

RESEARCH PAPER

Revenue and expenditure of timber depots and constraints faced by forest officials and intermediaries in Uttara Kannada district

■ Srishti Thakur and C. Murthy

Received : 07.07.2018; Revised : 06.09.2018; Accepted : 17.09.2018

ABSTRACT

The present study was undertaken to investigate the policies which will help in increasing the revenue, constraints faced by the forest officials and intermediaries in the study area. For this purpose three main depots having highest revenue realised after sales from canara circle were selected. Secondary data pertaining to the study were collected from the records maintained by the forest timber depots for the period of 12 years (2005-06 to 2016-17) and primary data were collected to know the constraints faced by the forest officials and intermediaries. Compound growth rate analysis and Garrett's ranking techniques were employed to analyse the data. The results revealed that positive and significant growth rate for revenue in Dandeli forest timber depot while growth rate for revenue in Kirwatti and Chipgi forest timber depots were negative, whereas the growth rate in expenditure for all the three depots were significant and positive. The further studies showed that wastage of wood was the main constraint for forest officials and lack of knowledge about e-auctioning was the major constraints faced by the intermediaries in buying the timber.

KEY WORDS : Revenue, Expenditure, Compound growth rate, Constraint for forest officials, Intermediaries

How to cite this paper : Thakur, Srishti and Murthy, C. (2018). Revenue and expenditure of timber depots and constraints faced by forest officials and intermediaries in Uttara Kannada district. *Internat. J. Com. & Bus. Manage.* **11(2)** : 121-126, DOI: 10.15740/HAS/IJCBM/11.2/121-126. Copyright@2018: Hind Agri-Horticultural Society.

Forests cover one fifth of the geographical area of the country and are critical to the social, cultural and economic life of millions of people in the country. These forests provides fuel wood for energy,

small timber for domestic use, fodder for livestock, raw material for industrial requirements and various non-timber forest products for medicinal and other purposes. It has been estimated that more than 4,500 million people depend on the forests for their livelihoods. Forests continue to provide the high levels of commercial benefits to households, companies and governments that formed the protective statutes livelihoods. Forests continue to provide the high levels of commercial benefits to households, companies and governments that formed the protective statutes and policies. Western Ghats, which were covers about 60 per cent of total forest area in Karnataka and recognized in one of the 18-mega bio-

MEMBERS OF THE RESEARCH FORUM

Correspondence to:

C. Murthy, Department of Agribusiness Management, College of Agriculture, University of Agricultural Sciences, **Dharwad (Karnataka) India**

E-mail: cmurthy1966@gmail.com

Authors' affiliations:

Srishti Thakur, Department of Agribusiness Management, College of Agriculture, University of Agricultural Sciences, **Dharwad (Karnataka) India**

diversity hotspots of the world. The total recorded forest area of the state is 43,356.47 sq.km, as per the annual report of state's Forest Department for the year 2015-16, constituting (22.61%) of the geographical area. Several economically important species such as -teak (*Tectona grandis*), rose wood (*Dalbergia latifolia*), sandal wood (*Santalum album*), honne (*Pterocarpus marsupium*), medicinal plant and many non-timber species grow naturally in the forests of Karnataka. Technological innovations have opened new opportunities for almost all of the tree species growing in Indian forests. Use of logging and conversion wastes like chips, barks, saw dust and peels and shavings, can be profitably used for making reconstituted woods like chipboards, particle boards, pulp, etc. leaves can now be compressed into "firewood". Rising standards of living bring more demands for wood products for housing, furniture, paneling etc. There is also a big export market for construction timber in the Middle East. Mining activities have increased and need lot of wooden sleepers and pit props. Lastly, there is enhanced political support as well as increasing public-awareness about forests and forestry. Marketing, therefore, has a great opportunity in Indian forestry both in case of selling the product of forests and for effective communication with the people. It will also help foresters in building a favourable image for the forestry in general and for them in particular. For this purpose various forest timber depots all over the country have been setup in order to fulfill the requirement of wood across the country. Hence, the study was initiated with the following objectives. To analyse revenue and expenditure in the selected timber depots and to identify the problems faced by the officials carrying the activities of the depots.

