

Venturing Beyond Domestic Walls - An Enquiry into the Role of Kudumbashree (Family Prosperity) Mission in Translating Women Entrepreneurial Passions into Profitable Micro Enterprises

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Abstract: Kudumbashree, meaning the family's prosperity, is a flagship program of the Government of Kerala, centered on woman empowerment. Through the operation of micro enterprises, Kudumbashree cherishes the expectation that asset management ability of the poor women will increase along with their income, financial inclusion, and social empowerment as well as leadership skills. Women empowerment can go a long way in building gender equality and social acceptance of labor in the community. The study revealed that changes in production, marketing, asset management and profitability problems leads to changes in performance positively while government support and empowerment issues affect performances negatively.

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I. Introduction

Being the world's third largest economy in terms of GDP in purchasing power parity hampered with 1.2 billion people to support, India's recent growth has been a significant achievement. Since independence in 1947, a landmark agricultural revolution has transformed the nation from chronic dependence on grain imports into an agricultural powerhouse that is now a net exporter of food. Life expectancy has more than doubled, literacy rates have quadrupled, health conditions have improved, and a sizeable middle class has emerged. However, the 21.9 percent of its people who still live in poverty, as per Asian Development Bank statistics in 2011, need to be brought into the mainstream to reap the benefits of economic growth. This can be attained only by addressing the inequity in all dimensions and disadvantaged groups especially Women—who “hold up half the sky”— are empowered to take their rightful place in the socio-economic fabric of the country. Integration of women development and their empowerment are thus inevitable for the development of the world's 2nd largest populated nation, India, as in the case of any country. The crux of the poverty alleviation programmes lies in the generation of employment potential leading to income generation. The origin and growth of microenterprises can be traced to lack of employment opportunities and inadequate income generation.

Kerala, a small state at the south west tip of India, with roughly 2.76 percent (33,406,061 out of 1,210,193,422) of India's population as per 2011 census data, contributed only 3.78 percent of India's GDP in 2014-15 according to World Bank statistics on overview of India. However, as per the census of Indian states 2011, this small state of Kerala is the highest literate state in the country with 93.91 percent literacy rate and has the highest sex ratio with 1084 females per 1000 males. It has achieved social and educational development comparable to most Western nations and has been acclaimed worldwide for its Kerala model of development though this achievement is not yet matched by industrial growth or economic development. Kudumbashree, translated into English as “family's prosperity”, is one of the flagship programmes of the government of Kerala. The programme is centered on woman empowerment and has been successful in giving hope to millions of impoverished women and their families in Kerala. Originally launched in 1998 for wiping out absolute poverty from the State, Kudumbashree is today one of the largest women-empowering projects in India. The programme, that has about four million members and covers more than half of the households in Kerala, has succeeded in addressing the basic needs of the less privileged women, providing them a more dignified and independent life.

Kudumbashree is essentially a community network that covers the entire State of Kerala. It consists of a three tier structure with Neighbourhood Groups (NHGs) as primary level units, Area Development Societies (ADS) at the ward level, and Community Development Societies (CDS) at the local government level. It is arguably one of the largest women's networks in the world. While the community network is formed around the

central themes of poverty eradication and women empowerment, its main features include democratic leadership, and support structures formed from the “Kudumbashree family.” (<http://www.kudumbashree.org/pages/171>).

Kudumbashree views development of micro enterprises as an opportunity for providing gainful employment to the people below poverty line, thereby improving their income and standard of living. Kudumbashree considers micro enterprises as a growth engine that triggers development process. Through the operation of microenterprises, Kudumbashree cherishes the expectation that asset management ability of the poor women will increase along with their profit margin and wages. The Community Based Organization is the lifeblood of “Kudumbashree”.

The benefits of schemes introduced, by the Government of India and the state governments, to eradicate poverty have not reached the deserving families due to the weaknesses in the processing channel. The pattern of economic expansion and modernization by the government was not enough to provide sufficient job opportunities for the entire labour force in India, especially to women folk. In order to find out a remedy to the problem of unemployment and also for eradicating poverty, an effective tool has been developed by the government-Micro enterprises.

