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A SUSTAINABLE FINANCINGMODEL AMONGST BANKS FOR AGRIBUSINESSES INFRASTRUCTURAL PROJECTS IN KENYA.

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Abstract:

The inherent risks embedded in agribusinesses have made banks cautious in extending credit. Indeed the agricultural sector is the backbone of the economy, contributing significantly to the GDP of the county nevertheless is the least funded. The research study intended to test a model, financing through cooperatives that can be used to mitigate the construed risks of agribusiness lending. The research's null hypothesis was that, packaging credit and extending it to agribusinesses through cooperatives would not significantly mitigate default risk. This was deductive research using survey methods to collect data for hypothesis testing. From the analysis results the null hypothesis was rejected, accepting the alternative hypothesis that group financing, using the co-operative model, is preferred.

Keywords: Banks, Credit, Agribusiness, Financing

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1.0 Introduction

The Agricultural sector is the mainstay of the Kenyan economy and directly contributes 26 per cent of the GDP annually and another 25 per cent is contributed indirectly (Ministry of Agriculture, 2015). Indeed sustainable agricultural development is essential for economic growth and conservation of environmental resources, which to a great extent depends on the physical infrastructure: roads, irrigation, storage facilities etc. In support of this, the Food and Agriculture Organization (1996) report concludes that the existence of good agricultural infrastructure is a key ingredient in stimulating agricultural investment and growth. The Kenya government has initiated the existence of development banks and micro-finance institutions for granting credit to the self-employed and the poor, including farmers. Nevertheless a survey in one of the development banks, Agricultural Finance Corporation, showed credit granting to farmers has significantly dropped for the periods as shown in Table 1 below.

Table 1: Credit trends to farmers

Year	Demand	**Number of Applicants**	**Credit supply (Kenya Shillings)**	**Successful Applicants**	**Unsuccessful Applicants**	**% of Credit disbursed**
2004	250,000,000	1,270	138,299,600	729	541	57.1
2005	370,500,000	2,470	164,432,250	820	1,650	33.2
2006	500,200,000	3,340	233,080,850	1,092	2,248	32.6
2007	430,350,000	2,800	210,392,200	840	1,960	30.0
2008	540,637,000	3,600	124,672,900	497	3,207	23.06
2009	588,490,000	4,005	130,300,000	654	3,451	22.14

2010	665,050,000	4,268	142,480,000	728	3,540	21.42
2011	720,108,000	4,890	150,400,500	806	4,084	20.89
2012	833,590,000	5,200	156,200,000	850	4,350	18.74

Source; Agricultural Development Bank, Eldoret

It is clear that for the period 2004-2012, the demand for credit has more increased by more than 50%, at the back drop of reduced credit disbursement.

2.0 Research Objectives

2.1 Research problem

Generally poor infrastructure is a hindrance to agricultural development: the state of roads, communication systems and power installations in rural areas are in adequate to bolster growth (Gitu, 2006). Notably the high cost of power installations has hampered the investment in agribusiness industries, irrigation, expansion, and storage. It is a fact that agriculture in Kenya is rain fed increasing the uncertainty on yields, thus unattractive to funding.

A preliminary survey at a number of commercial banks showed that various loan products are offered to farmers, majority of which are short-term reflecting the production cycle of the particular farming activity. This shows the risk averseness of banks when financing individual farmers and a major setback to the development of agriculture in the country. Banks generally should find a model through which they can extend significant credit, more so in funding physical infrastructural projects in agribusiness.

2.2 Hypothesis

The research study shall be guided by the null hypothesis (Ho), there is no difference in the way banks extent agricultural credit to individual farmers and those in cooperative societies.

3.0 Methodology

3.1 Research design

The research study prescribes to the school of thought that the research process should take a natural scientific course without interference, positivist paradigm, in explaining the relationships between the variables. The research begins by theorizing existing concepts into hypothesis ending with proof of the theory. In testing the hypothesis descriptive survey methods shall be used to collect data corrobated by documentary evidence. Theoretical and empirical evidence from different authors explored shall also provide insight into the thematic issues of the research.

