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# Challenges of Farm Inputs Subsidies on Maize Production in Trans Nzoia West Sub County, Trans Nzoia County, Kenya

**Barasa Protus Wafula, Daniel Nyantika and Tom George Ekisa**

Degree of Master of Arts in Geography Department of Geography, Faculty of Arts and Social Sciences, Kisii University
E-mail: iombaso@gmail.com

**Abstract:** The purpose of the study was to find out the challenges of farm inputs subsidies on maize production in Trans Nzoia West Sub County, Trans-Nzoia County, Kenya. The specific objectives for the study looked the influence of the amount of the farm subsidies disbursed on maize production the study was of significance to stakeholders in the Agriculture sector ranging from the National Ministry of Agriculture and the County; agricultural staff implementing the project and the farmers. The study was based on Social Protection Theory. A descriptive survey design was used since the study was both qualitative and quantitative in nature. A sample of 160 was selected from a target population of 1510 for data collection. Questionnaire and an interview schedule were used as tools of primary data collection. Data instruments were pretested in Trans-Nzoia East Sub County to test their reliability and viability. Data was collected, coded and analyzed using Statistical Package for Social Sciences (SPSS) version 20.0 computer software. Descriptive statistics were used to give the outputs. From the data analysis based on the objectives, it was found out that all farmers used certified seed in their farms after the introduction of government subsidies. Majority of the farmers were supplied with five varieties of certified seed from Kenya Seed Company limited. It was also found out that there was a significant effect of subsidized seed given that majority of the farmers produced bags using certified seed. Government should increase capitation for the programme to bring more farmers into the programme to improve production of maize given that there is a significant increase in production under the subsidy programme. Government and Farmers Associations should come up with capacity building programmes to enable framers have capacity on modern Agriculture.
**Keywords:** Farm subsidies, Food security, free inputs, Incentives and Sensitization of farmers.

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## Introduction

Agricultural practices in most parts of the world are not uniform because of various geographical variables and besides, locations. According to International Food policy

Research Institute (IFPRI) 2002, there is a deficiency in food security in not just developing nations, but also, in the developed world. The only difference between the two categories of populations is the magnitude of the problem in terms of its severity to the populations affected by the same. The organization argues that in the developed world, the problem of food security can be minimized through the provision of targeted food security measures especially, in form of subsidies to encourage farmers to produce more. These approaches lacks in the developing world leading to hunger and poverty. Many nations have made efforts to fight poverty through making radical changes in the lifestyles and more importantly in agricultural sectors and recognizing the immense variations needed to revamp farm production. The intensive use of farm subsidies has a long history of use in the world.

According to Duvauchelle (2012), majority of farm and agricultural subsidy programmes started in the late 1960s and 1970s, even though some countries invested in agricultural subsidies early as in 20th century. a case in mind are countries like United states of America who started subsidizing farm input subsidies as early as in 1933 through a program they dabbed as *'the Agricultural Adjustment Act'* and the other its successor, The U.S. Agricultural Act of 1949. Farm subsidies have been made popular, and countries do favor them at times while dropping them at other times. For example, Duvauchelle (2012) asserts that in New Zealand the government supported heavy farm subsidies until 1984, when they were dropped. Modern intensive agriculture depends heavily on timeliness of the farming operation for enhanced crop yields and profits (Khan, 2011).

