Journal of Agriculture and Rural Research
(ISSN 2523-1189)

AN IMPACT ANALYSIS OF COMPREHENSIVE AGRICULTURAL SUPPORT PROGRAMME (CASP) ON MAIZE PRODUCTION SMALLHOLDER FARMERS IN MPUMALANGA, SOUTH AFRICA

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Received: 15th November, 2017
Accepted: 22nd November, 2017
Published: 28th November, 2017

ABSTRACT

The Comprehensive Agricultural Support Programme (CASP), which came into effect in 2004, provides funding targeting smallholder farmers. CASP has six pillars, of which this study focused on one, which is the financial support. The study assessed the impact of CAPS on maize production smallholder farmers that benefited from CASP, in Mpumalanga province of South Africa. Primary data was collected through structured questionnaires and administered through personal interviews from 201 smallholder farmers, in Mpumalanga province. Difference-in-Difference method was applied, farmers that benefited from CAPS were regarded as the treatment group and those that did not benefit were regarded as a control group. Generalized Least Square (GLS) and Ordinal Least Square (OLS) were employed using STATA to estimate the difference. The findings show that CASP was significant at 10% level, which means that farmers benefited on CAPS their maize production increased by 10% than those who did not benefit. Hence, we discuss and recommend some policy implication based on the study findings.

Keywords: CASP, Smallholder Farmers, Difference-in-Difference, Maize Production, Mpumalanga.

INTRODUCTION

More than 60 percent of the world's population lives in rural areas. Most international organizations are attempting to help these rural families, by increasing their agricultural output (IFAD, 2001). Within the global context, governments continue to influence the production process through subsidies. The seminar for strengthening agricultural support programs held in Japan in 2001, served as a platform for developing economies to combined efforts towards the establishment of efficient support programs (Hart and Sharma, 2004). African Governments have realized the need to foster and strengthen agricultural development. The SADC members state synergies their countries' policies to a regional agricultural strategy, with the focus of supporting agriculture through various pillars, in order to achieve food security and regional economic development (SADC, 2011). South Africa is one of the signatories to the SADC agreement. Since 1994 the Department of Agriculture has formulated policies that would redress the injustices regarding smallholder farmers support programs in South Africa. Agriculture was one of the targeted industries that needed transformation (Mthembu, 2005). The Department of Agriculture emphasized the need to support smallholder farmers because this would offer long-term solutions to the problem of unemployment and rural neglect. To address these challenges faced by smallholder farmers, the government created local government structures in line with Land Reform and other Agrarian Reform Programs as a way to support the noble idea of the development of smallholder and emerging farmers (NDP, 2009).

Agriculture remains an important sector in the South African economy as well as other African regions. Its contribution to gross domestic product (GDP) has declined significantly in recent decades in South Africa (Vink et al. 1998). The South African agricultural policy noted that there's a great need to support smallholder farmers with regard to the challenges that they are facing. The aim of the agricultural policy was to support smallholder, resource-poor farmers in the creation of employment opportunities. This involves, among other things,

reestablishing and supporting a diverse form of successful black agriculturalists alongside a prosperous commercial sector (Vink et al. 1998). As the way of addressing these challenges, a number of Farmer Support Programs have emerged in the smallholder sector to specifically target those poor farmers (Kirsten and Van Zyl, 1998).This led to the launch of the Comprehensive Agricultural Support Programme (CASP), which is a government-funded programme, with funds for disbursement to farming households. Agriculture remains an important sector in the South African economy as well as other African regions. Its contribution to gross domestic product (GDP) has declined significantly in recent decades in South Africa (Vink et al. 1998). It is the most significant capital budget line potentially available to smallholder farmers. The stated aim of CASP is: To make provision for agricultural support to targeted beneficiaries of the land and agrarian reform programme within six priority areas (DAFF, 2015). CASP focuses on providing funds for projects which are in the form of cooperatives or organized group of farmers and does not fund individuals. In addition, CASP has a high proportion of projects that benefit from it more than once, for example, some projects receive funds in two or three consecutive years.

