

# The African Network for Soil Biology and Fertility (AfNet)

## Introduction

The African Network for Soil Biology and Fertility (AfNet) was established in 1988. AfNet is the single most important implementing agency of Tropical Soil Biology and Fertility Institute of the International Centre for Tropical Agriculture (TSBF-CIAT) in Africa. The Tropical Soil Biology and Fertility (TSBF) Institute of CIAT is a research programme whose main aim is to contribute to human welfare and environmental conservation in the tropics by developing adoptable and suitable soil management practices that integrate the biological, chemical and socio-economic processes that regulate soil fertility and optimize the use of organic and inorganic resources available to the land-users. A Memorandum of Understanding (MOU) was signed between the Forum for Agricultural Research in Africa (FARA) and The International Centre for Tropical Agriculture (CIAT) for hosting AfNet under the umbrella of FARA (Fig 1). This MOU recognizes that AfNet is a pan-African network and that the comparative advantage of both FARA and AfNet will be harnessed through this partnership.

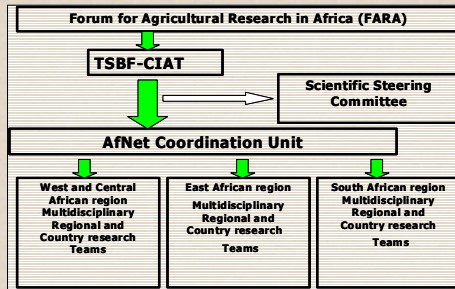


Fig 1: The AfNet Structure



## Goal and Objectives

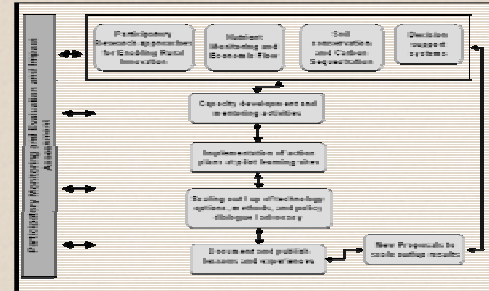
The goal of AfNet is to strengthen and sustain stakeholder capacity to generate, share and apply soil fertility management knowledge and skills to contribute to the welfare of farming communities.

This goal is achieved through the following specific objectives:

- Exchange information and combine collective experience of professionals
- Efficiently utilize existing research talents and facilities to attain a "research critical mass"
- Coordinate research activities to avoid duplication/ overlap of efforts
- Identify research priorities of common interest

## Capacity Building

AfNet has a strong focus on encouraging and building "T-shaped" skills among the partners. The Network recognises the need for multi-disciplinary and participatory research approaches, the increased integration of training with field experiments/practice – "Learning by doing" and the need for follow-up activities after training. To this end, AfNet has successfully and continues to organize several courses on Participatory Research and Scaling Up, Gender Analysis, Decision Support Systems in Agrotechnology Transfer (DSSAT), participatory nutrient monitoring (NUTMON), Carbon Sequestration among others.



The AfNet Capacity Building Approach

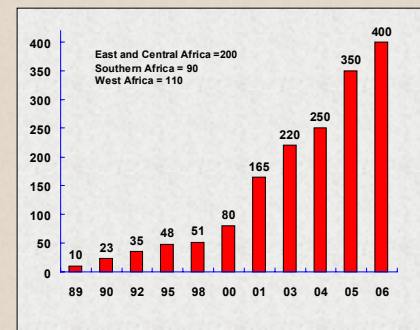


Fig 2: Evolution of AfNet Membership

## AfNet Membership

Presently AfNet is a pan-African Network of over 400 members from East, Central, South and Western Africa (Fig 2). The Network brings together the best scientists in Africa in natural resources management. The Coordination Office of AfNet is based at TSBF-CIAT in Nairobi. AfNet Scientific Committee comprises of the AfNet Co-ordinator, the TSBF Director and one representative member from the Eastern, Southern, Central and Western African sub-regions.



## Research Focus

The AfNet members share the TSBF goals and approaches as emphasized in the TSBF Strategy (Fig 3). AfNet aims at developing sustainable, profitable, socially acceptable and resilient agricultural production systems based on Integrated Soil Fertility Management (ISFM); a holistic approach to soil fertility that embraces the full range of driving factors and consequences of soil degradation—biological, chemical, physical, social, economic and political. It further aims at enhancing the human and social capital of stakeholder in the continent.

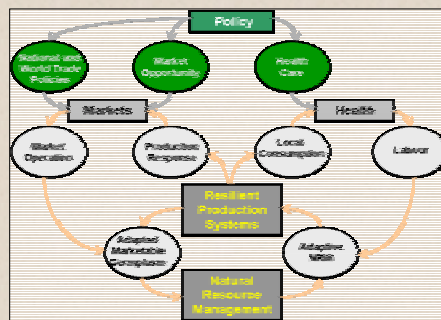


Fig 3: The TSBF Strategy

AfNet undertakes field research in over 100 sites spread all over Africa (Fig 4). The research is undertaken in collaboration with National Agricultural research and extension services (NARES) and universities in African countries, and advanced research institutes and universities from developed countries.

## Network Research Themes

- Sustainability indicators from long-term experiments
- Combining organic and inorganic nutrient sources
- Fertilizer equivalency value of organic amendments
- Legumes in cropping systems
- Combining water and nutrient
- On-Farm Testing of Cost-effective Soil Fertility Restoration Technologies

## Information Dissemination and Documentation

- About 200 papers published in refereed journals
- AfNet has published 3 books over the last 4 years
- Soil Fertility Management in Africa: A Regional Perspective (2003)
- Managing Nutrient Cycles to Sustain Soil Fertility in Sub-Saharan Africa (2004)
- Improving Human Welfare and Environmental Conservation by Empowering Farmers to Combat Soil Fertility Degradation (Book of Abstracts)

Other publications include the TSBF Newsletter, *The Communitator* and the AfNet brochure

## Publications in Press:

- Special Issue of the Nutrient Cycling in Agroecosystems Journal (20 papers),
- AfNet Symposium Book: Advances in integrated Soil Fertility Management in Sub-Saharan Africa: Challenges and Opportunities (104 Papers)
- 3 more books under preparation

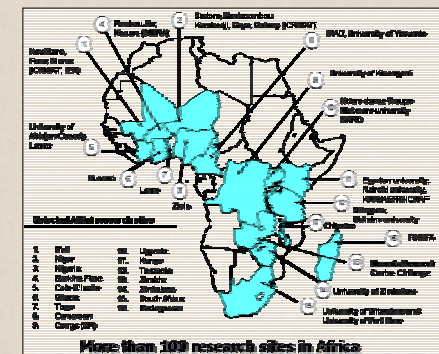


Fig 4: Selected AfNet Research Sites



## The way forward

AfNet seeks to:

- To be the cornerstone of soil research in Africa
- Strengthen networking to engage a wide range of stakeholders and enhance the efficiency of NRM research.
- Strengthen links between research, extension, CBOs, NGOs, farmers groups and the private sector
- Develop strategic partnerships in capacity building
- Improve the dissemination of knowledge on NRM through many methods (e.g. electronic sharing, training of trainers, etc.)
- Promote programmatic linkages with Universities and other educational institutions to strengthen curricula with appropriate and up-to-date information and teaching materials.
- Raise awareness of NRM issues with decision-makers at all levels



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