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DES No. 1 OF 1986



GOVERNMENT OF KARNATAKA

A CASE STUDY REPORT
ON
MARKETING OF FARM FORESTRY
PRODUCE OF EUCALYPTUS AND CASUARINA
IN BANGALORE AND KOLAR DISTRICTS

Transnational Centre (T.N.C.)
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DIRECTORATE OF ECONOMICS & STATISTICS

FORWORD

1. The Department of Forest under the Social Forestry programme financed under the Plan Scheme have taken up a massive afforestation programme of growing firewood species like Eucalyptus, Casuarina and Subabul.
2. The State, according to the Forest Department is facing shortage of firewood and its demand by 2000 AD would be large enough to widen the existing shortfall in firewood availability. The Social forestry programme launched by the department has created an awareness among the farming community due to several incentives offered by the Government.
3. The impact of this programme on Land use in Bangalore and Kolar districts was studied and a short review report was published by this Directorate in the year 1984 (Publication No. BES 4 of 1984).
4. As a sequel to this case study, it was considered useful to explore into the marketing aspects of the wood produce of the two species viz., Eucalyptus and Casuarina. An attempt has been made in this study report to analyse the same.
5. The study being a quick analysis of the field data collected on limited scale, the findings are only indicative of the infrastructure or marketing. To collaborate the findings of this study report a detailed sample survey should be attempted.
6. Under the guidance of Sri V. Balasubramanian, Joint Director of the Agricultural Statistics Wing of this Directorate, this study report has been prepared by Sri N. Vyramudigowda, Deputy Director.

Place: Bangalore.

Date : 21st November 1985

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(J. N. CHAUBEY)
DIRECTOR

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A CASE STUDY REPORT ON MARKETING OF FARM FORESTRY PRODUCE
OF EUCALYPTUS AND CASURINA IN BANGALORE & KOLAR DISTRICTS

I. Introduction:

- 1.1 In the year 1983, a brief study was undertaken by the Directorate of Economics and Statistics to explore the type of land put to use by the agricultural households in Kolar and Bangalore districts under the Social Forestry Programme vigorously propagated by the Government. The findings of the study have been published by Directorate of Economics and Statistics in a short review report in the year 1984 (Publication No. BES 4 of 1984).
- 1.2 The main findings of this study revealed in the five villages selected for the study in each of Kolar and Bangalore districts are as follows. Out of a total of 367 agricultural households in Kolar, as many as 67 (18.5%) and out of a total of 545 agricultural households in Bangalore, as many as 94 (17.7 percent) had attempted farm forestry cultivation of raising species of Eucalyptus and Casurina. The extent of area coverage under Farm Forestry by these 67 house holds in Kolar was 102.1 hectares where as in Bangalore, 94 house holds who have raised Farm forestry had covered an area of 140.1 hectares of land.
- 1.3 In terms of percentage of land possessed by these agricultural house holds, it constituted 43.8 percent in Kolar and 51.2 percent in Bangalore. The main type of land put to use for raising farm forestry was agricultural land, which accounted 63 percent in Kolar and 50% in Bangalore. The economic status of these 67 house holds in Kolar comprised of small and marginal farmers to the extent of 43.3 percent while its status of the 94 house holds in Bangalore district comprised of as much as 59.6 percent. A pertinent finding of this study was, of the total of 161 house holds in both Kolar and Bangalore districts taken together in the 10 selected villages as many as 48 households or around 30 percent had put their entire agricultural

land possessed to raise farm forestry cultivation of Eucalyptus and Casurina.

- 1.4. Impressive impact of the farm forestry programme, vigorously motivated by the Government for growing these two species and over-whelmingly felt in Kolar and Bangalore districts, necessarily needs to be backed up by adequate marketing facilities and support for the farm forestry produce to be put to economic use. Hence, it was considered interesting to undertake a follow up study, as a sequel to the earlier study on land use, to investigate into the more important aspects of marketing of the farm forestry produce of Eucalyptus and Casurina by a repeat study attempted in the same set of five villages selected earlier in each of Kolar and Bangalore Districts.

II. OBJECTIVES OF THE STUDY:

Under the ambit of the study attempted the following main aspects have been analysed.

- 1) Extent of marketable surplus generated in the cultivation of Eucalyptus and Casurina.
- 2) Proportion of the produce put to use for own consumption.
- 3) For what purpose the marketable surplus sold is put to use.
- 4) What are the local uses of self consumed produce of Eucalyptus and Casurina.
- 5) Markets and arrangements available at the village level for the sale of produce of Wood grown by the cultivators.

III. SELECTION OF VILLAGES:

- 3.1 As stated in the earlier paragraph, the attempted study being a follow up, of the earlier one, the same set of below mentioned villages have been selected with a view to assess the scale of economic benefits derived out of the marketing of the produce in relation to the type of land put to use under Farm forestry.

