

## The influence of budget allocation to implement the policy of extension and advisory services in South Africa

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### **ABSTRACT**

*Extension support is viewed as an enabler of food security. However, the literature reveals that extension within the public sector in South Africa is not yet geared to satisfy the needs of resource-poor smallholder producers to break away from poverty and food insecurity. This paper is aimed at reviewing budget allocation and public expenditure on agricultural extension support services to provide evidence-based recommendations to inform the implementation of the national policy on extension and advisory services. The study was conducted using budget allocation and expenditure data collected through a survey questionnaire directed at nine provincial departments of agriculture. The problem investigated was to establish whether the budget allocated to provincial extension services would be sufficient to implement the extension policy. Data analysis employed descriptive statistics including t-tests of differences in means. The study has delivered several findings: a). The budget execution rates were high for both the extension practitioners and the farmer programmes, with budget execution for farmer programmes being better than that for extension practitioners. b). The budget trends indicate an efficient system of budget execution for the benefit of the farmers. c). There were statistically significant differences between mean budget allocation for extension practitioners and farmer programmes. d). It was further found that the differences between the mean expenditure on extension practitioners and mean expenditure on farmer programmes were statistically significant. e). Consistent with budget allocation, mean expenditure on farmer programmes was higher than mean*

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*expenditure on extension practitioners leading to the conclusion that farmer programmes spent significantly higher than extension practitioners in the five financial years. f). On the other hand, it was found that the cost of implementing the newly developed national policy on extension and advisory services was found to be greater than the current budget allocation. The paper concluded that the budget allocation was insufficient, yet farmers received value for money.*

**Keywords:** Budget, Expenditure, Extension Practitioner, Agriculture, Programme, Policy

## 1. INTRODUCTION

Agriculture is a source of livelihood for an estimated 86% of rural people in the world. It provides jobs for 1.3 billion smallholders and landless workers and a foundation for viable rural communities. An estimated 5.5 billion people in the developing world, about half of all humanity and 3 billion live in rural areas. Of these rural inhabitants, an estimated 2.5 billion are in households involved in agriculture, and 1.5 billion are in smallholder households (World Bank, 2008). The eradication of poverty and increasing agricultural productivity are fundamental objectives of agricultural extension support services (The Zimbabwe Institute, 2007).

General support service is crucial in assisting the land reform beneficiaries with the production and marketing of agricultural products. General agricultural support can promote and advance the development and establishment of smallholder farmers from previously disadvantaged backgrounds. Cousins (2009) argued that one crucial element of land reform support, to assist the new owners of land to become productive users of such land. Critics have in turn pointed to the almost complete failure of the government to provide adequate post-settlement support. This is particularly important for poverty eradication. Post-settlement support involves credit, farming inputs, water for irrigation, marketing arrangements, information, and training (especially agricultural extension support). Training is crucial because of the loss of agricultural skills that took place in the apartheid era.

According to Raabe (2008), the well-being of the rural population is invariably linked to the performance of the agricultural sector. Both the Department of Economic Development (DED) (2010), through its Economic Growth Path, and the National Planning Commission

(2012) in the National Development Plan (NDP) identified agriculture, forestry, and fisheries as the sectors with the highest potential to make an immediate and sustainable contribution towards job creation in rural areas. Agricultural extension services must respond to a wide set of local, national, and global pressures across agricultural value chains. Scott, Marshall, Aillery, Heisey, Livingston, and Day-Rubenstein (2012) noted that the changing economic scenario in various countries (including South Africa) and the need for appropriate agricultural technologies as well as the need for innovative and climate-resilient production practices to respond to rising food prices, food and nutrition security, poverty eradication, diversifying market demands, export opportunities, and environmental concerns, is posing a new set of challenges to technology dissemination systems.

According to the CDE (2008), farmers that have gained land are not benefitting from the land due to a lack of or insufficient government support services. Agricultural public extension services in South Africa are plagued with several structural and counterproductive challenges that limit the efficiency and effectiveness of efforts and investments in the development of smallholder producers in particular (DoA, 2005). One of the major challenges for extension relates to the lack of extension capacity. Cousins (2009) further argued that capacity challenges have been highlighted as one of the reasons that led to small budget allocations by the National Treasury. Communities with a high number of producers on a subsistence level are currently serviced by a low extension: producer ratio, while market-oriented large-scale producers are serviced through a high extension: farmer ratio from the private sector.

There is growing consensus on the importance of agricultural extension support services as an integral component in ensuring the effective implementation of government policy interventions and efficient facilitation of development programmes in rural areas. The extension is part of a wide range of services needed to help producers acquire relevant knowledge and skills to increase and sustain the productivity and competitiveness of their enterprises (DoA, 2005). Koyenikan (2008) emphasized the importance of agricultural extension support towards the goal attainment of the agricultural sector, achievement of increased production, improved processing in all the sub-sectors of agriculture (crop, livestock, forestry, and fisheries), improvement of quality of life and promotion of environmentally friendly practices and other objectives require extension effort.

The current state of South African agricultural extension support in terms of public budgetary trends and expenditure is not yet known. The main objectives of this paper are:

- To review budget allocation and public expenditure on agricultural extension support services to provide evidence-based recommendations to inform the implementation of the newly developed national policy on extension and advisory services.
- To answer the question of whether the current budgetary trends will be sufficient for implementing the national policy on extension and advisory services.

