THE NEED FOR AGRICULTURAL DATA IN SOUTH AFRICA: WITH SPECIFIC REFERENCE TO THE WESTERN CAPE PROVINCE

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Abstract

In order for public and private decision-makers in the agricultural sector to use agricultural information for decision-making, solving problems or increasing their knowledge, the necessary data on agriculture must be available. As a result of the deregulation of the agricultural marketing sector in South Africa, the supply of this type of data has decreased. Also, the need for data on agriculture by the various decision-makers, i.e. the policy-makers, researchers, agricultural service industries as well as the farmers and extension officers, has changed. Since information systems are always based on the needs of the decision-makers, the need for data on agriculture should be determined before either existing methodologies are improved or new methodologies are introduced, to increase the supply of data on agriculture in South Africa.

The objective of this paper is to identify the agricultural data needs and supply for South Africa with specific reference to the Western Cape Province. This was done by means of postal surveys and informal methods. Recommendations for an effective information system have also be concluded.

1. INTRODUCTION AND BACKGROUND

The deregulation of the agricultural marketing sector in the late 1990's resulted in the abolishment of the marketing boards, which played an important part in the collection and dissemination of agricultural data. As a consequence, the *supply* of agricultural data decreased, and in some cases discontinued, despite a substantial increase in the *need* for data by decision-makers, especially those in the agribusiness and farming sector. Jooste (1999) also stated that there is an inadequate access of some of the data. For most products, however, Section 21 companies and producer organisations replaced the data collection and dissemination functions of the former marketing boards, but according to Willemse (1996) and Van Scalkwyk & Swanepoel (1997) these organisations serve a particular constituency with a particular interest.

In addition, Statistics South Africa, formerly the Central Statistics Service, which is the official supplier of data of both non-agricultural and agricultural data in South Africa, discontinued the 5 yearly agricultural census, and the annual agricultural survey. The decrease in the importance of the agricultural sector, measured by the contribution to the Gross Domestic Products (GDP) and the consequently decrease in the budget for agricultural data collection, are amongst others, the reasons for the discontinuation of the agricultural censuses and surveys.

Agricultural data play a very important part in the decision making process by private and public decision-makers. Private decision-makers, which include decision-makers in the agribusiness and farming sector, need to make proper production and marketing decisions, while public decision-makers, which include decision-makers in government sectors, need to make and monitor policy decisions. Taking into consideration the inadequate supply of agricultural data in South Africa, the needs of the private and public decision-makers are identified and evaluated, in order to ensure that data collection efforts are focused on their agricultural data needs.

This paper concentrates on the following:

- Identification of the agricultural data needs for South Africa by means of postal surveys.
- Identification of agricultural data needs with specific reference to the Western Cape Province by means of informal methods (indications received from data users verbally or in written form)

In order to increase the accuracy from the survey results, the decision-makers are stratified according to the agricultural data user population, namely policy makers, researchers, agribusinesses and farmers (Aina, 1995; Plaunt, 1967; Russel, 1983 and USDA, 1987). For the Western Cape, needs were identified at the inquiry systems level, with only reference to a total agricultural user population. This knowledge is needed to either improve existing agricultural information systems or develop a new effective agricultural information system.

2. METHODOLOGY

2.1 Introduction

Informal methods (indications received from data users verbally or in written form), data users conferences or meetings and survey techniques, are methodologies to collect data to identify agricultural data needs (The United States Department of Agriculture, 1989). For this study mail survey techniques were used to determine the need on national level and informal methods to identify the needs for agricultural data in the Western Cape Province.

The following reasons dictated the choice of a mail survey on national level:

- The type of data required can be obtained in satisfactory form by mail questionnaires that can be answered easily and quickly;
- the information are possessed by persons who are able and willing to respond through mail;
- the target population, i.e. the policy makers, researchers, agribusinesses and farmers is composed of a relative homogeneous group of persons with similar interests;
- up-to-date and satisfactory complete mailing lists were available;
- sufficient funds were available for the completion of the survey;
- sufficient time could be given for the replies to be received from the respondents.

Informal methods were applied for the Western Cape Province. An existing inquiry system documents all agricultural data inquiries. This information were used to study the provincial data needs for the Western Cape. Firstly the mail survey will be discussed for the national assessment followed by a discussion for the Western Cape Province.

