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THE RELIANCE OF NABARD'S LOAN AMOUNT ON AGE FACTOR AND FARM SIZE OF FARMERS IN THE WESTERN MAHARASHTRA

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ABSTRACT :
    Indian agriculture provides livelihood for most of the country's population. Agriculture is an unorganized profession. It is not always possible to distinguish between productive and unproductive loans of the farmers. Credit is often a key element in the modernization of agriculture, credit removes financial strains. Credit facilities are an integral part of the process of commercialization of the rural economy. This paper studies the factors affecting NABARD's loan access in Western Maharashtra and also analyses the reliance of age and farm size of farmers on the sanctioning of loan amount using the linear regression method.

KEYWORDS : *NABARD, Agriculture Loan, Regression and Western Maharashtra*

INTRODUCTION:
    India is a country which consists of 5.76 lakh villages. Every four out of five persons are villagers depending on agriculture and allied activities for their livelihood. According to the All India Rural Credit Survey, "India is essentially rural in nature and it is virtually the cultivators". Indian agriculture which provides livelihood for most of the country's population, it also contributes much towards the overall economic growth through supplies of food, raw material and exports.

    Agriculture is an unorganized profession. Its success and failure depend, to a large, on climatic factors. Further, it is not always possible to distinguish between productive and unproductive loans of the farmers, because of these factors, banks did not show much interest in advancing loans to agriculture and allied activities for a long time and farmers were forced to depend on moneylenders and mahajans.

    Adequate and timely supply of credit to farmers and other weaker sections is one of the prerequisite terms in increasing agricultural production.[1] As the World Bank puts it very clearly that "Credit is often a key element in the modernization of agriculture, not only can credit remove financial strains, it may accelerate the adoption of new technologies. Credit facilities are also an integral part of the process of commercialization of the rural economy. However, no amount of credit even at the most reasonable rates can guarantee higher productivity or income among the rural poor. Success in this respect depends on many

factors including availability of inputs and services, sound credit policies, well-managed institutions and appropriate delivery channels".[2] Again, based on the analysis of experience of developed countries, M. L. Dantwala stressed that, "it is an undoubtedly true that supply of adequate and timely credit is a crucial element of any programme of agriculture development"[3]

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The RBI had also set up the Agricultural Refinance Development Corporation, to provide refinance facilities to the banks engaged in agricultural credit. With the widening of the role of bank credit from "agricultural development" to "rural development" the Government proposed to have a more broad-based organization at the apex level to extend support and give guidance to credit institutions in matters related to the formulation and implementation of rural development programmes.[4]

The Reserve Bank of India, in consultation with the Government of India, set up a Committee to Review Arrangement for Institutional Credit for Agriculture and Rural Development (CRAFICARD) in 1979 under the Chairmanship of Shri B. Shivaraman. The CRAFICARD recommended in its report for setting up of National Bank for Agriculture and Rural Development (NABARD). The Government of India accepted the recommendation of CRAFICARD with some modifications. As a result of this acceptance, the National Bank for Agriculture and Rural development Bill was passed by Parliament in December 1981and the National Bank for Agriculture and Rural Development (NABARD) came into existence in 12th July 1982.[5]

The NABARD formulates the policies, plans and organizes the rural banking activities for the promotion of agriculture, small-scale and cottage industries, handicrafts and other allied economic activities. The problems of agricultural credit and rural development in the country have been numerous, complex and chronic and despite various efforts made at different points of time during the last several decades, many of these problems are yet to be solved. Adequate institutional credit to the rural poor is an important agenda in the rural development strategy of the Government. The success of institutional credit depends on provision of timely credit apart and its proper utilization by the beneficiaries. Therefore, it is proposed to study the association of selected variables with the loan sanctioning pattern.

Ever since NABARD has started functioning there have been many macro-economic studies by Different agencies and researchers evaluating the varied aspects and functions of performance of NABARD. The region or specific area-based micro studies are few. Hence the present study is focused on Western Maharashtra, semi-arid and drought prone region of Maharashtra assumes a greater significance.

