Strategy of the

African Network for Soil Biology and Fertility (AfNet)

Credit & ecognition

Improving smallholder farmers' livelihoods for sustainable land management through Networking

Explicit Decision Leadership Attention Making Process Shared Inderstanding of Problems 2008-2012 Interdependency &







Strategy of the

AFRICAN NETWORK FOR SOIL BIOLOGY AND FERTILITY (AfNet)

Improving smallholder farmers' livelihoods for sustainable land management through Networking

2008-2012

ISBN 978-92-9059-217-4







African Network for Soil Biology and Fertility (AfNet)

The African Network for Soil Biology and Fertility (AfNet) was established in 1988 as a pan-African Network of researchers in Sub-Saharan Africa. 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. More recently, 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. Since its inception, AfNet has grown steadily and the current membership stands at over 400 scientists. The Network aims at strengthening and sustaining stakeholder capacity to generate, share and apply soil fertility management knowledge and skills to contribute to the welfare of farming communities in the Africa. This is achieved through the adoption of the integrated soil fertility management (ISFM) - a holistic approach to soil fertility that embraces the full range of driving factors and consequences namely biological, physical, chemical, social, economic and policy aspects of soil fertility.

AfNet achieves its mission through its main Thrusts namely:

Research and development activities: Network trials are scattered in more than 100 sites across the continent. The research is undertaken in collaboration with national agricultural research systems (NARS) scientists, farmers, non-governmental organizations (NGOs), local and foreign universities and advanced research institutes (ARIs). Other partners include the CGIAR centers, system wide programs (SWPs), Challenge Programs (CPs) and other networks.

Capacity building: AfNet's capacity building agenda is achieved through degree-oriented training (MSc and PhD research) in the domain of ISFM as well as through short courses and on-the-job training.

Information dissemination: In an effort to facilitate exchange of information among all stakeholders, AfNet has published several books, newsletters, brochures and posters. AfNet has successfully organized 9 international symposia where researchers from across the continent were able to share their research experiences. AfNet has also established The Essential Electronic Agricultural Library (TEEAL) to facilitate information dissemination to researchers and students.

The AfNet Coordination Unit is comprised of The Coordinator, research assistants, the administrative assistant, information dissemination and training specialist. The AfNet Steering Committee consists of a multi-disciplinary and gender balanced team of African Scientists drawn from the Eastern, Southern, Central and Western Africa regions.

To end the poverty and hunger of hundreds of millions of Africans requires a clear focus on improving the lives of small-scale farmers. Such an agricultural revolution MUST rely on uniquely African solutions to uniquely African problems resulting in a pro-poor and pro-environment change. The Alliance for a Green Revolution in Africa (AGRA) was formed as a direct response to African leaders' calls to chart a path for prosperity through spurring agricultural development using an African-led, participatory and comprehensive pro-poor and pro-environment approach.

With its network of able and successful researchers and the wealth of knowledge and experience, AfNet will position itself to work in partnership with AGRA and other partners to restore soil health in Africa in order to contribute in revitalizing African agriculture.

AfNet 2007. Improving smallholder farmers' livelihoods for sustainable land management through networking. African Network for Soil Biology and Fertility (AfNet) Strategy [2008 – 2012]. Nairobi Kenya

Edited by: Bationo A, FW Maina, B Waswa, J Kihara and J Okeyo

Published by Ecomedia Ltd (Email: ecomedia@cgiar.org)

Contents

Ţ

1	Introduction		1
	1.1	Overview of African Soils: Challenges and opportunities for their sustainable management	1
	1.2	Benefits of Networking	3
2	AfNet Vision, Mission, Goal and Core Values		5
	2.1	Vision	5
	2.2	Mission	5
	2.3	Goal	5
	2.4	Core Values	6
3	AfNet Management and Organizational Structure		6
	3.1	An overview of AfNet over time	6
	3.2	Structure and Governance	8
4	The AfNet Thrusts for Strategy Implementation		10
	4.1	Research and development	10
	4.2	Training and Capacity Building:	14
	4.3	Information Dissemination	15
5	AfNet Donors		16
6	Conclusion		16

iii

"The path to prosperity in Africa begins in the fields of Africa's small-scale farmers, with a dramatic sustainable revolution in agriculture"

