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AN EVALUATION OF SMALL – SCALE AGRIBUSINESSES AND HOUSEHOLD INCOME GENERATING ACTIVITIES IN VHEMBE DISTRICT OF LIMPOPO PROVINCE, SOUTH AFRICA

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ABSTRACT

The main purpose of this study was to evaluate the ability of small scale agribusinesses and household income generating activities to create employment and generate income. A total of 50 agribusinesses comprising 33 primary production businesses and 17 agro-processing businesses were randomly selected for the study. For household income generating activities, a total of 85 households were selected where an agribusiness was located. The households were purposely selected using the snow-balling methodology. Closed and open-ended questionnaires were used to collect data on agribusinesses and household income generating activities from managers of agribusinesses and selected households. The results from the agribusiness survey revealed that primary production businesses were creating more employment opportunities compared to agro–processing. However, results of regression analysis showed that the mean gross margin was higher in agro-processing than in primary production. Results for household income generating activities showed no evidence of employment creation, except that, these activities were used to generate income and reduce household food insecurity. According to the results, a mean income of R873.15 per month was generated by these activities. Although the income was not adequate to support a mean number of 8 dependants in a household, the income was higher than the pension grant of R700 per month which rural people depend on. The main constraints facing both agribusinesses and household income generating activities were lack of working capital, management skills, and marketing constraints. Financial support and skills training were identified as necessary strategies to overcome these constraints and to improve the outcomes from agri-businesses and household income generating activities. The study findings revealed similarities and differences between agri-businesses and household income generating activities. The differences were in management style, capital invested, final product, income and employment generated. Policy makers need to realize these differences and formulate policies accordingly for success and sustainability of these two poverty reduction strategies.

Key words: agribusinesses, income-generation, self-employment

INTRODUCTION

The idea of "people doing it for themselves" to reduce poverty and create jobs for the people of South Africa" has been the approach and the strategy preached by the African National Congress (ANC) led government of South Africa since it came into power in 1994. This was done through the establishment of income generating projects run and managed by a group (agribusinesses) or individual household community members.

Unemployment is the major cause of wide spread poverty in South Africa, with the unemployment rate estimated at 22% of economically active population [1]. Small-scale enterprises are believed to have important economic, social and political roles in employment creation, resource utilization and income generation because of their unique economic and organizational characteristics [2, 3]. Employment generation is created by small scale businesses in two ways: through the replication of certain types of business such as establishing a number of fruit vendors (fruit vending outlets) and through the creation of actual employment for the employees in these businesses. Replication occurs because each small business is small enough to serve a segment of the market for a particular product or service [4].

Personal characteristics of individual entrepreneur such as innovation, personal initiative; achievement orientation, willingness to take risks; ability to learn fast from one's mistakes and competitive aggressiveness contribute to the success of the small businesses. Education and family background are important factors in the running of the small-scale businesses. Specific entrepreneurship education and training has been identified to be a missing link among small business owners in South Africa and other African countries [5, 6]. According to research done in Capetown where entrepreneurs were given training in book keeping, sales, and marketing, the training resulted in increased sales and profits while the control group (those that did not receive training) either remained stable or declined. Research done in South Africa [7, 8, 9] found that lack of funding together with absence of business skills continued to plague the small and medium sector, despite government attempts to remedy the problem.

The main purpose of this study was to evaluate the extent to which small scale agribusinesses and household income generating activities create employment and generate income.

METHODS

The study was based in three municipalities (Thulamela, Mutale, Makhado) of Vhembe district, in the Limpopo Province where 230 agribusinesses were identified. The agribusinesses were categorized into two strata namely primary production (poultry, pig production, egg production and vegetable crop production); and agro-processing (peanut butter and jam making, baking and juice making). A total of 50 agribusinesses comprising 33 primary production businesses and 17 agro-processing

businesses were then randomly selected for the study. For household income generating activities, 85 households were purposively selected in the same area using the snowballing technique. The reason for choosing households near agribusiness was to determine if agribusinesses and income generating activities used the same enterprises. An extension officer from the economic section of the Department of Agriculture was interviewed to understand agribusinesses policies in the district.