OBJECTIVES:
1. To study factors affecting agriculture loan access in Western Maharashtra
2. To study the impact of Age factor on NABARD's sanctioned loan amount in the western Maharashtra
3. To study the impact of Farm size on NABARD's sanctioned loan amount in the western Maharashtra

HYPOTHESES:
1. H0: The slope coefficient of Age is "0". Age does not influence Loan amount.
    H1: The slope coefficient of Age is not "0". Age influences Loan amount.
2. H0: The slope coefficient of Farm size is "0". Farm size does not influence Loan amount.
    H1: The slope coefficient of Farm size is not "0". Farm size influences Loan amount.

METHODOLOGY:
Based on annual normal rainfall, two districts; one with highest rainfall in Western Maharashtra i.e. Kolhapur (2057 mm) and one with least rainfall in Western Maharashtra i.e. Solapur (624 mm) districts were selected for primary data collection and analysis of various factors affecting NABARD loans sanctioning in Western Maharashtra.

Total numbers of respondents were 200, 100 from Solapur and 100 from Kolhapur District. In the present research work, respondents selected by multi-stage sampling method and were strictly cultivators. farmers' data about NABARD loans was collected using structured questionnaire against various factors looking for its impact on Farmers agricultural profile and vice-versa. To validate the impact of Age and Farm size on sanctioned loan amount linear regression analysis was used and correlation coefficient was calculated.

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RESULTS:

Age factor:

FIGURE 1 LOAN AMOUNT VERSUS AGE PLOT

$y = 6410.x + 2686.$
$R^2 = 0.035$
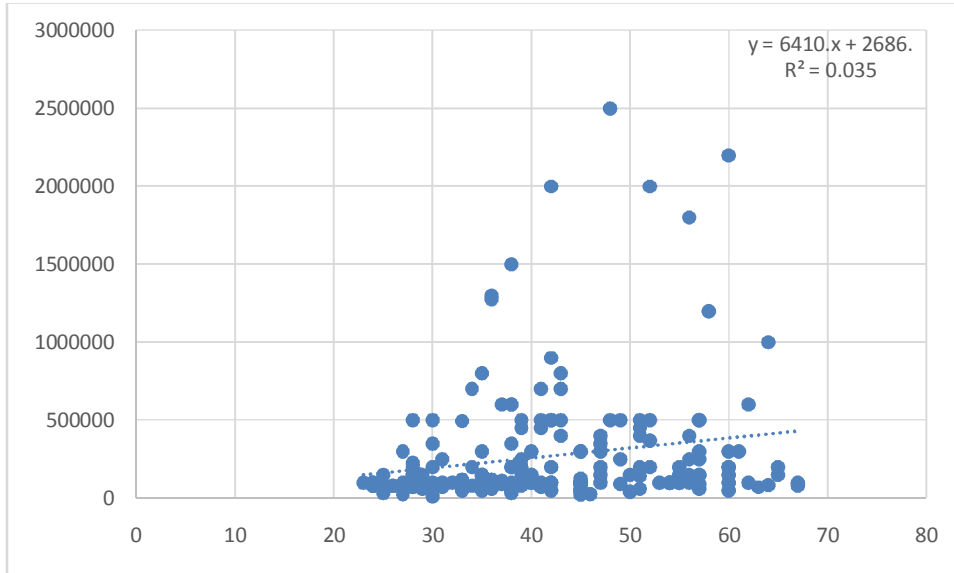
Here in above figure 1, Age of farmers has been plotted against loan amount received by respective farmers. Banks are prone towards younger applicants as there is more probability of repaying loan. The functional age (group 25 to 60) has more likelihood of sanctioning loan faster. The bell shape curvature of data shows the same effect. The age distribution of the farmers indicates that farmers have a mean age of 41.64 years. This implies that the farmers in the study area are still in their active and productive stage.
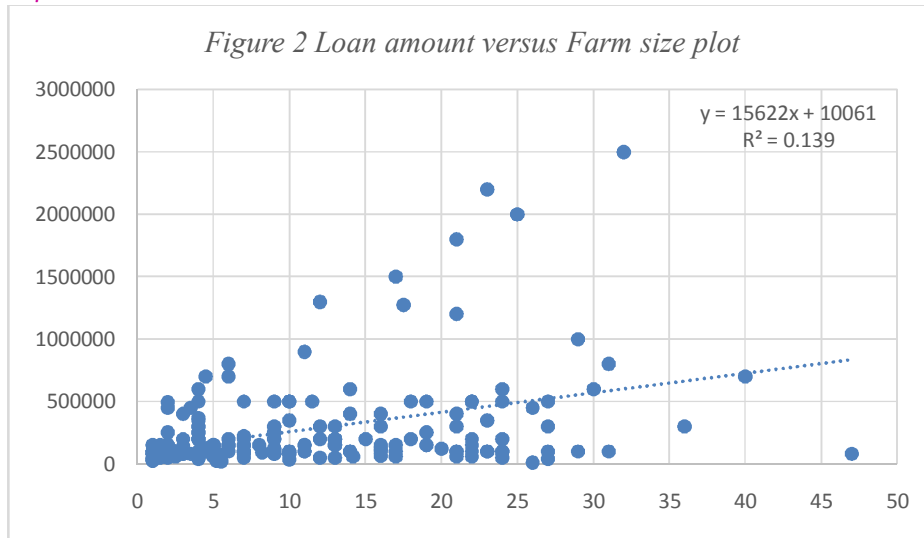
Regression Statistics	
Multiple R	0.189023258
R Square	0.035729792
Adjusted R Square	0.030859741
Standard Error	376006.8659
Observations	200