H.E. Mr. Kofi Annan Former UN Secretary General Chairman, Alliance for Green Revolution in Africa (AGRA)

"The soil nutrient losses in sub-Saharan Africa are an environmental, social, and political time bomb. Unless we wake up soon and reverse these disastrous trends, the future viability of African food systems will indeed be imperiled"

Dr. Norman Borlaug Nobel Price Laureate

Introduction

1.1 Overview of African Soils: Challenges and opportunities for their sustainable management

Africa has an extremely wide range of soils and climatic conditions. Most of its soils are inherently infertile as a result of lack of volcanic rejuvenation. Further, inappropriate land use, poor management and lack of inputs have led to a decline in productivity, soil erosion, salinisation and loss of vegetation. Only 16% of Africa's land is considered of high potential, about 13% as medium potential, 15% as low potential while 55% of the land is unsuitable for any kind of cultivated agriculture except nomadic grazing.

Per capita food production in the continent has continued to decline over the past five decades, contrary to the global trend. Farmers' fields are characterized by high soil fertility variation. As a result, there is a great yield gap between the experimental station yields, potential farmers' yields and actual farmers yield (Figure 1). The high yield gap between the potential and the actual farmers yields can be attributed to several constraints, mainly biological (varieties, weeds, disease and insects, water and nutrient deficiencies) and socio-economic (costs and benefits, access to credit and inputs, attitude, among others. The result is widespread malnutrition, a recurrent need for emergency food supply, increased land degradation and an increasing dependence on food grown outside the region. At present, over US\$ 18 billion is spent annually on food imports and in the year 2000, Africa received 2.8 million tons of food aid, a quarter of the world's total.

Land degradation is the most serious threat to food production, food security and natural resource conservation in Africa. The population is trapped in a vicious cycle between land degradation and poverty, and the lack of resources and knowledge to generate adequate income and opportunities to overcome the degradation. Scientists have reported that soil loss through erosion could be about 10 times greater than the rate of natural formation, while the rate of deforestation is 30 times higher than that of planned reforestation. Wind and water erosion are important causes of degradation but soil fertility decline (largely invisible and a gradual process) is also important.



Figure 1: Yield gap between experimental station yields, potential yield and actual yields

African soils have inherent difficulties for agriculture in terms of low nutrient stocks and availability, acidity, poor drainage. Land use practices during the past several decades have exacerbated the situation through nutrient mining by crops, leaching, and inadequate erosion control.

There is widespread agreement that increased soil fertility is a necessary precondition to meet this challenge and initiate growth of agricultural productivity associated with the transformation process. Available evidence shows that increased use of fertilizers (both organic and inorganic) has been responsible for an important share of worldwide agricultural productivity augmentation. Fertilizer was as important as seed in the Green Revolution contributing as much as 50% of the yield increment in Asia. Whereas in the developed world, excess applications of fertilizer and manure have damaged the environment, the low use of inorganic fertilizer is one of the main causes for environmental degradation in Africa. The average intensity of fertilizer use throughout sub-Saharan Africa (SSA) remains much lower than elsewhere (roughly 9 kg/ha versus 86 kg/ha in Latin America, 104 kg/ha in South Asia, and 142 kg/ha in Southeast Asia) and has been virtually stagnant during the past decade. Despite its high costs, there is sufficient proof across Africa that fertilizers can increase agricultural production and reverse the land degradation trend in the different soils of the continent. Further, most agricultural scientists agree that technological change in sub-Saharan Africa (SSA) will require more attention to maintain and/or restore soil fertility than was the case with the Asian Green Revolution, which was stimulated by investments in irrigation and the development of improved seed varieties that were highly responsive to fertilizer.