Analytical Framework

The analytical model used to evaluate the performance of the agribusiness sector, involved the development and estimation of the determinants of agribusiness profit as described by Koutsoyiannis (in the Theory of Econometrics) [10]. This included the following three stages:

Stage 1

- Determination of dependent and independent variables of the model.
- Determination of the theoretical expectations about the signs and expectations of the function.
- Determination of the mathematical form of the model.

Stage 2

- Gathering numerical data on variables used in the model. This stage involved fieldwork and data collection from the selected agribusinesses.

Stage 3

- Determination of reliability of the results and deciding whether the estimates of the parameters are theoretically meaningful and statistically satisfactory (using economic theory, statistical inferences and econometric criteria).

The model postulated can be explained as follows,
Π (gross margin) = f (X1, X2, X3, X4, X5, X6, X7, X8

The dependent variable is the gross margin obtained by agribusinesses (Π)
The independent variables (X1------X8) and the theoretical expectations about signs are as follows:

- X1 = age of the business is (expected to have a positive relationship with gross margin.)
- X2 = years of experience of the manager are (expected to be positively related to profit since business owners are able to reflect on previous business performances using the income and loss statements)
- X3 = whether the owner keeps records or not (record keeping is expected to be positively related to profit)
- X4 = support from the government or other organization for the business (especially financial support is expected to be positively related to profit).

- X5 = number of employees (can either be positively or negatively related to profit since it may influence technical efficiency).
- X6 = total invested capital (in rand) in the business
- X7 = apprentice or technical skills acquired
- X8 = gender of the business owner (this will be the dummy variable which can be positive for male and negative for female)

Π = Gross margin (is a dependent variable)
Π = f (TVO – TVC)

Where
TVO = total value of output
TVC = total variable cost

The dependent variable of gross margin was derived from the data on total revenue and total costs associated with each agribusiness enterprise for specific time period.

Data collection
A questionnaire comprising both closed and open-ended questions was administered to managers of agribusinesses, extension officers and households on income generating activities.

Data Analysis
A two-staged analysis was used to:

- Estimate the profit for each agribusiness and household income generating activity using gross margin as a measure of profit.
- Estimate the determinants of profit using the regression analysis.

RESULTS

History of the agribusinesses
According to information gathered while conducting this research, members of the community initiated most of these businesses, with some assistance from the Departments of Health and Welfare and the Department of Agriculture. The Limpopo Department of Health and Welfare provided financial assistance towards these projects while the Limpopo Department of Agriculture, through Polokwane office, offered skills development through training and advisory services.

All the projects chosen for the study were initiated by groups comprising women and men. The groups started a project of their choice (poultry, egg production, bread baking, juice making, pig production or gardening) by raising a certain amount of money from members usually ranging from fifty to hundred Rands per member. This money was used as initial capital to buy stock. Some members struggled to raise this money. As a result, they first found temporary jobs in farms. This activity was followed by the building of fowl runs and pigsties (in the case of animal production);

the building of traditional ovens (in case of baking) and bush clearing (in the case of crop production enterprises).

The project buildings ranged from mud fowl runs and pigsties to properly built cement structures. The bakeries started with the use of traditional ovens and then, through financial assistance from either the Department of Social Welfare or Eskom, graduated to electric ovens.

Distribution of agribusinesses according to municipalities

Thulamela municipality had the largest number of agribusinesses (about 72%), while Mutale had 16% and Makhado 12%. Poultry production dominated the primary production group in the district with 24 businesses, while bakeries dominated in the agro-processing group with 14 businesses. The most dominant Agribusinesses were Poultry (48%), Bakeries (28%) and Piggery (12%).

In terms of employment generation, Tables 1 and 2 reveal that poultry businesses in the 3 municipalities employed 271 people making it the largest small-scale job creating agribusiness sub-sector of this study. Based on this result, one can assume that poultry has a high demand in these municipalities.

Gender of project managers of agribusinesses

Eighty six percent of the agribusinesses were managed by women while only 14% were managed by men. Further investigations revealed that although there was one person assigned as a manager or chairperson of the agribusiness, that person did not solely devote his/her energies to management duties but was also involved in routine activities of the project like any other member.

This lack of job clarification was a short coming in some businesses as some of the people assigned to management position lacked business managerial skills hence compromising business performance. In an effort to improve the business performance, some project members recommended the appointment of qualified managers from outside the group.