CASP has six pillars, namely; advisory and technical, knowledge and information management, capacity building and training, business and marketing development, on and off-farm infrastructure and financial support. Intended beneficiaries of the programme are the hungry and vulnerable. The expected output of the CASP pillars is household food security, farm and business level activity and the development of an agricultural macro system within the consumer economic environment (DAPRM, 2011). Since its implementation, the programme was mainly focusing on providing infrastructure for the resource-poor farmers. However, this study focuses on the financial pillar of the programme, by looking at The Impact of CASP's Financial Support pillar on Maize Production of Smallholder Farmers in Mpumalanga, South Africa.

The main **objective** of this study was to measure the impact of financing support of CASP on maize production. Findings thereof, are to be used to advise the government to make corrective measures should they be necessary or rather, better policy formation. Previous studies that were conducted about CASP sought to investigate into its infrastructural development pillar more than any other. This study, however, focuses on the financial pillar of the support programme, an area not thoroughly research upon, let alone in Mpumalanga province. The study is useful to determine whether the CASP programme is making progress or not

LITERATURE REVIEW

Barett et al. (2001) stated that agriculture is the economic backbone of most rural areas in developing countries, especially in Africa. Agriculture contributes to overall economic growth by creating jobs, supplying food, labour and raw materials to other growing sectors of the economy.

Majority of land settlement programs, especially those operated by the smallholder farmers, have failed to get off the ground. Smallholder farmers in South Africa are characterized by poor resources such as land, capital, and labour. The role of smallholder farmers is very important in poverty alleviation (Vink, 1999). Land restitution beneficiaries and smallholder farmers have been struggling with access to support service. There's a need to look to agricultural support services such as CASP. Previous studies concur that agricultural growth cannot be achieved without farmers support, such as grant funding, access to finance as well as a credit (Kgosiemang and Oladele, 2012).

Idsardi et al. (2008) studied Characterization of Successful Factors of Projects funded by Comprehensive Agricultural Support Programme in the Free State Province, South Africa. They found that on a statistical significance of 10 percent, 11 of the investigated explanatory variables had a significant impact on the success and sustainability of CASP funded projects. Most research related to agricultural development finance in South Africa sterns from the 90's and early 2000's, but more recent studies are lacking. (Hall, 2004) in his study found that lack of support for beneficiaries after the land transfer is widely acknowledged. It is a phenomenon that most of the land that has been transferred under the restitution programme, is not productive because of farmers' lack production inputs or support services. A study was done by Mukwevho and Anim, (2014) found that farmers were able to increase their production, after accessing agricultural support services.

Mpandeli and Maponya, (2014) found that smallholder farmers were able to double their maize and cotton production after receiving agricultural support service in Zimbabwe. (Sikwela and Mushunje, 2013) studied the impact of farmer support programmes on household income and sustainability in smallholder production and found that education of the household head and income from agriculture were significant, which means there was a difference between farmers who have received support and those who did not.

Thamaga-Chitja and Morojele, (2014) found that CASP allocation was R1 Billion for the period of 2011/12, yet the impact on smallholder farmers remains unclear. In a study done by Xaba and Dlamini, (2015) using the difference in difference (DID) method, found that income levels increased for projects that had benefited from CASP pillar training and capacity building, when the projects were analyses as a group. (Bernanke and Gertler, 2001) the authors used DID to compare the outcome of nonparticipant that are similar in characteristics, in every aspect with those participating in the programme except for nonparticipating in the programme.

Studies have shown that farmer group and collective action, in general, can help farmers to achieve economies of scales, as they could lower transaction cost by pooling resources of poor farmers (Stringfellow and Coulter 1991) and Husser, (2001). Okoboi et al. (2013) using a difference-in-difference method, when assessing the impact of National Agricultural Advisory Services (NAADS) in the Uganda Rural livelihoods.