## **2. CONTEXTUAL BACKGROUND**

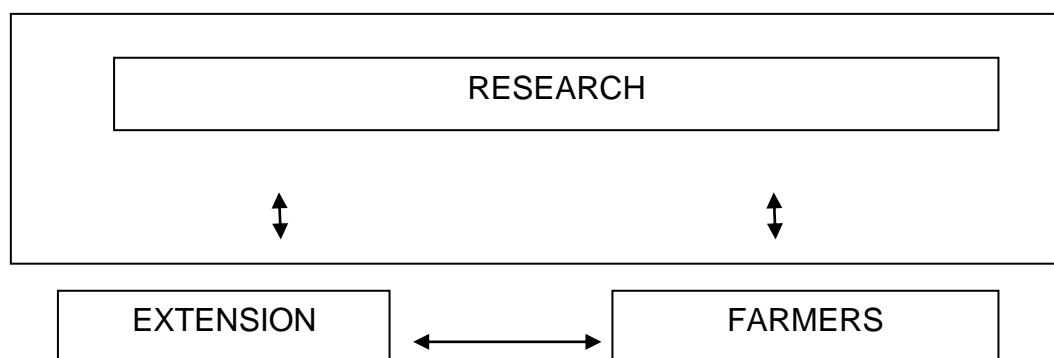
It is commonly perceived that public agricultural extension support in South Africa is ineffective and inefficient. Cousins (2009), amongst others, argue that government agricultural extension support is weak. Extension Practitioner's efforts have made little impact on the overall picture of South African smallholder producers. There are insufficient staff members, many are not adequately trained, and staff turnover is high. Public extension services without adequately trained personnel and/or the pre-requisite extension working tools adversely affect the quality of services offered.

Most black farmers in rural marginal lands depend on public sector extension services. Studies by several scholars reveal that the public sector extension in its current state is not geared to satisfy the needs of resource-poor smallholder producers to break away from the bondage of dependency, poverty, and food insecurity (Ngomane, 2000; Mpandeli, 2005; Ngomane, 2006; Worth, 2009). Agricultural extension support services in the country are plagued with several structural and counterproductive challenges that limit the efficiency and effectiveness of efforts and investments in the development of smallholder producers. It is, therefore, necessary for extension practitioners to be familiar with the total value chain of different agricultural commodities and the challenges associated with them so that they can develop appropriate solutions to problems and take decisions competently (Gabathuler, Bachmann & Klay, 2011).

### **3. THEORETICAL FRAMEWORK**

The performance of the agricultural sector is measured against its ability to cope with the challenges that result from rising population pressures, changing demand for food and agricultural products, resource scarcity, climate change, and greater production uncertainty (Raabe, 2008). The call for agricultural public extension services that was made by the World Bank in 2008, suggested that better policies and production practices need to be in place to ensure food security (World Bank, 2008). After 12 years, as predicted by the World Bank, the threats hampering the achievement of food security are still evident in South Africa. The situation for offering relevant agricultural extension support services to farmers was also raised in the past eight years, for example, Shackleton (2012) argued that if such agricultural extension support services do not offer knowledge, innovation, and advice on how to alleviate and improve livelihoods, such services will be doomed to failure. Agricultural extension support services need to focus on the land-based strategies of arable cropping, livestock husbandry, and natural resource use, but not individually and sectoral, nor in ignorance of other livelihood needs and incomes because the mix of the three land-based strategies will vary in relation to the magnitude, reliability, and nature of other household income streams (Shackleton, 2012).

The Department of Agriculture was aware of this need that efficient and effective agricultural extension support services can broker and facilitate information sharing and skills development in support of agricultural development, especially for smallholder farmers (DAFF, 2011). In its current form, public extension support services cannot facilitate the accelerated capacity development of a range of producers that is desired to address challenges of rural and economic growth, food and nutrition insecurity, inequality, and unemployment. This is due to poor linkage between research, extension, and producers. The reason for this inefficient delivery has been indicated by Terblanche (2008) who noted that the traditional view of agricultural knowledge was assumed to stem from the results of agricultural research and the clients were the farmers. This approach changed during the late 1980s to a more liberal relationship between agricultural research, extension practitioners, and producers. This can be expressed as follows:



**Figure 1: Research, extension, and farmer linkage (Source: Terblanchè, 2008)**

During the 1990s, Hayward and Botha (1995) reported a lack of meaningful contact between extension and research, given that most research capabilities remained targeted at the commercial sector. This scenario further complicated the flow of information between researchers and producers and was found not to be as efficient and effective as it should be. It has been argued by Scoones, Thompson, and Chambers (2007) that much of the problem with conventional agricultural research and extension lies with the processes of generating and transferring technologies and that much of the solution lies with farmers' capabilities and participation in the research process. This critique pointed out that if research develops and linearly transfers technology to producers very often these technologies are found to be inappropriate to the social, physical, and economic setting in which producers must operate. Ensuring the efficient flow of technological innovations between the researchers, extension practitioners and producers can only be achieved through the development of efficient researcher, extension, and producer linkages. This, however, is also true for the need for the opposite flow of information. Having learned about this shortcoming, the extension policy has provided a solution in the sense that DAFF has recommended the establishment of the provincial coordinating forum which will perform the function of liaising with relevant stakeholders in the agricultural sector. A start has been made and provinces are in the process of implementing this policy toward interacting with potential stakeholders. The results are too early to be discussed.