Problems encountered in running the agribusinesses

Problems included lack of working capital, marketing problems, stock death, lack of training, theft and protection of recipe rights. The majority of the respondents (58%) encountered the problem of lack of working capital while 12% each encountered stock death and lack of training in handling the enterprise, book keeping and management. The least (2%) encountered recipe rights (reported by juice makers) [Table 3].

Summaries of the gross margin for the two categories of agribusinesses

Results from group statistics showed that the mean gross margin was higher in agro processing (R5943.11) as compared to primary production (R3126.76) which subsequently led to a higher average gross margin per employee in agro processing as compared to the average gross margin per employee in primary production [Table 4].

RESULTS FROM REGRESSION ANALYSIS

For regression analysis factors (X1-------X8) that were expected to influence the projects' gross margin were identified and two trial runs were carried out using two models.

First trial model (Model 1) ……
The following independent variables were entered while the Dependent variable was the Gross margin

- Age of business 3 to 5 years (This variable is measured in years)
- Gender - This variable is in form of (0,1) dummy 1 for male, zero for female
- Have training - (This is measured in form of dummy 1 for receiving training and zero for not having training)
- Age of business1 to 3 years
- Age of business less than a year
- Have support - This is also measured as a dummy (1 for having support and zero for not having support)
- Keep records – This was in form of a dummy (1 for those keeping records and zero for those not keeping records)
- Number of employees – This is measured by the total number of people employed by the agribusiness
- Predictors: (constant) Age of business 3 to 5; have support; age of business less than a year; number of employees; have training; age of business from 1 to 3 years; gender. These predictors were measured as explained in the model specification above.

The model below accounts for 34.5% of the total variability in gross margin and since these are cross-sectional data, one can conclude that all the variables entered were able to explain about 34.5% percent of the variability in gross margin of the agribusinesses surveyed. However, only the employee's variable was significant.

Second trial (Model 2)
A second trial was done using the number of employees while gross margin remained a dependent variable. This was based on the assumption that the other variables did not significantly influence the gross margin of the agribusinesses.

Variable entered

- Number of employees

The results of the second model can be summarized as follows

$$II = 1476.32 + 234.09\ L$$
$$(133.80)$$
$$R^2 = 0.245$$

The result shows that the number of employees as a variable was able to account for about 25 percent of the amount of gross margin obtained by the agribusiness included in the survey.

RESULTS FROM HOUSEHOLD INCOME GENERATING ACTIVITIES

ACTIVITIES USED FOR INCOME GENERATION

The main objective of assessing house-holds income generating activities was to determine the contribution of various sources of income generation.

The results revealed that activities used for income generation were divided into three categories namely prepared food, crop production and animal production [Table 6]. These have been computed to present the types of household activities carried out by the respondents [Table 7].

Prepared food referred to making of food such as atchaar and fruit juice making, while crop production involved growing of vegetables, maize and fruits. This category involved producers and hawkers. Producers grew the vegetables while hawkers bought the vegetables from the producers and sold them.

The findings also reveal that income generating activities from prepared foods contributed 14% whereas primary production contributed 55.83%. These results further show that there is a high business potential for agriculture in the district, and that any income generation policy must incorporate agricultural policies in order to reduce household food insecurities and poverty in the area.

Income distribution

Income generated from these activities ranged from R750 to R9000 with a mean of R873.15 per household per month (Table 7). The income from income generating activities was high compared to the pension grant and minimum income wage for domestic workers for the period of the survey (which was R700 and R540 per month respectively). These findings indicate that with enhanced government intervention, there is a possibility that these activities could generate more income.

Type of support needed for unemployed people in the study area

Based on the information gathered from respondents, the results of the study revealed that the people of Vhembe district believed that unemployment could be reduced by giving them more land to practice agriculture (primary production) rather than having food “hand outs” from the government. This suggestion is very relevant because the district is characterized by very good soils which allow a variety of fruit and vegetables to grow well.

The implication of these findings is that people prefer broader, long term and sustainable programmes that can offer food security (through skills training for self employment) and income creation. These would guarantee that both their immediate and long term needs are met [2, 3].

DISCUSSION

The study findings from both the agribusiness and household income generation activities have revealed some similarities and differences in problems experienced, job creation, income creation opportunities and the effect of management styles. The discussion below highlights how the different factors affect agribusinesses and income generating activities.

