



Increasing Agricultural and Livestock Productivity of Marginalised Smallholder Farmers in Tanzania



Intervention

More than two-thirds of the population in Tanzania live in rural area and high majority of them live on subsistence level agriculture. This limitation of agriculture has been a big challenge to tackle poverty and hunger in Tanzania. Despite huge potential of agricultural and livestock production, different challenges like farming education, lack of technology and inputs, climate change, and finance are there as berries to full potential of agriculture.

BRAC used an integrated package of support including extension workers, high-quality productive inputs, capacity building and technology transfer to enhance agriculture and livestock husbandry. In cooperation with the Department for International Development (DIFD) through GPAF, BRAC Tanzania implemented the *Increasing agricultural and livestock productivity in Tanzania for marginal and small-scale farmers* programme between 2012 and 2015. It served farmers across Dodoma, Shinyanga, Morogoro, Mwanza and Mara regions.

Agricultural models tried and tested by BRAC in Bangladesh for 30 years and more recently in Africa were followed in the delivery of this intervention. The change agents were selected within villages and trained on good agriculture practices. In the position of community agriculture promoters (CAP), they mentored a group of 5 to 10 general farmers and offered high-quality inputs for a small profit margin. Demonstration farms were set up within communities to promote improved farming practices and use of high-quality inputs. Farmers also had a chance to share and discuss agriculture-related challenges and their successful stories within monthly group meetings.



Research

Endline Report for the Global Poverty Action Fund (GPAF) Programme (Okello and Hamisi, 2015, Dar es Salaam: [BRAC IERC](#))



Method

A *randomised controlled trial* (RCT) method enrolled 1,205 farmers (67% women) into treatment (804) and control arms to evaluate the impact of the programme on their yields, income, food security and general living standard. The farmers from five regions were further split into –

- (i) crop production including kitchen gardening and
- (ii) livestock including poultry rearing.



▲ **13**
points FCS

▲ **520**
kg annual maize
production

▲ **540**
kg annual rice
production

▲ **393,635**
TZS annual
crop-production
income

▲ **204,620**
TZS annual
income from
sales of animal
products

▲ **18**
pp fed on home-
produced milk

▲ **14**
owned a
refrigerator

This programme had a significant positive impact on food security of treatment farmers - their food consumption score (FCS) measured by a 0-to-112-point scale was higher by **13 points** (76.41 v 63.78) compared to the control farmers. Their household food insecurity access scale (HFIAS) score was better by 3 points (4.81 v 7.75) on a 0-to-23-point scale.

Crop farmers' production and income were similarly improved. They produced more maize in a year compared to the control farmers which impacted their production by **520 kg**. While control farmers experienced the drop in annual rice production, treatment farmers' rice production was impacted by an addition of **540 kg**. Despite farmers' lower annual income from crop production at the baseline, the intervention increased it by **TZS 393,635**. They owned 64% of cultivated land, compared to 37% owned by the control farmers at the endline.

Livestock farmers owned more local chicken (78 v 35), exotic chicken (209 v 86) and cows (16 v 9). Their annual income from sale of animal products grew by nearly two-thirds from baseline and this made an overall increase of annual income of a farmer by **TZS 204,620**. Control farmers, on the other hand, faced the decrease in the income from their baseline mean.

Demonstration farms and high-quality inputs supported by the programme significantly encouraged the uptake of modern farming practices. Crop producers used hired labour, manure, compost, chemical fertilisers, pesticides, herbicides by above 10 percentage points (pp) more than the control farmers. Livestock farmers spent about 25 pp more on veterinary services and feed, compared to the control farmers.

Along with economic gains, farmers' nutrition and general living standard improved significantly. They spent on average TZS 1,366 to buy bread opposed to TZS 956 spent by the control group at endline and they spent almost TZS 1,000 more on meat. Above 40% were eating home-produced meat and eggs, relative to 20% in the control group; **75%** fed on home-produced milk which was at 57% in the control group. Treatment farmers owned more assets than the control ones - 84% a radio, 67% a television, **31%** a refrigerator, 63% an iron and 14% a motorcycle - compared to 70%, 31%, **17%**, 42% and 4% respectively owned by the control households.

➤ Way Forward

The study found the programme's theory of change effective and adaptable to Tanzanian context with possibly having a long-term impact on smallholder farmers. It further shows that immediate positive effects can be achieved through extension services, free or subsidised inputs, training and promotion of the improved farming practices. However, the long-term productivity, income and food security, however, will eventually depend on encouraging investments in technology, quality inputs, market value chain, and enabling policy environment. Similar projects by BRAC in Sierra Leone and Liberia through GPAF scheme during the same period also found significant impacts.