THE SOUTH AFRICAN CANEGROWERS ASSOCIATION LARGE SCALE GROWER COSTS SURVEY: THE DYNAMIC USE OF DATA OVER TIME AND THE CHANGES FOR THE FUTURE

Sub Theme: Knowledge and Information

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Abstract

The South African CANEGROWERS Association (CANEGROWERS) has since 1927 represented growers and provided services to growers in South Africa on all manner of economic, governance and industrial affairs. To do this the Association has needed a strong data gathering and analysis component to the structure to ensure that it can negotiate fairly and accurately on behalf of its constituents. The Large-Scale Grower (LSG) Cost Survey has played a prominent role in the association's functions. The cost survey was first implemented in 1932/33 and was done so to assist in the industry Division of Proceeds (DoP). However, since 2000/01 the DoP has been fixed, the data collected is used for a host of other research, analysis, lobbying submissions and reports. These outcomes are all based on the CANEGROWERS objectives to ensure sustainable production environment for all growers. This paper documents the formation of the growers' association and the importance for growers to collect and analyse data. It also describes the different uses of the data collected and analysis over time from the days of the variable DoP to the present day, where it is used for various applied research, analysis, reports and submissions to accurately represent growers and their economic situation.

Keywords: *growers, cost survey, data, analysis, research*

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1. Introduction

The collection and analysis of farm costs is critical to the survival of any agricultural endeavour. This is true for the farmer as well as for the bodies that represent the farmer at industry and policy levels. The South African CANEGROWERS Association (CANEGROWERS) has been collecting cost surveys from growers since the1932/33 season. However, during the first survey, costs were collected retrospectively from the 1926/27 season to the 1932/33 season. This effort has not only enabled CANEGROWERS to represent growers at all levels but to purposefully play a role in the South African Sugar Industry since 1927. Farmers are generally price takers and therefore need to keep their costs of production down to ensure that a suitable margin can be achieved for re-investment. However, in the South African Sugar Industry and its structure the growers have been able to partake in industry discussions and policy since 1927 to ensure that they receive a fair deal. This was only ever possible due to the collection of farm cost data to accurately represent the growers. This paper focusses on CANEGROWERS Large Scale Grower (LSG) cost survey, why it came to be, the different ways in which it is used to represent growers and the evolution of data usage over time. The paper also outlines the path into the future to ensure that the LSG cost survey continues to accurately represent grower's interests into the future.

2. Grower organisation and the need for data

The best way to answer the question of how the LSG cost survey came into being is to briefly describe how CANEGROWERS came into existence in 1927. Sugar cane has been grown in South Africa for over 154 years. It was first planted by Mr Morewood at Compensation, North of Durban, in 1848, the first official grower organisation came into being in 1877 (Osborn, 1964). Over the next 50 years as the sugar cane growing and milling sectors grew so the various grower organisations multiplied to serve the interests of growers in their milling areas. There were some efforts to consolidate the various growers' associations and this resulted in two major unions emerging, the Zululand Planters Union and the Natal Planters Union. There were efforts to unite the two unions into the South African Planters' Union in 1917. This union being the precursor to CANEGROWERS was never truly settled as the differences between the Natal Planters Union (South African Canegrowers Association, 1977).

Issues in the South African Planters Union came to a head in 1926 with the Fahey Conference. What led to the Fahey Conference and the subsequent agreement reached at the conference, was the dissatisfaction of growers with differential and unfair cane supply agreements with millers. A record world production of sugar in 1924/25 which forced world prices into a downward spiral was also a cause for despair. The South African sugar industry was faced with an export volume of 70 000 tons of sugar at reduced values. Therefore, the sugar industry appealed to the government to assist it in finding a solution. The Board of Trade and Industries was authorised to investigate the economic position of growers and millers. Its findings, Report No.66 tabled in Parliament in 1926 showed that the "Miller-Planter Agreement of 1905 was inequitable to growers (Huntley, 1966). Report No.66 provided the first formal investigation into the costs of producing sugar cane and sugar for the industry and provided the basis for the Fahey agreement. Based on the report the Fahey conference of 1926 set out to renegotiate the sugar industry and its structure, the agreements regarding delivery contracts and pricing which changed from weight of cane to sucrose content, between growers and millers and it also set the new tariff applied to imported sugar. The Fahey conference agreement was signed on the 4th September 1926. The conference also seemed to have unifying effect on growers. This was to come to fruition when a year later, on the 9th of August 1927 the Zululand Planters Association and the Natal Planters Association signed an agreement to form the South African CANEGROWERS Association (CANEGROWERS) (South African Canegrowers Association, 1977).