METHODOLOGY

The study was conducted in Uttar Kannada district of Karnataka. Both primary and secondary information was collected from the study area. The secondary data pertaining to revenue and expenditure was collected from the records maintained by the forest depots of Dandeli, Kirwatti and Chipgi for the period from 2005-06 to 2016-17. Primary data was collected through personal interview from the forest depots were collected with the help of well-structured and pretested schedule for the study 2017-18. The sampling technique followed by multistage random sampling was used for the selection

of study area. In first stage, Uttara Kannada district was purposively selected to investigate the objectives of the study because of highest forest cover in this district. In second stage, Canara circle was selected from Uttara Kannada district because revenue realised from timber after sales in this circle is highest. In third stage three divisions were selected namely Yellapur, Haliyal and Sirsi was purposively selected from Canara circle. In fourth stage one forest timber depot from each divisions were selected *i.e.* Dandeli from Haliyal division, Kirwatti from Yellapur division and Chipgi from Sirsi division was purposively selected because revenue realised from timber after sales in these depots is highest. From each depot five forest officials were randomly selected in this stage. Similarly, to elicit marketing information about timber, 5 retailers, 5 wholesalers, 5 big timber merchants from each depot were selected randomly. Thus, the total sample size was 60. Compound annual growth rate analysis and Garrett's ranking analysis were done for better interpretation of the results.

Compound annual growth rate analysis :

A number of studies pertaining to agricultural research growth rate have been carried out. The important functional forms employed to study growth rates are linear, exponential and logarithmic forms. However, many of the studies have used geometric form which is given by well-known method used for the analysis by compound annual growth rate.

This model has been used to estimate the analysis of growth rate in revenue from the sale of timber in different periods and expenditure incurred in the forest depots in different periods over the year.

If y_t denotes the observation (e.g. revenue and expenditure) at time t and r is the compound growth rate, model employed for estimating r is based on Eq. (1):

$$Y_t = y_0 (1 + r)^t \quad \dots (1)$$

The usual practice is to assume a multiplicative error-term $\exp(\Sigma)$ in Eq. (1) so that the model may be linearized by means of logarithmic transformation, giving Eq. (2):

$$\ln(y_t) = A + B_t + v \quad \dots (2)$$

where, $A = \ln(y_0)$ and $B = \ln(1 + r)$. Eq. (2) is then fitted to data using "method of least squares" and goodness of fit is assessed by the co-efficient of determination R^2 . Finally, the compound growth rate is estimated by Eq. (3):

$$r = \exp(B) - 1 \quad \dots (3)$$

Garrett ranking :

To know the acceptance of respondents and constraints in management and marketing of timber Garrett's ranking technique was used. Basically it gives the change of orders of constraints and advantages into numerical scores. The major advantage of this technique as compared to simple frequency distribution is that the constraints and advantages are arranged based on their importance from the point of view of respondents. Hence the same number of respondents on two or more constraints may have been given different rank (Kumar and Pandey, 1999).

Garrett's formula for converting ranks into per cent was given by,

$$\text{Per cent position} = 100 \times (R_{ij} - 0.5) / N_j$$

where,

R_{ij} = Rank given for i^{th} factor by j^{th} individual

N_j = Number of factors ranked by j^{th} individual

The per cent position of each rank then converted into scores referring to the Table given by Garret and Woods wordha (1969). For each factor, the scores of individual respondents were added together and divided by the total number of the respondents for whom scores were added. These mean scores for all the factors were arranged in descending order, ranks were given and most important factors were identified Garrett's ranking technique was adopted for studying problems faced by forest officials in carrying out the activities in depots and marketing problems faced by the buyers.

ANALYSIS AND DISCUSSION

The findings of the present study as well as relevant discussion have been summarized under the following heads :

Revenue realized in different forest timber depots:

The compound annual growth rate in revenue in Dandeli, Kirwatti and Chipgi forest timber depots were worked out and the results are presented in the Table 1. It is observed from the table that, the revenue realized in Dandeli forest timber depot was increasing over the year at the growth rate of 14 per cent per annum and was highly significant at 1 per cent level. The positive growth rate in Dandeli forest timber depot was due to the availability of good quality teak and sissum species which contributed major source of revenue in the depot. The prices of these two species were very high resulted in

highrealisation of revenue throughout the year and the concentration of buyers was also more in Dandeli forest timber depot. The revenue realized in Kirwatti forest timber depot was decreasing over the year at the growth rate of 14 per cent per annum and significant at 5 per cent level. The revenue realized in Chipgi forest timber depot was decreasing over the year at the growth rate of 4 per cent per annum and insignificant. The growth rates in Kirwatti and Chipgi forest timber depots were found to be negative due to the reason that, the quality of sissum and teak was not good in these depots due to this the concentration of buyers in these depots was very less resulted and decreasing revenue in these forest timber depots and the availability of sissum and teak were also very less in these depots. Other reasons like selling method of timber, banning of green felling and less upset price of other species (matti, nandi, acacia) etc. The similar result was reported by Sahu *et al.* (2007).

