A STUDY ON THE TYPES OF FORECAST USEFUL TO THE SMALL TEA FARMERS SMALL TEA GROWERS IN NILGIRIS DISTRICT

[1]Mr. J.A.Naushad, [2]Dr. Well Haorei

[1]Ph.D. Research Scholar in Rural Industries and Management, Gandhigram Rural Institute – Deemed University, Dindigul, Tamil Nadu, India.[2]Assistant Professor in Rural Industries and Management, Gandhigram Rural Institute – Deemed University, Dindigul, Tamil Nadu, India.

Abstract: This research work explores the operational development with reference the types of forecasting useful to the Small Tea Growers in Nilgiris district. The present study revealed that the forecasting on the irregular variations due to unforeseen events was the most useful forecasting and forecasting of trends or long terms movements in production was the least useful to the small tea growers. Consequently, multiple regression analysis was employed to investigate the factors that are significant to the types of forecasting useful to Small Tea Growers and found that all the four independent factors considered for the analysis were significant. The regression output: ($R^2 = .975$, $F(4, 989) = 9843.023$, $P < 0.000$).

Key words: Small ea growers, Nilgiris, types of forecast useful.

1. INTRODUCTION

The Tea Board of India defines a Small Tea Grower as a person who has a tea cultivation of up to 25 acres. But in the current scenario, most growers own less than 2 acres of land. STGs are often based at very remote areas and are scattered. Though their numbers swell due to remoteness and scattered nature of existence, their lack of organization, bargaining capacity and infrastructure. They are dependent on exploitative trade channels to sell their produce. A range of other issues threatens their existence and livelihood. Forecasting plays a pivotal role in the operations of modern management. It is an important and necessary aid to planning and planning is the backbone of effective operations even for small scale sectors like the Small Tea Growers Hence, the present study is geared to investigate the types of forecasting useful to the Small Tea Growers in Nilgiris District.

2. SCOPE OF THE STUDY

The study is concerned with the operational development with reference the types of forecasting useful to the small tea farmers. It deals with irregularity in variations due to unforeseen events, cycles or shorter duration expansion or contraction in production, seasonal variations and trends or long terms movements in production to the Small Tea Growers.

3. OBJECTIVES OF THE STUDY

The main focus of the present research work is to evaluate empirically the operational development practices among the small tea growers and the specific objective is to investigate the types of forecasting useful to the Small Tea Growers in Nilgiris District.

4. SELECTION OF THE STUDY AREA

Nilgiri district was selected for the present study. Tamil Nadu is the main tea producing state in southern India and 17 % of tea productions are from Nilgiris district. Hence, the above District was purposefully selected for the present research.

5. THE SAMPLING FRAMEWORK

The present study has followed area sampling method. At the first stage the selected Nilgiris District was classified into 2 clusters according to their geographical location, i.e. cultivable high altitude cluster and cultivable medium altitude clusters, as there was no cultivable low altitude area in the study District. The cultivable medium altitude zone consisted of Udhagamandalam Development Block, Coonoor Development Block, Kaunda Development Block and Kotagiri Development Block. The cultivable medium altitude zone consisted of Panthalur Development Block and Gudalur Development Block.

After grouping the Development Block, 50 percent of the Development Block from each group was selected randomly namely; Udhagamandalam Development Block and Kotagiri Development Block from the High Altitude Cluster, and Gudalur Development Block from the Medium Altitude Cluster. After selecting the Development Block from each cluster random sample method was employed to select the ultimate sample Small Tea Growers (table 1).

Hence, the present research work covered three hundred and fifty (350) Small Tea Growers under four Development Blocks in Nilgiris District.