Anderson (2012) argues that high-income countries have seen the NRA to agriculture in constant decline since a high of 60% in 1985, when government support to farmers was at its peak, and farmers received 60% more than the open market price for their produce. The rate remains at just above 10%, with a small rise since 2008 in response to difficult economic circumstances. These percentages reflect the extent to which gross returns to farmers were raised, and helped to establish both production facilities as well as markets. These continue to be strong today despite lower levels of support a lesson for the developing world. By contrast, Anderson (2012) portends that the NRA to agriculture in developing countries has increased consistently since 1960. At that time it was at a low of minus 25%- indicating a significant additional cost to production by the state. This rate rose to minus 20% in 1980, and reached parity (0%) in 1985 where subsidies at least balanced levies of various sorts. The rate peaked at 10% in 2000, but poor economic conditions since 2005 saw a decline to minus 5% in 2008, and a recovery to near parity again in 2010. Zambia is high on this scale, at around 10%, with South Africa and Mozambique just below the weighted average. Zimbabwe has a negative support level of below minus 20% (Anderson, 2012). According to Dorward and Chirwa (2011) a discussion on why this has there was break with a previous pattern where larger harvest invariably led to lower prices need to be looked at. It may be that demand has been stimulated since the increased production of maize has helped reduce poverty. There remains the possibility that harvests have been over-estimated. Subsidies on triple super-phosphate and muriate of potash are even larger, since these also sell at just over USD 3 a bag, but are more expensive on world markets than urea. Sri Lanka has subsidized the cost of fertilizer, with a short interruption in the early 1990s, since 1962; … with the intention of encouraging the use of fertilizers and off-setting the effects of low crop prices and high costs of production.' (Tibbotuwawa, 2010).

The national maize production levels have been declining from an all-time high of over 34 million bags to about 25 million in 2008 (Tegemeo institute and East African Grain Council,

2009). The agricultural reforms focused on removing government monopoly in the marketing of agricultural commodities and associated price controls which were vested in parastatals, and removal of government controls on importing, pricing and distribution of purchasable farm inputs (Nyangito *et al.,* 2003; Sacred Africa, 2009). Furthermore there is reduction in government involvement and expenditure on agriculture, resulting in low investment and support for farmers (Oluoch-Kosura, 2011). This has led to inefficient maize production and marketing systems which have contributed to economic stagnation and worsening levels of poverty in Kenya (USAID (United States Agency for International Development, 2011).

## Statement of the problem

Food security is perhaps the greatest challenge facing the World community today. The challenge is most critical in low-income, food-deficit countries. Achieving sustainable increase in food production in developing nations requires strategies that address four key dimensions of sustainable agriculture and rural development namely people, institutions, knowledge and environment (FAO, 2002). Kenya joined the ranks of Sub-Saharan African (SSA) countries in implementing a targeted input subsidy program for inorganic fertilizer and improved seed. To achieve this, The National Accelerated Agricultural Inputs Access Program, "Kilimo Plus" initiative, was established in 2007. The implementation of the programme from the year 2007/08, aimed at providing 50 kg each of basal and top dressing fertilizer, and 10kg of improved maize seed to resource poor smallholder farmers. The ultimate goal of these farm subsidies were to increase access to inputs, raise yields and incomes, improving food security, and reducing poverty. However, despite the implementation of the program in Trans- Nzoia County has witnessed food insecurity which is still wide spread among smallholder farmers. Kenya Agricultural Research Institute (KARI) (2005) attributes the declining maize production to continuous cropping of maize, removal of field crop residue for feeding livestock, overgrazing, burning of Stover to ease ploughing, resulting to the reduction of both the physical and chemical soil elements. In Trans- Nzoia West Sub County, the shortage of maize production has been evident a situation that has led to marketers bringing in supplies to sell to local inhabitants at high prices; something that never was the case before. This raises doubts about the effectiveness and efficiency of the subsidy program. The study sought to find out the challenges behind the intense subsidy programme meant for Trans-Nzoia County.

## Research Objectives

To examine the influence of the amount of the farm subsidies disbursed on maize production in Trans-Nzoia West Sub-County.

## Literature review

### Amount of Farm Subsidy Received and Sustainable Maize Production

In some countries of the world, politicians use subsidies as a bait to who voters especially in the rural areas they are poor so, they politicians, as well as potentially also being an instrument of patronage. To some, when the government seems to invest in subsidies, it is a direct way to deliberately overcome the shocks of markets, which is regarded with contempt in the first place, is welcome. When this happens some places in the developing world their conflicting advice to do away with subsidies is treated with contempt, since it an original idea from areas and nations which highly subsidize their farmers (Wiggins and Brooks, 2010). In Kenya, like in other parts of the developing countries, the objectives of input subsidy programmes as pointed out by Wiggins and Brooks (2010) includes: (i) To encourage agricultural production, in this case Trans Nzoia West Sub County. (ii) mitigate

