



## **Soil fertility status and challenges in Burundi: an overview**

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Landlocked and thousands miles away from international sea ports, Burundi is one of the poorest country in the world. 58% of the population suffers chronic malnutrition, 67% live in absolute poverty (MDG report 2012). 90% of the estimated 10 million people depends on subsistence agriculture, on about 3 million ha of cultivable land. The average size of a family farm is less than 0.5 ha which has to support a family of typically 7 people . As a consequence, fallow practices are no longer possible and continuous land cultivation leads to enormous soil losses by erosion. As much as 100-200 metric tons per hectare of soil losses have been reported on the hill sides of the Mumirwa region, whose landscape is currently so degraded that the local community now say that “stones grow” in the zone. In medium to high altitude areas, about 1 million of ha are acidic ( $\text{pH} < 5$ ) with a high risk of Al toxicity and deficiencies in major (P, Ca, Mg, K) and micro-nutrients (Cu, Zn). Some parts of the low land of the Imbo zone, dedicated to rice cultivation, manifest indications of salinity. A recent survey showed that 14% of the 2.800 ha of land committed to rice production is affected by rising salinity. Although soil salinity constitutes a challenge to rice producers in that region, soil acidity, often combined with Al toxicity, is the major limitation to soil productivity throughout Burundi. Aluminum saturation up to 60% and pH as low as 4.5 are observed. As elsewhere, technical solutions do exist, but the level of poverty of the population is such that access to fertilizers and adoption of sustainable practices is very weak. We believe that the main challenge to soil productivity in Burundi is more socio-economic than technical, and farmers should be helped with simple tools that should be linked to their indigenous knowledge about soil fertility. Sustainable management of soil fertility is the key challenge for farmers to optimize a sustainable yield.

Key words: micro nutrient, soil fertility, nutrient depletion, soil acidity.