

Background, Current status and the African Context of the International Nitrogen Initiative

Mateete Bekunda, Makerere University, Uganda; James Galloway, University of Virginia, USA; Keith Syers, Naresuan University, Thailand

Over the past 40 years, world population has increased from about 3 to 6 billion with consequent increase in food demand. Food production has kept pace through the combined use of high-yielding varieties, fertilizers and improved crop management practices albeit at different scales across the globe. In sub-Saharan Africa (with the exception of South Africa), the average application rate of manufactured fertilizers is around 8 kg ha⁻¹ of cultivated land compared with a world average estimated at 91 kg ha⁻¹. Thus fertilizers have been identified as one of the critical elements of the agricultural sector in sub-Saharan Africa; application rates and use efficiency must be increased in order to restore soil fertility and preserve the fragile ecosystems. This fits in the International Nitrogen Initiative's overall goal which is to "*Optimise nitrogen's beneficial role in sustainable food production and minimize nitrogen's negative effects on human health and the environment resulting from food and energy production*". This requires identifying gaps in current scientific understanding, uncertainties, controversies, novel approaches, moreover priorities for research, in order to help define research agendas. An African Regional Centre of the Initiative is necessary to lead in developing the region's specific N issues and solutions, and selective options and plans for implementation of the solutions.

To be presented at the Symposium on Improving Human Welfare and Environmental Conservation by Empowering Farmers to Combat Soil Fertility Degradation. Yaoundé, Cameroon. May 17 – 21, 2004