Expenditure incurred in different forest timber depots :

The compound annual growth rate in expenditure in Dandeli, Kirwatti and Chipgi timber depots were worked out and the results are presented in the Table 1. It is observed from the table that, the expenditure incurred in Dandeli, Kirwatti and Chipgi forest timber depots were increasing over the year with growth rate of 6 per cent, 4 per cent and 3 per cent per annum, respectively and was highly significant at 1 per cent level. This may because of increase in the cost of various operations, like transportation cost, loading and unloading charges, stacking charges, dragging charges, fire protection charges etc. The growth rate of expenditure in Dandeli forest timber depot was more as compared to other two forest timber depots. This may due to the reason that, the area of Dandeli forest timber depot was highest as compared to other two forest timber depots. The labour required was more during the various operations and the different costs were also increase. The similar result was reported by Gupta *et al.* (2007).

Problems faced by the forest officials in different forest timber depots :

Table 2 depicts the result of Garrett ranking analysis of problems associated with different activities in forest depots. Among twelve factors were identified namely the wastage of wood was major problems expressed by

most of the forest officials so this problem got first rank (76.27). This may be due to the reason that, only dead and decayed trees extracted from the forest due to which buyers did not prefer the bad quality of wood. So, the dumping of this wood was very difficult which leads to the wastage of wood in the forest depots. Second problem was lack of staff (74.20). In the entire three depots, the availability of staff was very low due to this reason it was very difficult for the staffs to carry out the huge work in the depot. Third problem was lack of infrastructure facilities (73.87). In the depot, there were

no availability of scientific machines and vehicles which can perform some normal activities in depots like loading and unloading, dragging, measuring etc., because of this, forest officials had to carry out these heavy works manually. Other problems like lack of human labour (62.80), Problem in staking of timber (57.46), Lack of storage facilities (54.73), Problems in sorting of lots (52.73), Consumer preferences (46.53), Problem in payment through RTGS (46.53), Lack of corporation by buyers (42.60), Lack of transport facilities (37.40), Loading and unloading problems (32.93). The similar

Table 1 : Revenue and expenditure in Dandeli, Kirwatti and Chipgi forest timber depots from 2005-06 to 2016-17

Year	Dandeli		Kirwatti		Chipgi	
	Revenue (Rs. lakhs)	Expenditure (Rs. lakhs)	Revenue (Rs. lakhs)	Expenditure (Rs. lakhs)	Revenue (Rs. lakhs)	Expenditure (Rs. lakhs)
2005-06	357.00	45.22	754.55	50.32	785.21	42.18
2006-07	506.00	49.12	856.16	54.12	601.04	35.15
2007-08	307.00	66.45	614.11	53.15	869.38	45.23
2008-09	648.00	57.70	895.00	60.79	902.09	46.15
2009-10	776.00	60.78	817.32	59.65	1436.68	48.79
2010-11	892.00	61.56	569.21	65.79	567.50	51.78
2011-12	616.00	61.62	656.15	69.65	534.97	55.26
2012-13	634.71	61.15	159.70	71.57	467.11	56.15
2013-14	1412.37	73.64	130.87	76.46	1509.70	53.33
2014-15	1050.12	78.93	350.31	77.21	1014.07	52.70
2015-16	694.52	120.91	284.12	74.14	879.19	55.79
2016-17	1562.72	79.20	304.59	76.79	653.32	58.44
Total	9456.44	816.28	6192.09	789.66	851.68	600.93
Mean	788.03	68.02	516	68.50	785.02	50.07
C.V	53.73	28.86	56.85	15.06	58.62	13.63
CAGR	0.14**	0.06**	-0.14*	0.04**	-0.04	0.03**
R ²	0.70	0.68	0.58	0.92	0.40	0.74

Note: * and ** indicate significance of value at P=0.05 and 0.01, respectively level of probability

Table 2 : Problems faced by the forest officials in different forest timber depots

Sr. No.	Constraints	Scores	Garrett's Rank
1.	Wastage of wood	76.27	I
2.	Lack of staff	74.20	II
3.	Lack of infrastructure facilities	73.87	III
4.	Lack of human labour	62.80	IV
5.	Problem in staking of timber	57.46	V
6.	Lack of storage facilities	54.73	VI
7.	Problems in sorting of lots	52.73	VII
8.	Consumer preferences	46.53	VIII
9.	Problem in payment through RTGS	46.53	IX
10.	Lack of corporation by buyers	42.60	X
11.	Lack of transport facilities	37.40	XI
12.	Loading and unloading problems	32.93	XII

Table 3 : Marketing problems faced by the intermediaries in different forest timber depots

Sr. No.	Constraints	Scores	Garrett's Rank
1.	Lack of knowledge about online auctioning	62.33	I
2.	No other alternative for sale	61.93	II
3.	Competition among buyers	59.93	III
4.	Lack of proper information about timber lot	52.93	IV
5.	High tax rate	50.80	V
6.	High cost of transportation	49.13	VI
7.	Lack of grading knowledge and information	47.60	VII
8.	Lack of storage facilities	32.68	VIII
9.	High storage cost	32.67	IX

result was reported by Laxmi (2006). Dangore *et al.* (2015) and Koujalagi *et al.* (2014) also worked on the related topic and the results found were more or less similar to the present investigation.

