

Part 1: Concepts and tools

A. Introduction

It is widely accepted that agricultural development will be severely curtailed without addressing the risks and capitalizing on the opportunities posed by climate change (FAO, 2010b). The agriculture sector must adapt to the impacts of climate change in order to provide food security to the world's growing population. At the same time agriculture must mitigate its contributions to climate change (13.5 percent of global greenhouse gas emissions) in order to slow the progression of this global challenge (FAO, 2009).

Concurrently, it is internationally recognized that addressing gender issues in agriculture reduces hunger and poverty. In fact, it is estimated that more than 100 million people could be lifted out of poverty if women had the same access to and control of resources as men (FAO, 2011a). Although they are important food producers and providers, women presently have limited access to and control of resources. However, to date, these ideas – that climate change and gender issues are integral parts of agricultural development – have not been implemented in an effective way.

This guide seeks to fill that gap by supporting work to investigate the gender dimensions of responding to climate change in the agriculture and food security sectors. The final goals are to improve food production, livelihood security and gender equality in the context of the changing climate.

B. How to use the guide

1. The purpose and objectives of this guide

The purpose of this guide is to promote gender-responsive and socially-sensitive climate change research and development in the agriculture and food security sectors through participatory approaches. The guide focuses on the household and community level. It provides users with resources and tools for collecting, analysing and sharing gender-sensitive information about agricultural communities, households and individual household members who are facing climatic changes.

The objectives of the guide are:

- To sensitize users to the links between socio-economic and gender issues in the context of climate change in the agriculture and food security sectors;
- To develop the capacity of users to utilize Participatory Action Research (PAR) tools in gathering socio-economic and gender-sensitive information for climate change research and development;
- To help users understand how to analyse field research outputs in a field research setting;
- To apply knowledge gained beyond research to promote gender-sensitive adaptation and mitigation activities in agriculture.

2. The audience

The guide is intended for agricultural development professionals who are using field-based research in their work with households and communities to respond to the impacts of climate

change, prepare for future climate risks and impacts of climate change or modify agricultural practices to reduce contributions to climate change. It is anticipated that users of this guide have a prior knowledge of agriculture and development issues and some experience with PRA, but limited experience incorporating gender issues in the context of climate change into their work.

3. Major topics and content of this guide

First attention is given to the linkages between economic, environmental, social and institutional patterns that affect individuals in the agricultural sector within the context of climate change. Both opportunities and constraints for agriculture and food and livelihood security development are identified.

Second, understanding gender, wealth, ethnicity, caste and other social differences in communities and households is considered fundamental to understanding livelihood strategies and priorities of different socio-economic groups. Special efforts are made so that the poor and marginalized groups are ensured a voice in the process of responding to and preparing for climate change.

Third, this guide provides tools specifically designed to support a gender-sensitive participatory process that focuses first on an analysis of the current situation, and second, on planning for the future.

Table 1.0: Guide's parts and modules

PART I	
Introduction	provides an overview of the guide with exercises and tips aimed at training users of the present guide;
Module 1	explains key gender terms and gender analysis frameworks;
Module 2	builds on module 1 to explain key climate change issues in the agriculture and food security sectors with a gender analysis approach;
Module 3	is a tool box of participatory research tools that can be used in field research;
Part II	
Module 4	provides guidance to users on how field work can be prepared using the concepts of modules 1 and 2;
Module 5	presents a work plan for carrying out field research on gender and climate change among agricultural households;
Module 6	consists of a reporting format for reporting on field research; and
Module 7	explains how data generated by the field research can be analysed.
Part III	
Annexes	1: Glossary, 2: Additional Resources and 3: Bibliography