2.2 Target population and sampling frame for the mail survey

The target population consists of agricultural data users that use agricultural data primarily for decision-making, problem solving, managing complexity and uncertainty, improving the competitive market and operational efficiency and also the increase in knowledge. The users are categorised as policy makers, researchers, agribusiness and farmers. Since no complete list of this population exists, a list of all the sampling units had to be constructed for each target population – also referred to as the sampling frame (Scheaffer, et al. 1990). The sampling frame of this study was constructed by listing any or all organisations who would form part of the population of a particular agricultural data user group, under that particular group. The construction of sampling frames for each of the various data user groups are discussed further.

The sampling frame of agricultural *policy makers* is constructed from the addresses of decision-makers within the National Department of Agriculture (including various directorates), Provincial Departments of Agriculture, Land and Agriculture Policy Centre, the South African Reserve Bank, National Agricultural Marketing Council as well as other government departments. Addresses were obtained from mailing lists of the National Department of Agriculture, Agriculture Readers Digest, (1998/99), Effective Farming (1996) and telephone directories. The total number of addresses was 30.

The sampling frame of *researchers* is constructed on addresses of researchers at universities and colleges, agricultural economists and consultants, financial institutions and the Agricultural Research Council. Addresses were obtained from the Agriculture Readers Digest (1998/99), Effective Farming (1996), the address list of the Agricultural Economic Association of South Africa and telephone directories. The total number of addresses was 560.

The sampling frame of *agribusiness* is constructed on the addresses of decision-makers in business/organisations involved in the output and input sector of agriculture (but not in the primary farming sector), producer and commodity organisations as well as agricultural and farmers unions. Producer and commodity organisations as well as agricultural and farmers unions are included in this sample frame because many of these organisations perform marketing activities past the primary level of agriculture. The addresses were obtained from an address list of the Chamber of Agribusiness, Agriculture Readers Digest (1998/99), Effective farming (1996), mailing list of the National Department of Agriculture and telephone directories. The total number of addresses was 358.

The sampling frame of *farmers* is constructed on addresses of decision-makers mainly involved in the primary sector of agriculture. The addresses were obtained from the Deciduous Producer Trust, address list of the National Crop Estimates Committee and other organisations (names are not allowed to be mentioned). The total number of addresses was 17300.

2.3 Calculating sample sizes for the mail survey

The parameters needed to determine a sample size with a certain degree of statistical precision or to apply Bayesian consideration are not available, this is being an exploratory and descriptive study. Other considerations were therefore used, taking into consideration the sample sizes of previous studies on agricultural data needs (Hushak *et al,* 1989, New Zealand, 1998, The Bureau of Financial Analysis, 1990). The sample size for each of the target population is discussed further.

For *policy makers* the sampling frame consisted only of 30 units, therefore all 30 units were selected. For *researchers* the minimum size of 100 sampling units was taken as the basis, however, an expected response of 50% was taken into consideration. Thus the sample size of researchers consists of 200 sampling units. For *agribusinesses* the minimum size of 100 sampling units was taken as the basis, however, an expected response of 50% was taken into consideration. Thus the sample size of agribusiness consists of 200 sampling units. For *farmers* the minimum size of 100 sampling units was taken as the basis each for field crops, horticulture and livestock, thus with an expected response of 50% into consideration, the sample size of farmers consists of 600 sampling units.

2.4 Sampling techniques for the mail survey

The objective of sampling is to estimate population parameters, such as the means or the totals from data contained in a sample (Sceaffer, et al., 1990). There are mainly two types of sampling techniques, namely probability and non-probability methods.

2.4.1 Sampling methods used for the mail survey

Although all possible care was taken to avoid bias in this survey, it is certain that it is present. However, this research is exploratory and descriptive and therefore falls into the category of surveys in which a certain degree of bias is permissible (Yates, 1971). The sampling techniques used for the various sampling frames are discussed further.

For policy makers the number of units in the sampling frame and the sample size is equal and therefore no sampling was needed. For researchers, agribusinesses and farmers systematic sampling under probability methods was used to select the sample.

2.5 Methods used for the Western Cape Province study

Informal methods were applied. An existing inquiry system were used to identify the different agricultural data needs.

The target population of the Western Cape consists of different decision makers. Policy makers (including the Provincial Minister of Agriculture), agribusinesses, farmers and researchers were also identified and included.

A total of 65 inquiry units were documented and all included in the sample size. All the inquiries were regarded as important and therefore all included. Non probability sampling methods were used, more specific, judgemental sampling.