Management style

Both agribusinesses and income generating activities were geared towards income generation and employment creation, although their organizational structures were totally different. Agribusinesses were more organized. People involved in these businesses were assigned different responsibilities towards the running of the business. These responsibilities included supervision of the overall running of the business, and stock control, to mention a few while in households the members of the household carried out all activities related to the business. Low education levels sometimes hindered their efficiency in managing the business.

Capital invested

Both agribusinesses and income generating activities used personal savings as the source of initial capital invested in the projects. The agribusinesses were eventually able to receive financial assistance from the Department of Social Welfare, while the households in income generating activities did not receive such assistance.

Final products

Agribusinesses were involved in both primary production and agro–processing. The primary production included poultry for meat, egg production, pig production and vegetable crop production, while agro-processing involved the making of; bread, fruit juice, jam and peanut butter. Income generating activities were more focused on primary production especially crop production.

Income generated

In agribusinesses, agro processing was found to be more economically profitable as compared to primary production. The regression analysis showed that most of the variables were not significant except for the number of employees in the business. Income generating activities generated an average income of R823.15 per household per month, whereas agro-processing generated a gross margin of R5943.11 per annum.

Employment creation

There was evidence that agribusinesses can create employment opportunities as shown from the study results. When it came to income generating activities, there was no such evidence except for the possibility that they can be used to generate some income and reduce household food insecurities.

Government and non-governmental intervention
Agribusinesses received both financial and skills development support which helped in their operations, while households involved in income generating activities did not receive any such support.

Problems experienced
The main problems experienced in both agribusiness and income generating activities included inadequate working capital, marketing problems, and lack of skills.

Limited Working capital
Working capital for paying wages, feeds and other daily operations was a problem. Some poultry projects were found to be overprotecting their profits by not paying wages. Feeds seemed to constitute a major component of the operating cost for poultry projects and there were suggestions from participants that this was an area the government needed to subsidize cost of feed to promote livestock production and enhance profitability.

Marketing
Marketing of produce was problematic in pig production and crop production. Projects involved in crop production claimed that the current government closed the parastatal cooperatives that used to market their produce. The closure had a very serious impact on their operations since they could not afford refrigerated vehicles to transport products and pack-houses to store their produce. Inter provincial marketing whereby produce is sent to neighboring provinces, which are unable to produce the same products due to climatic constraints can be a worthwhile solution to explore.

Stock death
Stock death was reported as one of the problems experienced by broiler projects. This could be due to lack of technical skills or the unreliability of the supplier's stock. Since the agribusinesses were using different suppliers at any given time, it was not possible to identify as to whether suppliers were the main source of the problem or whether the project members lacked technical skills.

Training: in specific technical enterprise skills, bookkeeping and financial management (skills development)
Although research results showed that people involved in agribusinesses received some training relating to their businesses, a number of them believed that they still needed more training thus emphasizing the need for continuous technical training. Book-keeping seemed to be crucial given the fact that a large percentage of them lacked appropriate bookkeeping skills. On-site training whereby people are trained in their places of work (businesses) was suggested as most of them were illiterate.

Protection of recipe rights (patent rights)
In the juice making business, colleagues who were not satisfied with their monthly salaries left their group and taught others their recipe for making juice. This led to congestion of the market for juice making resulting in financial losses. The suggestion

was that the group needed to protect their recipe rights to guard against such infringements.

Theft

Some respondents claimed that theft had affected them. To curb the problem of theft, some businesses employed security guards. This might be due to high unemployment rates in rural areas where most of these projects are located.

A look at the problems faced by households in income generating activities ranked marketing and working capital as their main problems whereas in agribusinesses, working capital was the major problem. The following recommendations are suggested as a way of easing these constraints;

- Financial support and training should come as a package to the various agribusinesses since lack of working capital and management skills were found to be limiting their present performance.

- The Department of Social Development and the Department of Education should try to work together to support the various agribusinesses by providing financial support and management training skills to the project operators. There is a strong need for the Department of Agriculture to support these businesses with both technical skills and financial assistance.

