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Repoa Brief

Targeted Not Blanket Allocation, is key to improving effectiveness of input use through voucher schemes

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Key messages

- The use of modern inputs is determined by ecological characteristics which vary across different ecological zones.
- Gains from NAIVS curtailed by serious delays and uncertainty in the delivery of planting inputs to farmers.
- The use of NAIVS package is influenced by people's perception on its farm productivity and soil fertility weakening.

Context and background

Agriculture development strategies continue to play an integral role in the economies and livelihoods of the poor in Sub-Saharan Africa (SSA) because of their predominantly agrarian economies and agriculture provides employment to large proportions of the population. Despite their importance to local economies, these strategies have historically been driven by funding from international development agencies. Most such strategies have supported farmers by subsidizing either producers and/or consumers' prices. In this regard, the government of Tanzania renewed an interest in transforming its agricultural sector, particularly in recent years. This has led to an increase in the involvement of various development partners both domestic and external. One such effort is the National Agricultural Input Voucher Scheme (NAIVS)

NAIVS is a market smart input subsidy program designed in response to the sharp rise in global grain and fertilizer prices in 2007 and 2008. The program aimed to raise maize and rice production and productivity, for Tanzania's household and national food security. This was initiated by the World Bank (WB). It is estimated that during the period of 2008 to 2013, approximately US$300 million were invested for this scheme where more than US$2.5 million targeted smallholder farmers who benefited from 50 percent subsidized vouchers on a one-acre package of maize or rice seed, and chemical fertilizer. In principal, NAIVS intended to reduce producer price with assumption that producer input subsidies will increase input profitability and reduce farmers' financial constraints, and consequently encourage adoption of modern inputs to boost maize and paddy production in the country. Notwithstanding, farmers were expected to graduate after receiving subsidy for three years consecutively, and then begin purchasing inputs on commercial basis. However, this did not happen, and consequently the scheme was banned and replaced by universal bulk input procurement subsidy in the country.

Literature suggests that improved seeds and fertilizer offer positive potential for productivity and profitability, but that they need to be applied correctly or else the gains will be lost.

The study areas

This brief examines the use of seeds and fertilizer subsidy in the maize producing rural councils of Chamwino and Iringa located in Dodoma and Iringa regions respectively. While Chamwino experiences dry Savannah climate and sporadically semi-arid, Iringa has mid and low landscapes with favorable rainfall. Nonetheless, this report adopted quantitative and qualitative approaches where 5 out of 12 villages were listed to receive input voucher in Chamwino district council and 5 villages out of 113 in Iringa were sampled randomly. The sample sizes included, 500 farmers, 60 Voucher Committee members, 30 Agro dealers, 50 Village leaders, 20 farmer organization leaders/village leaders/ordinary members and attend 10 village meetings for observation.

This brief draws on a project commissioned by Irish Embassy in Tanzania in 2016 to REPOA to study the implementation of NAIVS policy in Iringa and Chamwino

districts. The brief explores how subsidized inputs were applied and/or used. These districts were chosen purposefully based on their agronomic and socio-economic characteristics as most of areas in Tanzania fall under these categories.

Guidelines for Selection of NAIVS beneficiaries

According to the NAIVS guidelines, the Village Voucher Committee (VVC) in collaboration with village leaders selected the targeted smallholder farmers who: -

- Reside in that village full time
- Cultivated less than one hectare of maize or rice
- Used the subsidized input for maize or rice production
- Agreed to serve as good examples in how to use good agricultural practices
- Were willing and able to cover the co-financing
- Had Female-headed households, were given priority
- Had not used inputs in the past five years, were given priority

Key Findings and discussions

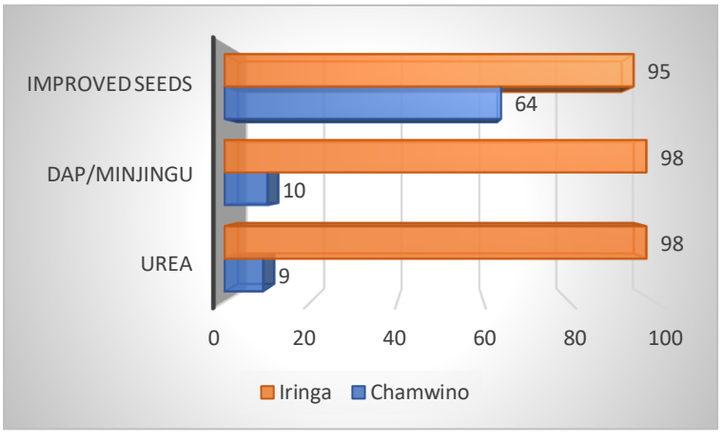
Use of modern inputs in different agro-ecological zones

The use of modern inputs is determined by ecological characteristics which vary across different ecological zones. While NAIVS has improved agricultural technology application as more farmers adopt and use improved seeds and fertilizers, at the same time findings survey data and discussions with farmers in two districts show that, being selected as a NAIVS beneficiary does not entail use of inputs automatically. Input use for selected beneficiaries differ across ecological settings.