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	1E+12	1.04E+12	7.336635	0.007348
Residual	198	2.8E+13	1.41E+11		
Total	199	2.9E+13			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	2686.92	102078	0.026322	0.979027	-198613	203987.1	-198613	203987.1
Age	6410.86	2366.83	2.708622	0.007348	1743.421	11078.29	1743.421	11078.29

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The correlation coefficient is 0.1890. the goodness of fit or coefficient of determination or R^2 is 0.036. p value is less than 0.05, hence the first null hypothesis is rejected. There is a significant positive relationship between the age of the farmer or respondent and the loan amount sanctioned by NABARD. This also implies that loan sanctioning relies on the age of the farmer.

Farm size of respondents:

Figure 2 Loan amount versus Farm size plot

$y = 15622x + 10061$
$R^2 = 0.139$

Here in figure 2, loan amount values of respondents are plotted against farm size of farmers. Mean farm size of farmers in the study area is 10.82 acres. Farm size is important input in the agricultural productivity.

Regression Statistics	
Multiple R	0.373058
R Square	0.139173
Adjusted R Square	0.134825
Standard Error	355266.7
Observations	200

ANOVA

	df	SS	MS	F	Significance F
Regression	1	4.04E+12	4.04E+12	32.01125	5.31E-08
Residual	198	2.5E+13	1.26E+11		
Total	199	2.9E+13			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	100609.9	39032.73	2.577579	0.010676	23636.71	177583.2	23636.71	177583.2
Farm size	15622.26	2761.166	5.657849	5.31E-08	10177.19	21067.33	10177.19	21067.33

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The correlation coefficient is 0.3730. the goodness of fit or coefficient of determination or R^2 is 0.1391. p value is less than 0.05, hence the first null hypothesis is rejected. There is a significant positive relationship between the farm size of the farmer or respondent and the loan amount sanctioned by NABARD. This also implies that loan sanctioning has direct relationship with the farm size of the farmer.

CONCLUSION:

The present study revealed that a population of farmers that are in their active, productive years. Banks tend to provide loans to the age group of 25-60. It has been concluded that age of the farmer, farm size are factors that significantly affect farmers' access to NABARD loan. Age and Farm size have direct relationship with the access to NABARD's loan in Western Maharashtra. Some other factors influencing the access to agricultural loans are loan size, major occupation, marital status, number of installments and loan duration.

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