#### **4. METHODOLOGY**

The study took the form of explanatory and exploratory quantitative research in its design. The study was empirical because the research design and analysis involved the collection of

secondary data. Secondary data were collected by tracking the government budget and expenditure over five years (2010/11 – 2014/15). Data was collected from both national and provincial spheres of government. This data included compensation of employees, goods, and services as well as agricultural extension programmes for both personnel and producers. The nine PDAs and DAFF budget, finance and farmer support/extension directorates were key sources of data for the study.

Data was collected using emails and telephone. Telephone calls were only used for explanatory purposes and follow-up with representatives of PDAs. Data analysis was done through descriptive statistics of general trends of budget allocation and expenditure on agricultural programmes and extension personnel over the 2010/11 to 2014/15 financial years. Percentages and the mean were also computed. To address the two objectives of whether the citizens of South Africa get value for money on agricultural public extension support services and to determine the current expenditure trends on agricultural extension support services, a paired samples t-test of differences between the mean of budget allocation and the mean of expenditure on extension practitioners and farmer programmes over the five financial years was run using the Statistical Package for Social Sciences (SPSS) software. To cost the policy implementation process, zero-based budgeting, a system used by the Government of South Africa for budgeting was adopted. Zero budgeting involves preparing a budget from scratch with a zero base.

## **5. FINDINGS AND DISCUSSION**

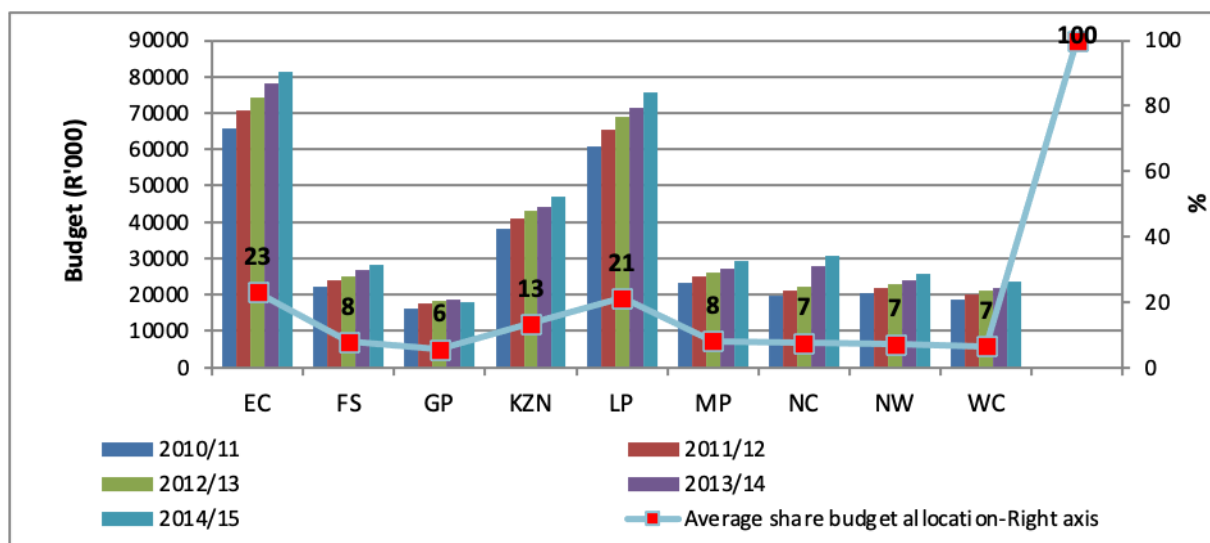
### **5.1 Number of extension personnel**

Although the number of extension practitioners has increased in the past five years due to the recruitment drive through the implementation of the Extension Recovery Plan (ERP), producers at subsistence and smallholder levels are still serviced through a low extension producer ratio. The information gathered during data collection for this research project indicates that in the 2013/14 financial year, DAFF had a national total of 3 602 extension practitioners, which indicates an increase of about 1 392, which is equivalent to a 63% increase in the number of extension practitioners from 2 210 in 2007. National statistics indicate that there is a total of 2.82 million producers actively practicing agriculture (Stats SA, 2013). If a ratio of 1:500 is to be used as a benchmark for the implementation of agricultural extension support services to an estimated total number of 2.82 million producers

effectively and efficiently, DAFF needs a total of 5 640 extension practitioners. Based on the 2014/15 data, to achieve the recommended ratio as per DAFF norms and standards of 2005, some additional extension personnel of about 2 718 should be recruited. It is essential to recruit extension practitioners with the required minimum qualification of a four-year degree.

## 5.2 Public expenditure trends on extension personnel

Public expenditure (based on the pillars of the Extension Recovery Programme/Plan such as recruitment of extension personnel, reskilling and reorientation, and provision of information communication technologies infrastructure and tools) on extension practitioners were tracked over five financial years (2010/11 – 2014/15). For this study, public expenditure on this group of personnel could only be tracked successfully within the available time including the funds provided through the Extension Recovery Plan. This formed the basis of expenditure review as the only harmonized provincial perspective that will provide pointers to the execution of the budget. The public expenditure trends on extension personnel are presented in Figure 2.