The costs of growing sugar cane and milling costs have formed the basis of grower miller negotiations, since 1926. The first official investigation into the cost of growing cane was executed by the Board of Trade to form the basis of negotiations between growers and millers at the Fahey conference. Following on from that starting point CANEGROWERS implemented the Large-Scale grower cost in 1932/33 and recorded costs retrospectively to

1926/27. The first survey was made up of 72 returns from growers. The sample size and method of analysis was a concern initially but with the appropriate auditing procedures having been put in place in 1932/33 by CANEGROWERS and the auditors Crocket, Wendt & Fletcher the appropriate methodology to determine the average cost of cane production was resolved. However, the sample size to achieve a representative sample was a problem then and has been an issue ever since.

Although the South African Sugar Association was in existence before the Fahey conference as well as the Natal Millers Association, the Fahey Agreement formalised the entire industry under one set of rules or conditions for the first time. These rules were never promulgated into law. Further investigations by the Board of Trade into industry issues in 1934 led to the development of the Sugar Act No.28 of 1936 and the Sugar Industry Agreement 1936. The main issues that the act dealt with were production controls and import protection. This as Huntley (1966) put it was the most important milestone for the industry and since then the industry has operated under a sugar industry agreement enabled by the Sugar Act which has been amended from time to time, the latest one being the Sugar Act of 2000.

This brief overview of how the South African growers organised themselves to ensure that they had bargaining power and were treated fairly in the industry. It also showed that the organisation of growers and the collection of data to accurately represent themselves at industry level is crucial. The main objectives to collect the data was both a formally entrenched industry function such as determining the division of proceeds as well as accurate representation of growers' economic situation to ensure appropriate protection in the form of customs duties or tariffs.

3. The different applications of the data in the South African sugar cane growing sector

3.1 The Division of Proceeds

Since the Fahey conference agreement of 1926 and the subsequent Sugar Act of 1936 the division of proceeds principle was based on the proportionate sharing of sugar sales proceeds between millers and growers through the application of a predetermined sucrose price factor. The division of proceeds between the industry partners has been the one of the pillars of the industry. The basis of these calculations has since 1936 been based on the actual costs of production. Costs of production for both millers and growers would then determine the ratio to distribute the proceeds. Actual costs of sugar cane production have been gathered by CANEGROWERS via the LSG cost survey since 1926/27. To ensure that the correct processes and methodology were followed the surveys have been audited since 1932/33 by independent auditing firms.

Over time various iterations have occurred due to changes to the industry and the distribution of proceeds. An example of this can be found during the 1970's when the van Biljon Commission Report of 1970 recommended a new price formula as the ad-hoc price determinations per season were becoming unsustainable due to instability and uncertainty. The industry changed the ad-hoc system to a prediction type formula. The system would employ a three-year average cost of production as its base, instead of just the preceding year (SASA, 1981).

Further changes were made to the industry structure in 1985 with the introduction of the "two pools system". The A pool being the local market price and the B pool being the lower export market price. The cost requirements for this system were the actual costs of production incurred by the millers and growers determined by the annual, audited surveys of all millers and a representative sample of growers (Jordan, 1992). Management costs, depreciation of assets and return on investment were then also calculated and included in the DOP split to ensure both milers and growers shared the proceeds in an equitable manner. The DOP calculation filtered into the price determination for sugar cane delivered by the grower so it was in the grower's best interest to submit data to ensure that the costs of production and return on investment were achieved.

With the change from sucrose cane payment system to the Recoverable Value (RV) cane payment system implemented in 2000, the DOP became fixed, shared in the ratio 64 percent growers and 36 percent millers. This ratio is negotiated every ten years or if the need arises to consider relative technological and economic changes in the industry (Le Gal *et al*, 2005). The RV price determination taking market factors into account such as local market demand for sugar, export availability through the single export desk and the Rand/Dollar exchange rate is negotiated every year between CANEGROWERS and SAMA with over sight from SASA.