A major deterrent to inorganic fertilizer use is that farmers deem it as expensive, yet production of sufficient organic fertilizers is limited by the small agricultural land parcels. What is needed is a holistic approach that embraces the full range of heterogeneous and complex driving factors and consequences – biological, physical, chemical, social, economic and political. Integrated Soil Fertility Management (ISFM) is the key in raising production levels while maintaining the natural resource base. ISFM aims to replenish soil nutrient pools, maximize on-farm recycling of nutrients, reduce nutrient losses to the environment and improve the efficiency of external inputs. Due to this complexity, a collaborative interaction and learning is needed to address such issues.

AfNet adopted the ISFM paradigm with a focus on appropriate management of the soil resource through networking and using multidisciplinary research teams.

1.2 Benefits of Networking

Networking may be defined as a strategy by stakeholders in a given area of interest to work together to achieve a common objective. The building blocks of a network are the participating individuals and/or institutions. These stakeholders collaborate on the hypothesis that working together is more beneficial and effective than working independently, and that there is a need to network both within and outside one's organization in order to accomplish their goals. Through networking, participants build up their knowledge base; understand the processes through which they can promote values; and translate their understanding into action. The collaborating institutions and/or individuals are in a position to exchange information and combine collective experience of professionalism in the same field as partners.

Based on the elements of partnerships, as illustrated in Figure 2, the advantages of networking include:

- i) Economies of scale and efficiency in research and development by concentrating scarce human, financial and other resources on key national and regional problems;
- ii) Increased bargaining power with external partners;
- iii) Minimal duplication;
- iv) Information exchange and combining collective experience of professionals in the same field;

- v) Collaborative research through network experiments;
- vi) Joint capacity building;
- vii) Capturing research and development spill-over/ spill-in effects;
- viii)Rationalizing human resource development;
- ix) Mobilizing research efforts on trans-national problems that require collaboration between countries;
- x) Exploiting a larger market for agricultural research technologies through regional collaboration;
- xi) Demonstrating impact despite the declining investment in agricultural research and development through regional cooperation;
- xii) Lower transaction costs;
- xiii)Facilitation of better and more access by all stakeholders to available technologies at regional and international levels

AfNet has network activities scattered in more than 100 sites across the continent. This gives the network an opportunity to learn from the different biophysical and socio-economic conditions across the continent. It also gives the network members an opportunity to have impact on small-scale farmers spanning across different socioeconomic and biophysical environments.



Figure 2: Elements of partnerships

2 AfNet Vision, Mission, Goal and Core Values

2.1 Vision

AfNet envisions a continent with a vibrant and sustainable agricultural sector driven by novel technologies, functional multidisciplinary teams responding to end-users' demands, constraints and opportunities.



Plate 1: Let us move from present unsustainable low yield, destructive agriculture towards a green revolution where we can increase productivity to >4-5 tons/ha, improve farmers' livelihoods and protect the environment

2.2 Mission

AfNet seeks to strengthen and sustain stakeholder capacity to generate, share and apply soil fertility and biology management knowledge and skills through networking and linkages, through multidisciplinary and participatory research and development, as well as capacity building and information dissemination, in order to contribute to a sustainable farming environment and welfare of smallholder communities.

2.3 Goal

AfNet's goals are to:

- 1. Reduce hunger and poverty through scientific research leading to new technologies and knowledge
- 2. Ensure environmental sustainability through research on the biology and fertility of African soils, targeted interventions, building scientific capability and contributions to policy
- 3. Strengthen national and international capacity to manage tropical ecosystems sustainably for human well-being with particular focus on soil.