The formation of micro enterprises thus originated from the idea of transforming job seekers in to job creators. Considering the objectives of the micro enterprises and the extent of governmental assistances, the congenial environment available to these enterprises and the poor performances of the women enterprises formed with similar purposes, a study on the current state of affairs of these micro enterprises under Kudumbashree project in Kerala is imperative. Further, these enterprises that aim at alleviating poverty and ensuring women empowerment has to be evaluated in terms of its achievement of its mission. The whole world itself is looking upon Kudumbashree and if proved successful, it will gain national as well as international acceptance in terms of empowerment of women through entrepreneurship. An attempt is made in the following sections of this paper to review the variability in performance of micro enterprise due to variations in production, marketing, asset management, profitability, governmental support and women empowerment issues faced by entrepreneurs operating microenterprises under Kudumbashree mission in Kerala, India.

II. Methodology

The study is based on both primary collected from the members of Kudumbashree units in the State of Kerala who are associated with running of micro enterprise units under Kudumbashree project in Kerala. A structured questionnaire was administered among the sample and responses obtained were subjected to statistical analysis.

Study Design: Empirical evaluation of effect of production, marketing, asset management, profitability, government support and women empowerment problems of micro enterprises under Kudumbashree project in Kerala on variability of their performances.

Study Location: The state of Kerala, where the state Government has initiated Kudumbashree, a mission to eradicate absolute poverty through local economic and social development coupled with women empowerment, was divided into three regions geographically as southern, central and northern zones. Further, the districts with highest numbers of micro enterprises in each region were identified as Thiruvananthapuram in Southern zone, Ernakulam in Central Zone and Kozhikode in Northern Zone.

Sample size: 279 entrepreneurs associated with Kudumbashree micro enterprises.

Sample size calculation: The entire 31261 microenterprises registered in the state under Kudumbashree scheme constituted the population. A sample size of 279 was calculated at 95 percent confidence level and a confidence interval of approximately 6 (5.84 to be exact).

Subjects & selection method: The sample comprised Kudumbashree units under women entrepreneurship, from the three districts with highest composition of such units in the state of Kerala, which are in operation currently. The entire 31261 microenterprises registered in the state under Kudumbashree scheme constituted the population. A sample size of 93 each, were selected randomly from each of the three districts, aggregating to 279 micro enterprises units that were subjected to analysis. The sample size, from population of the three districts identified, was calculated at 95% confidence level and a confidence interval of 5.84. Equal representation of the three districts was ensured and hence 93 each were selected randomly from the three districts identified. The list of micro enterprises registered under Kudumbashree mission in Kerala is available with district Kudumbashree offices and district industries centres (DIC) operating under the Kerala State Industries Department for monitoring of the micro, small and medium enterprises (MSMEs) in the state. The random selection was made by assigning serial numbers to microenterprises in the list and selecting those produced by random number generation in an electronic spreadsheet using Microsoft excel.

Procedure

Data was collected using a structured questionnaire, from women entrepreneurs, randomly selected from the above mentioned streamlined list generated randomly. The selected firms were spotted and the entrepreneurs behind such units were approached by the researchers personally. The non availability of any respondent at the time of scheduled meeting tempted researchers to avoid them from pre determined list, thereby paving way for inclusion of the entrepreneur of the micro enterprise unit bearing immediately next serial number, so as to maintain the required number. A similar procedure was followed for units which has been registered but is not currently in operation. Thus response rate was absolutely cent percent since none of the entrepreneurs whom researchers met refused to answer and no questionnaires were mailed to seek responses.

Statistical analysis

Besides seeking the socio economic background of the respondents, the questionnaire asked to rate on a five point scale, from strongly disagree to strongly agree, whether the performance of their unit is affected by problems in production, marketing, asset management, profitability, government support and women empowerment issues. The extent to which the independent variables namely production, marketing, asset management, profitability, government support and women empowerment problems could account for the variations in performances of microenterprise units under Kudumbashree mission in Kerala was subjected to analysis.

The log transformation of the dependent variable helps to satisfy the assumption of linear regression namely homoskedasticity. Some statisticians do argue that the dependent variables in linear regression should always be log-transformed, followed by computation of a geometric mean ratio rather than a mean difference. This is true for linear regression in the context of estimating an effect--not for purely predictive purpose. Thus fundamental questions are raised about measuring effects and it is not easy to decide whether one should measure effects as differences or as ratios, or simply tossing a coin will do to decide. Since this study intends to measure the effect of perceived problems on perceptions about performance, rather than predicting perceived performance, log transformation is indeed considered ideal.