3. RESULTS

3.1 Introduction

Agricultural statistics is defined as the aggregate of numerical data of different fields of agriculture and its economy (Idaikkadar, 1979). According to Idaikkadar (1979) agricultural statistics can be divided into two broad groups: *Basic statistics*, which include statistics that deal with the enduring characteristics of agriculture, for example land utilisation, land tenure, distribution of holdings etc. *Current statistics*, which include statistics that deal with agricultural activities performed more or less continuously year after year, for example the area under and production of crops, production of meat, milk and eggs.

Firstly the results from the mail surveys are discussed followed by the results obtained from the inquiry system for the Western Cape Province.

The results from the mail surveys are discussed separately according to the needs for *policy makers*, *researchers*, *agribusinesses* and *farmers.* The **priority** of the data, as indicated by the respondents is only discussed according to the highest priority, namely "very important". The results of the *need for current statistics* are discussed according to field crops, horticulture and livestock. Since the categories, which form part of *the need for basic statistics* are to many, only the three highest calculated averages of the choice "very important" are discussed. **Frequency** is discussed

according to the choices “yearly”, “quarterly”, “monthly” and “weekly” for current statistics and “10 yearly”, “5 yearly”, “2 yearly” and “yearly” for basic statistics.

The results from the inquiry system for the Western Cape Province are discussed according to the needs for the total agricultural sample. All the inquiries are rated as very important and 95% of the frequency were required on a monthly basis.

3.2 Policy makers results from the mail survey

3.2.1 The need for current statistics

The need for current statistics for *field crops* is summarised as follows. For policy makers, 80% of the respondents indicated that *quantity of imports and exports* is very important. Statistics indicated by 60% and more of the respondents as being very important, are *quantity of imports and exports*, *yield*, *value of imports and exports*, *volume of production*, *producer prices*, *stocks of products* and *area planted to annual crops*. Statistics that seem not to be as important, i.e. less than 30% of the respondents are *cost of production, consumer prices of products* and *utilisation of products*. For frequency, 13,3% of the respondents indicated they need *quantity of imports and exports* yearly, 40,0% quarterly, 33,4% monthly and 13,3% weekly. Except for *cost of production*, the results indicate that the statistics are mostly needed quarterly.

Statistics are needed either on a national or magisterial district level (36% of the respondents). Statistics needed on a provincial level are also important to a lesser extent (27% of the respondents). Products for which the statistics are needed in order of importance are maize, wheat, sunflower seed, groundnuts and sorghum.

The need for current statistics for *horticulture* are as follows. The statistics indicated by 60% and more of the respondents to be very important are *volume of production*, *quantity of imports and exports*, *value of imports and exports* and *area planted to annual crops*. Statistics on *prices of production inputs* and *stocks of products* seem not to be as important. The statistics are mostly needed quarterly, however, statistics on *consumer prices of products* are needed monthly while *producer prices* are needed weekly. *Volume of production* is needed yearly.

The statistics are needed on average on a national basis (36% of the respondents), followed by magisterial district level (34% of the respondents) and provincial level (28% of the respondents). Products for which the statistics are needed in order of importance are deciduous and other fruits, vegetables, citrus fruits as well as subtropical fruits.

The need for current statistics for *livestock* follows. According to the results the statistics that are very important to 60% and more of the policy makers, are *quantity of import and exports*, *abattoir slaughter volumes*, *producer prices* and *value of import and exports*. Statistics on *herd composition*, *cost of production, prices of production inputs, utilisation of products, consumer prices of products* and *number of animals in feedlots* seem to be very important for 30% or less of the respondents, and in aggregate terms therefore not important. Statistics are needed quarterly and monthly, however, *quantity of import and exports* is needed weekly while *herd composition* is needed yearly.

The statistics are needed on average on a national (42% of the respondents) and provincial level (38% of the respondents). Statistics needed on a magisterial district level seem not be as important (19% of the respondents). Products for which the statistics are needed in order of importance are cattle and calves, sheep and goats, broilers, pigs and ostriches.

