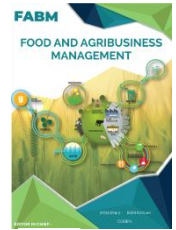


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RESEARCH ARTICLE

THE EFFECTS OF FOREIGN AID TOWARDS AGRICULTURAL PRODUCTION INTENTION AMONG FARMERS IN AFGOOYE DISTRICT, SOMALIA

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ABSTRACT

The study examines the factors influencing farmers' dependency on foreign foods aid towards agricultural production intention in Afgooye district, Somalia. Multi-stage cluster sampling using a stratified procedure to select the sample was used and 400 farmers were randomly chosen from four villages in Afgooye district. Factor analysis results result revealed climate change effect explain 36.090% variance, epidemics and health explain 11.552% variance, farming inputs explain 6.886% variance, and dependency syndrome explained 57.319% variance of the respondents' intention to engage in crop production in the study area. The Regression analysis was conducted to determine the most significant factors. The results of the findings show that Epidemics and health concern has the highest Beta value of 0.659 ($P < 0.000$), followed by farming inputs which are 0.152 ($P < 0.000$), then dependency syndrome with Beta value 0.147 and P-value significant at $P < 0.000$. However, climate change ($B = -0.007$, $P < 0.866$) has a very low negative Beta value and therefore, has no significant influence on crop production intention of the respondents. Finally, the crop production intention among Somali farmers in the wake of food aids occurred because they were not ready to embrace the use of new crop production technology or envisage starting crop production using improved technology in the future.

KEYWORDS

Agriculture, climate change, dependency, epidemics, farm inputs, foods aid, Somalia.

1. INTRODUCTION

The production of crops in Somalia is mainly restricted by uneven and unforeseeable rainfall, but also to some extent by soil circumstances and traditional methods (Wenmbergh, 2014). The alluvial plains of Southern Somalia are the most fertile soils in the country. In areas of southern Somalia, rain fed and irrigation crops are practiced. Somalia's total land resource is estimated to be around 63.8 million hectares (FAO, 2019). Rainfall, which occurs mainly in two rainy seasons, is generally low, irregular and unevenly distributed in the country. Based on soil quality and the incidence of rainfall, it is estimated that 8.2 million hectares are potentially cultivable in an average year, 28.8 million hectares are suitable for productive grazing, and the remaining 26.8 million hectares are unusable or are marginal grazing land (Mouel et al., 2018). Available information indicates that Somalia has supplies of ground water sufficient to both human and livestock for the foreseeable future. However, the ground water resources are unevenly distributed and remain unexplored (Al-Najim and Briggs, 1992).

Severe repression, state collapse and civil war have not only changed the socio-cultural fabrics of Somalia in the past decades but are seen to be

greatly hindering agricultural activities. This instability takes its toll on the food production, food security and wellbeing of the Somalia population. Such calamities are known to have damning effect on livelihoods, conversely the world has for a long time relied on food aid as a major to alleviate the sufferings and sustain life in such areas. As such, nations and regions that are bedeviled by wars are used to the presence of humanitarian agencies within them supplying food aids (Blouin and Pallage, 2016; Chabot and Dorosh, 2007). Food aid has been the main source of supplementing the inability of most war ridden nations to produce and feed their population since the 50's when food aid was triggered by America to get rid of its surplus through its United States Public Law 480 PL480 (Chabot and Dorosh, 2007; Ozor et al., 2015; Madhavan and DeRose, 2008; Sinyolo et al., 2016). Initially, food aid was espoused to be of great help in at least short-term major in supporting populations.

However, overtime growing concerns started to arise. The flow of food aid into developing nations is seen to have some mix effect on the development, agricultural production and food security of these nations, depending on the context and nature of the supplies (Gitu, 2006). It is

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posited that long and sustained food aid flow can injure the livelihood of agricultural livelihoods. It has been for example hinted to have a negative impact on agricultural production of staple foods in recipient countries, it also promotes risky behavior in farming activities through venturing into products that are alien to the community and even encourages the drain of labor supply (Commission and Horizon, 2020). Consequently, it is seen to have a disincentive effect on the farmers intention and or behavior towards production due to its effect on demand and price of locally produced products, this is hinted to be the precursor for eroding both short term and long-term sustainability of food security (Sinyolo et al., 2016; FAO, IFAD and WFP, 2015)

1.2 Food Security

Food security and hunger reduction are cardinal in the global ambition towards sustaining developments, the Sustainable Development Goals (SDGs) has as its number one and second goals 'No Poverty and Zero Hunger' respectively. Understandably, the aim to reduce hunger is fundamental due to its direct link to the provision of good nutrition which is key in fighting infectious diseases risks among others (Department of Economic and Social Affairs Sustainable Development, 2015). The need to provide the immediate needs of the war ridden nations like Somalia has justified the flow of foreign aids in all its guised-political, military, developmental and humanitarian in the country since the Ogaden War of the late 1970s. In any case, the need to motivate local farmers is seen as a sustainable way of producing food and fighting poverty and malnutrition in the country (Barret, 2011; Harvey et al., 2014). A number of issues therefore are identified as having a demotivating effect on the farmer's intention to produce. Among them is the low level of patronage of their products in the regime of food aid, which has seems to have made disenchanting and demoralized (Mura, 2015).