Table - 1

Sl. No.	Names of villages repeat selected			
	Bangalore District:		Kolar District:	
	Taluk:	Village	Taluk	Village
1.	Anekal	Vanalenahalli	Bangarpet	Jakkarasakoppa
2.	Bangalore South	Kaikondarahalli	Kolar	Chadamanahalli
3.	Devanahalli	Anneshwarahalli	"	Vanarasi
4.	"	Settigere	Malur	Chicksabberahalli
5.	Hosakote	Chokkanahalli	"	Upparahalli

- 3.2 In these 10 selected villages, the required field data has been collected by enquiry from all the cultivators who have grown either of this two species of Eucalyptus and Casurina or both of them till the end of July 1985.

IV. METHOD OF COLLECTION OF FIELD DATA

- 4.1. Suited to the objective of this study, a proforma eliciting the required information from the respondent cultivators was designed. On the day of visit by the Investigator, all the cultivators who have grown either of or both the species of Eucalyptus and Casurina were interviewed and field data elicited in the prescribed format.
- 4.2. The head of the concerned household ^{was} the informant for eliciting the required field data. The harvested produce particulars of the field data was collected covering the period from 1980-81 to 1983-84 and for detailed information on marketable surplus ^{and} self consumption particulars, the field data covering the period from 1-4-1984 to 31-7-1985 has been considered. The field data obtained in the prescribed formats is analysed and the findings are discussed in the paras to follow:

V. PROGRESS MADE IN SOCIAL FORESTRY CULTIVATION BETWEEN THE TWO PERIODS OF STUDY:

- 5.1 When the first study was conducted in 1982-83 the extent of land cultivated in the selected five villages of Bangalore and Kolar districts were 140.1 and 102.1 hectares respectively and the corresponding no. of agricultural house holds raising

these two species were 94 in Bangalore and 66 in Kolar districts respectively.

- 5.2. In the current study undertaken in 1985-86, after a lapse of 3 years in the same set of five villages selected for the study, present that the extent of land cultivated under Social Forestry has reduced to 112.5 hectare or by 19.7 percent in Bangalore. While in Kolar district it has increased to 116.3 hectares or by 13.8 percent. The no. of agricultural house holds who have raised these two species has also reduced by 6 to 88 in Bangalore while in Kolar it has increased by 57 to 77.
- 5.3. In Table II A and II B it may be seen that in Chokkanahalli (Hosakote Taluk) village there is drastic reduction by 88.3 percent in the extent of area covered at 43.7 hectares in 1982-83 to 5.1 hectares in 1985-86. The no. of house holds has also reduced correspondingly from 16 in 1982-83 to 5 in 1984-85. This sliding down impact has been ascertained by enquiry to be due to the acquisition of these lands by both Government agency and Industrialists for non agricultural purposes. Such trends are however not found in the other four villages of Bangalore District.
- 5.4. In Kolar District in two villages Jakkarasakoppa (Bangarpet Taluk) and Upparahalli (Maddur Taluk) there has been more than 50% increase in extent of area coverage, while in one village Varanasi (Kolar taluk) status-quo has been maintained.
- 5.5. It may be seen on general comparison that there has been a positive impact of motivation among the cultivators to raise farm forestry, over the progress of three years period.

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TABLE - 21-4

Bangalore District: Area under social forestry during 1982-83 and 1985-86.

(Area in hectares)

Sl. No.	Village:	Impact of social forestry during				Percentage
		1982-83		1985-86		
		No.h.h.	Area	No.h.h.	Area	
1	2	3	4	5	6	7
1.	Anneswarahalli	20	38.0	18	40.3	6.1
2.	Vanakanahalli	24	26.5	27	32.8	23.8
3.	Kaikondahalli	28	28.7	28	28.8	-
4.	Chokkanahalli	16	43.7	5	5.1	-88.3
5.	Settigere	6	3.2	10	5.5	71.9
TOTAL		94	140.1	88	112.5	-19.7

Table II B.

Kolar District: Area under Social Forestry during 1982-83 and 1985-86

(Area in hectares)

Sl. No.	Village:	Impact of social forestry during				Percentage
		1982-83		1985-86		
		No.h.h	Area	No.h.h	Area	
1.	Jakkarasakoppa	11	7.5	15	11.9	58.10
2.	Chikkasubbena-halli	13	14.4	14	15.7	9.9
3.	Vanarasi	10	10.9	10	10.9	-
4.	Chadumanahalli	22	53.0	22	52.8	-0.4
5.	Upparahalli	11	16.3	16	25.0	53.4
	Total	67	102.1	77	116.3	13.8

VI. DISTRIBUTION OF AREA COVERAGE UNDER EUCALYPTUS AND CASURINA

6.1. In table III is presented the land use with the break up of area coverage under Eucalyptus and Casurina in the five selected villages each in Bangalore and Kolar Districts.