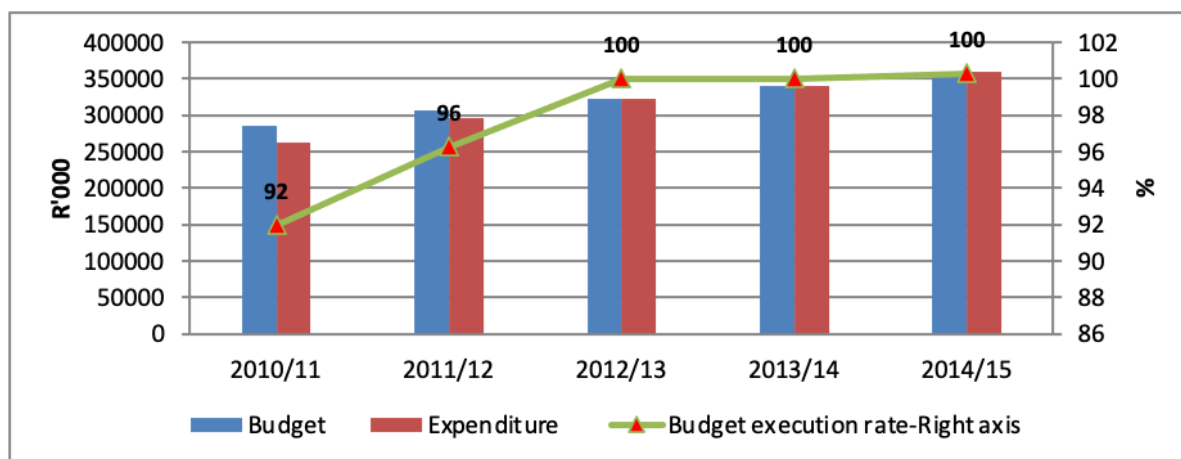
**Figure 2: Budget allocation for 2010/11 to 2014/15 financial years by province (Source: Research Survey, 2016)**

Figure 2 shows the budget allocation per province for the 2010/11 to 2014/15 financial years. Eastern Cape Province had a bigger share of the total budget allocated during the period of the expenditure review (23%). The second highest is Limpopo Province (21%) and KwaZulu-Natal is the third province that received a better share (13%). Gauteng Province had the



lowest share of the total budget allocation (6%). Eastern Cape, Limpopo, and KwaZulu-Natal Provinces were identified on the profiling report of Government Extension and Advisory Services in 2007 for having an acute human resource capacity gap. The trend in budget allocation could also be based on these three provinces being the poorest in South Africa. Both the Eastern Cape and Limpopo Province remain trapped in structural poverty that negatively affects the provincial society’s health and socio-economic profile (HSRC, 2011).

A comparison between the actual total expenditure and budget allocation for extension personnel is shown in Figure 3.



**Figure 3: Total budget vs total expenditure for nine provinces of South Africa (Source: Research Survey, 2016)**

According to Figure 3, from 2012/13 to 2014/15 financial years, there was 100% utilization of budgeted funds allocated. Whilst it could also be observed that during the 2010/11 and 2011/12 financial years, under-spending of the budgeted fund was experienced. Unspent funds could either be rolled over to the subsequent financial years or returned to the National Treasury. The former is subject to the approval of a submission by the Director General. The average expenditure is 98% for the duration of the five-year review period. The assumption is that during the first two financial years the personnel implementing the programmes were less as the department was still learning the programme implementation mechanisms; hence, lower budget execution rates. However, as the years progressed, additional personnel were employed as the department became more accustomed to the programmes leading to higher budget execution rates. This shows a strong need for ERP financial resources to improve the

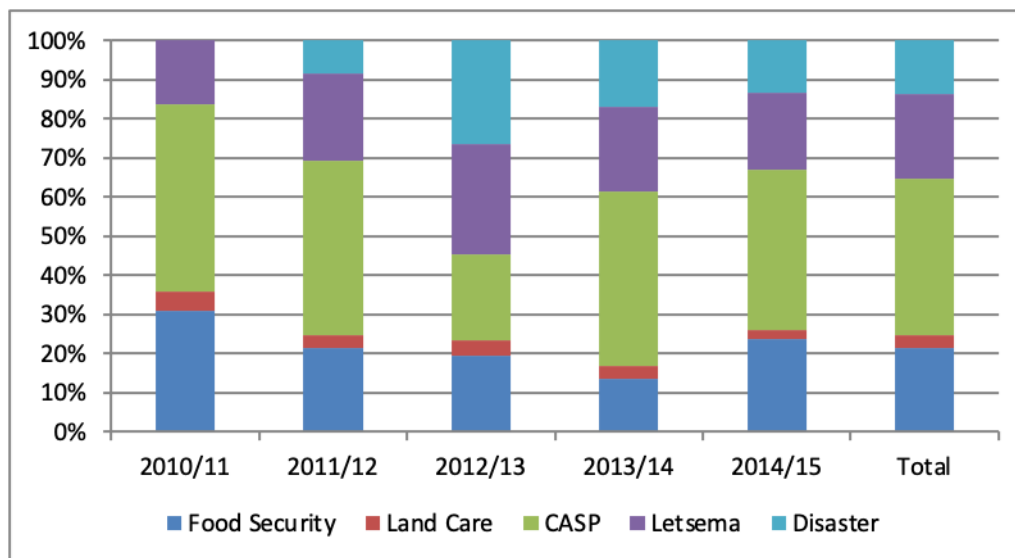
state of agricultural extension support services in the country. This funding had a significant impact on the improved capacity of the service in terms of human resources, skills development, and ICT tools and equipment.