the high cost of logistics from the suppliers to the farmers that end up raising the overall cost of inputs. (iii) To improve soil fertility and avert soil nutrient leaching (in instances of fertilizer) especially in trans-Nzoia west county. (iv) To reduce the overhead costs of supplying inputs when supply in the market is low hence the economies of scale cannot be achieved. (v) To ensure inputs are affordable to farmers of maize production in Trans Nzoia West Sub County, who cannot afford to buy them, given their poverty levels and their ineligibility access to credit and inability to uptake insurance against their produce. (vi) should assure farmers to learn and try modern ways of farming and fully take advantage. (vii) Social equality will ensure the benefits transcend to poor farmers. This may end up being hard disfranchise farmers from the political manifestations to win to them to political class that may be (Wiggins and Brooks, 2010). Also subsidies have certain disadvantages such as (i) relaying on subsidies so much on inputs that change the costs of input factors, leading to lesser allocations of inputs, with the subsidized inputs being used for others. (ii) Implementation of subsidies may be done in such a way that undermines the development of private supply of inputs, by delivering inputs through state agencies and by passing nascent local input dealers, that is why the research was undertaken to unearth the challenges farmers face. (iii) Subsidies may be ineffective in raising use of inputs and increasing yields. It is not always the case that the volume of the inputs applied is sensitive to price. This may be caused by climatic changes which would affect the maize production and affect prices.(iv) When subsidized inputs dominate the supply of a particular input, then subsidies may not be regular, reliable and timely, that is why many farmers in Trans Nzoia West Sub County wait for farm subsidies every year for maize farming (Wiggins and Brooks, 2010).

Further, according to Banful (2010) the fertilizer subsidy is subject to inconsistencies coming from high administrative costs, monopolies and political manipulation. Crawford *et al.,* (2006) argues that the agricultural subsidy inputs were scrubbed and the input markets were opened to the market forces as a part of world banks initiated 'structural adjustment programmes' in the 1980's. Due to this, the subsidy initiated inputs use which as a consequence engineered agricultural production to decline drastically. Crawford further adds that in the advent of the 20$^{th}$ century, the opposite of liberalized markets declined and many nations adopted new subsidy programme especially in several African countries. For instance, The Malawian government was the first to start a come-back to large scale subsidies in 1998. It started by distributing free fertilizer to farmers (Banful, 2010). Countries, such as Nigeria, Zambia, Tanzania, Kenya, Ghana after a while followed suit.

## Methodology of research

### Research Design

The study adopted a descriptive design. This type of design is quite appropriate for gathering information, summarizing, presenting and interpreting for the purpose of clarification (Orodho and Kombo, 2002). The descriptive survey design is one of the most commonly used methods of descriptive research in behavioral science. It enables the researcher to gather qualitative and quantitative data from a relatively large number of cases at a particular time. The method is quite appropriate for the study because it will assist the researcher to produce statistical information on factors influencing sustainability.

### Data Collection, Instruments and Sampling Techniques

According to Creswell (2011), survey methods collects quantitative data using tools of data collection like questionnaires and then analyze the data to describe trends about responses to

questions from the respondents. It usually uses questionnaires and interviews to find out opinions, attitudes, preferences and perceptions of groups of people on an area of interest. Kathuri and Pals (1993) adds that questionnaires are used to collect basic descriptive information from a broad sample. Data collection instruments that were used in the study included; the questionnaire, interview schedules and document analysis as the researcher targeted both primary and secondary data. According to Welmen (2001), it is impractical to sample a whole study population especially if the population is very large since it will be unattainable economically and in time. Therefore, the researcher used various appropriate sampling techniques to select respondents from each population category to enable each of them an opportunity to participate in the study. Hence, the sample of the study was selected as follows: the farmers were randomly selected whereas the MoA officials were purposively selected for the study.

## Data Analysis

The data from questionnaires was coded, entered, cleaned and analyzed using statistical formulae and tabulations to analyze the phenomenon between the subsidies and maize production. The output was presented in frequencies, percentages, means, tabulations and graphs. The interview and observation were subjected to content analysis to describe, decode, translate, and develop understanding through a detailed description of the situation and presented in themes.