Marketing problems faced by the intermediaries in different forest timber depots :

Table 3 depicts the results of Garrett ranking analysis of problems associated with intermediaries in purchasing of timber. Among nine factors can be identified, the lack of knowledge about online auctioning (62.33) was the major problem expressed by most of the intermediaries. This is due to the reason because from previous years the open auctioning was totally banned and now all the selling and buying of timber are through electronic auctioning. Buyers didn't have much knowledge about the steps and procedures about electronic auctioning. Second problem was no other alternative for sale (61.93), in purchasing of timber, except electronic auctioning there was no other way of purchasing the timber, because of this buyer were not able to purchase the quality as they wants. Third problem was competition among buyers (59.93), because of increasing demand of timber across the country resulted in increase the competition among buyers. This may due to existence of monopoly in timber marketing. Other problems like lack of proper information about timber lot (52.93), High tax rate (50.80), High cost of transportation (49.13), Lack of grading knowledge and information (47.60), Lack of storage facilities (32.68), High storage cost (32.67). The similar result was reported by Pelkki (2012). Similar work related to the present investigation was also carried out by Kerutagi *et al.* (2009); Singh and Rani (2013); Tamil Selven *et al.* (2009) and Vinod (2010) and the results found were also more or less similar

to the related topic.

Conclusion :

The compound annual growth rate of revenue in Dandeli forest timber depots was positive and the compound annual growth rate in Kirwatti and Chipgi forest timber depots was negative. The positive growth rate in Dandeli forest timber depot was due to the good quality of teak and sissum which contributed major source of revenue in the depot. The positive compound annual growth rate in expenditure was observed in all the study depots because of increase in the cost of various operations, like transportation cost, loading and unloading charges, stacking charges, dragging charges, fire protection charges etc. Wastage of wood was the major problem faced by the forest officials in the depots because only dead and decayed trees extracted from the forest due to which buyers did not prefer the bad quality of wood. Availability of staff was also very low due to this reason it was very difficult for the staffs to carry out the huge work in the depot. Lack of knowledge about online auctioning was the major problem faced by most of the intermediaries. This is due to the reason because from previous years the open auctioning was totally banned and now all the selling and buying of timber are through electronic auctioning.

REFERENCES

- Dangore, U.T., Bahekar, A.K., Datarkar, S.B. and Darekar, A.S. (2015). Constraints faced by dry chilli growers in production and marketing of dry chilli in Wardha district of Maharashtra. *Agric. Update*, 10 (3) : 252-254.
- Gupta, S.K., Shrivastava, A. and Athavale, M.C. (2007). Prospects of value addition to minor forest product

- in tribal areas of Raigarh district, Madhya Pradesh. *Indian J. Agric. Econ.*, **62**(1): 441-443.
- Kerutagi, M.G., Ramachandra, V.A., Kunnal, L.B., Mahajanshetti, S.B. and Shirol, A.M. (2009). Marketing of sapota in northern Karnataka. *Indian J. Agric. Mktg.*, **23**(2): 59-60.
- Koujalagi, C.B., Patil, B.L. and Murthy, C. (2014). Growth trends in area, production, productivity and export of pomegranate in Karnataka: an economic analysis. *Internat. J. Com. & Bus. Manage.*, **7**(1): 11-15.
- Laxmi, M.P. (2006). Econometric analysis of Indian grapes exports. M.Sc. (Ag.) Thesis, University of Agricultural Sciences, Bangalore, Karnataka (India).
- Pelkki, M.H. (2012). Financial health and response of arkansas's loggers to depressed timber markets and severe operating conditions. *Southern J. Appl. For.*, **36**(2): 92-97.
- Sahu, R.M., Sarawgi, A.K. and Kumar, K.S. (2007). Trend and growth rates of production and revenue of minor forest products in Madhya Pradesh. *Indian J. Agric. Econ.*, **6**(2): 1-6.
- Singh, R.P. and Rani, N. (2013). To study growth rate of area, production and productivity of fruit crops in Jharkhand. *J. Econ. Social Develop.*, **9**(1): 53-60.
- Tamil Selven, M., Cheriyan, H. and Manojkumar, K. (2009). Pepper production prospects. *Indian J. Arecanut, Spices Medicinal Plants*, **11**(4): 169-176.
- Vinod, A. (2010). Marketing constraints and technology needs of Nagpur Mandarin growers. *Indian J. Agric. Mktg.*, **24**(1): 151-153.

11th
Year
★★★★★ of Excellence ★★★★★