The above mentioned six predictors were regressed on the predictand namely performance of units, which was log transformed before subjecting to ordinary least square regression. The multiple regression applied is mathematically expressed as follows.

$$\text{Log}(Y_i) = \beta_0 + \beta_1 * X_1 + \beta_2 * X_2 \dots + \beta_k * X_k + \epsilon_i \tag{1}$$

Where, Y is the outcome variable (the log transformed performance), X₁, X₂ ..., X_k are the predictor variables representing production, marketing, asset management, profitability, government support and women empowerment problems respectively, while ϵ_i the error term.

III. Results and Discussion

Before proceeding to ordinary least square regression, the raw data was initially checked for normality, stationary nature and linear relationships between dependent variable and independent variables as well as between independent variables. The descriptive statistics of the log transformed regressand and non-transformed regressors are shown in table 1.

Table 1 Descriptive Statistics

	Log Performance	Production	Marketing	Asset Management	Profitability	Government support	Women Empowerment
Mean	1.2147	3.61648	3.6057	3.53763	3.6057	3.63082	3.71684
Median	1.3862	4	4	4	4	4	4
Maximum	1.6094	5	5	5	5	5	5
Minimum	0.0000	1	1	1	1	1	1
Std. Dev.	0.5230	1.3728	1.4175	1.25714	1.3526	1.3477	1.2928
Skewness	-1.3178	-0.7665	-0.7314	-0.6892	-0.6920	-0.71197	-0.7237
Kurtosis	3.4387	2.3497	2.1586	2.34133	2.1928	2.25674	2.2773
Jarque-Bera	82.998	32.2389	33.1052	27.1318	29.8471	29.9930	30.4302
Probability	0.0000*	0.0000*	0.0000*	0.0000*	0.0000*	0.0000*	0.0000*
Sum	338.92	1009	1006	987	1006	1013	1037
Sum Sq. Dev.	76.047	523.964	558.630	439.354	508.630	504.974	464.630
Observations	279	279	279	279	279	279	279

Source: Computed Values

None of the data series were found to be normally distributed as is evident from p values of Jarque-Bera Test that stood at less than 0.01. Hence the null hypotheses that the distributions are normal, had to be rejected, at 1% significance level.

The stationary nature of the data series under analysis was checked by individual ADF Fisher Unit Root Test, showed an ADF- Fisher chi square statistic of 759.114 with a probability of 0.0000 and ADF- Choi Z-stat of -26.2838 with a probability of 0.0000. The intermediate ADF test results of all the variables also showed a probability of 0.0000 which rejects the null hypothesis that unit root is present, at 1% significance level, since probability values in all cases are lesser than 0.01. With no unit root, all the data series were found to be stationary at level without any differencing.

The linear relationship between dependent variable and each of the independent variables as well as between independent variables were checked using Pearson's coefficient of correlation. The correlation matrix is tabulated as Table 2.

Table 2 Correlation

	Log Performance	Production	Marketing	Asset Management	Profitability	Government support	Women Empowerment
LOG_PERF	1.00						
PROD_PRO	0.76	1.00					
MKT_PROB	0.78	0.79	1.00				
AMGT_PRO	0.79	0.77	0.76	1.00			
PROF_PRO	0.78	0.73	0.75	0.76	1.00		
GOVT_PRO	-0.02	0.04	0.00	0.04	-0.01	1.00	
EMP_PROB	0.01	0.08	0.02	0.03	0.05	0.74	1.00

A high coefficient of correlation between dependent variable log performance and all the other independent variables was observed, except to those pertaining to government support and empowerment problems. A negative coefficient of correlation was observed between log value of performance and government support problems. Between independent variables too, a high correlation was found to exist except with the two above mentioned independent variables.

The results and regression statistics of OLS regression of six independent variables on the one independent variable namely performance of microenterprise units under Kudumbashree mission in Kerala, are shown in Table 3.