DESCRIPTION OF THE PROGRAMME

The fiscal review of the agricultural sector was conducted in 2003 by the national department of agriculture (Department of Agriculture, Forestry and Fisheries) and nine provincial departments of agriculture. The review was meant to detect what causes the cost and spending in the sector. Through this fiscal review process, assessment of agricultural budget and the main deliverable were recognized, including constraints that hindered service delivery. Upon further analysis, key observations were made by Intergovernmental Fiscal Review Process (IFRP), which include inadequate budget allocated for the agriculture sector. Different plans were identified to address the shortage of the budget within the 2003/4 financial year; these include CASP which was prioritized for implementation in 2004, by the joint committee. Cost and spending pressure were identified by the committee within the budget. Output to support the framework of CASP was also identified and a result CASP was adopted through this exercise (CASP, 2011).

CASP initially was focusing on land reform beneficiaries. The programme was designed to enhance the provision of support services to facilitate and promote agricultural development, targeting agrarian reform and land reform (Department of Agriculture, 2004).

CASP is schedule for conditional grant that seeks to enhance the provision of support services that can facilitate and promote agricultural development, with emphasis on youth, people with disabilities and women. CASP was meant to be a comprehensive program, its implementation in the past have focused on mainly on infrastructure provision (Department of Agriculture, 2007; Public Service Commission, 2011). Soon after attaining democracy in 1994, the Department of Agriculture (now, the Department of Agriculture, Forestry, and Fisheries) attached a great importance to delivering effective agricultural support services to the agriculture particularly the previously disadvantaged individual's farmers. Its vision was to have a prosperous and united agricultural sector in South Africa. Policy reforms formulated in the White Paper on Agriculture, the Strauss Commission Report into the Provision of Rural Financial Services, and the Strategic Plan for South African Agriculture and the Broadening Access to Agriculture Thrust (BATAT) document reshaped the agricultural sector over the years.

Smallholder Farmers in South Africa

In South Africa, among the various types of farmers, two distinctive types of farmers are found, namely, the commercial farmers and smallholder farmers. Commercial farmers are mainly white male individual with large hectares of farming land whilst smallholder farmers on the other hand, which are characterized by poor-resources Africans with little land. These resource-poor black farmers are predominantly found in the former homelands. The Apartheid Government established homelands, by prevented majority of Blacks population to live in urban areas of South Africa. According to (Kirsten and Van Zyl, 1998) smallholder is often equated with a backward, non-productive, non-commercial, subsistence agriculture that we find in parts of the former homeland areas. It is generally associated with black farmers as if black farmers do not have the ability to become large-scale commercial farmers.

In South African, smallholder farmers are defined as those owning small-based plots of land on which they grow subsistence crops and one or two cash crops relying almost exclusively on family labor. The production systems are characterized by simple outdated technologies, low returns, high season labor and women playing a vital role in production (DAFF, 2012). A number of case studies have shown that smallholder farmers do exist but are least viable, efficient and profitable than their counterparts (Ngqangweni, Kirsten, and Degado, 2001). Various government policies in South Africa have shown that smallholder agriculture contributes very little to the country welfare and economy of rural dwellers.

METHODOLOGY

Study Area

This study was confined to the geographic context of Mpumalanga province and focused on the four districts. The study only focused on all the beneficiaries of CASP recognize by the provincial department of agriculture namely, Ehlanzeni South district, Ehlanzeni North district, Gert Sibande district and Nkangala district. The aim of CASP is to improve quality and volumes of smallholder farmers. The aim of this study, however, was to compare smallholder farmers in all four districts by looking at maize production. The Province was formerly known as Eastern Transvaal and literally, means "the place where the sun rises". It lies in the eastern part of South Africa, north of KwaZulu-Natal and bordering Swaziland and Mozambique. It constitutes 6.5% of South Africa's land area which is equivalent to 76 495 square kilometers.

Sampling Procedure

A sample is a subset of a population. In this study, participant was randomly selected. A targeted group is the study of a group of individuals taken from a general population, who share common characteristics such, as age, gender etc. The total number of beneficiaries from CASP in the study area is 1143. This study considers 201 beneficiaries of CASP of which, 108 of the farmers received funding while 93 of the farmers did not receive the fund. This study involves 201 farmers that produce maize from these four districts (Ehlanzeni South 41, Ehlanzeni North 59, and Nkangala 41and Gert Sibande 60).