2.4 Core Values

The following values drive AfNet to meet its mission:

Regionality: Achieving economies of scale and facilitating technology spillovers across national boundaries

Multi-disciplinarity: Commitment to developing and building multi-disciplinary teams incorporating young professionals in Integrated Soil Fertility Management (ISFM)

Innovation and Creativity: For development and impact in agriculture, an enabling environment is necessary for innovation and creativity among farmers and scientists

Capacity building: Build capacity of researchers to conduct appropriate research and in use of methods and tools that enhance their analytical skills and bring meaning to their research output relevant to the respective region context

Impact: By engaging in client-driven technology development to enhance suitability, adoption and adaptation

3 AfNet Management and Organizational Structure

3.1 An overview of AfNet over time

The African Network for Soil Biology and Fertility (AfNet) was established in 1988. It is the single most important implementing agency of TSBF in Africa. Since then AfNet has grown in numbers, regional representation and activities throughout the continent (Figure 4).

AfNet is a pan-African Network of multidisciplinary team of researchers (soil scientist, agronomists, anthropologists, social scientists, development specialists, among others) from Eastern, Central, Southern and Western Africa regions. Since its inception, the Network has experienced rapid growth, growing from 10 researchers in 1989 to over 400 members across the continent (Figure 3) in 2007. This rapid growth demonstrates the overriding importance of building capacity of stakeholders through relevant research and training.

AfNet focuses on managing a platform that will provide members the linkages and network support that enables easy availability, access and use of public good knowledge and innovations relevant to the different countries/regions. Hence, AfNet purposes to turn knowledge into action and into impact by facilitating its members and other stakeholders with information, tools and opportunities that enable them identify the **what**, the **how**, and the **who** in soil biology and fertility research to increase land productivity and incomes in Africa.



Figure 3: AfNet Membership growth since inception

In 2006, inspired by the common goal to promote and accelerate the progress of improving soil fertility in sub-Saharan Africa (SSA) for improved productivity, incomes, food security and welfare of the people in the region, the International Centre for Tropical Agriculture (CIAT – *Spanish acronym*) and The Forum for Agricultural Research in Africa (FARA) signed an MoU to have AfNet be an official pan-African network hosted by FARA. Through this partnership agreement, the comparative advantage of both FARA and AfNet will be harnessed.

FARA is an umbrella organization bringing together and forming coalitions of major stakeholders in agricultural research and development in Africa. It is an apex body for Africa's agricultural research and a knowledge hub where NARES, NGOs, farmers' organizations, private sector, ARI's and IARCs share and exchange experiences. FARA complements the innovative activities of national, international and subregional research institutions to deliver more responsive and effective services to its stakeholders. It plays advocacy and coordination roles for agricultural research for development, while the national agricultural research systems (NARS), advanced research institutions (ARIs) and international agricultural research centers (IARCs) develop improved technologies along the research-to-development continuum in their respective countries and coverage areas. FARA's objective is to achieve, through the delivery of its results, broad-based agricultural productivity, competitiveness and sustainably improved markets in Africa. AfNet is the implementing agent of the Tropical Soil Biology and Fertility Institute of the International Centre for Tropical Agriculture (TSBF-CIAT). TSBF-CIAT was founded in 1984, and conducts research on the role of biological and organic resources in tropical soil biology and fertility, and its relationship to the natural and social environment. The objective has been to provide farmers with improved soil management practices to improve their livelihoods sustainably.

Under its 2005-2010 Strategic Plan, TSBF-CIAT's objectives are:

- To improve the livelihoods of people reliant on agriculture by developing sustainable, profitable, socially acceptable and resilient agricultural production systems based on ISFM
- To develop sustainable land management (SLM) practices in tropical areas while reversing land degradation; and
- To enhance the human and social capital of all TSBF-CIAT stakeholders for research and management on the sustainable use of tropical soils

3.2 Structure and Governance

The annual planning, supervision, monitoring and evaluation of AfNet activities are the responsibilities of the Scientific Steering Committee (SSC) with support from the Coordinating unit. The SSC comprises a multi-disciplinary and gender-balanced team of African Scientists equally representing the Eastern, Southern, Central and West African regions as well as the different biophysical and socio-economic disciplines. The structure of AfNet is represented by Figure 5.

