

## AFRICAN GREENHOUSE GAS EMISSION INVENTORIES AND MITIGATION OPTIONS: FORESTRY, LAND-USE CHANGE, AND AGRICULTURE

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### 1. Background and objectives

Human-induced change in the composition of the atmosphere seriously threatens the global climate. In an effort to address this threat, 161 nations signed the United Nations Framework Convention on Climate Change at the Earth Summit in Rio de Janeiro in June 1992. The ultimate objective of this international agreement is to *achieve stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system*. As of the first session of the Conference of the Parties (March/April 1995), 128 nations had ratified the Convention. Parties to the Convention commit to numerous obligations, including commitments to: *develop national inventories of anthropogenic emissions using agreed, comparable methodologies*; and to *formulate and implement national programs containing measures to mitigate, and to facilitate adaptation to, climate change*. Several bilateral and multilateral programs, including the United States Country Studies Program (U.S. CSP) and the United Nations Environment Programme/Global Environment Facility Country Case Studies Project (UNEP), have been established to provide technical and financial assistance to developing countries and countries with economies in transition in meeting their commitments under the Convention.

From 29 May to 2 June 1995, a workshop cosponsored by U.S. CSP and UNEP was

change, and agriculture because these “sectors” play a major role in generating greenhouse gas (GHG) emissions from the continent, provide promising opportunities for emission mitigation, and are a vital component of African growth and development. The primary objectives of the workshop were to:

- Promote the exchange of information based on participants’ experience in preparing national inventories and assessing mitigation options
- Further the development of consensus among experts on emission estimation and mitigation methods suitable for African countries
- Identify priority needs for support in testing and using the methodologies
- Identify and discuss possible options for mitigating emissions in Africa
- Promote cooperation and coordination among participants and institutions involved in climate change studies in Africa

The workshop was attended by 64 governmental and nongovernmental scientists and policy experts from 18 African and 5 non-African nations. There were 20 presentations by specialists dealing with methodological and scientific aspects of emission estimation or mitigation, 9 presentations reporting the experiences of African countries in conducting inventories or mitigation assessments, and 6 presentations from organizations providing financial, technical, or logistic support to the inventory and mitigation assessment process. Three working groups were formed to discuss and make recommendations on (1) Forestry and Land-Use Change, (2) Vegetation Burning, and (3) Livestock.

This workshop statement presents the main conclusions of discussions in plenary and in working groups, followed by the three working group summaries. The formal publication resulting from the workshop contains this statement, as well as individual papers contributed by participants (see inside front cover for details).

## 2. Main conclusions

The workshop reemphasized the importance of non-point sources of GHGs (i.e., forestry, land-use change, vegetation burning, and ruminant animals, in contrast to “point sources” such as fossil energy combustion) in the emission inventories of African countries, and pointed out a number of obstacles which stand in the way of their accurate estimation. In general, the inventory methods contained in the *IPCC Guidelines for National Greenhouse Gas Inventories* (UNEP/OECD/IEA/IPCC, 1995) for non-point sources are not as well-developed and tested as those for point sources. In most cases the methods themselves are acceptable, although the scope of the methods should be expanded to allow for more detailed and comprehensive assessments and for inclusion of additional gases. More importantly, the data needed to implement the methods are either unavailable or inadequate, and the default values provided by the IPCC are too general for accurate assessments.