Structured questionnaires and interviews were instrumentally used to gather information about farmer's production means and levels. The questionnaires contained both open and closed-ended questions.

Data Collection Procedure

The survey employed both primary and secondary data. Primary data was collected during the actual field visits. This method was used to obtain farm specific and current data needed in carrying out the study. Questionnaires and interviews have used a means of obtaining the required information about farmers. The data was collected by the researcher through the direct visit. Collected data helped to answer the research objectives and questions of this study. Open-ended questions with regards to farmers' agribusiness, where farmers were asked about the challenges they faced were also answered.

Secondary data was used to provide key information that cannot be obtained from structured questionnaires. Secondary data was also used to provide necessary support for the primary data. It was mainly gathered from existing literature, reports, books, research journals, and internet and past research information.

Data Analysis

The outcome and the impact were measured using the natural experiment approach; the aim was to find naturally occurring comparison groups that mimic the properties of the control group. This makes use of a quantitative analysis which is the best suited to measure the levels and changes in an impact on the treatment group and that of the control group. The analytic method used in this study was the DID model to evaluate the impact of CASP's financial pillar. The model used is drawn from the work of (Xaba and Dlamini, 2015). A simple comparison of output (total production) between farmers who have received funding through CASP and those that have not received it was made. Data acquired in this study were analyzed using descriptive statistics such as means, percentage, frequency distribution, and tables. DID model was employed to analyze the impact of CASP on production by using STATA and excel. Using DID, two time periods or years were chosen, those being 2012 and 2015. 2012 was chosen as the baseline year, because more budgets were allocated in the study area in 2012 than any other year. Meaning, more projects were funded in 2012. The evaluation year was taken to be 2015 since the study was conducted in the same year, using questionnaires and additional data obtained from the local agricultural department in the province.

Since the work of (Ashenfelter and Card, 1985), the use of DID methods has become widespread. The authors stated the simplest setup, where outcomes are observed for two groups in different periods. One of the groups is exposed to a treatment in the second period, but not in the first period. The second group is not exposed to the treatment during either period. In the case where the same units within a group are observed in each period time period, the average gain in the second (control) group is subtracted from the average gain in the first (treatment) group. This removes biases in the second period comparison, between the treatment and control group. The method of difference-in-difference refers to the comparison of a treatment group or comparison group before (regarded as the first difference) and after programme was implemented, which referred to as second difference (Ravillion, 2001).

The difference-in-difference method does what its name suggests. It compares the changes in the outcomes over time between population that receive the program (the treatment) and population that is not (the control group). One way to capture the time varying factors is to measure the before and after change in outcomes for a group that did not receive the program, but was exposed to the same set of environment conditions.

The difference-in-difference approach thus combines the two groups (before and after comparison and comparison between those who did receive the program and those who did not receive the program, to produce a better estimate of the two groups.

To apply the DID, all that is necessary is to measure the outcomes in the group that received the program (the treatment group) and the group that did not received the program (control or comparison group) both before and after the program. This method does not require us to apply specify the rules by which the treatment is assigned.

In this study, two time periods were considered Ti =0 before CASP is implemented and T_i =1 after CASP was implemented. Let W_i, denote farmer's participation. W_i =1 when farmers received CASP at T_i =1 and W_i =0 farmers who did not receive CASP at Ti=1. We denote Yi, as production i. The impact of CASP on production was computed in two stages. Single Difference (SD) between Y of the farmers who received CASP (W_i =1) and those who did not receive CASP (W_i =0). We condition this difference on the observed farmers and X was denoted.

SD= E [Yi |**X,**Wi =1, Ti=1] – E [Yi| **X**, Wi =1, Ti=0] (1)

The SD is subjected to bias in many aspects other than their treatment status.