Table 3 Regression Results (OLS)

Dependent Variable: LOG_PERFORMANCE				
Method: Least Squares		Included observations: 279		
Variable	Coefficient	Std. Error	t-Statistic	Prob.
PROD_PRO	0.054967	0.021826	2.518417	0.0124
MKT_PROB	0.093794	0.021072	4.451050	0.0000
AMGT_PRO	0.116776	0.023390	4.992574	0.0000
PROF_PRO	0.105034	0.020473	5.130462	0.0000
GOVT_PRO	-0.006928	0.017925	-0.386502	0.6994
EMP_PROB	-0.007287	0.018773	-0.388141	0.6982
C	-0.061798	0.068620	-0.900575	0.3686
R-squared	0.742052	F-statistic		130.4128
Adjusted R-squared	0.736362	Prob (F-statistic)		0.000000
S.E. of regression	0.268549	Durbin-Watson stat		2.178379

The null hypothesis that the coefficient is zero had to be rejected, at 5% significance level, in all the cases, except regressors government support problems, empowerment problems and intercept term C, since the *p* values of *t*-statistics were lesser than 0.05. Hence in all the cases representing firm related problems such as production, marketing, asset management and profitability the coefficients was found to be significant. Only in the cases of intercept term C and external issues such as government support and women empowerment the coefficients were found to be insignificant since the null hypothesis of a zero coefficient got failed to be rejected with *p* values of *t* statistics exceeding 0.05.

The *R* squared and adjusted *R* squared which stood near 0.74 and 0.73 indicated a relatively high degree of best fit, which is further supported by a low 0.268 standard error of regression. The null hypothesis that the fit of the intercept only model is as good as the specified model, gets rejected, at 5% significance level, since the probability of *F* statistics is lesser than 0.05. A near to 2 *Durbin Watson* statistic indicates the non vulnerability to first order serial correlation.

The coefficient diagnosis of multicollinearity among independent variables using Variance Inflation factors showed that the Centered *VIF* in all the cases stood below 3.5, which do not cause an alarming signal as far as multicollinearity, is concerned.

The residual diagnostics for auto correlations and partial auto correlations between residuals at 6 lags were analyzed using Correlogram *Q* Statistics, and the null hypothesis that no auto correlation exists failed to get rejected, at 5% significance level, since *p* values of *Q* statistics exceeded 0.05 at all the 6 lags.

The results of Breusch-Godfrey Serial Correlation LM Test and Heteroskedasticity test – ARCH are shown in Table 4.

Table 4 Residual diagnostics

	F-statistic	Prob. F	Obs*R-squared	Prob. Chi-Squared
Breusch-Godfrey Serial Correlation LM Test	1.1303	0.3245	2.3166	0.3140
Heteroskedasticity Test: ARCH	0.42990	0.5126	0.432	0.5108

The null hypothesis of no serial correlation failed to get rejected, at 5% significance level; since p value of F statistic and observation times R squared statistics exceeded 0.05. Similarly with the p value of relevant test statistic namely observation times R squared greater than 0.05, the null hypothesis that no heteroskedasticity is present failed to get rejected at 5% significance level.

The OLS regression equation may be represented with substituted coefficients as follows.

$$\text{Log (Performance)} = -0.061798 + 0.054967 * \text{Production Problem} + 0.0937 * \text{Marketing Problem} + 0.116 * \text{Asset Management Problem} + 0.105 * \text{Profitability Problem} - 0.0069 * \text{Government Support Problem} - 0.0072 * \text{Empowerment Problem}$$

It may be concluded that while OLS regression of the original variable y is used to estimate the expected arithmetic mean, OLS regression of the log transformed outcome variable is used to estimate the expected geometric mean of the original variable. Thus, the exponential of coefficient of C in the above equation, i.e. exponential of -0.061798 which is 0.94007 will be the change in non-transformed Y when all the predictors remain unchanged. Thus when the coefficient of first predictor namely production problem is interpreted, the exponential of coefficient 0.054967 which is 1.05651 is added to the exponential of constant that is -0.94007 to get 0.11643. This means that one unit change in production problem leads to 11.64 % change in dependent variable namely performance of microenterprise units under Kudumbashree mission. Similarly one unit changes in marketing, asset management, profitability, government support and empowerment problem leads to a 15.826%, 18.379%, 17.068%, -5.302% and -5.267% change in performance respectively. It is noteworthy that the government support problems and women empowerment problems helps to bring down the impact of intercept term. In other words with no government support the performance would have decreased by 5.993% but with one unit change in government support the performance falls only by 5.302%. The same is true in the case of empowerment problems too where the change in one unit of empowerment problem brings down fall in performance by 5.267% rather than 5.993%.