3.2 Population and sampling

A population constitutes all items in the field of study (Kothari, 2006) and for this particular research study, all entities registered under the banking act and operating within Kenya shall be considered. In total there are forty two such entities in Kenya, and using the Krejcie& Morgan (1970) model the sample for the study shall be 26 banks. The research shall purposively select the banks that shall be included in the research study basing on the judgment of providing solution to the research questions. The basis of selecting the sample from the population shall also be aided by the structure of the bank and customer base. This shall be done bearing in mind that some banks do business with corporates only, thus such shall eliminated from the sample.

In each sample the target employee was the head of consumer credit, credit assessors and manager in charge of risk management sections. Therefore the sample size in term of number of respondents was 78.

Formula for determining sample size

$$s = X^2NP(1-P) \div d^2(N-1) + X^2P(1-P)$$

s = required sample size.

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).

N = the population size.

P = the population proportion (assumed to be .50 since this would provide the maximum sample size).

d = the degree of accuracy expressed as a proportion (.05).

Source: Krejcie & Morgan, 1970

3.3 Data collection

Primary data was obtained by conducting surveys, through the administration of questionnaires. Questionnaires were preferred as primary data collection instrument because of its low cost, being free from bias and the fact it was appropriate to respondents, bank employees, who are not easily approachable. Secondary data came from published and unpublished sources that include banking industry reports, government reports and other historical records.

The instrument was subjected to the tests of reliability and validity. A data collection instrument is reliable if it provides consistent results; this can be enhanced by broadening the sampled respondents or through repeat applications and standardizing the conditions under which measurement takes place (Kothari, 2006). In terms of content, measurement of the topic coverage in terms adequacy, an expert gave assurance that the instrument was within the standards.

4.0 Discussion Of Results

The study involved the use of statistical techniques, inferential analysis, in estimating the values of unknown parameters of the population and testing of hypothesis for drawing inferences (Kothari, 2006). The research incorporated various statistical measures that include ; measures of central tendency , measures of dispersion, and others.

Data analysis involved conducting parametric tests to check the validity of the null hypothesis on the basis of data collected using a significant level of 5%. The survey was obtained as displayed in Table (3) and (4) in the appendix section. The null hypothesis was to be rejected when the sampling result has a less than 0.05 probability of occurring if it is true.

In reality there were 26 samples drawn from the population, and within each sample there were THREE units of interest i.e. Credit manager, Head of internal Audit and Manager in charge of risk. Therefore the number of samples (k) = 26, where (k-1) represents the degree of freedom between samples, = 26-1 =25, The total number of items in all the samples (n) = 26 * 3 = 78. The degree of freedom within samples (n-k) = 78 – 26 = 52. Given the large numbers of the degree of freedom, the Xstrata software was used to conduct the F-test. If the worked out value of F, as

stated above, is less than the table values of F, the difference is taken as insignificant i.e. , due to chance and the null hypothesis of no difference between sample means stands. The extract of parametrictests performed on the results in table (3) and (4) is as follows:

Table 2:Parametric tests

Significance level (%): 5

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
3	25	0	25	0.667	3.667	2.653	0.605
5	25	0	25	3.670	6.000	4.813	0.631

z-test for two paired samples / Two-tailed test:

Table 3: Difference of Means

95% confidence interval on the difference between the means:

(-2.521 , -1.798)

Difference	-2.159
z (Observed value)	-11.708
|z| (Critical value)	1.960
p-value (Two-tailed)	< 0.0001
alpha	0.05

Test interpretation:

As the computed p-value is lower than the significance level alpha=0.05, one should reject the null hypothesis H0, and accept the alternative hypothesis Ha.

5.0 Conclusion

The results of this paper show that, for banks in Kenya, the extension of credit to agribusiness infrastructuralprojects is preferred to those in groups or co-operatives than individual borrowers. These results are in agreement with sentiments of (Mustafa, Ali & Awaidh, 2011) that group lending is the best way to do for rural financial institutions. The main reason advanced forr this is that the risk of default is significantly mitigated as each member guarantees the other.

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