## Results of the Study

### Amount of the Farm Subsidies Disbursed on Maize Production

### Type of Maize Seed

The researcher wanted to find out the type of maize seed the farmers have been planting before government subsidies were introduced. The following were there responses.

**Table 1. Type of Maize Seed**

| Type of maize seed | Frequency | Percentage |
|---|---|---|
| Certified | 150 | 100 |
| Uncertified | 0 | 0 |
| Total | 150 | 100 |

From table 1 it was found out that all farmers (100%) used certified seed in their farms before the introduction of government subsidies.

### Type of Certified Seeds given by Government on the Subsidized Programme

Farmers were asked to indicate the type of government seed they were given under the government subsidized programme. Below were their responses.

**Table 2. Type of Certified Seeds given by Government**

| Type of certified seed | Frequency | Percentage |
|---|---|---|
| Kenya seed | 78 | 52.00 |
| Western seed | 53 | 35.32 |
| Pan95 | 15 | 10.00 |
| Tembo | 2 | 1.34 |
| Punda milia | 2 | 1.34 |
| Total | 150 | 100 |

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From the table 2 above, the farmers were supplied with five varieties of certified seed however, 52.0% of them were supplied with Kenya Seed Certified seed followed closely with Western Seed at 35.33%. The other type of certified seed supplied were 10% and below. This study concurred with studies done Solem Ray (1985), which recommended that the for agricultural production to grow, modern and quality agricultural inputs are fundamental. The use of quality seeds and fertilizers and other agronomic plant propagation material should be supplied to farmers in time, or appropriate credit given to farmers.

## Process of Subsidy Distribution

The farmers were asked to indicate the method used by government in distributing the farm subsidies. Table 3 shows the reactions of farmers on the process of subsidy distribution.

**Table 3. Process of subsidy distribution**

| Mode of distribution | Frequency | Percentage |
|---|---|---|
| Local administration | 0 | 0 |
| National cereals and produce board | 145 | 96.67 |
| Agricultural officers | 5 | 3.33 |
| Local business men | 0 | 0 |
| Agro vets | 0 | 0 |
| Farmers Associations | 0 | 0 |
| NGOs/CBOs | 0 | 0 |
| Total | 150 | 100 |

Findings as indicated in table 7 showed that the major distribution channel of subsidies was the National cereals and produce board 96.67% with a paltry 3.33% saying that the subsidies were distributed by the agricultural offices. This finding differed significantly with studies by Denning *et al.,* (2009) who found out that untimely and effective release of resources by the Ministry of Finance and National Planning in Malawi, who argued that the red tape in tendering procedures and processes lead to delayed payments to input suppliers and service providers under the Fertilizer Subsidy Programme, leading to unstable supply chain, hence affecting the maize production. It is likewise feared herein that the weak supply chain in Trans Nzoia County may affect the production side.

## Farm Subsidies on Yield

The respondents were asked to indicate what the harvested in terms of bags in case they used uncertified seed, certified seed before the subsidies were given and after the subsidies were given. Table 4 illustrates the responses of the respondent's farm subsidies on yield.

**Table 4. Farm subsidies on yield**

| Type of seed | 5-10 | | 11-15 | | 16-20 | | 21-25 | | 25 above | |
|---|---|---|---|---|---|---|---|---|---|---|
| | F | % | F | % | F | % | F | % | F | % |
| Uncertified seed | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Certified before subsidy | 16 | 10.67 | 35 | 23.33 | 79 | 52.76 | 10 | 6.67 | 0 | |
| Certified after subsidy | 0 | 0 | 0 | 0 | 7 | 4.67 | 129 | 86 | 15 | 10 |

Table 4 shows that there was a significant effect of subsidized seed given that majority of the farmers produced between 16-20 bags using certified seed as compared to 86% of the farmers who produced between 21-25 bags after using subsidized maize seed. This study agrees with

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studied done by Morris *et al.,* (2007) which observed that in Asia, farm subsidies are considered to have played an important role in promoting increased use of fertilizer and to have partly contributed to the significant increases in yields.

