



Participatory innovation process for testing new practices for soil fertility management in Chókwè Irrigation Scheme (Mozambique)

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Integrated water and nutrient management are key factors to increase productivity and to reduce the yield gap in irrigated systems in Sub-Saharan Africa. These two elements are affected by an ensemble of abiotic, biotic, management and socio-economic factors that need to be taken into account to reduce the yield gap, as well as farmers' perceptions and knowledge. In the framework of the project European Union and African Union cooperative research to increase Food production in irrigated farming systems in Africa (EAU4Food project) we are carrying out a participatory innovation process in Chókwè irrigation scheme (Mozambique) based on stakeholders engagement, to test new practices for soil fertility management that can increase yields reducing costs. Through a method combining interviews with three farmers' associations and other relevant stakeholders and soil sampling from the interviewed farmers' plots with the organization of Communities of Practices, we tried to capture how soil fertility is managed by farmers, the constraints they find as well as their perceptions about soil resources. This information was the basis to design and conduct a participatory innovation process where compost made with rice straw and manure is being tested by a farmers' association. Most important limitations of the method are also evaluated. Our results show that socio-economic characteristics of farmers condition how they manage soil fertility and their perceptions. The difficulties they face to adopt new practices for soil fertility management, mainly related to economic resources limitations, labour availability, knowledge time or farm structure, require a systemic understanding that takes into account abiotic, biotic, management and socio-economic factors and their implication as active stakeholders in all phases of the innovation process.