Difference-in-Difference (DID) in order to refine the SD from bias

DID= {E [Y_i| **X**, W_i =1. T_i =1] – E [Y_i| **X**, W_i =1, T_i=0]}-{E [Y_i| **X**, W_i = 0, T_i =1] – E [Y_i| **X**, W_i =0, T_i =0 (2)

Empirical Model Data Analysis

Difference-in-Difference (DID) model was adopted to analyze the impact of CASP on maize production of smallholder farmers. Other studies that have applied the DID method in their impact evaluation include (Breierova and Duflo, 2003), (Galiani et al. 2011), (Cattaneo, Galiani, Gertler, Martinez, and Titiunik, 2009) and (Alderman, 2013). The DID method used in this study can be seen below as:

$$Y=\beta_0+\beta_1W_i+\beta_2T_i+\beta_3Wi*T_i+\beta_4X+U \quad (3)$$

Where: Y is the outcome of interest, maize output in this case.

W_i: Dummy for CASP equals to 1 for observation in the treatment group and 0 for the control group CASP as a state variable.

Where: T_i is the time period. Dummy T_i considers factors that may have affected Y between the baseline year and the follow-up year. T_i is equal to 1 in the follow-up year and 0 in the baseline year.

Where: W_i*T_i=1*1=1 if in treatment group/ those who received financial support in the follow-up year W_i*T=0 otherwise.

X: is the interpretation vector, U is the error term.

The coefficient of interest β4, is the coefficient for the dummy W_i*T_i standing for treatment impact. β_3***= (ȳta-ȳtb) – (ȳca-ȳcb)** (4)

(ȳta-ȳtb) is the change in outcome for the treatment group and (ȳca-ȳcb) is the change in the outcome for the control group. The subscript t and c indicate treatment and control group, a and b for the distinction between the baseline and evaluation. The bar indicates the mean, which is the average value of the CASP status. DID require a parallel trend assumption. Ordinary Least Square (OLS) model can be applied in DID estimation. The trend assumption states that the change of the outcome variable would have been the same in both trials. If there had been no treatment, the difference in outcome changes can be attributed to the treatment alone.

Table 1. D-I-D estimate of the treatment effect

	Treatment	**Control**	**Difference**
Before	$\beta_0+\beta_1$	β_0	β_1
After	$\beta_0+\beta_1+\beta_2+\beta_3$	$\beta_0+\beta_2$	$\beta_1+\beta_3$
Difference	$\beta_2+\beta_3$	β_2	β_3*

Source: Data survey (2015)

The coefficient β_3* measure the impact of financial support (program effect).

This method was chosen because the researcher was trying to evaluate the equivalents of 'treatments' and 'control groups' in which everything, apart from the variable of interest was the same. The difference in difference method has the ability to take into account omitted factors and variables. Concisely differentiating is a way to deal with omitted variables (Bergemann et al. 2014).

Two groups of farmers were compared, which farmers that received CASP and those who did not receive CASP. The primary concern was that the two groups of farmers may have had similar characteristics in every aspect. The only difference between them is their participation in the programme. Those who had received the program were regarded as the treatment group and those who had not received group but, at different time periods. Group and those without the program as a control group into the different time period. Daflo (2001) analyzed the schooling and labor market impact of schooling construction.

Blundell and Dias (2000) they found that DID method rely on two assumptions, common time effect across the group and no changes in the composition of the group.

RESULTS AND DISCUSSIONS

Econometric s Model

General Least Square (GLS) is the technique for estimating the unknown parameters in a linear regression model. Production is (Y) = $\beta_0+\beta_1$Wave + β_2Programme + β_3Programme effect +X (land, labor cost, machinery, experience, years of schooling, pesticide cost of fertilizer, cost of seed) + U. Based on the assumption that the individual specific effect is uncorrelated with the independent variable. The farmers were randomly selected and every eligible person has the same chance of receiving the programme. Panel data was used so Random-effect model fits well because of its measures the difference between the two average scores. The implementation of the randomized design is by comparing a program different between the enrollment in the treatment and control enrollment. A robustness of the DID program effect is estimated subtracting the total averages after the treatment and before the treatment. Schultz (2004) found averages the biggest increase in enrollment of 34 percent. In this study results from Random-effect GLS regression were compared with of the OLS regression. General Least Square and Ordinary Least Square models were utilized to determine the significance level of the independent variables.