The AfNet Coordinating Unit, comprising the Coordinator, the administrative assistant, research assistants, information dissemination specialist and training specialist, supervises the day-to-day implementation of AfNet activities.



The implementation of AfNet projects in the different countries is based on multidisciplinary teams built at country and regional level. Each team is led by a coordinator reporting directly to the AfNet Coordinator. The AfNet Coordinator is the Executive Officer of the network, and is responsible for the network's day-to-day operations.



Figure 5: AfNet Structure

To join AfNet, one should fill a membership registration form that details one's educational and professional background. The form is available on request from the Network's office.

By joining the network, the members will:

- Be required to be proactive in setting the network agenda by initiating ideas, participating in writing proposals and implementing projects, actively participating and contributing during network meetings and symposia. The secretariat will avail to members through electronic media, any information regarding conferences, workshops, amongst others, that may be of interest to them.
- Benefit from the avenue of creating partnerships presented by the network; receive materials that are availed to the coordinator regarding conferences, meetings, e.t.c.;

4 The AfNet Thrusts for Strategy Implementation

To attain its goals, AfNet will focus on three main thrusts:

- 1. Research and development activities
- 2. Training and Capacity building
- 3. Information dissemination

4.1 Research and development

AfNet will continue supporting broad-based soil research amongst its members working in collaboration with other disciplines, with an objective to create farm and landscape impact by targeting and reaching majority of small-scale resource poor farmers. The research will be based on the network research topics, ranging from on-station to on-farm participatory research and development of tools for technology dissemination.

Members and especially young professionals are encouraged to develop proposals under AfNet, provided the objectives of the projects in question do not conflict with AfNet's goals and objectives.

The main network Research and Development Topics are:

i. Sustainability indicators from long-term experiments

experiments Long-term are valuable for understanding the relationships between changing soil and crop management practices and productivity over time. Developing technological and economic indicators these trials through of careful monitoring of the experiments over time and analyzing the data using improved statistical and simulation tools, enhances researchers capability to make informed decisions about which management interventions are most appropriate. AfNet has, through its members, been running long-term experiments in all represented regions in the continent (Figure 6)



Figure 6: Location of some selected long-term experiments in Africa

ii. Combining organic and inorganic nutrient sources

The realization that the 'green revolution' technologies reliant only on mineral fertilizers have failed to take hold in Africa, and that approaches based purely on organic inputs cannot provide the required increments in agricultural production, demands effective use of both types of resources. The combined use of locally available organic resources and purchased inorganic inputs forms the technical backbone of INM.



Plate 2: Fertilizer micro-dose in West Africa

It is important to know the specific amount of an organic material that can have the same effect on crop yield as a certain amount of inorganic fertilizer. The overall amount of nutrients released from these organic amendments for crop uptake depends on the quality, rate of application, nutrient release patterns and environmental conditions.

iii. Legumes in cropping systems

Legumes are important components of sustainable cropping systems and important protein sources for both animals and humans. They contribute biologically fixed N

and sustain the soil by reducing erosion and increasing soil organic matter levels, microbial activity, reduction of soil temperature, and weed suppression. Diversifying cropping systems by including legumes can also reduce weed, insect, and disease incidence (Plate 3) . Due to the opportunity costs associated with different legume types, it is important to develop an effective guideline, based on ongoing and previous research, which targets different legume types into niches of different agro-ecologies and socio-economic strata.



Plate 3: Integrating legumes either through intercropping or rotating with cereals

iv. Combining water and nutrient management

Degraded soils rarely respond to external inputs, such as mineral fertilizers, and hence reduce the efficiency and return of fertilizer use. Degraded soils also have very poor water holding capacity partly because of low soil organic matter content that in turn reduces the fertilizeruse efficiency. Declining and nutrient water quantity and quality is a



Plate 4: Comparison of sorghum crop with zai (left) and no-zai pits (right) in Burkina Faso

critical limiting factor in agricultural productivity. Water use efficiency holds the key to improving agricultural (Plate 4) and livestock productivity.

v. Conservation agriculture



Conservation agriculture (CA) is an application of modern agricultural technologies to improve production while concurrently protecting and enhancing the land resources on which production depends. Application of CA promotes the concept of optimizing yields and profits while ensuring provision of local and global environmental benefits and services.