### **5.3 Review of budget allocation on farmer programmes**

The authors reviewed the budget allocation on farmer programmes for the nine provinces for the 2010/11 to 2014/15 financial years. An evaluation/assessment was done on budgeted amounts that support farmers production. The budget of agricultural producer programmes for the 2010/11 to 2014/15 financial years was presented and analysed to determine expenditure trends on farmer agricultural support services. In terms of this study, the farmer support programmes that were considered are the Comprehensive Agricultural Support Programme (CASP), Ilima/Letsema Conditional Grant, Integrated Food Security and Nutrition Programme, National LandCare Programme, and Disaster Assistance Scheme. CASP is a schedule four (4) grant with its main aim being to enhance the provision of support services to promote and facilitate agricultural development (DoA, 2004). Whereas Ilima/Letsema conditional grant's goal is to reduce poverty through increased food production initiatives with the primary aim to address the triple challenges of poverty, unemployment, and inequality. This is done through the provision of starter packs, production inputs, and mechanisation services (DAFF, 2015b: 1).

According to the Department of Agriculture (2002:6), the Integrated Food Security and Nutrition Programme's vision is to attain universal physical, social and economic access to sufficient, safe, and nutritious food by all South Africans at all times to meet their dietary and food preferences for an active and healthy life. Whilst the National LandCare Programme's vision is to have communities and individuals adopt an ecologically sustainable approach to the management of South Africa's environment and natural resources while improving their livelihoods (DoA, 2001b:5). The Disaster Assistance Scheme seeks to ensure effective disaster risk management as required by the Disaster Management Act (Act 57 of 2002). The purpose of the disaster assistance scheme is to promote the implementation of disaster risk reduction measures and conservation of agricultural resources and enhance farmers' responsibility in disaster risk management (DAFF, 2011).

The result of the reviewed budget is presented in comparison and summary of agricultural producer support programmes during the 2010/11 to 2014/15 financial years in Figure 4.

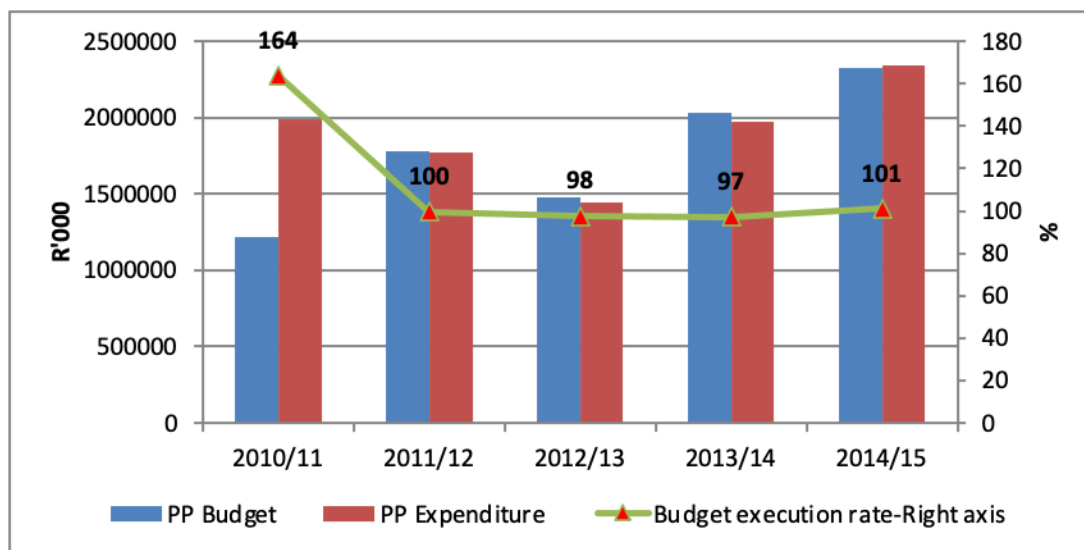


**Figure 4: Budget allocation on farmer programmes for nine provinces (Source: Research Survey, 2016)**

According to Figure 4, CASP received the greatest proportion of the budget allocated to farmer programmes over the years. CASP funding was 41% higher than the rest of the other farmer programmes with regard to the total funding provided during the period under review. Ilima/Letsema programme was the second highest with 22% and 21% at the third level was the food security programme. Land Care was found to be the programme with the lowest budget allocation at 3%. During the 2012/13 financial year Ilima/Letsema budget was higher than all other farmer programme budgets.

