
IPCC	Intergovernmental Panel on Climate Change
JI	Joint Implementation
N ₂ O	nitrous oxide
NGO	Non-governmental Organization
PDD	Project Design Document
PIN	Project Idea Note
REDD	Reducing Emissions from Deforestation and Forest Degradation
REED	UNEP's Rural Energy Enterprise Development Programme
TNC	The Nature Conservancy
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Voluntary Carbon Standard
VER	Verified Emission Reductions