Plate 5: Moisture conservation in a maize field under Conservation Agriculture

vi. Addressing sustainable land management by moving from plot to landscape scale

Society has begun demanding that agriculture becomes more than simply putting food on the table; it is demanding that it also becomes a steward of rural landscapes.

Soils provide a wide range of ecosystem services that are essential for the well-being of agriculture, smallholder farmers, rural communities and society as a whole. Most strategic and component research is conducted at plot/field scale. This loses the diversity brought about by the interactions among various agricultural enterprises and biophysical and socio-economic variability at field and landscape scales. Further, some aspects of soil and land degradation, for example soil erosion control, can only be managed effectively at larger landscape scales.

vii. On-Farm Testing of promising technologies and scaling-up best-fits technologies at farm-level



Plate 6: Farmers and other stakeholders evaluating results of onfarm testing

The objective of on-farm research/technology testing is to identify, in cooperation with farmers, new and acceptable farming practices and materials that will improve the farmers systems and sustainably raise farm productivity. Onfarm testing of cost-effective technologies also helps stakeholders (researchers, farmers, and extension staff) to identify which interventions

give best short-term benefits that are sustainable over the long-term.

Not all farmers in the continent can be expected to adopt and sustain soil fertilityenhancing investments to initiate the processes and benefits of structural transformation, due to factors such as inappropriate agro-ecological or market conditions or household resource constraints. Nonetheless, increased growth in productivity must be achieved by a large enough proportion of farmers and on a sufficiently large share of cultivated land in order to achieve the desired multiplier effects and demographic shifts.

A good technology dissemination and transfer method is one that includes multidisciplinary and multi-stakeholder team. Every research process should have clear indication of how the successful results, developed in participation with other stakeholders, will be scaled-up. Different approaches are used for different technologies and different farmer groups.

4.2 Training and Capacity Building:

Capacity building is not just providing people with the skills and expertise to accomplish tasks and solve problems; it also means providing the environment in which individuals can exercise their capabilities. These skills and expertise need to be mobilized and applied, involving factors such as the motivation and efforts of individuals to improve their livelihood and the mobilization of people to reach common goals that are mutually beneficial to a society.

Recipe-book approaches, previously widely used by most researchers, are no longer the only focus of activity amongst scientists today. New methods and ways of conducting research that is more efficient are evolving. It is hence important that AfNet as a network keeps its members up-to-date with as many of such tools and methods as may be possible, relevant and applicable.

AfNet's capacity building agenda will be achieved through:

- a) Degree oriented training (MSc and PhD research) This graduate training agenda focuses on skill building to steer African agriculture towards a green revolution
- b) Short-term training courses - In an effort to build a critical mass of experts in Africa, AfNet will continue to organize and implement various short-term training courses to build and strengthen 'Tshaped skills' of multi-disciplinary research teams. Courses cover



Plate 7: DSSAT Trainees in Accra, Ghana

topics including, but not limited to, participatory research and scaling-up, gender analysis, decision support systems (Decision-Support Systems for Agro-technology Transfer – DSSAT, Soil and Water Assessment Tool – SWAT), proposals and scientific publications, presentation skills, soil erosion and carbon sequestration and nutrient monitoring (NUTMON) in agro-ecosystems, markets and agro-enterprise development, statistical analysis and data management, amongst others. The courses equally target both the young and advanced professionals to create continuity. c) On the job training – AfNet is pledged to enhance the capacity of young professionals who already possess some basic skills through supervised on-thejob training. The objective is to broaden their skills by keeping them up-to-date with tools necessary to increase their effectiveness.