***"We don't use any fertilizers because our land is fertile enough to make maize grows well and mature" attested by* members of village focus group discussion in Chamwino district.**

The input use was quite lower in Chamwino than Iringa with exception of improved seeds. Just one in 10 (10%) input beneficiaries in Chamwino used vouchers to buy and use the fertilizer as compared to 98% for Iringa. This was due to perceived historical farming practices, while Iringa perceived an increase productivity with the use of fertilizers over long time, Chamwino believed that chemical fertilizers had a negative bearing on long-term farming practices, that natural fertility of the soil needed not to be disturbed by the chemical fertilizers.

Figure 1: Percentage of NAIVS beneficiaries who used voucher to buy inputs



Source: REPOA 2016

Delays of input delivery across districts

Gains from NAIVS curtailed by serious delays and uncertainty in the delivery of planting inputs to farmers. Three major factors explain the cross-district gap in the use of the modern inputs: First, while acknowledging rain season variations across ecological zones, the foremost complaint is late delivery of input vouchers and consequently late delivery of inputs to farmers.

"The truth is that, seeds were brought late and most of the farmers had already completed planting using traditional seeds. However, we bought the seeds and gave to our friends and relatives in areas receiving rains late in the year"
Members of village focus group discussion in Chamwino district

In utmost cases inputs subsidy vouchers and inputs got to famers off the farming season. In this regard, there are mixed views, while in Chamwino all villages indicated that the inputs came late, in Iringa this concern was mainly for a few villages.

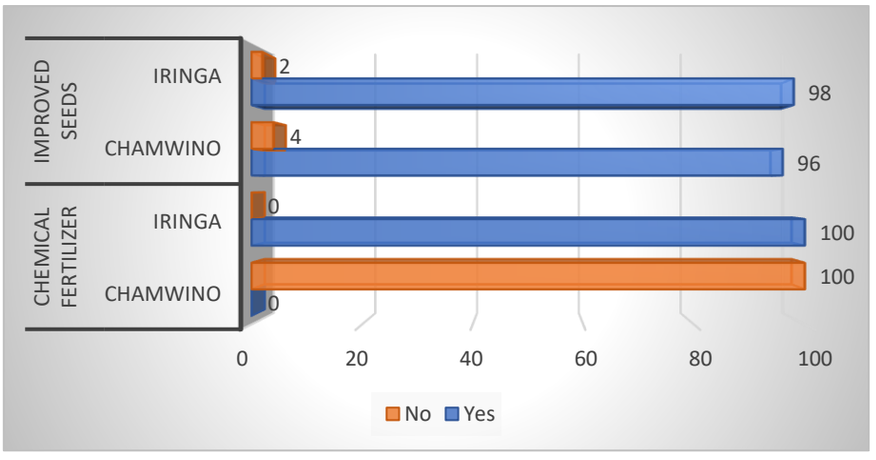
"Inputs were only available in the village at the time when farmers had already started planting, as a result, some farmers only took planting and top-dressing fertilizers" **Kidamali village focus group discussion in Iringa district.**

However, even in Iringa, where inputs were claimed to come on time, this was just a coincidence due to delay in starting of the rainy season. This means that, if the rainy season had started on time, almost the whole district would have experienced delay in delivery of inputs

Perceived outcome of input use

The use of NAIVS package is influenced by people's perception on its farm productivity and soil fertility weakening. There were some similarities between the two districts on outcome perception on trust and use of improved seeds, while there was completely opposite in perception between the two districts on use of chemical fertilizers as indicated in figure 2 below.

Figure 2: Whether farmers in this village trust/use the improved seeds and chemical fertilizers