#### 5.4 Review of budget and expenditure trends for 2010/11 to 2014/15 financial years

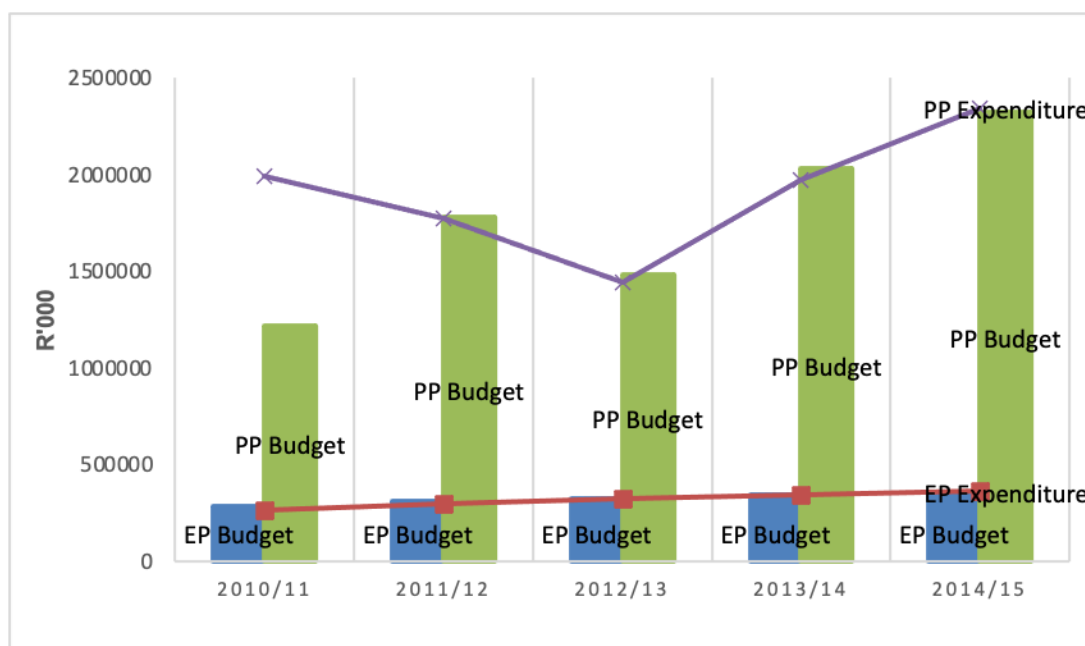
An expenditure assessment was performed based on actual spending and budgetary outcomes. Budget execution rates were also computed to determine a divergence between planned and actual spending. The comparison of budget allocation and expenditure on agricultural programmes, 2010/11-2014/15 is presented in Figure 5.



**Figure 5: Comparison of budget allocation and expenditure on agricultural programmes, 2010/11-2014/15 (Source: Research Survey, 2016)**

Figure 5 shows a comparison of national budget allocation and expenditure trends and the budget execution rates for the 2010/11 to 2014/15 financial years. Budget execution rates were generally high across the review period. The budget execution rates ranged from 97% in 2013/14 to 164% in 2010/11. These figures indicate generally high budget execution rates within the agricultural sector. In two of the five years, actual expenditure was less than the approved budget. Spending beyond budget allocation occurred in 2010/11 and 2014/15. In 2011/12, the approved budget was spent in totality.

A comparison between the budget and expenditure of extension practitioners to that of farmer programmes is illustrated in Figure 6.



**Figure 6: Comparison of budget and expenditure trends for extension practitioners and farmer programmes, 2010/11-2014/15 (Source: Research Survey, 2016)**

According to Figure 6, farmer programmes had a higher share of the total budget allocated during the period of the expenditure review. It was observed that the farmer programmes budget was 86% higher than the Extension Practitioner budget of 14%. The Extension Practitioner funding, through the Extension Recovery Plan, has always been below R500 000 million whereas the budget for farmer programmes has ranged between R1.5 billion to almost R2.4 billion during the rest of the review period (2010/11 to 2014/15 financial years). The total budget for farmer programmes was lower in 2010/11 because there was no disaster budget allocation during that financial year as shown in Figure 4.

A paired samples t-test of differences between the mean of budget allocation and the mean of expenditure on extension practitioners and farmer programmes over the five financial years shows that there were statistically significant differences between mean budget allocation for extension practitioners and farmer programmes at 5% level of significance (p-value=0.001 which is <0.05). Furthermore, there were statistically significant differences between mean expenditure on extension practitioners and farmer programmes at a 5% level of significance (p-value=0.000 which is <0.05).

The paired samples statistics box revealed that the mean budget for farmer programmes was greater than the mean budget for extension practitioners.