Generally all respondents, irrespective of whether their main interest is in *field crops*, *horticulture* or *livestock,* 87,5% indicated they need forecasts of the statistics. The products for which the forecasts are needed in order of importance are maize, cattle and calves, wheat, sheep and goats, deciduous fruits, ostriches and poultry. The statistics were needed mostly between 1 month (56,3% of respondents) and 3 months (31,3% of respondents) after the date of the collection of the data. The sources of statistics indicated by the respondents are the Department of Agriculture, especially the publication Abstract of Agricultural Statistics, own sources and Statistics South Africa (formerly the Central Statistics Service). The statistics are used mainly for information services, trade strategies and policy decisions. The level of accuracy for the desired statistics indicated by 52,9% of the respondents is 80% while 41,2% of the respondents indicated a level of 90%.

3.2.2 The need for basic statistics

Basic statistics for policy makers are discussed according to the needs for *institutional or infrastructural*, *economic* and *employment* statistics. Respondents indicated a very low need for basic household statistics, particulars of farmers and farming unit statistics and these are not discussed in detail. Although *number of farmers* falls into the basic household category, 44,7% of the respondents indicated it as very important.

For *institutional and infrastructural* statistics, the category *methods of marketing* is indicated by 60% and more of the respondents as being very important. Statistics on the *level of mechanisation*, *quantity of land purchased or sold*, *pesticides usage* and *sources of water* supply not to be regarded as important.

Statistics are needed mostly ten yearly, except for statistics on access to *training and development*, *access to government support* and *sources of water supply* that is needed five yearly.

For economic statistics, *income from farm activities* regarded is regarded as very important by 70,6% of the respondents. *Non farm expenditure*, *value of other assets* and *household expenditure pattern* seem to be not as important. Statistics are mostly needed ten yearly.

Employment statistics needed by policy makers, was regarded as not very important by 60% or more of the respondents. Those required more than the others are *number of regular workers, number of unemployed workers* and *number of family workers*. Statistics on *salary or wage rate* and *remuneration of employees* seem to be regarded as important. Statistics are needed mostly ten yearly.

Irrespective of the category of basic statistics needed, respondents on average needed the statistics mostly on a magisterial district level (42,5% of respondents), followed by provincial level (30% of respondents) and national level (25,3% of respondents). Among the respondents, 93,3% needed the statistics for both the commercial and developing sector, while 6,7% needed the statistics for the developing sector only.

Regarding the degree of currency of the statistics (how much time between date of collection and date of publication), 50% of the respondents needed the statistics within 3 months, 18,8% within 6 months and 31,3% within 1 year. The types of decisions are very much the same as for current statistics. The level of accuracy required from 46,7% of the respondents is 90%.

3.3 Researchers results from the mail survey

3.3.1 The need for current statistics

For the need to field crop statistics, sixty percent or more of the 54 respondents regard statistics on *area planted to annual crops*, *quantity of imports and exports*, *producer prices*, *volume of production*, *yield*, *consumer prices of products* and *area harvested* as very important. None of the statistics were regarded by less than 30% of the respondents as very important. Except for *producer prices* that are needed weekly, the statistics are mostly needed monthly, quarterly and yearly.

On average, the statistics are mostly needed on a provincial level (38% of the respondents) and national level (34% of the respondents). Statistics are most needed in order of importance for maize, wheat, sunflower, groundnuts and soybeans.

For horticulture, *area planted to annual crops* seems to be the most important statistics needed while *stocks of products* seems to be not as important. Statistics are mostly needed yearly, while statistics needed quarterly and monthly are also needed to a lesser extent.

On average, the statistics are mostly needed on a national level (37% of the respondents) and a provincial level (36% of the respondents). The statistics are needed in order of importance, for deciduous and other soft fruits, citrus and subtropical fruits, vegetables and viticulture.

According to the results on livestock, *farm slaughter volumes* are not important. However, *livestock number by category, quantity of imports and exports, producer prices, value of imports and exports* and *cost of products* are indicated by 60% and more of the respondents as very important. Statistics are mostly needed yearly, however, statistics needed quarterly and monthly are also needed to a lesser extent.

On average, the statistics are mostly needed on a national and magisterial district level (35% of the respondents respectively). The statistics are needed mostly in order of importance for cattle and calves, fowls slaughtered, sheep and goats and wool.

In general, 78% of the 54 respondents need forecasts of the statistics. Forecasts are needed for maize, wheat, deciduous fruits, cattle and calves and fowls slaughtered. Among the respondents, 44,7% need the statistics within 1 month after the date of collection, 42,6% after 3 months while a small percentage need the statistics after 6 months or 1 year. Important sources of statistics are the Abstract of Agricultural Statistics issued by the National Department of Agriculture, Statistics South Africa as well as the National Department of Agriculture. The level of confidence is between average and good. Decisions based on the statistics are mainly research, advice and marketing strategy and planning decisions. The level of accuracy of the statistics are required by 34,8% of the respondents to be 80% and 50% of the respondents 90%.