Table 1: Sample Distribution

DISTRICT	Geographical Location Cluster *(Based on altitude)*	Development Block of the District	Sample Block *(Selected 50% of the development blocks from each cluster)*	Sample Size *(No. of Small Tea Growers Administered)*
NILGIRIS DISTRICT	**High Altitude Cluster** (Above 1200 meters average from MSL)	(1) Udhagamandalam (DB)	(i)Udhagamandalam (DB)	105
		(2) Coonoor (DB)	(ii) Kotagiri (DB)	95
		(3) Kundah (DB)	(iii) Gudalur (DB)	150
		(4) Kotagiri (DB)		
	Medium Altitude Cluster (800 – 1200 meters average from MSL)	(5) Gudalur (DB)		
		(6) Panthalur (DB)		
		TOTAL		**350**

Note: D.B: Development Block

6. SOCIO-DEMOGRAPHIC PROFILE OF SMALL TEA GROWERS IN NILGIRIS
6.1. Gender Dimension
The gender dimension, age and educational qualification of the Small Tea Growers in the study area are presented in table 2. The study reveals that men constitute an absolute majority among the sample small scale tea growers constituting about 78 percent and male account for 22 percent. Thus, there was more number of men taking up the profession of tea plantation in the study area.

6.2. Age
The majority of the small scale tea grower respondents falls under the age group of 50–65 years (35.1 percent) and 35-50 years (32 percent) followed by the age group of 20-35 years (15.1 percent) and above 65 years (17.8 percent). It can be inferred that, majority (67.1 percent) of the small scale tea grower respondents in the study area belonged to the middle age group capable of taking up the profession productively.

6.3. Educational Qualification
The distribution of the respondents by educational qualification shows that the sample small scale tea growers had not completed proper education. Merely 0.8 percent of them had completed higher studies, 8.6 percent of them had completed Higher Secondary, 9.4 percent had complete secondary level of education, 30.3 percent of the respondents have just completed primary level of education which ranged between 1st and 5th standard, 14.6 percent of them could sign only and 13.4 percent of the respondents were illiterates. However, 14.9 percent of the respondents had undergone for training in tea plantation. Therefore, it can be inferred that the majority of the respondents had not completed proper education to carryout tea plantation work.

Table 2: Respondents by gender, age and educational qualification

Sl.No.	Variables	No. of Respondents	Percentage
1	**Gender;**		
	Male	273	78
	Female	77	22
2	**Age;**		
	20 – 35	53	15.1
	35 – 50	112	32
	50 – 65	123	35.1
	> 65	62	17.8
	Mean	51.2600	
	Standard Deviation	11.98104	
3	**Educational Level;**		
	Illiterate	47	13.4
	Can sign only	51	14.6
	Up to Primary	106	30.3
	Up to Upper Primary	80	22.9
	Up to Secondary	33	9.4
	Up to Higher Secondary	30	8.6
	Graduate & above	3	0.8
4	**Professional Education;**		
	Underwent training in tea plantation	52	14.9

Source: Primary data.

6.4. Composition of Caste

In the rural social hierarchy, "caste factor" constitutes a major parameter of social status. Caste touches everything in life and socio-economic developments in the villages revolve around it. It decides one's health, wealth, occupation, social and economic well-being and status and the like. It exerts a great deal of influence on the individual's perception of everything *(Ghurye 1950).* Table 3 presents the caste and religious profile of the respondents in the study area.

The study reveals that, close to majority of the respondents (46.6 percent) belonged to other castes, followed by Scheduled Castes (34.8 percent) and Scheduled Tribes (18.6). Therefore, it is inferred that, the majority of the respondents belonged to other castes and Scheduled Castes in the study area.

6.5. Practices of Religion

The distribution of respondents by religion showed that 71 percent of the respondents practiced Hindu religion, 14.3 percent of the respondents practiced Christianity and 14.3 percent of the respondents practiced Islam. Hence, it is inferred that high proportion of the respondents (71 percent) practiced Hindu religion, followed by Christians (14.3 percent) and Muslims (14.3 percent) in the study area.