3.2 Import Duties and Tariffs

Since the earlier 1900’s the South African sugar industry has faced the threat of imported sugar. One of the issues which caused the South African industry to formalise its agreements and later legislate them was that imported sugar was undermining the local producers. Therefore, the duties imposed on imported sugar have been in existence throughout the industry’s existence. The key source of information to establish the need for a tariff or duty on imported sugar from the grower’s side has been the LSG cost survey. This data has been crucial in protecting the growers’ gross industry revenue currently R7 billion from the market eroding effect of imports of sugar into the country.

More recently this has been proven again as shown in the figures 1 and 2 below. The tariff which is implemented when the 20-day moving average of the world sugar price moves above the Dollar Based Reference Price (DBRP) was ineffective for a long period prior to 2014 and figure 2 shows the increasing imports to the South African market taking advantage of the higher local market pricing. CANEGROWERS (inclusive of LSG cost survey data) submissions along with the South African Millers Association (SAMA) were submitted by SASA on behalf of the industry role-players to the International Trade Administration Commission (ITAC). ITAC reviewed the data and increased the DBRP in April 2014 from \$358 per ton of sugar to \$566 per ton, thus offering the local market sufficient protection. The effect on imports can be seen in the figure 2 below which shows a significant decrease in imports due to the triggering of a tariff when importers procure sugar. ITAC have been pivotal in protecting the sugar industry of late which keeps the growers sustainable and continue to employ farm labour, this is crucial in South Africa at present where unemployment levels are approximately 26.5 percent (Stats SA, 2017).

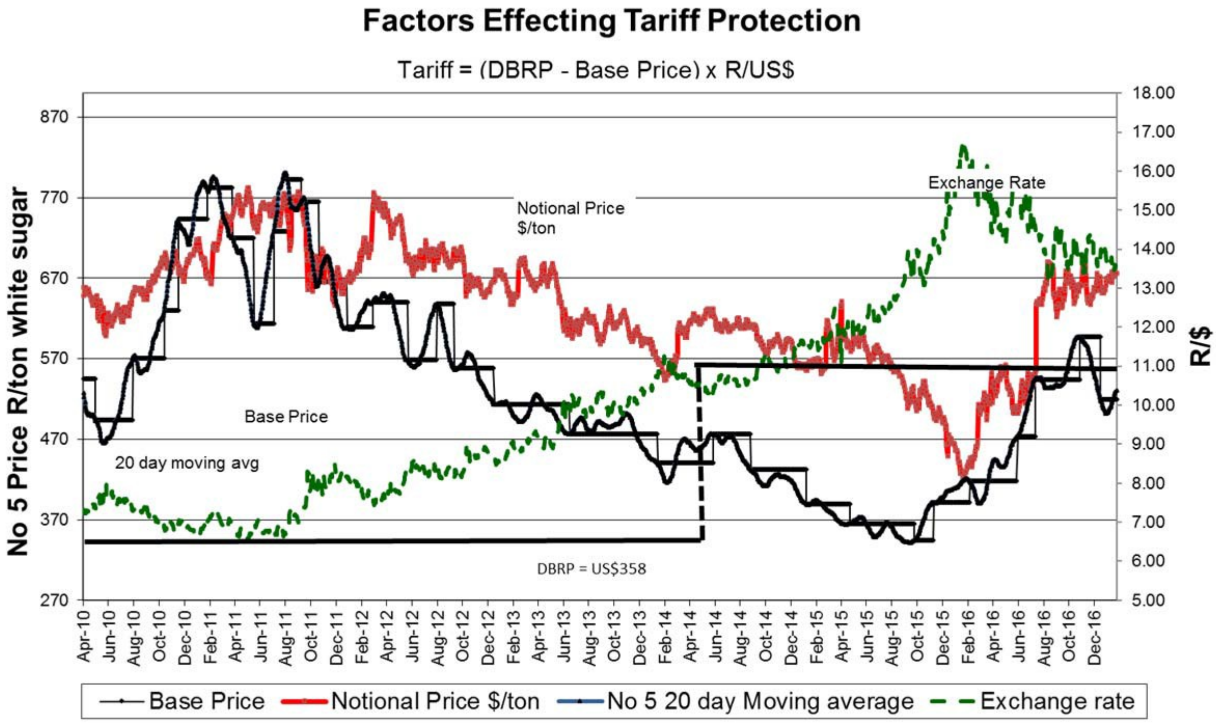

Figure 1: Factors affecting the tariff protection and change in the Dollar Based Reference Price