This has been asserted by different literature that the food aid has been known to demotivate producers as it either makes them loose on investment or psychologically make them lazy and consequently dependent on the outside supplies, which kills their livelihood (Blouin and Pallage, 2016; Devereux and Cook, 2000; Selden, 1994). Furthermore, the fact that the attitude of dependency on foreign aid may have been entrenched on the farmers mind also calls for an understanding of their intention which is described as the best trajectory to act in a particular way. The strength of established attitudes like dependence is alluded to be difficult to change as such it is only through understanding the intention such attitudes may be changed (Bassili, 2011). Owing to persistent political instability Somalia has failed to produce enough food for its population. Hence, relies on the food aid it gets from the international community to meet up its demand for food.

The apparent disenchantment reflected in the farming groups is the single greatest measure of the precarious food security scenario. The regeneration of agricultural manufacturing and local markets is essential to any long-term recovery and growth policy. There are countless reports in local communities in Somalia where manufacturers report dropping prices as a consequence of an influx of food aid commodities and market displacement. However, such information is hardly substantiated by empirical studies and the little studies are based on secondary data and not from the farmer's perspective. Several literatures have hinted on the possible disenchanting effect of food aids on the producer's motivation to produce, but none has brought out the empirical evidence from their perspective, this is a gap that needs to be filled. The effect of food aid on the agricultural production has been under criticism soon as it began.

More recently, the manifestation of these assertions is becoming more imminent, with farmers hinted as being discouraged to produce due to low patronage and low incentive in terms of return on their investment, this is a serious demotivating situation that is capable of killing the farming profession and will certainly bring in issues of food security and malnutrition. Such declining per capita production and overall agricultural productivity has triggered a special interest in research, with food aid being blamed (United Nations, 2017). For developing countries like Somalia, the need to fight poverty, malnutrition and food insecurity is of

special importance due for their development. Particularly with regards Somalia being ravaged by the war and high position in the of hunger and underdevelopment profile. The use of theoretically proven approach to change behavior has been always recommended in informing policies (Etwire et al., 2013; Maxwell et al., 2016). This study is therefore proposed to address these knowledge gaps, which will help both the government of Somalia and the international community in developing new policies and programs geared towards having efficient and relevant food aid program for the country without harming the farmers.

2. RESEARCH FRAMEWORK

This study is based on the proposed framework. The framework considers the effect of attitude, social norms and intention on adaptation practice of smallholder farmers. The framework also considers the influence of attitude, social norms and intention on adaptation practices. The mediating effect of attitude and social norms on adaptation practice through intention is also considered. The conceptual framework, as seen in Figure 1 below, illustrates the impact of food aid on agricultural production. Variables affecting agricultural production.

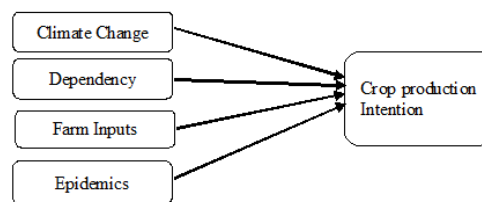


Figure 1: Research Framework

3. MATERIALS AND METHODS

3.1 Location of Study

Somalia is located in Eastern Africa and lies between 1°40' south of the Equator to 11° 58° north and from 40°59' to 51° 24' east. It shares border with Ethiopia to the west, Djibouti to the northwest, the Gulf of Aden to the north, Indian Ocean to the east, and Kenya to the southwest. Somalia is predominantly a desert country and experiences northeast monsoon from December to February. The country has a population of approximately 10.8 million people. Agriculture is the largest industry, with cattle typically accounting for about 40% of GDP and more than 50% of export income. A big part of the population is made up of nomads and semi-pastoralists, who depend on livestock for their livelihood.

