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FOR PEOPLE AND NATURE

POLICY BRIEF

ON

ENHANCING UPTAKE OF NATURE-BASED SOLUTIONS FOR FLOOD RESILIENCE IN RIVER NYAMWAMBA CATCHMENT AND SIMILAR RURAL AGRICULTURAL-MOUNTAINOUS LANDSCAPES

April 2025

Floods are among the most destructive natural disasters being experienced worldwide. in Uganda, between 2013 and 2023, every year from May to October, there has been a report of River Nyamwamba flooding resulting into damage to property and loss of lives. The gravity of flooding in River Nyamwamba catchment becomes evident when we reflect on the consequences of the May 1, 2013, flash floods. This single event led to multiple fatalities, the destruction of 70 buildings, several bridges, a hospital, a school, and even a tarmac road.

While Nature-Based Solutions for flood risks reduction like river buffer zone restoration and on-farm tree growing have gained global traction as sustainable approaches that not only reduce the floodrisk but also offers multiple co-benefits like biodiversity conservation, access to clean water, supply of wood fuel and construction materials reduction. Uganda is still exploring pathways for mainstreaming them into flood management policies. A recent study "Assessment of the adoption of nature-based solutions for flood risk mitigation: Socio-economic determinants in the River Nyamwamba catchment, Uganda", accessible at; https://doi.org/10.1016/j.nbsj.2025.100225 conducted by Mr. Nelson Nuwahereza and Prof. Susan B. Tumwebaze revealed that in the River Nyamwamba catchment, 54% of households have adopted at least one or a combination of river buffer zone restoration and/ or on-farm tree growing. Importantly, the research revealed that households with previous flood experience were significantly more likely to adopt Nature-Based Solutions for flood risks reduction, suggesting that first-hand exposure to disaster can motivate proactive action.

Access to flood risk information—such as early warning messages, community education, or disaster preparedness training—was also a key factor; households with access to flood risk information were more than twice as likely to implement Nature-Based Solutions for flood risks reduction, highlighting the significance of information and awareness in influencing adoption of Nature-Based Solutions for flood risks reduction decision-making. Remarkably, the number of breadwinners in a household, typically a sign of financial resilience, was negatively associated with adoption of Nature-Based Solutions for flood risks reduction. This counterintuitive result suggests that when more household members contribute to income, it may lead to intra-household competing priorities for land use, thereby reducing willingness to dedicate space to buffer zones or tree growing.

Moreover, the study found no significant difference in adoption rates between households involved early in phase of the Nature-Based Solutions projects and those involved later in implementation.

This challenges common assumptions that earlier involvement automatically leads to greater community ownership or success. These insights point to the complex mix of social, economic, and informational factors that shape how rural households engage with environmental interventions—and underline the need for context-sensitive, people-focused project design.

RECOMMENDATIONS

Government, development partners, Civil society organisations and other institutions introducing nature-based solutions for flood risk reduction, should focus on improving access to flood risk information, leveraging past flood experiences, and addressing intra-household land use conflicts to enhance their adoption.