It should be noted that in Part I, Modules 1 and 2 provide an overview of the importance of understanding climate change and food security issues in a gender-sensitive manner. Module 3 focuses on a range of possible participatory research tools aimed at understanding the linkages

between gender, climate change and food security. In Part II, Modules 4–7 outline a research effort designed to address three particular research topics of interest to the CCAFS program: climate analogues, weather information, and climate-smart agriculture. These refer to three intervention areas that CCAFS has prioritized in its initial stages, and is conducting research on in order to test some of the approaches described in Part 1. The objectives of this learning approach are to: 1) see how well the tools help us address complex gender and social-differentiation questions related to these potential areas of intervention, and 2) to generate research results that will inform and improve the design of future CCAFS and partner research and development efforts. Part II provides important information on how to rigorously implement these research tools, use a sampling strategy, and think about analysis and reporting on the findings from such approaches right from the beginning of study planning. It is hoped that this example will help (and indeed, be used by) future study teams that may have additional research questions, as the same framework can be applied and additional modules added, for example. Thus readers may want to consult both Parts I and II.

4. What this guide does not cover

This guide addresses multiple dimensions of climate change in agriculture and food security, but it is not exhaustive and you are advised to consult additional resources on issues such as disaster risk management (see Annex 1). This guide focuses on the gender and socio-economic dimensions of agriculture and food security in the context of climate change. If you would like to enhance your understanding of the physical science basis of climate change, you are strongly recommended to consult FAO's E-Learning Tool, "*Planning for Community Based Adaptation to Climate Change*" which is available on CD or [ONLINE](#) (FAO, 2011f).

C. Key concepts related to climate change

In carrying out research on gender and climate change in the agriculture and food security sectors, it is important to bridge disciplines, cultures and different fields of practice and it is helpful to be familiar with the terms used by practitioners. The following list presents key terms used in this guide. Many of the definitions are adapted from the definitions of the Intergovernmental Panel on Climate Change (IPCC), which refers to a group of governments that periodically ask scientists from around the world to come together and assess the state of knowledge around the causes and impacts of climate change. As a result it is typically viewed as the definitive source of information around climate change. Where necessary, definitions from different disciplines are included in order to clarify variations in approaches. Please refer to the list of the sources below. It is recommended that you review this list and consult it as a reference, in addition to consulting the more extensive glossary in Annex 1.

Table 1.1: Key concepts related to climate change

Adaptation	IPCC Definition: Adjustment in natural or human systems to a new or changing environment. Adaptation to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. Various types of adaptation can be distinguished, including anticipatory and reactive adaptation, private and public adaptation, and autonomous and planned adaptation (Source 4 in the end of this Table). In other words, addressing the impacts of climate change.
	Other Definitions: Outside of the climate change discourse, natural science disciplines use the term <i>adaptation</i> to “broadly refer to the development of genetic or behavioural characteristics which enable organisms or systems to cope with environmental changes in order to survive and reproduce.” Social science disciplines, including anthropology, archaeology, and political ecology, utilize the term <i>adaptation</i> in reference to human systems; according to Denevan, “cultural practices that allow societies to survive (and beyond that, flourish) in the context of changing circumstances are considered adaptations” (Adapted from Source 9).
Adaptive capacity	IPCC Definition: Adaptive capacity is the ability or potential of a system to respond successfully to climate change (including climate variability and extremes), to moderate potential damages, to take advantage of opportunities or to cope with the consequences (Adapted from Source 4). It includes adjustments in both behaviour and in resources and technologies. Adaptive capacity varies with social characteristics such as gender.
Food Security	Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (Source 13).
Mitigation	IPCC Definition: An anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases (Source 4). In other words, reducing the causes of climate change.
	Other Definitions: Note that outside the climate change discourse, <i>mitigation</i> often has a different, almost opposite, meaning. In the context of Disasters, <i>mitigation</i> means: measures taken to limit the adverse impact of natural hazards and related environmental and technological disasters. Examples of mitigation are the retrofitting of buildings or the installation of flood-control dams, and specific legislation (Source 7).
	In other words, in the context of climate change, the word <i>mitigation</i> refers to reducing the <u>causes</u> of climate change, while in other contexts, the word <i>mitigation</i> refers to reducing or lessening a negative <u>outcome</u> .
Resilience	IPCC Definition: Amount of change a system can undergo without changing state (Source 4).
	Other Definitions: Many disciplines use the term <i>resilience</i> , for example, a sociological definition is: The ability of groups or communities to cope with external stresses and disturbances as a result of social, political, and environmental change (Source 10; consult this source for additional definitions).
Risk	IPCC Definition: Risk combines the magnitude of the impact with the probability of its occurrence, and captures uncertainty in the underlying processes of climate change, exposure, sensitivity and adaptation (Source 14).
(Carbon) Sink	Any process, activity or mechanism that removes a greenhouse gas, an aerosol, or a precursor of a greenhouse gas or aerosol from the atmosphere (Source 4).
Stakeholders	IPCC Definition: Person or entity holding grants, concessions, or any other type of value that would be affected by a particular action or policy (Source 4).
	SEAGA Definition: Stakeholders are all the different people and institutions, both insider and outsider, who stand to gain or lose, given a particular activity (Source 8).
Vulnerability	Climate Definition: Vulnerability is the degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system or social entity is exposed, its sensitivity, and its adaptive capacity (Source 6).
	SEAGA Definition: Vulnerability is the extent to which a household may be adversely affected and rendered more food insecure by possible future events. Several factors influence a person or household’s vulnerability in a crisis. These include events that undermine household food supplies and access by: (i) Loss of own food production or stocks; (ii) Loss of income and/or tradable assets; (iii) More difficult economic access to food (e.g. due to price increases), and (iv) Break-down of traditional support systems (Source 8).
	Vulnerability of a Food System to Environmental Change: A function of exposure to an environmental hazard, which is mediated by social factors and institutions, which combine to determine the adaptive capacity and hence the overall vulnerability of the food system (Source 15).

