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UPCYCLING BIOMASS RESIDUES: LEARNING FROM THE BIOCHAR FOR SUSTAINABLE SOILS (B4SS) PROJECT

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Maintaining soil health and improving management of land resources are fundamental for increasing food security, reducing poverty and preventing conflict. Biochar (charcoal produced from biomass residues and used as soil amendment) is proposed as a valuable constituent of resilient agricultural ecosystems. The objective of the Biochar for Sustainable Soils (B4SS) project is to demonstrate and promote adoption of sustainable land management practices involving biochar through effective upcycling of biomass residues that improves the capture and efficient use of nutrients, enhance crop productivity, improve resilience to climate change, and support livelihoods. Funded by the GEF and UN Environment, the B4SS project supports participant organizations in six countries to evaluate the effects of biochars under various environments. Each country partner has identified that biochar can contribute to simultaneously addressing the decline in land productivity, contamination of soils with heavy metals, pollution caused by injudicious disposal of organic residues, and increase in rural poverty. Biochars are leveraging locally available agricultural waste, such as coffee husk and cattle bones in Ethiopia; chicken manure that a farm cannot recycle and green waste diverted from landfill in Peru; sugar cane bagasse in Kenya; crop straw diverted from open burning in Vietnam and China; and unused cacao shells and cassava stems in Indonesia. Many of the biochar formulations engineered also provide liming value and supply of critical plant nutrients such as potassium, phosphorus and calcium, thus enhancing soil fertility and crop productivity. Moreover, reduction in greenhouse gas (GHG) emissions associated with the disposal of these residues, and the proven capacity of biochar to sequester carbon in soil for long periods and to reduce non-CO_2 GHG emissions from soil contribute to climate change mitigation. This presentation summarizes current knowledge of biochar and shares achievements and learning from the B4SS project.

Biography

Ruy K Anaya de la Rosa holds a BSc in Mechanical Engineering from ITESM, Mexico, an MSc in Sustainable Energy Technology from TU/e, the Netherlands, and a PhD in Environmental Science from Massey University, New Zealand. He previously worked with biomass technologies for carbon markets: as Project Developer (in Phnom Penh and Chefchaouen), Project Manager (in Paris) and carbon accounting Methodology Designer (in Armidale). His experience includes biochar, the technical and social implications of carbon trading, life cycle assessment, and the diffusion of innovations. Currently based in Australia, he is the Director of the Biochar for Sustainable Soils (B4SS) Project.

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