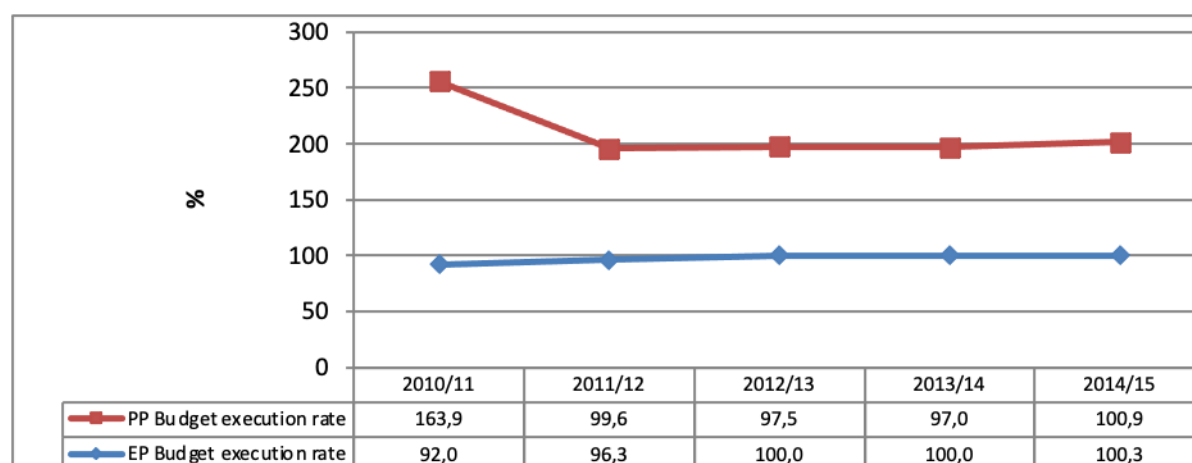
**Table 1: Paired samples statistics**

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 PPbudget	1 764 619.40	5	437465.898	195640.697
EPBudget	322 459.0000	5	28601.99587	12791.20141
Pair 2 PPExpenditure	1 903 614.20	5	329924.583	147546.759
EPExpenditure	315 793.2000	5	38308.73089	17132.18528

Source: SPSS statistical output (2016)

According to Table 1 above, it can be concluded that farmer programmes received significantly more budget allocation compared to the budget allocated to extension practitioners. Consistent to budget allocation, mean expenditure on farmer programmes was higher than mean expenditure on extension practitioners leading to the conclusion that farmer programmes spent significantly higher than extension practitioners in the five financial years.

A further comparison of budget execution rates between the Extension Practitioner and farmer programme budgets for the 2010/11 to 2014/15 financial years is presented in Figure 7.



**Figure 7: Comparison of budget execution rates for extension practitioners and farmer programmes, 2010/11-2014/15 (Source: Research Survey, 2016)**

In general, budget execution rates were high, with the extension practitioners' budget execution rates ranging between 92% in the 2010/11 financial year and 100.3% in the 2014/15 financial year. The execution rates for the farmer programmes were slightly higher in comparison and ranged between 97% in the 2013/14 financial year and 163.9% in the 2010/11 financial year.

### **5.5 Cost of implementing the new extension policy**

To determine the cost of implementing the newly developed national policy on extension and advisory services and assess whether the current budgetary allocation will be sufficient to implement the newly developed national policy on extension and advisory services, the paper compared the number of extension practitioners in the Eastern Cape Province to the ideal 1:500 ratio of Extension Practitioner to the farmer. The cost of hiring an Extension Practitioner was pegged at entry-level remuneration for salary level 8 within DAFF. The cost for goods and services was computed using proportional costing based on the Eastern Cape Province data. According to the estimation results, the cost of implementing the extension policy is R3 348 789 000 while the average budget allocated for both extension practitioners and farmer programmes in the five financial years was R2 089 183 000. The cost of implementing the policy is far higher than the budget allocation; therefore, there is a need for additional funding for extension policy implementation.

## **6. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

The main objective of the study was to review budget allocation and public expenditure on agricultural extension support services to provide evidence-based recommendations to inform the implementation of the newly developed national policy on extension and advisory services. Findings were that the current budget allocation and expenditure trends for the provision of extension services translate to R535.24 allocated and R524.49 spent per farmer per year. Budget execution rates were high for both the extension practitioners and the farmer programmes, with execution rates for farmer programmes better than extension practitioners. Such trends indicate an efficient system of budget execution for the benefit of the farmers.

Furthermore, it was established that there was a statistically significant difference between mean budget allocation for extension practitioners and farmer programmes. Differences between the mean expenditure on extension practitioners and mean expenditure on farmer

programmes were also statistically significant. The mean budget for farmer programmes was greater than the mean budget for extension practitioners for the five years leading to the conclusion that farmer programmes received significantly more budget allocation compared to the budget allocated to extension practitioners. Consistent with budget allocation, mean expenditure on farmer programmes was higher than mean expenditure on extension practitioners leading to the conclusion that farmer programmes spent significantly higher than extension practitioners in the five financial years.

In addition, farmer programmes had a higher share of the total budget allocated during the period of the expenditure review compared to the budget allocated to extension practitioners. Hence, the conclusion that citizens of South Africa are getting value for money on agricultural extension support services was supported because the budget tends to go towards farmer programmes compared to what goes towards remuneration costs. However, a look at the ratio of Extension Practitioner to farmers gives a different picture. Given the 2.82 million producers actively practicing agriculture, 3 030 extension practitioners are inadequate for rendering agricultural extension support services to these producers. This means that producers at subsistence and smallholder levels are still serviced through a low extension producer ratio. Using the recommended ratio as per DAFF norms and standards of 2005 (1:500 ratio) as a benchmark for the implementation of agricultural extension support services to an estimated 2.82 million producers translates to a total of 5 640 extension practitioners required at DAFF. To achieve this, some additional extension personnel of about 2 718 should be recruited.