3.3 Small-scale grower Vat Flat Rate

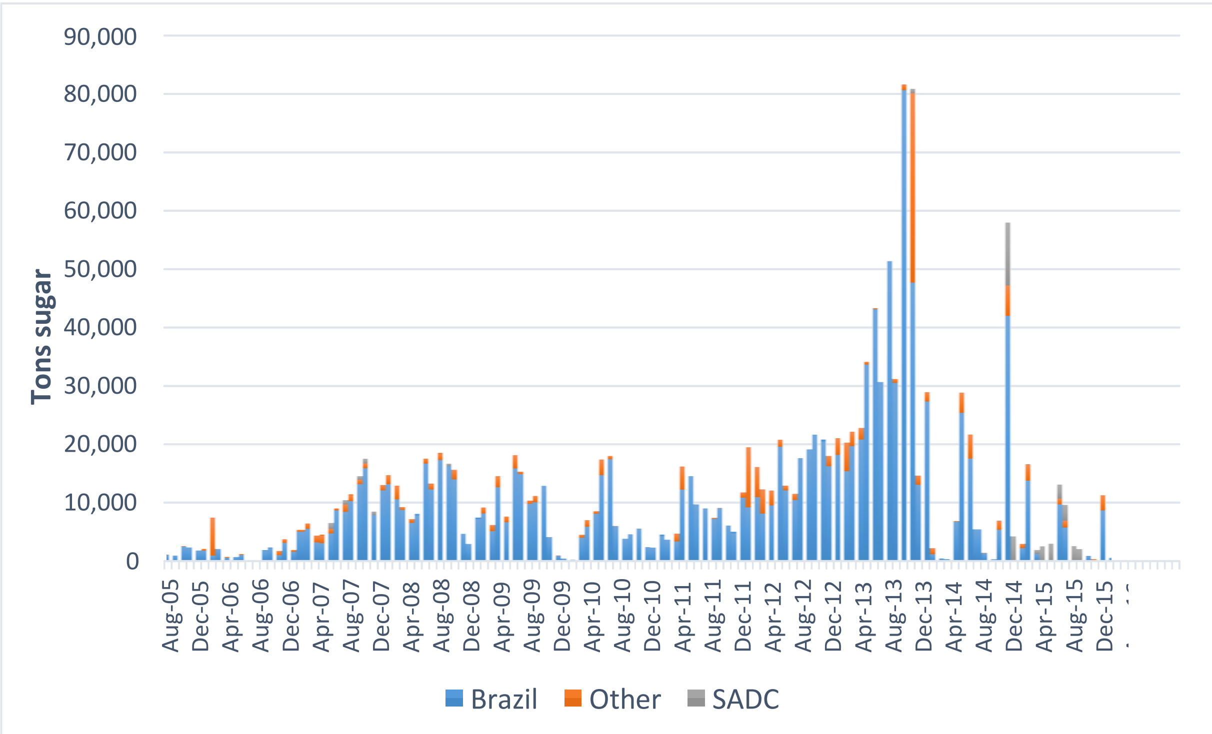

Figure 2: Sugar imports into the South African market and the effect of the tariff

The LSG cost survey plays an incredibly important function for the Small-scale growers (SSG) who are defined as those growers delivering less than 225 RV tons over three consecutive seasons. This translates into approximately 1800 tons of sugar cane. The sugar industry has arranged a special dispensation for the non-Value Added Tax registered vendors, wherein most the SSGs fall. The VAT Act was amended in 1999 to exclude vendors with a turnover of less than R20 000 per annum from registering as vendors. The threshold was increased to R50 000 per annum. Therefore, many SSGs who fell into this category cannot register for VAT, which results in the cost of production increasing by the VAT incurred on purchases of agricultural inputs, which they were no longer allowed to deduct. The amendment had a negative impact on SSGs and created what's called a 'cascading tax' where SSG cane produced was sold to the mill included VAT on the production costs and the mill then sold the sugar and molasses into the market charging VAT on those sales.