Table 3: Respondents by caste and religion

Sl.No.	Variables	No. of Respondents	Percentage
1	**Caste Composition;**		
	ST	65	18.6
	SC	122	34.8
	Other caste	163	46.6
2	**Religion;**		
	Hindu	250	71.4
	Muslim	50	14.3
	Christian	50	14.3

Source: Primary data.

6.6. Types of Sample Family

The family details of sample households are presented in table 4. The study reveals that an absolute majority (78 percent) of the sample households was from nuclear families and 22 percent were from joint family system in the study area.

The majority of the sample families (56 percent) the size were 4-6 members followed by more than 7 members (28.6 percent) and below 3 members (15.4 percent) among the sample households.

Hence, the majority of the sample families were from nuclear family with 4-6 members in the study area.

Table 4: Family detail of the sample households

Sl.No.	Variables	No. of Respondents	Percentage
1	**Types of Family;**		
	Joint Family	77	22
	Nuclear Family	273	78
2	**Family size;**		
	Below 3 Members	54	15.4
	4 – 6 Member	196	56
	7 & Above Member	100	28.6

Source: Primary data.

6.7. Type of Houses

The type of houses in which the sample families lived were classified into three categories viz., pucca house (consists of bricks, steel and cement construction of the floor, the wall and roof), kutcha house (it is a hut constructed out of mud, thatched wall and the roof with a natural surface roof) and semi pucca house (it is the combination of the earlier two with the exception of tiled roof). Housing details, land holdings, annual income and annul expenditure of the respondents are presented in table 5.

The study revealed that, the majority of the respondents (58.3 percent) possessed pucca houses of their own, 23.1 percent of the respondents were living in duplexes, 15.1 percent of the respondents in cottage and 3.5 percent of the respondents were living in huts. Hence, it was found that the majority of the respondents were living in pucca houses in the study area.

6.8. Landholding

In rural India, land holding is an important component in the rural economy. The majority of the people in one way or another is engaged in agriculture and allied activities.

Table 5 presents the landholding of the sample population. The study shows that a high proportion of the respondents (67.7 percent) had a land less than 5 acres for tea plantation activities, 24.6 percent of the tea growers had a land between 5 – 15 acres and 7.7 of them had 15 – 25 acres of land for tea plantation activities if the study area. Hence, the present study revealed that an absolute majority of the respondents were practicing tea plantation work with a possession of less than 5 acres in the study area

Table 5: Respondents by Types House and Land Holding

Sl.No.	Variables	No. of Respondents	Percentage
1	**Types of House;**		
	Pucca house	204	58.3
	Duplex	81	23.1
	Cottage	53	15.1
	Huts	12	3.5
2	**Land Holding;**		
	< 5 acres	237	67.7
	5 – 15 acres	86	24.6
	15 – 25 acres	27	7.7

Source: Primary data.

7. TYPES OF FORECAST USEFUL TO THE SMALL TEA FARMERS

The level of usefulness of the type of forecasting is presented in table 6. The study found that forecast of the trends or long term movements in production was very useful to 11.1 percent of the respondents, it was moderately useful to 18.6 percent of the small tea growers and 35.1 percent of the respondents could not recognize its usefulness. Conversely, for 21.7 percent of the small it was not at all useful and 13.5 percent of the small tea growers have not practiced such type of forecasting. The forecast on the cycles or shorter duration expansion or contraction in production was practiced by 18.2 percent of the small tea growers and it was very useful to them, it was also practiced by 22.3 percent of the respondents and it was somewhat useful to them but 28.9 percent of the respondents were undecided on such type of forecasting. The 14.3 percent of the respondents in the study area had practiced forecasting on the cycles or shorter duration expansion or contraction in production, but it was not at all useful to the and 16.3 percent of the respondents had also practiced such type of forecasting and it was not useful to them.