## Best Distribution Channel

The respondents were asked to recommend the best distribution channel of subsidized maize seeds. Table 5 illustrates the responses of the respondents on the best distribution channel.

**Table 5. Best distribution channel**

| Distribution channel | Frequency | Percentage |
|---|---|---|
| Agricultural office | 107 | 71.33 |
| National Cereals and Produce Board | 26 | 17.33 |
| Farmers Associations | 14 | 9.33 |
| Agro vets | 3 | 2.01 |
| Total | 150 | 100 |

Majority of the respondents 71.33% said they wanted the government to supply the subsidized seed through the extension officers as opposed to the current situation where distribution is done through National Cereals and Produce Board. Only 17.33% felt that it was right to distribute through the National Cereals and Produce Board. This studies agreed with studies done by Mvula *et al.,* (2011) in Malawi which showed that in general, coupon distribution and access to coupons by the beneficiaries in the 2010/11 season was reported to have been fairly trouble compared to earlier seasons. This study also indicated that respondents drawn from the community members indicated problems like shortages of coupons earmarked for particular wards; regular missing of names of the right farmers who were identified to benefit, sharing of coupons; alleged selling of coupons officials of the programme or the local supply chain; and the process of beneficiary identification and distribution were among the common challenges in Malawi.

## Type of fertilizer used

Respondents were asked to state the type of fertilizer they used in their farms. Table 6 indicates responses of the respondents on the type of fertilizer used.

**Table 6. Type of fertilizer used**

| Type of fertilizer | Frequency | Percentage |
|---|---|---|
| Inorganic fertilizer | 150 | 100 |
| Organic fertilizer | 0 | 0 |

From the responses in table 6 it was clear that all the farmers (100%) used inorganic fertilizer in planting maize meaning that farmers only relied on commercial fertilizers on maize production. This was the so because no majority of the farmers no longer organic fertilizers in production of maize crops especially, on large scale farming. This further is compounded by the number of livestock kept at home to produce the organic fertilizer.

## Type of fertilizer given by government

Respondents were asked to indicate the type of fertilizer they are given by government. Table 7 displays the responses of the informants on the type of fertilizer given by government.

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**Table 7. Type of fertilizer given by government**

| Fertilizer type | Frequency | Percentage |
|---|---|---|
| DAP Chapa Meli | 150 | 100 |
| CAN Chapa Meli | 150 | 100 |

It was found out that the government supplied two types of fertilizer that is both DAP Chapa Meli and CAN Chapa Meli given that 100% of them agreed.

## Method of fertilizer distribution

The researcher wanted to find out what method of distribution the government used to distribute the fertilizer. Table 8 illustrates the responses of the respondents regarding th method of fertilizer distribution in Trans Nzoia West Sub County.

**Table 8. Method of fertilizer distribution**

| Mode of distribution | Frequency | Percentage |
|---|---|---|
| Local administration | 0 | 0 |
| National Cereals and Produce Board | 145 | 96.67 |
| Agricultural officers | 5 | 3.33 |
| Local business men | 0 | 0 |
| Agro vets | 0 | 0 |
| Farmers Associations | 0 | 0 |
| NGOs/CBOs | 0 | 0 |
| Total | 150 | 100 |

From the table 8 above, the major distribution channel of fertilizer subsidies was the National Cereals and Produce Board 96.67% just like with the distribution of seed, with a paltry 3.33% saying that the subsidies were distributed by the agricultural offices.

## Recommendations

### Based on the summary and conclusions, the study made the following recommendations:

It was found out that the input subsidies were provided to the farmers on time but the collection points were distant from the farmers. Hence, it is the government that should try as much as possible to reduce the distribution points by distributing the subsidies through location, Agricultural Officers as opposed to National Cereals and Produce Board.

Based on the challenge of limited number of the farmers who benefited from the subsidy programme, the study recommends that the government should increase capitation for the programme to bring more farmers into the programme to improve production of maize given that there is a significant increase production under the subsidy programme. The government through the Ministry of Agriculture in collaboration with the County.

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