



## The Approach to Enhancing Smallholder Family Nutrition in Uganda



### Intervention

The agricultural sector in Uganda remains underdeveloped despite its substantial role to address the widespread food insecurity and poverty in the country. In combatting these challenges, BRAC used integrated support packages including agriculture, health and financial services to enhance the livelihoods and health outcomes of poor households.

With the support of JSDF and the World Bank, BRAC Uganda implemented the *Innovative, Integrated Approach to Enhance Smallholder Family Nutrition* project between 2014 and 2018 in 180 villages in Ibanda, Rakai, Kalungu and Sheema districts.

*Community agriculture promoters* (CAPs) were trained to mentor *general farmers* (GFs) on orange-fleshed sweet potato (OFSP) cultivation. General farmers were provided with free OFSP vines from local producers while beans, carrots, tomatoes and pumpkin seeds were given for free for the first two planting seasons. Marketing and technical assistance was provided to develop a sustainable market for OFSP selling. To boost cultivation, loans of \$100 to \$300 with a 25% interest rate were offered for up to 12 months. Price insurance was given for the OFSP surplus yields and input vouchers for subsidised vines, fertilisers and pesticides. Within the health component, *community health promoters* (CHPs) advised women on sexual and reproductive health issues, antenatal/postnatal care, nutrition and use of oral rehydration salts (ORS) among others. Growth monitoring and promotion (GMP) sessions about nutrient-rich foods were held to increase awareness among mothers and pregnant women.



### Research

*An Innovative, Integrated Approach to Enhance Smallholder Family Nutrition* (Okello and Prabhakar, 2018, Kampala: BRAC IERC)



### Method

A cluster *randomised control trial* (RCT) method were applied to estimate the impact on health, food security and production of households. A total of 210 villages with 3,755 households from four districts were assigned into a control and six treatment arms broadly of three categories –

- |                                 |                        |                                   |
|---------------------------------|------------------------|-----------------------------------|
| (1) agriculture only            | (2) health only        | (3.a) agric, health and credit    |
| (3.b) agric, health and voucher | (3.c) agric and health | (3.d) agric, health and insurance |



▲ **35**  
% OFSP  
consumption in  
agriculture &  
health group

▲ **14**  
% disinfecting  
vines in  
agriculture &  
health group

▲ **16**  
% awareness  
about vitamin  
A in agric &  
health &  
insurance

▼ **8**  
pp  
underweight  
U5 children  
in agric &  
health  
& insurance  
group

The project significantly increased the OFSP consumption by more than 30% across the treatment farmers' groups. In the 'agriculture and health' group receiving credit or insurance had the highest (35%) increase. 'Agriculture and health' farmers and those using financial products increased feeding sweet potato porridge to kids by more than 40%. Around one-third of farmers across variations of the 'agriculture and health' group consumed OFSP once or twice a week. Altogether, this improved the household food insecurity access scale (HFIAS) by 1.5 and 1.4 points, respectively, in the 'agric' and 'agric, health and voucher' group relative to the control farmers at the midline. Yet, due to droughts, newborns and deaths in the households, these results faded by the endline.

Although OFSP production did increase, it was not statistically significant. Market preferences for the 'local' varieties of sweet potato hampered households in generating sustainable income from the OFSP sale. Free starting inputs and technical assistance, however, did increase the uptake of improved cultivation practices relative to the comparison group. For instance, disinfecting vines before planting increased in the 'agriculture and health' group by 14% and in the 'agriculture, health and credit' group by 12%.

The community-based health mechanisms positively shifted the health behaviour of the treatment households. Mothers, for example, advanced their breastfeeding practices. Even though due to the high rates of divorces and children growing older by the endline, these results were not statistically significant, they were numerically large. Dietary diversity of children under two improved by the midline in the 'agric, health and voucher' group by 15% relative to the comparison farmers. Similarly, the awareness about vitamin A increased by 14% in the 'agriculture, health and credit' and by 16% in the 'agriculture, health and insurance' group at the endline.

The GMP sessions with mothers were relevant to reduce the number of underweight under-five children. The 'agric, health and insurance' group dropped the percentage of underweight children from 10% to 2% and, if complemented with vouchers, to 3%. The percentage of underweight children in the 'health' group reduced from 7% to 1%.

## ➤ Way Forward

This food-based approach successfully improved households' nutrition levels and the welfare of children under five. To further increase the OFSP adoption, future interventions could consider engaging the private sector, creating value-chains and offering provisions for expanding production capacities and mechanisation. Creating synergies between public and private health sectors could, on the other hand, further enhance health outcomes. To extend socio-economic scores, households' behaviours should be analysed to better understand their investment preferences.