

# AFRICAN SOIL MANAGEMENT

## Adaptation of African Agriculture – Sustainable and Resilient Soil Management



**When:** 14.30 – 16.00 Nov 13, 2016 **Where:** Karam 1, Palais des Congres



### KEY SPEAKERS

Prof. Tekalign Mamo, ATA & FAO Special Global Ambassador for the 2015 International Year of Soils  
*Introductory note on Soil Information System in Africa*

Prof. Rattan LAL, Ohio State University, USA  
*State of the art knowledge on soil carbon management and sequestration with focus on Africa*

Dr. Martial BERNOUX, Natural Resources Officer (Climate Change Mitigation), FAO  
*Experiences and challenges of sustainable management of African soil*

Dr. Rachid MRABET, Research Director, INRA Morocco and Member of Scientific Committee (COP22)  
*Climate-resilient agriculture in Africa*

Charlotte Hebebrand, Director General, International Fertilizer Association (IFA)  
*Climate-Smart Agriculture – what role for fertilizers?*

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RESEARCH PROGRAM ON  
Climate Change,  
Agriculture and  
Food Security



## Unleashing the Potential of Africa's Soils

- 60% of the planet's unexploited arable lands are found in Africa, but land must be protected from degradation and exhaustion.
- Two-thirds of Africa's arable lands could be lost by 2025 because of the negative impact of climate change.

### Africa's Soils under the Microscope

Currently, 60% of the global unexploited arable lands are in Africa, while two-thirds of these lands could be lost by 2025 due to desertification associated with climate change. Adverse effects of climate and degrading natural resources are and will continue to seriously impact Africa's GDP, putting agriculture at the frontline in shaping the continent's economic future.

African soils are facing severe constraints that include continued erosion, fertility loss and declining water holding capacity contributing to lowering crop yields for farmers. The situation is being further compounded by climate change, representing a serious threat to the food and nutritional security of Africa.

**The soils of Africa are key to climate change mitigation and adaptation** through their ability to sequester carbon and build resilience into agricultural production systems. Our ability to manage this critical resource will be contingent on changes in soil management practices, sustainable fertilizer use, and management and the utilization of knowledge and big data to support decision-making.

### From Exploitation to Conservation of Natural Resources

Farming and soil management practices that focus on restoring and maintaining soil organic carbon and functional biology will contribute to the development of healthy soils and deliver multiple benefits at the systems level. These include higher crop productivity, balanced nutritious foods, improved natural resources, and resilience of production systems to the negative effects of climate change.

Practices such as conservation agriculture (CA) that is based upon zero or minimum mechanical soil disturbance (no-till seeding and weeding), maintenance of soil mulch cover with crop residue, and diversified cropping systems through crop rotations and associations, is practiced on over 157 million hectares globally.

However, the adoption of CA in Africa is limited.

**CA has high returns on environmental benefits** through improving soil health and its ability to sequester carbon, and reducing soil erosion and desertification. Further, these interventions maintain soils' critical ecosystem services that include nutrient and soil moisture levels that directly contribute to maintaining and increasing food production. Along with balanced crop nutrition through the application of essential nutrients that are guided by appropriate soils based data, the current impasse in **declining soil attributes can be reversed building resilience into African farming systems in the face of climate change.**

**66%** of land in Africa is already affected by degradation.

The continent loses **3%** of agricultural GDP annually from soil and nutrient loss on farmland.

Join us in discussions with leading soil and environmental experts