Further, forecasting on seasonal variations were practiced by the small tea growers in the study area and it was very useful to 15.4 percent of the respondents, it was moderately useful to 19.4 percent of the respondents, 30.3 percent of the respondents were undecided on its usefulness, it was not at all useful 18.3 percent of the respondents and for 16.6 percent of the respondents it was not useful to them. The small tea growers in the study area also practices, forecasting on the irregular variations due to unforeseen events and it was very useful to 24 percent of the respondents, it was moderately useful to 23.2 percent of the respondents, 20.9 percent of the respondents were undecided on its usefulness, it was not at all useful 20.5 percent of the respondents and for 11.4 percent of the respondents it was not useful to them.

The calculated mean score of the four types of forecasting useful to the small tea farmers that was considered for the present analysis concentrated around the score 4 which signifies that it was useful to the small tea growers for production and the standard deviation of their score was 1.1458.

Therefore, forecasting on the irregular variations due to unforeseen events was the most useful forecasting to the small tea growers in the study area followed by the forecasting on cycles or shorter duration expansion or contraction in production and seasonal variations, and the forecasting of trends or long terms movements in production was the least useful to them.

A multiple regression analysis was employed to investigate the factors that are significant to the types of forecasting useful to Small Tea Growers. The result is presented in Multiple Regression Model table 6.1. It is found that the coefficient of determination $(R^2) = 0.975$ which indicates that the four independent variables considered are able to explain about 97 percent of the variation in the influence to the types of forecasting useful to Small Tea Growers. It was found that all the four independent factors considered for the analysis, namely; trends or long terms movements in production (x_1), cycles or shorter duration expansion or contraction in production (x_2), seasonal variations (x_3) and irregular variations due to unforeseen events (x_4) were significant to the types of forecasting useful to Small Tea Growers for their planning.

Table 6: Types of forecast useful to the small tea farmers

Sl. No.	Measures	No. of Respondents					T.S.	M.S.	S.D.	Rank
		Very useful	Moderately useful	Undecided	Not useful	Not at all useful				
1	Trends or long terms movements in production	39 (11.1)	65 (18.6)	123 (35.1)	46 (13.5)	76 (21.7)	994	3.406	1.1326	IV
2	Cycles or shorter duration expansion or contraction in production	64 (18.2)	78 (22.3)	101 (28.9)	57 (16.3)	50 (14.3)	1099	3.6715	1.1333	II
3	Seasonal variations	54 (15.4)	68 (19.4)	106 (30.3)	64 (18.3)	58 (16.6)	1046	3.543	1.1589	III
4	Irregular variations due to unforeseen events	84 (24)	81 (23.2)	73 (20.9)	72 (20.5)	40 (11.4	1147	3.819	1.1583	I
Type of forecasts useful to the small tea farmers								**3.610**	**1.1458**	

Source: Computed from the sample survey.
Note: Figures in parentheses are percentages, calculate. T.S.: Total Score, M.S.: Mean Score and S.D.: Standard Deviation

Multiple Regression Model Table 6.1: Types of forecast useful to the small tea farmers

Factors	Coefficient	Standard Error	t	P Value	Level of Significant
Trends or long terms movements in production (x_1)	.155	.012	10.838	.000	#
Cycles or shorter duration expansion or contraction in production (x_2)	.128	.014	9.263	.000	#
Seasonal variations (x_3)	-.106	.014	-6.931	.000	#
Irregular variations due to unforeseen events (x_4)	.826	.013	66.452	.000	#

N = 350, (R^2 = .975, F (4, 989) =9843.023, P<0.000), # Significant, N.S. = Not Significant

Multiple Regression Model:

$$\hat{Y} = -.084 + .155x_1 - .128_2 - .106x_3 + .826x_4$$

CONCLUSION

The present study concludes that there was more number of men taking up the profession of tea plantation in their middle age and had not completed proper education to carryout tea plantation work. The majority sample families were from nuclear family having big family belonging to other castes and Scheduled Castes. Further, the present study also concludes that the forecasting on the irregular variations due to unforeseen events was the most useful forecasting and forecasting of trends or long terms movements in production was the least useful to the small tea growers even though all the four factors considered in the present study were useful.

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