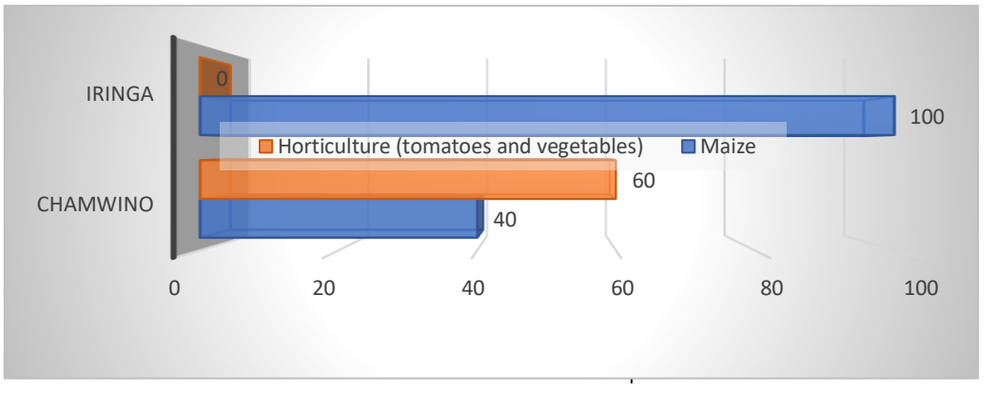
Source: REPOA 2016

Notwithstanding, FGDs revealed that many farmers in Chamwino believe that chemical fertilizers have a negative bearing on long-term farming practices, that natural fertility of the soil needed not be disturbed by the chemical fertilizers.
"Those fertilizers for top dressing destroy soil and we don't want our soil to be destroyed. We only trust animal manure and remains of plants" said by **members of village focus group discussion in Chamwino district.**

Furthermore, Chamwino farmers had the opinion that for increasing fertility of their soil, the use of animal manure was just enough as they considered it being suitable for sandy soil, easily to access and did not devastate soil fertility.
"The government should have come and ask farmers about their needs and problems regarding agriculture, instead of bringing industrial fertilizers to farmers while farmers have different needs" **members of village focus group discussion in Chamwino district.**

Again, while NAIVS directs use of inputs in maize and or rice, there is different perceived usefulness of inputs relative to historical farming practices. Indeed, famers in Iringa prefer to use modern inputs as specified, however, farmers in Chamwino would prefer to use the inputs on other crops that are not specified in the NAIVS.

Figure 3: Top crops in which farmers prefer to use chemical inputs



Source: REPOA 2016

Farmers know better what works efficiently in their environment, as indicated in figure 3, almost all farmers in Iringa District preferred the use of chemical fertilizers as best practice to improve productivity as compared to 40% in Chamwino District.

Notwithstanding, about 60% of farmers in Chamwino District could otherwise prefer to use chemical fertilizers in horticulture production to improve productivity. Therefore, to be free of any bias, a practical wisdom would be important in distinguishing scientific knowledge and give recognition to farmer's practical knowledge to better attain sustainable benefits necessary to agricultural system.

Policy implication and recommendations

Tanzania National Agricultural Policy (2013) acknowledges the increased use of modern inputs (fertilizers, agrochemicals, seeds, farm machinery) as a pre-requisite for achieving sufficient agricultural production and growth to meet economic development, poverty reduction, food security and nutrition goals. This is to be met through strengthening effort in input production, procurement and distribution. Despite the policy declaration, the use of agricultural inputs is still constrained by procurement and distribution systems. This study has shown that smallholder famers do not use modern inputs and/or use it incorrectly due to late delivery and lack of recognition of its importance.

Hence, two policy recommendations are suggested.

First, with acknowledgment of rain season variations across ecological zones, it is suggested that delivery of vouchers and inputs to beneficiaries should be done early enough, at least before farming season starts. Additionally, targeting vulnerable households that cultivate less than 1 hector of maize or rice and distributing subsidized inputs sufficient to 1 acre only, did not consider dynamism associated with farmers in terms of their land size and their production potentials. Thus, it would be better if these inputs could not only target vulnerable households but could expand and include productive poor and more dynamic progressive farmers for greater coverage, and indeed, this could potentially minimize targeting errors by including more farmers with their dynamics to properly ensure an increase of household's income and national food security, however, this will only happen if the government will seriously invest more on human resources, modern technology and devote more physical resources. Notwithstanding, the Ministry of Agriculture Food Security and Cooperatives should eliminate bureaucracy in input voucher administration by reimbursing vouchers in time directly to the village level by cutting down all chains and independent monitoring and evaluation system should be established at village level in collaboration with District Agricultural Irrigation and Cooperative Officer (DAICO) to control inputs application, misuse and possible leakages.

Second, a blanket approach used by NAIVS for supplying mainly Phosphate and Urea does not address the diversity of soil nutrients. Thus, understanding nutrient requirement across different ecological zones before supplying fertilizer is critical. More importantly, NAIVS should be flexible to cover different crops as farmers would prefer using inputs in other crops which have the same income and food security effects. Notwithstanding, NAIVS should allow fertilizers to be packed in different weights which fits better in each ecological zone and farmers' ability. As fertilizers lack recognition of its importance on productivity by some farmers, NAIVS should use demonstration plots which involve different key actors, such as agro dealers, extension officers and famers as sensitization tool necessary for drawing awareness and recognition of fertilizers' effectiveness to entire chain.

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