3.3.2 The need for basic statistics

Basic statistics are divided into *economic*, *particulars of farming unit* and *institutional or infrastructural* statistics. Questions were asked about statistics on *employment*, *basic household* and *economic* statistics; respondents indicated a very low need for those statistics, and they are not discussed in this study. According to the results, statistics on *income from farm activities* are very important. Statistics on *amount of farming debt*, *income from non-farm activities* and *value of land* are also regarded as very important by 50% and more of the respondents. Statistics on *non-farm*

expenditure seem not to be regarded as important. All the statistics are needed annually. The low level of interest on the part of researchers on most types of basic statistics is rather surprising.

Only 50 and 42% of the respondents regard statistics on *particulars of farming* unit as very important, the *size of farming units* and *type of farming*. *Number of people living on farm unit* and *type of land tenure* do not seem to be important to the respondents. Except for *size of farming unit*, the statistics are needed mostly five yearly. These results are once again surprising, given the political interest in these matters and the amount of controversy among South Africa agricultural economists regarding the relative merits of small and large farm units.

Area under irrigation is regarded as the most important statistics by the respondents (57%). *Level of mechanisation* does not seem to be not very important to the respondents. The statistics are needed yearly.

The statistics are on average mostly needed on a magisterial district level (30% of the respondents), followed by 28% of the respondents who needed the statistics on a provincial basis. Among the respondents, 14,6% needed the statistics for the commercial sector only, 4,2% for the developing sector only and 81,3% for both the commercial and developing sectors. Further, 30% of the respondents needed the statistics 3 months after the collection of data, 32% needed it after 6 months and 36% needed it after 1 year. Only 2% needed the statistics after 2 years of the date of collection of the data. The sources of the statistics are mainly the Abstract of Agricultural Statistics, National Department of Agriculture, various publications and own surveys. Respondents utilise statistics currently and in future mainly for decisions regarding research programmes, consultation, research and policy analysis. As far as the level of accuracy for the statistics is concerned, with 46,5% of the respondents indicated a level of 90%, 39,5% of the respondents a level of 80% and 11.6% of the respondents a level of 70%. Only 2,3% of the respondents indicated a level of 60%.

3.4 Agribusinesses results from the mail survey

3.4.1 The need for current statistics

The results of the needs for *field crops* are summarised. *Yield* is indicated by 60,6% of the respondents as very important. *Area planted to annual crops* and *volume of production* are also regarded as very important by over half of the respondents. *Utilisation of products, value of imports and exports, consumer prices of products, consumption of products, area planted to perennial crops* and *stocks of products* do not seem to be as important to agribusinesses. The listed statistics are mostly needed quarterly and monthly. *Area harvested*, *consumption of products*, *value of imports and exports* and *utilisation of products* are needed yearly.

The statistics are on average needed mostly on a national level (46,2% of the respondents). The statistics are needed in order of importance for wheat, maize, sorghum and soya beans.

None of the current statistics for *horticulture* was regarded as very important by 60% or more of the respondents. Those required more than 40% and more of the respondents are *volume of production, producer prices*, *area planted* and *yield* to be very important. At least 30% of respondents required the statistics yearly or monthly. The statistics are mostly needed on a national level. The respondents indicated that they need the statistics in order of importance for vegetables, deciduous fruits and potatoes, citrus fruits and viticulture.

The results for the need of current statistics for *livestock* are summarised. The statistic that are very important by 60% and more of the respondents is *cost of production*. *Number of animals in feedlots* seems to be of small importance for agribusinesses.

The statistics are mostly needed yearly, quarterly and monthly. The statistics are needed on a national level, although statistics needed on a provincial level are also important, but to a lesser extent. The statistics are needed in order of importance for cattle, calves, sheep and goats, broilers and dairy products (including fresh milk).

In general, all respondents, irrespective of whether their main interest is in *field crops*, *horticulture* or *livestock,* 90,2% indicated they need forecasts of the statistics. The products for which the forecasts are needed are in order of importance wheat, maize, sunflower seed and sheep and goats, cattle and calves and potatoes. The statistics are mostly needed between 1 month and 3 months after the date of the collection of the data. The sources of statistics indicated by the respondents are mostly the Department of Agriculture, agricultural publications and own sources with a level of confidence between average and good. The statistics are mainly used for the business strategy planning and development, development programmes, marketing, production, budgeting and financial decisions. The level of accuracy for the desired statistics is 90% (57,1% of the respondents) while 34,7% of the respondents also indicated a 80% level of accuracy.