The Ramsey's Regression Specification Error Test (RESET) was performed on the residuals to test the stability of the model in terms of functional specification. The results are summarized in Table 5

Table 5 Ramsey RESET Test

Omitted Variables: Squares of fitted values			
	Value	df	Probability
t -statistic	1.140300	271	0.2552
F -statistic	1.300284	(1, 271)	0.2552
Likelihood ratio	1.335468	1	0.2478

At 5% significance level the null hypothesis that the functional form is correctly specified, fails to get rejected, since p values of t -statistics, F -Statistic and Likelihood ratio exceeds 0.05. Thus, there is no functional form misspecification and hence the model is validated.

IV. Conclusion

The study indicated that the performances of microenterprises run by women entrepreneurs under Kudumbashree mission project in Kerala are vulnerable to production, marketing, asset management and profitability problems. The variations in performances are explained to the extent of 11.64%, 15.826%, 18.379% and 17.068% by production, marketing, asset management and profitability problems respectively. This finding is in tune with the results of earlier studies which states that a direct relationship exists between entrepreneurial attitude related constructs and entrepreneurial competencies related factors (Krishnan & Kamalnabhan: 2015) besides once again emphasizing the need for effective training in improving performance of initiatives under Kudumbashree project (Prabhu: 2015). However government support and women empowerment negatively influences the performances by -5.302% and -5.267% respectively. The shifts in women's roles and responsibilities from the pre-liberalization period to the 1990s and thereafter as promulgated by earlier studies (Devika: 2016) needs to be evaluated further from the perspective of induced entrepreneurial capability of empowerment imparted. Though the performances of microenterprise units are accounted by firm related problems such as production, marketing, asset management and profitability, government support and women empowerment envisaged by the mission has not been very effective. This finding contrasts the earlier findings that female entrepreneurs who are actively participating in the Kudumbashree mission in Kerala stimulate

women empowerment as well as female entrepreneurship (Kumar & Jasheena: 2016) at least to the extent of empowerment imbibed by the mission.

The need for training and wider skills management capability of women entrepreneurs was strongly felt and the family prosperity of women folk could be enhanced only through such entrepreneurial training. This underlines the suggestion of a predominant use of networks characterized by informal and permanent relations, to overcome the lack of strategy in the female-run micro-enterprises (Paoloni & Dumay: 2015). Our results also contradict the findings that female-owned enterprises tend to grow more rapidly than male-owned ones (Chirwa: 2008).

The Study on Micro Enterprises under Kudumbashree mission in Kerala revealed that such units face a gamut of government support and women empowerment related issues, which needs to be addressed. It implies the increased need of governmental support for women entrepreneurs in sustaining the business led model envisaged by Kudumbashree mission in eradication of poverty, income generation of women folk and their social and economic empowerment. Apart from the support currently provided in the form of limited training and marketing support strategies envisaging the enhanced role of women in society which empowerment through entrepreneurship can bring about has to be contemplated seriously. This invites adequate intervention in areas of social and economic empowerment of women through government sponsored training and skill development programs necessary, so that the micro enterprises under Kudumbashree mission shall be able to handle problems they are confronted with in their own way.

The limitations this study has confronted in the form of difficulty in identification of micro enterprise units with some years of experience in the field and in ensuring equal representation of manufacturing and service rendering firms had been overcome by ensuring almost equal representation of firms with less number of years of operations as well as those with much more years of experience. Yet another limitation was bias in responses since many of the respondents were skeptical towards the study in the fear of losing of government support in future, if they reveal the true situation. This to a greater extent was overcome by assuring the respondents that their interests will be taken care of. Based on the findings of the study, more interference from the part of the government in the form of regular training and skill development programs coupled with a gamut of orientation courses on entrepreneurship and women empowerment is recommended. Research on areas of women empowerment specifically relating to increased role in family and society through entrepreneurship in small businesses that can sail twice as far by taking the wind from the sail of the ship called government support is also recommended.

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