- The problem of marketing can be solved by creating a marketing cooperative in the area to assist in inter provincial product marketing. This cooperative can be sponsored by the government. However the management, ownership and operation of the cooperative should be done by agribusiness owners.

- The research results showed that people involved in income generating activities can be categorized not only as small scale farmers but as beginner farmers. These people produce and sell their products. Therefore, any policy recommended for their improvement must relate to agricultural policy improvement.

CONCLUSION AND RECOMMENDATION

The study has revealed similarities and differences in two poverty reduction strategies used by the government of South Africa. Although the two are grouped together by policy makers as SMMEs (Small Medium and Micro Enterprises), they are different, in management style, capital invested, final product, income generated and employment generated. Judging from these differences, policy makers need to realize these differences and formulate policies accordingly for success and sustainability of these strategies.

Coordination between the local departments of agriculture and social development need to be strengthened as development of the rural poor depends on both social development and food production.

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Table 1: Distribution of chosen business enterprise according to type of enterprise and number of beneficiaries

	Type of agribusiness	Number of businesses	Percent of business surveyed (%)	Number of employees per type of business
Primary production group	Poultry	24	48.00	271
	Pig production	6	12.00	53
	Vegetable crop production	3	6.00	90
Agro processing group	Bakeries, Juice making, Peanut butter & Jam making	14	34.00	178
Total		50	100.00	592

Source: Field Survey 2003

Table 2: Agribusiness job creation by type of agribusiness and municipalities

Municipality	Type of agribusiness	Frequency	Number of employees	Min. no. of employees	max	Mean
Thulamela	Poultry	24	249	2	39	10
	Pig production.	5	45	6	13	9
	Vegetable crop	1	63	-	63	63
	Agro-processing	11	113	2	13	10
Makhado	Poultry	1	6	6	6	6
	Pig production	1	6	6	6	6
	Vegetable crop production	2	27	11	16	13
	Agro-processing	2	20	4	16	10
Mutale	Poultry	2	16	8	8	8
	Pig production	1	2	2	2	2
	Agro-processing	5	45	4	14	9

Source: Field Survey 2003

Table 3: Problems encountered in the various Agribusinesses

Problem type	No. of respondents	Percent (%)
Working capital	29	58%
Marketing	5	10%
Stock death	6	12%
Lack of training in handling the enterprise, bookkeeping and financial management	6	12%
Recipe rights (juice making)	1	2%
Theft	3	6%

Source: Field Survey 2003

Table 4: Summary of Gross Margin Analysis, Group statistics

Type of activity	N	Mean (R)	Std deviation (R)	Std error (R)
Gross margin 1. production	33	3126.76	9184.89	1575.20
2.processing	17	5943.11	10012.86	2503.22
Average gross Margin per employee				
1. production	33	258.81	666.59	114.32
2. processing	17	537.76	917.52	229.38

Table 5: Empirical Results for Model 1

MODEL 1: Coefficients estimates when all the variables were used

Co linearity

Model 1 (Constant)	Tolerance	Variance Inflation Factor
Keep records	0.952	1.051
Have support	0.801	1.248
Number of employees	0.896	1.116
Have training	0.814	1.229
Gender	0.782	1.279
Age of a business less than a year	0.739	1.353
Age of business 1 to 3 years	0.803	1.245
Age of business 3 to 5 years	0.769	1.300
Model 1 Summary	R= 0.695	R Squared =.345

Table 6: Frequency and percentages of activities carried out by households to generate income

Categories	Type of activity	Frequency	Percent
Prepared food	Atchaar	5	5.80
	Juice	2	2.30
	Fish	4	4.70
	Home–made bread	1	1.20
	Sub-total	12	14.00
Crop production	Fruit	14	16.30
	Maize	3	3.50
	Seed production	1	1.20
	Pot plants	4	4.70
	Seed production	1	1.20
	Vegetables	6	6.90
	Vegetables and maize	12	14.00
	Sub-total	41	47.80
Animal production	Chicken	4	4.70
	Pig production	5	5.80
	Sub-total	9	10.50

Source: Field Survey 2003

Table 7: Income generated from these activities per month

Income	Frequency	Percent
Less than R500	27	31.39
R500 – R1000	46	53.49
R1000 - R2000	7	8.14
Greater than R2000	6	6.98
Total	86	100

Source: Field Survey 2003

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