6.2. In Bangalore District, in the selected five villages as many as 88 cultivators who have been enumerated, have raised Social forestry cultivation and they have possessed a total of 391.61 hectares of land. Out of which 279.14 hectares or 71.3 percent is brought under cultivation. The area brought with social forestry is 112.47 hectares distributed at 50.67 hectares under Eucalyptus and 61.80 hectares under Casurina. The distribution is more or less equal in proportion. In terms of percentage to total land possessed it

TABLE - III

Extent of area under social forestry in the selected villages

Sl. No.	District Name of village	No. of h.h. raising social forestry	Total area posse- ssed (hts)	Total net area un- der cul- tivation (hects)	% to total area pos- sessed	Area put Under soci- al fore- stry (hts)	% to total area posse- ssed	Euca- lip- tus area (hts)	% of produ- ce re- served for sale	Area under casu- rina (hts)	% of pro- duce reser- ved for sale
1	2	3	4	5	6	7	8	9	10	11	12
<u>BANGALORE DIST:</u>											
1.	Anneswarahalli	18	158.70	118.4	74.4	40.28	25.4	35.42	95	4.86	95
2.	Vanakanahalli	27	86.99	54.18	62.3	32.81	37.7	3.34	95	29.17	95
3.	Kaikondahalli	28	102.43	73.64	71.9	28.79	28.1	1.02	95	27.17	95
4.	Chokkanahalli	5	22.19	17.10	77.1	5.09	22.9	5.09	95	-	-
5.	Settigere	10	21.30	15.80	74.2	5.50	25.8	4.90	95	0.60	95
Total:		88	391.61	279.14	71.3	112.47	28.7	50.67	95	61.80	95
<u>KOLAR DISTRICT:</u>											
1.	Jakkarasakoppa	15	44.57	32.72	73.6	11.85	26.4	11.85	99	-	-
2.	Chikkasubbenahalli	14	29.51	13.78	57.0	15.73	93.0	14.15	99	1.58	95
3.	Vanarasi	10	47.59	36.68	77.1	10.91	22.9	10.91	99	-	-
4.	Chadumanahalli	22	101.74	48.95	48.3	52.79	52.7	51.44	99	1.35	95
5.	Upparahalli	16	44.81	19.85	44.3	24.96	55.7	23.17	99	1.77	95
Total:		77	268.22	151.98	56.6	116.24	43.4	111.52	99	4.72	95

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constituted 28.7 percent and to net cultivated area it constituted 40.3 percent. Among the five villages, the extent of area coverage under Eucalyptus in Anneswarahalli (Devanahalli taluk) is highest and under Casurina highest extent is covered in Vanakanahalli (Anekal taluk). It has been ascertained from these 28 cultivators that 95 percent of the produce of Eucalyptus as well as casurina were reserved for sale.

6.3. In Kolar District, in the five villages selected, as many as 77 cultivators who have been enumerated, have raised social forestry cultivation and together possessed 268.22 hectares of land, out of which 151.93 hectares or 56.6 percent is brought under the plough. The area put to social forestry is 116.24 hectares distributed at 111.52 hectares under Eucalyptus and 4.72 hectares under Casurina. It is interesting to note that the distribution between Eucalyptus and Casurina is such that the proportion of area coverage under Casurina is practically negligible. In terms of percentage to total land possessed, the extent of Social Forestry Coverage constituted 43.4 percent and as much as 76.5 percent to the net area sown.

6.4. On enquiry from these 165 cultivators comprising 88 in Bangalore and 77 in Kolar who have taken to social Forestry of growing the two species of Eucalyptus and Casurina that 95 percent of the wood produce in Bangalore is marketable surplus and reserved for sale, while in Kolar 99 percent of the produce is rendered as marketable surplus and reserved for sale. Evidently it may be surmised that these two species are grown for marketing than for own consumption.

VII. EXTENT OF MARKETABLE SURPLUS GENERATED:

7.1. In the earlier paragraph the extent of area coverage under Eucalyptus and Casurina is analysed. The objective of the study being focussed on marketing of Wood produced, the field data collected as analysed in the following paragraphs to cover in its ambit, the objectives enunciated under the study.

7.2. The field data on wood produced and their related data on its marketing having been collected on enquiry by interviewing the head of the household concerned. The field data so collected and analysed is therefore bound to be subjective and hence the findings adduced may not be strictly applicable for drawing firm conclusions. However, care has been taken to see that the field data collected

does indicate the general trend obtaining and is not far removed from reality. With these limitations of the field data, analysis of the same has been attempted to tabulate them for deducing findings.