3.4.2 The need for basic statistics

Basic statistics are discussed according to needs for *institutional or infrastructural* statistics, *particulars of farm unit* and *economic* statistics. The sources, level of confidence and accuracy as well as the type of decisions are also discussed. Questions were asked about statistics on *particulars of farmers*, *employment* and *basic household*; respondent indicated a very low need for those statistics, and these are not discussed further. None of these was regarded as very important by 60% or more of the respondents. Fifty percent of the respondents regard data on *access to credit and finance* as very important. *Access to government support, sources of water supply, quantity of land purchased or sold and level of mechanisation* seem to be not as important. Except for *sources of water supply*, the statistics are mostly needed yearly.

Although not indicated by more than 60% of the respondents, *size of farm units* is the most important statistic concerning particulars of farm units needed, followed by *types of farming operation*. These two statistics are needed on a yearly basis. *Types of land tenure* and *numbers of people living on farms* do not appear to be important for most agribusinesses.

As with most other basic statistics, South African agribusinesses does not have a high level of interest in economic agricultural statistics. Only *income from farm activities, value of land* and *farming debt* are regarded as very important by 30% of the respondents. The statistics are needed on a yearly basis.

The statistics are mostly needed on a magisterial district level. Of the respondents, 21,1% indicated that they need the statistics for the commercial agricultural sector only, none for the developing sector only and 78,9% for the both the commercial and developing sectors. The statistics were mostly needed between 3 months and 1 year after the date of the collection of the data. The sources of the statistics are the same as for current statistics, namely Department of Agriculture, agricultural publications, and own sources with the degree of confidence also between average and good. The decisions requiring statistics were similar to those for which current statistics are needed. The level of accuracy for the statistics are 80% (41,7% of the respondents) and 90% (41,7% of the respondents).

3.5 Farmers results from the mail survey

3.5.1 The need for current statistics

The need for current statistics on field crops is summarised. *Producers prices* and *prices of production inputs* are indicated by 60% and more of the respondents as very important. *Utilisation of products* and *area planted to perennial* are desired by fewer than 30% of the respondents. The statistics are mostly needed yearly, while statistics on *stock of products*, *volume of production* and *consumption* are needed quarterly. *Prices of production inputs* and *quantity of import and exports* are needed monthly while *producer prices* are needed weekly. The reason for the need of *producer prices* on a weekly basis could be due both to volatile prices and the readily availability of prices of maize, wheat and sunflower via the South African Future Exchange (SAFEX).

The statistics are mostly needed on average on a national level (61,8% of the respondents). The statistics are needed in order of importance mainly for maize, wheat, sunflower, soybeans and dry beans.

For horticulture, the listed results indicate that 65,5% of the respondents regard *producer prices* as very important. *Utilisation of products* and *area planted to annual crops* seem to be not as important, with only 24,1 and 26,7% respectively of the respondents regarding these as very important. The statistics are needed mostly yearly; however, *consumption* and *utilisation of products* are needed quarterly, *stocks of products* and *quantity of import and exports* are needed monthly and *producer* and *consumer prices* of products are needed weekly.

The statistics are mostly needed on average on a national level (50,3% of the respondents) while on a provincial level are desired by 23,1% of the respondents. The statistics are needed for deciduous and other summer fruits, viticulture, citrus and subtropical fruits and vegetables.

For current statistics of livestock, *producer prices* and *quantity of imports and exports* are indicated by 60% and more of the respondents as very important. *Herd composition, number of animal in feedlots, utilisation of products, and farm slaughter volumes* appear to be less important; fewer than 30% of the respondents classified these as very important. Statistics are needed mostly monthly, while *producer prices* are needed weekly.

On average, statistics are mostly needed on a national level (74,4% of the respondents). Statistics on provincial level are needed by 25,8% of the respondents. The products for which the statistics are needed are in order of importance cattle and calves, sheep and goats, dairy (including fresh milk), pigs and wool.