(Badie, Iamond, and Ainmueller, 2010) argues for an additional source of uncertainty. An additional source of uncertainty is assumed to swamp the sampling error in estimating group or time period means. The difference in means, the error variance as CASP dummy measures the effect of the programme. (Greenaway-mcgrevy, 2014) noted that the OLS estimator (the fixed effect estimator) is inefficient when serially uncorrelated (and possibly heteroskedastic), proposed that feasible GLS.

Table 2. Results of Random-effects GLS regression

Total Production	Coef.	Std. Err.	P>z
Wave	1.071583	0.873977	0.220
Casp Support	0.018008	0.737749	0.981
Programme effect	2.624323	1.154282	0.023**
Total Labor Cost	-0.00035	0.000696	0.613
Land	0.785381	0.127305	0.000***
Machinery Cost	-0.00036	0.000551	0.516
Experience	0.522197	0.090634	0.000***
Years of Schooling	2.335033	0.532023	0.000***
Cost of fertilizer	-9.9E-05	0.000831	0.905
Cost of Seed	-0.00057	0.005502	0.918
Organized Group	0.270542	0.493725	0.584
_cons	-3.52747	3.021854	0.243

*Significance at p<10% level; **significance at p<5% level; ***significance at p<1%level

Number of observations	402
Number of groups	2
Pro > chi2	0.0000
R-sq Within	0.5764
Between	0.4143
Overall	0.4232
Wald chi 2(11)	416.16

Source: Survey (2015)

The main aim of for this study was to analyze the impact of CASP on maize production of smallholder farmers; the Panel Random-effect Generalized Least Square (GLS) model was employed to obtain the D-I-D estimates. Where Y is the dependent variable, which a binary response, depending on the state variable which is CASP equal to 1 if the farmer has received the programme and 0 if the farmer has not received the programme. Base on the results in Table 4.1.1, 201 observations in the data set were used in the analysis, 11 variable were considered in the model, Wald chi2 (11) is 413.42 with a p-value of 0.0000, meaning that the overall model is significant and thus fit well with the data. Furthermore, results of the GSL model presented in Table 5.1.1 shows the marginal impact of each variable.

Results show that the GSL analysis indicated a significant overall fit and indicated that only four variables were insignificantly out of eleven independent variables. Three independent variables indicated significant impact at

1% level and 1 variable is significant at 5% percent level. In line with prior expectations, land, CASP, years of schooling and experience has a positive impact on maize production. Note that capital was not included in the model, because of CASP is the financial support which has directly impact on capital.

The results found a land size that is cultivated farmers is statistically significant at 1% level, with a coefficient of 0.7853 meaning that farmers who receive CASP can increase their production by 0.78 tons more than those who did not receive CASP. Land sizes have a positive statistical significant impact on maize production of smallholder farmers, results are in line with the prior estimation.

CASP as a programming effect was employed as a state variable for maize production, it was found statistically significant at 5% level, with a coefficient of 2.6243 meaning that farmers benefited to the programme can increase their maize production by 2.6243 tons more than those who did not receive the program. The CASP have a positive impact on maize production.

The experience was found statically significant at 1% with a positive coefficient. The more experience the farmers have, can increase their production by 0.52 tons more, than those who have less experience. Experience has a positive impact on maize production output. More years of experience increases, the output produced. The farmer knows better practices and the correct time for plantation and harvesting.

Years of Schooling was found to be statistically significant at 1%, with a positive coefficient 2.33. The more the farmer is educated, can increase their production by 2.33 tons more than those who have lower education.

Total labor cost, machinery cost, cost of fertilizer and cost seed, were found not to be significant. They were found with negatives coefficient, which means they have a negative impact on the maize output. High input cost affects production; farmers with lower income cannot afford cost and end up not using the correct. Wave, Casp support and the organized group were found not to be significant with a positive coefficient. They have a positive impact on output production.

