



Managing the fertility of Africa's soils: the case for collective action



Any business that loses an estimated US\$ 4 billion per year clearly cannot sustain itself – the management would have been fired, the business taken over by more efficient competitors and the process of righting past wrongs would have begun. For Africa's soils, which lose those dollar equivalents in nutrients, there is no such speedy redemption. They continue to bleed unsustainably. For instance, it is estimated that Zambia loses about 3 million tons of top soil per year, while South Africa loses two orders of magnitude more with losses of 300-400 million tons! Add to this the losses of vegetative cover and the potential to lose even more soil – faster - becomes very apparent.

In the past, responses have been fragmented, often promoting single technological solutions across wide areas (the blanket solution approach). This failed to take into account the heterogeneity of African soil constraints as well as the complementarities and synergies in using multiple soil fertility management practices. However, there are now intensified efforts to coordinate actions amongst those who are trying to respond to this severe crisis. On a continent that uses on average just 10% of the fertilizer per hectare that the rest of the world uses, where 65% of people are directly affected by soil degradation, it is high time that there is concerted action on behalf of Africa's soils, the basis for its agriculture and development.

There has been collective action to develop principles and tools to tackle the problem of soil infertility in Africa. Integrated soil fertility management has been demonstrated as a viable new paradigm by many of the CGIAR Centres. For instance the benefits of micro-dosing of fertilizers, or using legume intercrops, improving manure management, through conservation agriculture to improved fallows have been tested singly and in combination by CGIAR centers across eastern and southern Africa. Likewise, there has been collective action to enrich the low state of knowledge of where different soil constraints manifest themselves in African landscapes and farms. Recent findings demonstrate the heterogeneity of soil physical, chemical, and biological properties at landscape level, but also at micro scales – within communities and households. This is critically important for designing appropriate intervention strategies. So collective action on technology development and its targeting is already under way and will continue.

The need for collective action is most acute however at multiple, nested scales. This is because soil degradation is the result of many ecological, social and economic interactions at variable, often nested, scales such as those of sub-regions (e.g. the Sahel) to river basins (such as the Nile or the Limpopo) down to a farmer's field or a recently deforested patch being readied for agriculture.

In the last two years a number of initiatives have started addressing the challenges to Africa's soil fertility at appropriate scales and across several interacting dimensions. For instance TerrAfrica is now poised to move forward in 28 African countries, using an initial Global Environment Facility grant of \$150 million and leveraging over \$1 billion in total funds. It aims to bring together a wide range of projects, programmes, and organizations working on issues of sustainable land management in Africa, with a view of enhancing coalitions, knowledge sharing and synergizing funding. This initiative is currently the major Sustainable Land and Water Management activity of NEPAD's (New Partnership for Africa's Development) Comprehensive African Agriculture Development Program. The Alliance for a Green Revolution in Africa (AGRA) has just launched its Soil Health Programme, which aims at ramping up investments in soil management practices and fertilizer use efficiency in 11 African countries, at the level of about \$200 million over 4 years.

Recently, under the auspices of the World Bank's TerrAfrica group, three CGIAR Centres are undertaking joint work on farmer/community perceptions of climate change and responses in four countries, assessing the effectiveness of institutional and technological responses (IFPRI, ICRISAT and ICRAF). The Tropical Soil Biology and Fertility Institute (of the International Centre for Topical Agriculture – CIAT) and the World Agroforestry Centre are implementing the African Soil Information Service project funded by the Bill and Melinda Gates Foundation and AGRA. The project will collect and analyze soil information and assess management practices in 60 sentinel sites across 24 countries of Sub-Saharan Africa.

But there is need for much more collaboration between the CGIAR and the new development initiatives to seize the opportunity for learning by creating 'field laboratories' of unsurpassed scope. One area is the design of promising land management interventions that could be tested on a wider scale. While the race against soil nutrient bankruptcy may have begun in earnest, for Africa's soil health let us hope these initiatives have the speed, determination, talent and endurance of its runners!

For more information contact Frank Place (f.place@cgiar.org) or consult the following web resources: www.terrafrica.org; <http://www.africasoils.net>; www.agra.org; http://www.ciat.cgiar.org/tsbf_institute/africa.htm <http://www.springerlink.com/content/w83n55xh38u6/?p=24ce698071f447c38ddf8bf273d93b4&pi=3>

The Collective Action: Five CGIAR Centres together with a large number of other organizations have been involved in researching the technical basis for integrated soil fertility management.

Newsbytes

African Union ministers call for concrete policy and finance engagement

African experts on agriculture, land and livestock, meeting in Addis Ababa in April this year, called for a scaling up of conservation agriculture and agroforestry, and the development of a climate change adaptation framework for African agriculture. They emphasized that climate variability and change is critical to the agricultural development agenda and that it is imperative that Africa builds productivity and resilience in agricultural systems. They also observed how critical it is to identify vulnerable populations and include them in agricultural growth strategies. In their statements, the experts were emphatic on the need and urgency for Africa to engage concretely, especially at policy and investment financing levels, to accelerate agriculture and rural development, recognizing that land is a key resource for underlining Africa's development.

Click here to read the Ministers' Declaration

<http://www.ilri.org/regionalplan/documents/Minister%20declaration.pdf>

The World Agroforestry Centre on the CGIAR Research Map

The CGIAR Research Map has recently been updated with some of the latest research projects from the World Agroforestry Centre. This issue's lead story focuses on Integrated Natural Resource Management (INRM), which seeks to respond to major drivers of land-use and land-use change, such as climate change, health pandemics, rural-urban migration and large scale changes to technology adoption. 62 of the Centre's projects – carried out in 32 African countries - focus on key areas of research ranging from food security, eco-system, climate change, environment conservation, land use and management among others.

For more information, visit the CGIAR Research Map: http://ictm.cgiar.org/cgmapTemplate/ESA_map.html

COLLECTIVE ACTION NEWS is a periodical e-publication of the CGIAR's Regional Plan for Collective Action in Eastern and Southern Africa, hosted at the International Livestock Research Institute and the World Agroforestry Centre, both of which are supported by the Consultative Group on International Agricultural Research (CGIAR)

Newsletter team:
Ravi Prabhu, Michael Hailu, Rebecca Selvarajah-Jaffery, Susan MacMillan and Reagan Sirengo

Questions, comments, feedback? Please email: rselvarajah-jaffery@cgiar.org

© 2008 Copyright and Fair Use.
ILRI and World Agroforestry Centre encourage fair use, without alteration, of these materials for non-commercial purposes. Proper citation is required in all instances. Information owned by other providers and requiring permission is marked as such. Website links provided by our sites will have their own policies that must be honoured. The information provided by ILRI and World Agroforestry Centre is, to the best of our knowledge, accurate although we do not guarantee the information nor are we liable for any damages arising from its use.

Visit our websites:
<http://www.ilri.org>,
<http://www.worldagroforestry.org> and
<http://www.ilri.org/regionalplan/index.php>