Generally, among the 99 farmers, 89,5% need forecasts of the statistics. The products for which the forecasts are needed are maize, cattle and calves, wheat, sheep and goats as well as deciduous citrus fruits. Farmers indicated that they needed the data 1 month of the date of the collection of the data (45,6% of the respondents), 26,7% of the respondents indicated statistics 3 months after the date while 22,2% of the respondents need the statistics 6 months after the date. Sources of the statistics include mainly “Landbou Weekblad”, the internet and also agents and marketers. Farmers also indicated that the level of confidence in the sources is between average and good. Decisions that are made with aid of statistics include planning, production and marketing. The level of the accuracy required by the respondents are 90% (50,6% of the respondents), 80% (33,3% of the respondents) and 70% (16,1% of the respondents).

3.5.2 The need for basic statistics

Basic statistics are discussed according to needs for *employment*, *economic* and *institutional or infrastructural* matters. Questions were also asked about statistics on *particulars of farmers and basic household statistics;* respondent indicated a very low need for those statistics, which are therefore not discussed further. The results of the need for basic statistics on *employment* follows. According to the results, none is regarded as very important by 60% or more; *salary or wage rate* and *remuneration of employees* are regarded as very important by more than 40% of the respondents. *Number of regular* and *family workers* do not seem to be regarded as important. The statistics are needed yearly.

For *economic statistics, income from farm activities* and *value of land* are indicated by respectively 53,6% and 52,3% of the respondents as very important. *Non farm expenditure, household expenditure pattern, income from non-farm activities* and *rent payments* do no seem to be regarded as important. The statistics are needed yearly.

The results of the need for *institutional and infrastructural* follows. *Methods of marketing* is indicated by 50,6% of the respondents as very important. The *methods of irrigation, area under irrigation, quantity of land purchased or sold, capital structure, sources of water supply, level of mechanisation* and *land utilisation* seems to be not as important. The statistics are needed yearly.

The statistics are on average needed mostly on a magisterial district level (35% of the respondents). Statistics are also needed on a national level (32.6% of the respondents).

Among the respondents, 46,9% of the respondents indicated that they need the statistics on the commercial sector, while 2,5% indicated for the developing sector. The majority, 50,6% of the respondents indicated that they need the statistics both for the commercial and developing sector. Respondents indicated that they need that statistics mostly 6 months after the date of the collection of the data (31,8% of the respondents). Among the respondents indicated that they need the statistics 1 and 2 years after the date of the collection of the data.

The sources of the statistics are mainly media publications, farmer associations and agents. The level of confidence of the sources is between average and good. Decisions of farmers with the statistics include planning, marketing, management and viability. The level of accuracy is needed between 80% (44,1% of the respondents) and 90% (42% of the respondents).

3.6 Results from the inquiry system of the Western Cape Province

From the results 69% of the users indicated a need for current statistics and 31% for basic statistics. Under *current statistics* primary production data are needed 59%, prices and costs 30% and imports and exports 11%. Primary production data includes yield, area, numbers, volume, values etc. on agricultural production. Prices and costs includes input prices and producer prices. Imports and exports includes value and volume of agricultural imports and exports.

Under *basic statistics* the need for agricultural reports and documents are 53% and the importance of agriculture in the Western Cape 47%. Agricultural reports and documents includes unpublished reports by the provincial department of agriculture. These documents cover aspects like disaster programmes, disaster damage control, employment by the agricultural sector etc. Importance of agriculture in the Western Cape includes figures on the contribution of agriculture in the province compared to other provinces and compared to the total economy of the country.

4. CONCLUSION AND RECOMMENDATIONS

4.1 Introduction

Although the results indicate only data sets that are very important to at least 60% of the respondents, to a large extent all the data sets are important. It is clear from the conclusion that different data sets are important to the different agricultural data users, however, there is an overlap. Taking into consideration the criteria of 60% and more of the respondents indicating a particular data set as very important, it seems according to the results that policy makers and researchers need more categories of agricultural data than agribusinesses and farmers. In general, agricultural data users regard current statistics more important than basic statistics. The need for current and basic statistics are further discussed according to the data (statistics) that official suppliers of agricultural data should focus their collection efforts on.

4.2 Recommendations on current statistics

Agricultural data needed for the *field crops sector* in no significant order of importance:
Producer prices, yield, volume of production, stocks, area planted to annual crops; and quantity and value of import and exports.