Ordinary Least Squares regression (OLS) model was used as a means of identifying the impact of the independent variables on maize output. Regression results as on Table 5.2.2 have shown that five (6) out of eleven (11) of the variables included in the model are statistically significant at different levels. The results on Table 5.1.1 were compared with the results on Table 4.2.1 were OLS regression was used. Six of the variables out eleven were found significant and at 1% and at 5% and 10% respectively. Four of those variables were also found significant using the GLS model at 1% level. CASP support as dummy was found significant at 1% level with a negative coefficient, which has a negative impact on the production. The program effect which is our point of interest was found to be significant at 1%, with a positive coefficient. Meaning is having a positive impact on the maize production. Farmers who received the program can increase their production 6.59 tons more than those who do not have. Cost of fertilizer was found to be significant at 10%, with a negative coefficient.

Table 3. OLS Regression

Total Production	Coef.	Std. Err.	P>t
Wave	0.523186	1.629821	0.748
Casp Support	-3.54175	1.11129	0.002**
Program Effect	6.595507	2.014372	0.001**
Labor	-7E-05	0.000574	0.902
Land	0.767739	0.110863	0.000***
Machinery Cost	-0.00031	0.000419	0.465
Experience	0.501185	0.073377	0.000***
Years of Schooling	2.418718	0.38016	0.000***
Pesticide Cost	0.002645	0.002993	0.377
Cost of Fertilizer	-0.00192	0.001103	0.083*
Cost of Seed	-0.00842	0.009705	0.386
Organized Group	1.02097	0.81239	0.21
_cons	0.328487	2.926335	0.911
Prob>F	**0.0000**		
R-Squared	0.5336		
Adjusted R-Squared	0.5759		

*Significance at p<10% level; **significance at p<5% level; ***significance at p<1%level

Source: Survey (2015)

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The main objective of this study was to analyze the impact of CASP on maize production the objectives were achieved as the results show that CASP had an impact on production. The focus was on the CASP programme, using Random-effect Generalized Least Square (GLS) regression and it was compared with results of OLS, DID estimate showed statistical significance positive relationship between CASP (Programme effect) and maize production of smallholder farmers in Mpumalanga province. CASP (Programme effect), land size, experience and years schooling they were found significant at 1% level both on the GLS and OLS regression. Other variables such as labor cost, machinery cost, and fertilizer cost and seeds cost were not significant, with a negative coefficient on the GLS regression model. Cost of fertilizer was found to be significant at 10% on the OLS regression. These variables affect maize production, the higher the cost of these variables, the lesser farmers can afford them. Dummy variable CASP was found not to be significant on the GLS regression and was significant on the OLS regression with a negative coefficient. In both regression the Programme Effect (CASP) was significant, the different was the coefficient is higher on the OLS is significant at 1% 6.595507 and significant at 5% with a coefficient 2.624323 on the GLS regression. Based on the observed differences across selected farmers with CASP and without CASP, it appears that the CASP programme is having a substantial impact on maize production in the study area.

The shortcoming of this study it is only gives an impact of CASP on maize production, rather than identification the characteristics of CASP. The study shows that the CASP has a positive impact on maize production, which is a good sign, government and other stakeholders continue investing in the programme. There are many gaps in the studies that can be researched on and the results cannot determine whether CASP, has been successful or not.

Recommendations

To ensure a common understanding of CASP, the Department of Agriculture Forestry and Fisheries should put into place a clear logic framework for the programme. This will enable the department logically outline, not only what the programme is expected to achieve, but also a clear logic how to achieve it. The department must set up procedures and system to collect performance information against appropriate outcome indicators on project level.

The criteria need some reworking; some officials who identify their relatives abuse the system. The government must re-look the criteria for funding because people who really need the funding they end up not receiving it. Some government officials manipulate the procedure by giving the funding to those they know, which they can benefit from. Government and other stakeholders must encourage the youth and people with disability to take part in such projects.

The programme was found to have a positive impact on production in this study. The government and other stakeholders must invest more in this programme and keep such programme running for more years. Future research can focus on all the pillars of CASP.

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