Generally, budget allocation to both extension practitioners and farmer programmes was on an increasing trend over the five years indicating progressive budgeting as the programmes progressed. The statistically significant differences in budget allocation and expenditure between extension practitioners and farmer programmes indicate a necessary bias towards programme implementation as opposed to huge expenditure on personnel. Such a trend was revealed by the higher mean budget for farmer programmes compared to the mean budget for extension practitioners and also the higher mean expenditure on farmer programmes compared to the mean expenditure on extension practitioners during the five financial years.



To determine the cost of implementing the newly developed national policy on extension and advisory services, the paper used a zero-based budgeting system, which involves preparing a budget from scratch with a zero base.

An assessment of whether the new policy on extension and advisory services can be implemented with the current workforce and budget was done by comparing the cost of implementing the extension policy (R3 348 789 000) and the budget allocated for both extension practitioners and farmer programmes (R2 089 183 000). The cost of implementing the policy is far higher than the budget allocation of R1 259 606 000. Therefore, a conclusion is reached that government will have to allocate additional funding for extension policy implementation.

### **Recommendations**

Based on the above findings and conclusions, the paper recommends the following.

- Recruitment by the government of additional qualified extension practitioners for example bringing the ratio of extension practitioners to 500 farmers. This will ensure good quality service provision and adherence to the norms and standards of extension service comparable to international standards.
- Expenditure on farmer programmes should be further enhanced by improving budget execution rates. And execution should be focused more on poorly resourced farmers. A user-pay principle could apply in the case of producers and members of producer organisations that can afford to pay for services rendered. Co-financing of services and private funding should be implemented to solve the problem of fiscal sustainability.

### **REFERENCES**

- CENTRE FOR DEVELOPMENT AND ENTERPRISE (CDE)., 2008. *Land reform in South Africa: Getting back on track, Research Report No. 16.*
- COUSINS, B., 2009. *Land reform in post-apartheid South Africa: A disappointing harvest.* Pretoria: Government Printers.

- DEPARTMENT OF AGRICULTURE (DoA)., 2005. *Norms and Standards for Extension and Advisory Services in Agriculture*. Pretoria: Government Printers.
- DEPARTMENT OF AGRICULTURE, FORESTRY & FISHERIES (DAFF)., 2011. *National Framework for Extension Recovery Plan*. Pretoria: Government Printers.
- DEPARTMENT OF ECONOMIC DEVELOPMENT (DED)., 2010. *The New Growth Path: The Framework*. Pretoria: Government Printers.
- GABATHULER, E., BACHMANN, F. & KLAY, A., 2011. *Reshaping Rural Extension: Learning for sustainability: An integrative and learning-based advisory approach for rural extension with small-scale farmers*. University of Bern: Margraf Publishers GmbH.
- HAYWARD, J. & BOTHA, C., 1995. Extension, training and research. In: R. Singini and J. Van Rooyen (Eds.), *Serving small-scale farmers: An evaluation of DBSA's farmer support programmes*. Halfway House: DBSA.
- HUMAN SCIENCES RESEARCH COUNCIL (HSRC)., 2011. *Population dynamics and poverty trap*. Pretoria, South Africa.
- KOYENIKAN, M. J., 2008. Issues for agricultural extension policy in Nigeria. *J. Agric. Ext.*, 12(2): 52-57.
- MPANDELI, N.S., 2005. *Coping with climate variability in Limpopo Province*. Sustainable Rural Livelihoods Technical Report.
- NGOMANE, T., 2006. Research and extension processes and practices in relation to smallholder agriculture in Africa: Present, past to present. *SAJAE.*, 35(2): 199-220.
- NGOMANE, T., 2000. Transformation and restructuring needs for smallholder irrigation projects in the Northern Province of South Africa: Makuleke farmers' perspective. Unpublished Master's Thesis, University of the North.
- RAABE, K., 2008. Reforming the agricultural extension system in India: What do we know about what works where and why? Development strategy and governance division: IFPRI Discussion Paper No. 00775.
- SCOONES, I., THOMPSON, J. & CHAMBERS, R., 2007. Farmer first – Retrospect and prospect: Reflections on the changing dynamics of farmer innovation in agricultural research and development in preparation for the farmer first revisited workshop.

- SCOTT, M., MARSHALL E., AILLERY M., HEISEY P., LIVINGSTON, M. & DAY-RUBENSTEIN, K., 2012. Agricultural adaptation to a changing climate: Economic and environmental implications vary by U.S region. United States Department of Agriculture, Economic Research Report No. 136.
- SHACKLETON, C., 2012. *National Extension Policy, Extension opinion No 8: Extension needs to be more about livelihoods*. Available from: <http://www.extensionpolicy.za.net/view.asp?ItemID=3&tname=tblComponent2&oname=Forestry&pg=exhibitions> [Accessed September 2012].
- TERBLANCHÈ, S.E., 2008. Towards an improved agricultural extension service as a key role player in the settlement of new farmers in South Africa. *SAJAE*, 37: 58-84.
- THE ZIMBABWE INSTITUTE. 2007. *Agriculture, land and agrarian reform: Policies and programmes*. Cape Town, South Africa.
- WORLD BANK., 2008. *World Development Report*. Washington DC.
- WORTH, S.H., 2009. An Assessment of the appropriateness of agricultural extension education in South Africa. PhD Dissertation. University of KwaZulu-Natal, South Africa.