To negate the 'cascading tax' effect the South African Revenue Service (SARS) approved a deduction of input tax or otherwise known as flat rate schemes for SSGs. The VAT flat rate scheme allows the mill who is a VAT vendor to purchase cane from a SSG who is not a VAT vendor, the mill then pays the SSG the predetermined VAT flat rate per ton input tax which is has been signed off by the SARS Commissioner. The VAT flat rate per ton of cane sold is determined by a SARS approved formula wherein the inputs originate from the final audited LSG cost survey data. CANEGROWERS calculates the average amount of VAT per ton of cane produced SSGs pay to their suppliers in a season, and proposes the flat rate amount through an industry process for SARS approval. The 2016/17 season VAT flat rate figure of R44 per ton is incredibly important for growers.

4. The evolution of data usage and analysis

Since the DOP has been fixed, the primary use and function of the LSG cost survey has been continued as the data collected is invaluable to CANEGROWERS to represent growers. Continuous threats to farm businesses both locally and internationally the best way to counteract these threats is through sound data collection and analysis thereof. Growers who submit their cost survey information to CANEGROWERS either via the survey forms or financial statements receive feedback in the form of an advice slip. This allows the grower or farm business manager to see where the farm business is in relation to the mill area average and their size stratum average.

However, at a central CANEGROWERS level the information is invaluable to lobby for growers' interests at all levels. From local municipality rates and taxes to high level policies affecting growers such as National minimum wage increases, proposed electricity tariff hikes, Department of Water and Sanitation's proposed streamflow reduction activity tax and other issues like Land Reform grower funding requirements. The data is also used for submissions on behalf of growers for natural disaster support such as the recent drought of the 2014/15 and 2015/16 seasons. CANEGROWERS engages with stakeholders in the industry such as the banking sector who find this data incredibly important as a benchmarking tool to assist them in understanding the cane farming sector better as well as financing their clients.

Lower margins to sugarcane farming have played a significant role in the need for diversification of farming enterprises in the sugar cane producing areas of South Africa. This has a knock-on effect as it often becomes difficult if record keeping is not kept in a specific way to account for pure cane production costs. Also, an ever-lowering rate of survey returns year on year has created sampling concerns which may in future render results not as representative as before. The continuous decline in survey information returns despite numerous incentives is reflected in table 1 below.

Table 1: LSG cost survey response rate from 1998/99 to 2015/16 season

Season	**Survey Returns**	**% Change year on year**
1998/99	443	
1999/00	388	-12%
2000/01	470	21%
2001/02	461	-2%
2002/03	495	7%
2003/04	423	-15%
2004/05	445	5%
2005/06	378	-15%
2006/07	457	21%
2007/08	401	-12%
2008/09	373	-7%
2009/10	313	-16%
2010/11	358	14%
2011/12	303	-15%
2012/13	311	3%
2013/14	337	8%
2014/15	277	-18%
2015/16	214	-23%
Average	**380**	**-3%**

The reason for this is most likely due to the perception by growers that the data collected does not play as a significant role in the industry, also the fact that farm financial data has become increasingly more complex due to the process of diversification. The LSG cost survey data feeds both the DOP, pricing mechanism and the Tariff applications with indispensable information to ensure growers sugar cane production remain sustainable and on-farm jobs in the rural areas are maintained.

Taking a pragmatic approach to the problem, the Economic Research department at CANEGROWERS is exploring an alternative way to ensure that the LSG cost survey can continue but possibly in a different format to what it is currently. The proposed change in methodology would be to validate cost survey data results in what are called “Typical Farms”. Elliot (1928) describes a typical farm as a modal farming enterprise under similar conditions with modal characteristics such as size, organisation and practices. Focus groups of growers will be used as tools for not only additional data collection but also validation of the data and farming or management system employed in the area. Since 2012 CANEGROWERS in collaboration with the Bureau for Food and Agricultural Policy (BFAP) at the University of Pretoria and the *agri benchmark network* at the Thünen Institute of Farm Economics in Germany, has taken part in the development of one typical farm based on the North Coast. Utilising the typical farm methodology more farms will be developed, namely the Midlands, South Coast, Zululand (KwaZulu-Natal) and a Northern irrigated farm in Malalane (Mpumalanga). The focussed approach to farm level analysis may prove to be beneficial to CANEGROWERS as the there are advantages to using typical farm analysis for agricultural policy, farm management and domestic and international benchmarking. Figure 3 below shows the typical analysis that can be achieved on an international basis (Balieiro, S *et al*, 2016).