4.3 Information Dissemination

Information sharing through symposia, documentation and publications are important for sharing information with different levels of stakeholders. AfNet achieves this through:

- a) AfNet Symposium held on a regular basis with selected papers published in recognized refereed journal(s)
- b) AfNet co-hosting symposia with other organizations focusing on a given theme.
- c) Electronic/virtual libraries where AfNet members can access journals and papers relevant to their research, examples include The Essential Electronic Agricultural Library (TEEAL)
- d) Publishing books, newsletters, brochures, posters and policy briefs from the output of AfNet-facilitated/funded research activities (Figure 7)



Figure 7: Example of AfNet Publications

5 AfNet Donors

Investors, who have and continue to assist the network financially to attain its mission include, but are not limited to:

African Development Bank (ADB)

Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)

Canadian International Development Agency (CIDA)

Centre Technique de Coopération Agricole et Rurale/Technical Centre for Agricultural and Rural Cooperation (CTA)

Challenge Program for Water and Food (CPWF) of the CGIAR

Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricoles/ The West and Central African Council for Agricultural Research and Development (CORAF/WECARD)

Desert Margins Program (DMP)

Forum for Agricultural Research in Africa (FARA)

Ford Foundation (FF)

Gatsby Fund - Kilimo Trust

International Development Research Centre (IDRC)

International Fund for Agricultural Development (IFAD)

International Foundation for Science (IFS)

Japan International Research Centre for Agricultural Sciences (JIRCAS)

OPEC Fund for International Development (OFID)

Rockefeller Foundation (RF)

Sub-Saharan Africa – Challenge Program (SSA-CP)

Syngenta Foundation

Swedish International Development Cooperation Agency (SIDA)

Swiss Centre for International Agriculture (ZIL)

United States Agency for International Development (USAID)

Volkswagen Foundation

6 Conclusion and Looking Forward

AfNet is pledged and focused on working towards impact in improving soil biology and fertility management. AfNet seeks to be the cornerstone of sustainable land management in Africa using a holistic approach to soil fertility research that recognizes that the driving factors influencing adoption of ISFM are not only biophysical and chemical but also social, economic and political. The network embraces multidisciplinarity at country and regional levels. In terms of its research and development focus, AfNet will hence emphasize the following:

- Strengthen networking within the continent to engage a wide range of stakeholders and enhance the efficiency of ISFM research
- In particular, strengthen links between research, extension, farmers and other stakeholders (including a "learning by doing" approach, which includes local knowledge and builds on existing strength
- Further intensify linkages with other programs and projects that work towards improving soil fertility and biology and using these to improve quality of life – food self sufficiency, income generation, environmental sustainability, access to water in quality and quantity.

The network will also continue building capacity of its members and focus on:

- Developing strategic partnerships in capacity building that identify and utilize the range of comparative expertise
- Conducting workshops and trainings that will increase member' capacity to create impact through their research in collaboration with partners

As a means to ensure that the information generated reaches relevant stakeholders, AfNet is keen to

- Improve the dissemination of knowledge on ISFM through a wide range of methods including electronic sharing and training of trainers
- 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 ISFM issues with policy and decision-makers at all levels

Currently, to end poverty and hunger among hundreds of millions of Africans requires a clear focus on improving the lives of small-scale farmers. Such an agricultural revolution MUST rely on uniquely African solutions to uniquely African problems resulting in a pro-poor and pro-environment change. The Alliance for a Green Revolution in Africa (AGRA) was formed as a direct response to African leaders' calls to chart a path for prosperity through spurring agricultural development using an African-led, participatory and comprehensive pro-poor and pro-environment approach.

With its network of able and successful researchers and the wealth of knowledge and experience, AfNet will position itself to work in partnership with AGRA and other partners to restore soil health in Africa in order to contribute in revitalizing African agriculture.

The AfNet Coordination Unit ... Happy to serve the Network members and by working together we believe that we can make the difference?

ISBN 978-92-9059-217-4