Producer prices are available and are currently supplied by the National Department of Agricultural by means of a quarterly agricultural producer price index. However, since users also require the statistics on a monthly basis, efforts could be made to enhance the frequency of the statistics published. Prices for maize, wheat and sunflower are available daily from the South Africa Futures Exchange (Safex). Quantity and value of import and exports are available at Customs and Excise, the National Department of Agriculture and the Perishable Export Control Board (PPECB). However, the accuracy of the data could be questionable.

Area planted to most of the annual summer and winter crops, yield and volume of production (crop estimates) are supplied by the National Crop Estimating Committee (NCEC). De Villiers & Jooste (1999) question the composition of the committee and also the accuracy of the estimates. However, steps are underway that deals with the composition of the committee and accuracy of the estimates, since these crop estimates have a profound effect on derivative instruments of the South African Agricultural Futures Exchange (Safex). For the other crops, producer organisations and Article 21 companies, for example Cotton South Africa, Tobacco exchange supply most of the data. The South African Grain Information Service (SAGIS) provides monthly stock figures for summer and winter crops. A total volume of production figure, which include production for own use, production for farm labourers etc. cannot a present be calculated since some benchmark data are lacking. These benchmarks were previously obtained from agricultural censuses and surveys.

Agricultural data needed for *the horticulture sector* in no significant order of importance are volume of products, producer prices, area planted, quantity and value of import and exports.

Although administrative data supplied by the fresh produce markets gives a good indication of producer prices, volume of production is very difficult to estimate, mainly as the result of the increase in marketing channels bypassing the fresh produce market in recent times. Some producer organisations estimate the area planted and volume of production. One will, however, never know how accurate the data is. Agricultural censuses and surveys could be used to determine the accuracy of these estimates. Quantity and value of import and exports are available from Customs and Excise, National Department of Agriculture and Perishable Export Control Board (PPECB).

Agricultural data needed for the *livestock sector* in no significant order of importance are quantity and value of import and exports, producer prices and abattoir slaughter volumes.

Quantity and value of import and exports are available from Customs and Excise, National Department of Agriculture and Perishable Export Control Board (PPECB). Quantity of imports from countries within the South African Development Community (SADC) is also very important. However, with the free trade negotiations within SADC, this will possible decrease in importance. Producer prices, especially for ostriches, are inadequate. The importance of auction markets is also decreasing in importance, therefore prices will in future be difficult to collect. One of the most significant agricultural data which became discontinued with the deregulation of the agricultural marketing sector is abattoir slaughter volume, which is used amongst others to estimate volume of production. These statistics contribute a significant share to the gross income of agricultural producers. Efforts to enhance the accuracy are therefore of utmost importance. Efforts are currently made by the Directorate: Food Safety and Veterinary Public Health of the National Department of Agriculture to monitor slaughterings of livestock at various categories of abattoirs. Although owners of abattoirs are obligated according to Law to complete a schedule eight form, problems are encountered with the response and the accuracy of the data supplied.

4.3 Recommendations on basic statistics

Agricultural data users mostly need data on *employment*, *economic* and *institutional or infrastructural* matters. Researcher specifically needed data on particulars of *farming unit.* Data on basic household and particulars of farmers seem to be not as important. Previous agricultural censuses and surveys did include data on *economic, particulars of farming unit and employment.* Data on institutional or infrastructural data were, however, excluded. In the light of the importance of institutional or infrastructural statistics, questions ought to be included in the census or survey questionnaire or a ad-hoc survey should alternatively be undertaken.

4.4 Conclusion

Decision-makers in agriculture need agricultural data, especially current statistics. Most of the agricultural data are available, but decision-makers have to look for it and in some cases have to pay for the data (South African Agricultural Union, 1999). However, data of the livestock sector are not adequate to satisfy decision-makers' needs, especially on abattoir slaughter volumes. Efforts should be made by the National Department of Agriculture, South African Meat Industry Company (SAMIC) and involved producer organisations to improve these data. With the changes in the members of the National Crop Estimating Committee (NCEC) and improved methodology involving remote sensing, these sets of data will satisfy the needs of the decision-makers in the future.

Funds should also be made available by the National Department of Agriculture to Statistics South African to continue the agricultural censuses and surveys, especially taking into consideration the world agricultural census planned for the year 2000. Cognisance must be taken that although efforts are made by Government to undertake censuses and surveys on the small-scale and developing sector, decision-makers still also need data pertaining to the commercial sector, which is a significantly contributor to the South African economy in terms of the forward and backward linkages.

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