Sources of definitions:

1. SEAGA Field Level Handbook. WWW.FAO.ORG/SD/SEAGA/DOWNLOADS/EN/FIELDEN.PDF

2. FAO Gender website. WWW.FAO.ORG/GENDER/EN/
3. FAO The FAO Gender and Development Plan of Action (GaD PoA) 2002–2007. WWW.FAO.ORG/DOCREP/005/Y3969E/Y3969E00.HTM
4. FAO publication of IPCC glossary. WWW.FAO.ORG/CLIMATECHANGE/65923/EN/
5. FAO E-Learning Tool, *Planning for Community Based Adaptation to Climate Change (CBA)*, which is available on CD or at: WWW.WEBGEO.DE/FAO-WEBGEO-2-INTRO/.
6. FAO Climate Change and Bioenergy Glossary. [HTTP://WWW.FAO.ORG/CLIMATECHANGE/65923/EN/](http://WWW.FAO.ORG/CLIMATECHANGE/65923/EN/)
7. Norman M. Messer. 2003. The Role of Local Institutions and their Interaction in Disaster Risk Mitigation: A Literature Review. WWW.FAO.ORG/DOCREP/006/AD710E/AD710E00.HTM#CONTENTS
8. SEAGA for Emergency and Rehabilitation Programmes - Module 2: Foundation (SEAGA overview). WWW.FAO.ORG/DOCREP/008/Y5702E/Y5702E04.HTM
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11. IPCC website. WWW.IPCC.CH
12. UNFCCC website. WWW.UNFCCC.INT
13. Rome Declaration on World Food Security. [HTTP://WWW.FAO.ORG/DOCREP/003/W3613E/W3613E00.HTM](http://WWW.FAO.ORG/DOCREP/003/W3613E/W3613E00.HTM)
14. Schneider, S.H., S. Semenov, A. Patwardhan, I. Burton, C.H.D. Magadza, M. Oppenheimer, A.B. Pittock, A. Rahman, J.B. Smith, A. Suarez and F. Yamin, 2007: Assessing key vulnerabilities and the risk from climate change. *Climate Change 2007: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 779-810. Page 782.
15. Ingram and Brklacich, 2002 in Ericksen, P. J. 2008. What is the vulnerability of a food system to global environmental change? *Ecology and Society* 13(2): 14. (Also available at [HTTP://WWW.ECOLOGYANDSOCIETY.ORG/VOL13/ISS2/ART14/](http://WWW.ECOLOGYANDSOCIETY.ORG/VOL13/ISS2/ART14/))