Table 1: Operationalization of the Variables and their Items

Climate Change	
CC1	Food aids made farmers to persist on it to avoid the drought
CC2	Food aids made farmers to persist on it to avoid the pest and diseases attack
CC3	Food aids made farmers to persist on it to avoid the risk of high temperature
CC4	Food aids made farmers to persist on it to avoid the risk of land fertility
CC5	Food aids made farmers to persist on it to avoid the risk of land degradation and erosion
Dependency	
DE1	Farmers don't need to produce because they get constant supply of food from the food aids
DE2	Farmers don't need to go into production to survive because they receive good nutritious food from food aids
DE3	The food aids supply has made farmers losing interest to produce crops anymore
DE4	It is easier and safer to rely on the food aid than to produce crops
DE5	Food aids made farmers felt wasting their time to do the farming
Farm Inputs	
FI1	Food aids made farmers to rely on it to reduce the production cost of buying high price of inputs (seeds, fertilizer, herbicides)
FI2	Food aids made farmers to depend on it because the access to farming inputs were compromised and hindered
FI3	Food aids made farmers to rely on it because wrong seed varieties were distributes most of the time
FI4	Food aids made farmers to depend on it because the inputs were not distributed at the right time
FI5	Food aids made farmers to rely on it because the inputs were not distributed adequately
Epidemics	
EP1	Farmers depend on food aids due to less nutrient and body immunity
EP2	Food aids made farmers to persist on it due to health conditions
EP3	Food aids made farmers to persist on it due to epidemic outbreaks
EP4	Food aids made farmers to persist on it due to health and treatment expenses to cure epidemics
EP5	Food aids made farmers to persist on it due to starvation

3.2 Sampling and Data Collection

Multi-stage cluster sampling using a stratified procedure to select the sample was used. A cluster sample normally calls for even more

observations than simple random sampling but is regularly more logistically practicable. A stratified random sample essentially necessitates a lesser sample size than simple random sampling, so its plan influence is more promising, for the reason that the impression is to cluster your sample and population such that the inconsistency within each stratum is abridged. The 400 farmers were be randomly chosen from four villages in Afgooye district. Before the survey was performed, different survey tools were prepared and tested. Structured questionnaires for farmers were used

4. RESULTS

4.1 Factor Analysis Results

Table 2 present the results for Climate Change Effect thus: Food aids made farmers to persist on it to avoid the pest and diseases attack (0.808), Food aids made farmers to persist on it to avoid the pest and diseases attack (0.720), Our firm orders in small lot sizes from our suppliers (3.71), Food aids made farmers to persist on it to avoid the risk of high temperature (0.708), Food aids made farmers to persist on it to avoid the risk of land fertility (0.702), Food aids made farmers to persist on it to avoid the risk of land degradation and erosion (0.625). All together they explain 36.090% variance of the respondents' intention to produce crop. The results for Epidemics and Health Concern include: Food aids made farmers to persist on it due to epidemic outbreaks (0.892), Farmers depend on food aids due to less nutrient and body immunity (0.769), Food aids made farmers to persist on it due to health and treatment expenses to cure epidemics (0.582), Food aids made farmers to persist on it due to starvation (0.571), Food aids made farmers to persist on it due to health conditions (0.571).

The items combined together explain 11.552% variance of the respondents' intention to produce crop. The Farming Inputs results include: Food aids made farmers to rely on it because the inputs were not distributed adequately (0.788), Food aids made farmers to rely on it to reduce the production cost of buying at high price of inputs (seeds, fertilizer, herbicides) (0.736), and Food aids made farmers to rely on it because wrong seed varieties were distributing most of the time (0.660). The items combined together explain 6.886% variance of the respondents' intention to produce crop. The Dependency Syndrome results include: It is easier and safer to rely on the food aid than to produce crops (0.784) and Food aids made farmers felt wasting their time to do the farming (0.635). The items combined together explain 2.791% variance of the respondents' intention to produce crop. All together the four variables explained 57.319% variance of the respondents' intention to engage in crop production in the study area.

Table 2: Factor Analysis Results

Items	Factor Loadings			
	1	2	3	4
Climate Change Effect	$\alpha = .834$			
Food aids made farmers to persist on it to avoid the pest and diseases attack	.808			
Food aids made farmers to persist on it to avoid the pest and diseases attack	.720			
Food aids made farmers to persist on it to avoid the risk of high temperature	.708			
Food aids made farmers to persist on it to avoid the risk of land fertility	.702			
Food aids made farmers to persist on it to avoid the risk of land degradation and erosion	.625			
Variance (% explained)	36.090			
Epidemics and health concern		$\alpha = .930$		
Food aids made farmers to persist on it due to epidemic outbreaks		.892		
Farmers depend on food aids due to less nutrient and body immunity		.769		
Food aids made farmers to persist on it due to health and treatment expenses to cure epidemics		.582		
Food aids made farmers to persist on it due to starvation		.571		
Food aids made farmers to persist on it due to health conditions		.571		
Variance (% explained)		11.552		
Farming inputs			$\alpha = .757$	
Food aids made farmers to rely on it to reduce the production cost of buying at high price of inputs (seeds, fertilizer, herbicides)			.736	
Food aids made farmers to rely on it because wrong seed varieties were distributes most of			.660	

