

Letter to the Editor: Making flood adaptation suitable for farming households

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To the Editor,

Zambia's smallholder farmers largely maintain maize growing as their primary source of sustenance even though the yields tend to be extremely low. Maize production continues to be dominant as it is still seen as the best way for them to sustain their livelihoods despite having limited access to external resources. As smallholder maize production is rain-fed, it carries a high risk of being affected by climate change. Climate risk for smallholder farmers is in form of droughts, high temperatures and excessive rainfall which results in floods. The floods being experienced in most parts of the country during the 2022/2023 agricultural season [1] have brought to the fore the importance of adopting climate resilient and sustainable agricultural practices. Despite the heightened social media buzz, the recent flooding is not new. It is part of wider increased climate variability, noted for its severity and higher frequency [2]. Climate change has resulted in flooding in many regions [3], and impacted many sectors. In Sub-Saharan Africa (SSA), the most impacted sector is the smallholder agricultural sector. The impacts of climate change and its related events on food production and food security threaten SSA, a region which has a long history of poverty and food insecurity [4].

During my research visit to Eastern Zambia, I heard from local farmers who had their crops and fertilizer destroyed by floods. These are significant losses that many smallholder farming households may not be

able to recover from financially. Replanting the crops and reapplying the fertilizer requires significant resources they do not have access to easily. Flooding devastates homes, crops, and livestock, leading to hunger and malnutrition [5, 6]. Although interventions to mitigate smallholder agricultural challenges are ubiquitous in Zambia and focus on various aspects, those related to climate change are fixated on promoting climate smart technologies suited to low rainfall and droughts. Thus, while making basins or troughs meant to capture and store rainwater has proven to be ideal during such periods, it is inappropriate during flood periods and enhances farmer maladaptation to climate variability [7]. Actors involved in design and implementation of agricultural development programmes should respectively plan and implement climate adaptation strategies that respond to the myriad manifestations of climate change. Arguably, this could include the continued use of conventional tillage systems such as ridges, which are hotly discouraged by pro climate smart agriculture agents, during flood periods. The tendency to promote agricultural technologies that are not appropriate for smallholder farming communities should be replaced with a focus on the appropriateness of climate adaptation strategies to local bio-physical, socio-economic, political and cultural contexts. On many occasions, external development actors act to throw out the baby with the bath water and unsustainably encourage adoption of unsuitable 'new innovations' and disadoption of conventional technologies through provision of material

incentives to participating smallholder farmers.

One way to promote climate adaptation in Zambia's smallholder agricultural sector is to open up the national agricultural subsidy programme, the farmer input support programme, and allow farmers to acquire any farming input or implement as desired provided it is within the allowable subsidy amount, rather than the traditional provision of a narrow choice of seed and mineral fertilizer. A 'climate smart' subsidy programme would go a long way in contributing towards the achievement of Sustainable Development Goals on ending hunger, reducing poverty, ensuring good environmental stewardship and climate action.

Declarations

Author Disclosure statement

The authors declare that there are no conflicts of interest

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