

Operation '1 Household Dry Toilet for Planting 20 Fruit Trees and/or Acacias on Cropland': Strategy for Promoting Adoption of Well-Managed Agroforestry Systems and Prevent Streaming and Soil Erosion

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Abstract : Several areas in the Democratic Republic of Congo (DRC) experience serious problems of streaming and soil erosion. Erosion leads to degradation of soil health, and the three main causative factors of similar importance are deforestation, overgrazing, and land agricultural mismanagement. Degradation of soil health leads to a decrease in agricultural productivity and carbon dioxide (CO₂), and other greenhouse gas emissions. Agricultural productivity low, and sanitation-related diseases are a concern of a majority of DRC rural people -whose main livelihoods are conventional smallholder agriculture- due to degradation of agricultural soil health and prevalence of inappropriate sanitation in rural areas. Land management practices that increase soil carbon stocks on agricultural lands with practices including conservation agriculture and agroforestry do not only limit CO₂ emissions but also help prevent erosion while enhancing soil health and productivity. Promotion to adopt sustainable land management practices, especially conversion to well-managed agroforestry practices, is a necessity. This needs to be accompanied by incentives. Methods that incite smallholders to adopt practices that increase carbon stocks in agricultural lands and enhance soil health and productivity for social, economic, and environmental benefits, and give them the ability to get and use household dry toilets -included activities to inform and raise smallholder households awareness on the conversion of croplands to well-managed agroforestry systems through planting at least 20 fruit trees and/or acacias, soil carbon and practices that sequester it in soil and ecological sanitation; and offer smallholders technique and material supports and incentives under the form of dry toilets constructed for free for well-managed agroforestry implementation- were carried out to address problems of soil erosion as well as agricultural productivity and sanitation-related diseases. In 2018 and 2019, 19 of 23 targeted smallholder households expressed their satisfaction and converted their croplands to agroforestry through planting 374 trees, and each gotten 1 dry toilet constructed for free. Their neighbors expressed a willingness to participate in the project. Conversion to well-managed agroforestry practices offers many advantages to both farmers and the environment. The strategy of offering smallholders incentives for soil-friendly agricultural practices, especially well-managed agroforestry, is one of the solutions to prevent soil erosion. DRC rural people whose majority are smallholder households, need to be able to get and use dry toilets. So, dry toilets could be offered like incentives for well-managed agroforestry practices. Given the many advantages agroforestry and dry toilet can offer, recommendations are made for funding organizations to support such projects that promote the adoption of soil health practices.

Keywords : agroforestry, croplands, soil carbon, soil health

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