4.2 The Contributing Food Aids Factors

Regression analysis was conducted to determine the most significant factors that influence crop production intention among the respondents. The results (shown in Table 3) of the findings show that Epidemics and health concern has the highest Beta value 0.659 ($P < 0.000$), followed by farming inputs which is 0.152 ($P < 0.000$), then dependency syndrome with Beta value 0.147 and P-value significant at $P < 0.000$. However, climate change ($B = -0.007$, $P < 0.866$) have a very low negative Beta value and therefore, have no significant influence on crop production intention of the respondents.

Table 3: Contributing Food Aids Factors

Variables	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	.282	.116		2.432	.015
Climate change	-.006	.035	-.007	-.169	.866 ^{NS}
Dependency	.155	.037	.147	4.137	.000 ^{***}
Farm inputs	.146	.041	.152	3.557	.000 ^{***}
Epidemics	.613	.033	.659	18.842	.000 ^{***}

R=0.850, R²=0.723, AdjR²=0.720, Std. Error of the Estimate=0.3539

Note: *** Significant at $p < 0.000$

5. DISCUSSION

The pattern matrix, which extracts 4 variables (extracted values of each item under the variables). The greater the absolute loading value, the more the factor adds to the variable. We suppressed all loadings less than 0.5. The factor loadings ranged from 0.551 to 0.943 which achieved the required range as stated by Hair et al., 2010. The regression coefficient estimate is used to test the regulating effect of food aids on crop production intention from the analysis of the findings, the model showed that 72.3% of the variation in crop production intention was explained by the food aid factors. However, out of the four food aid factors only three factors (epidemics and health concern, dependency syndrome, and farm inputs) were significant with p-values less than the alpha value of 0.05. This research supports the earlier research undertaken by the U.S. Department of Agriculture, where comparable concerns were discussed by projecting the effect on the production of aids and epidemics (Shapouri and Rosen, 2001). The research discovered that slow development in agricultural productivity and the general economy in the most impacted nations in Africa resulted in increased food insecurity, with a significant gap projected in many nations between manufacturing and needs. Food insecurity is assessed by the nutrition gap, which is the distinction between the predicted food supply and the quantity of food required to fulfill domestic per capita nutrition requirements (USDA, 2017).

6. RECOMMENDATIONS

This research work is only limited to the low crop production activities of Somali farmers in the wake of food aids, other factors contributing to low crop production have not being focused on. Therefore, the researcher recommends further study on the related aspect of low production in the area. If farmers need to be empowered about the significance of food self-sufficiency and become self-centered by providing easy and informative leaflets, this will enable them to become more data seekers than receivers. Increase the networking capacity of farmers so that farmers understand, among other things, the correct data about manufacturing techniques, product prices and inputs on a timely basis. Enlighten farmers about investments linked to danger as this will assist them decide when techniques are worth their investment. Increase and enhance farmers' capabilities (knowledge and abilities) as this is more sustainable and reliable to affect their manufacturing efficiency. Farmers with little or no extension service will have the capacity to generate plants and fix their field issues. Finally, the researcher promotes officials to strengthen agricultural extension research through extensive training of extension officials and farmers, thus improving the abilities and technical content of extension texts and enhancing farmers' ability to engage efficiently in the leadership of agricultural organizations and on-farm research. However, extension services delivery system operating in the area should be further strengthened and focused more on the farmers who had limited formal educational opportunities.

7. CONCLUSION

It can also be concluded that the factors that influenced farmers' intention towards agricultural production in the food aid regime in Somalia are as follows:

Epidemics and health concern which occurs as a result of natural causes or as a result of human actions hampers the productivity of the farmers, thereby increasing their dependency on food aids. It affects their self-motivation in handling the farming activities, disrupts produce quality and can decrease production efficiency. Price of farm inputs is also one of the significant factors that influence the farmers' intention towards crop production in Somalia. Inconsistency in agricultural input price is mainly caused by other factors like high cost of agricultural services, high costs of local produce compared to imported ones, and high cost of labor etc. By using the available technology, production work is comfortable, user-friendly, but inefficient. Dependency syndrome level of the farmers on food aids is also another crucial factor that influences their decision not to engage in crop production. The dependency level promotes incompetence in production works, little or no commitment towards discharging responsibilities, knowledge seeking, creativity and flexibility in handling production. Finally, the crop production intention among Somali farmers in the wake of food aids occurred because they were not ready to embrace the use of new crop production technology or envisage starting crop production using improved technology in future.

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