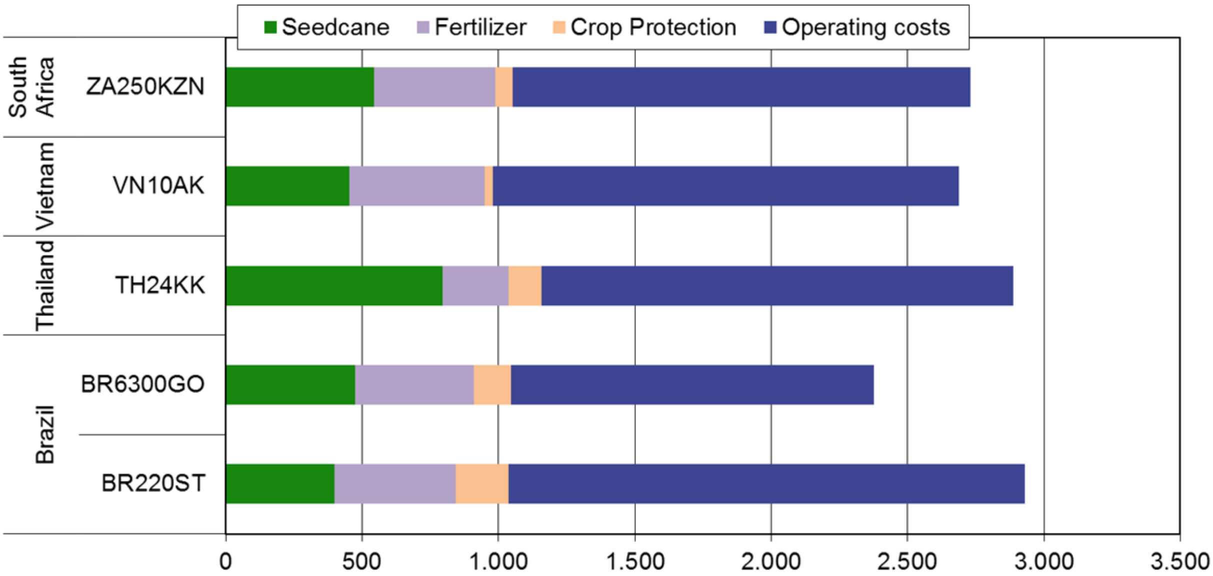

Figure 3: Farm input cost analysis for typical farms in South Africa, Vietnam, Thailand and Brazil (Balieiro, S *et al*, 2016)

5. Conclusion

The LSG cost survey spans the 90-year history of the South African CANEGROWERS Association and is truly one of the foundations that the association is built on. The need for grower's cost data is crucial to the association's core function to represent growers at industry and government policy levels. Division of the sugar industry's proceeds and the prices achieved by growers would not have been appropriately distributed or formed without the collection and analysis of on-farm cost of production data. Over the years, the data has also been used for numerous investigations, research projects, policy analysis and industry negotiations, without it the grower would not be accurately represented. The processes put in place to audit the cost survey methodology in the early years and continued to this day has ensured that the data is credible and widely respected. The LSG cost survey is used to represent all growers as best possible, through the industry's VAT flat rate calculation which stems from the LSG cost survey results, the SSGs benefit in the sugar industry unlike in many other primary agricultural industry in South Africa. Due to constantly reducing response rates over the last 19 seasons, a different methodology of cost validation is being implemented for the 2015/16 season data analysis. The typical farm methodology will be introduced. This approach with its internationally recognised methodology and credibility is sure to add significant value to the analysis of the survey. The need for change has been identified and the targeted approach followed will ensure greater grower input into the typical farm analysis safeguarding the cost survey and analysis built up over 90 years continues sustainably into the future.

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