7.3. In Table IV is presented the quantity of wood produced and disposed in the Five selected villages in Bangalore District covering the harvest made between 1980-81 and 1983-84. Salient aspects of the same is extracted and presented below in the subjoined table IV A.

TABLE-IV-A

Quantity of wood produced and marketed from 1980-81 to 1983-84
in Bangalore District

Year:	Eucalyptus				Casurina			
	No. of	Quantity of Wood (in tonnes)		Percentage sold to produced	No. of	Quantity of Wood (in tonnes)		Percentage sold to produced
	House holds	Produced	Sold		House holds	Produced	Sold	
1980-81	3	128.0	128.0	100%	-	-	-	-
1981-82	-	-	-	-	-	-	-	-
1982-83	2	27.5	27.5	100%	1	4.0	4.0	100%
1983-84	2	70.0	70.0	100%	1	151.0	151.0	100%
Total	7	225.5	225.5	100%	2	155.0	155.0	100%

7.4. It can be seen from the above table that for the four years taken together in the selected villages of Bangalore District, 7 cultivators have harvested the wood produce of Eucalyptus with a total wood production of 225.5 tonnes and the entire produce is sold as marketable surplus. While during the same four years only 2 cultivators have harvested wood produce of 156.0 tonnes of casurina in Bangalore District and the entire produce is again sold as marketable surplus.

7.5. It may be seen in the Table IV that in the year 1980-81 Eucalyptus wood produce of 128 tonnes was harvested from 7.73 hectares of area of 3 cultivators. On an average the wood produce per hectare works out to 16.6 tonnes. In the year 1982-83, Eucalyptus wood produce of 2 cultivators from a total area of 2.70

TABLE-IV

- 9 -

Dist: Bangalore

Wood produced and sold from 1980-81 to 1983-84

(in tonnes)

Sl. No.	Name of Village:	No. of h.h.	Total area harvested (hect)	Quantity harvested	Quantity self consumed	Quantity sold	Value per tonne (Rs.)	Amount realised Rs.	Purpose for which used
1	2	3	4	5	6	7	8	9	10
<u>Eucaliptus (1980-81)</u>									
1.	Anneswarahalli	1	2.43	48	-	48	250/-	12000	Sold to Harihara Poly-fibre through local agents & used as a raw material
2.	Chokkanahalli	2	5.30	80	-	80	250/-	20000	-do-
Total		3	7.73	128	-	128		32000	
<u>Eucaliptus (1982-83)</u>									
1.	Anneswarahalli	1	1.62	7.5	-	7.5	200/-	1500	-do-
2.	Chokkanahalli	1	1.08	20.0	-	20.0	200/-	4000	-do-
Total		2	2.70	27.5	-	27.5		5500	
<u>Eucaliptus (1983-84)</u>									
1.	Vanakanahalli	2	1.67	64.0	-	64.0	300/-	19200	-do-
2.	Kaikondenahalli	1	0.61	6.0	-	6.0	300/-	1800	-do-
Total		3	2.28	70.0	-	70.0		21000	
<u>Casurina (1982-83-84)</u>									
1.	Vanakanahalli	1	0.20	4.0	-	4.0	400/-	1600	Sold to Bangalore City and used as building material and as fuel
2.	Vanakanahalli	1	5.54	151.0	-	151.0	413/-	63633	-do-

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hectares harvested, has yielded 27.5 tonnes with an average production of 10.2 tonnes per hectare. In the year 1983-84, Eucalyptus wood production of 3 cultivators from a total area of 2.26 hectares harvested has yielded 70.0 tonnes with an average production of 30.7 tonnes per hectare. The total Eucalyptus wood production for the four year period from 1980-81 to 1983-84 at 225.5 tonnes from a total area of 12.71 hectares harvested by 7 cultivators in the selected villages in Bangalore has yielded an average 17.7 tonnes per hectare.

7.6 Similarly it can be seen that only 2 cultivators have harvested casurina from an area of 7.74 hectares to yield a total of 155.00 tonnes of wood produce, the entire quantity rendering marketable surplus and sold. The average yield has been 20 tonnes per hectare.

7.7 The total quantity of 225.5 tonnes of Eucalyptus wood produced having been rendered to be sold as marketable surplus has fetched a total of Rs.58500/- with an average return of Rs.260/- per tonne. In terms of economic benefit derived the return may be considered to be impressive. Similarly for a total quantity of 156.00 tonnes of Casurina wood produced, the whole quantity having been rendered marketable surplus for sale has fetched a total value of Rs.62363/-, with an average return of Rs.402/- per tonne. The economic benefits derived is again found to be impressive for practically no input cost.

7.8 It is ascertained on enquiry from the cultivators concerned that for Eucalyptus wood produced, ready market exists in Harihara Poly fibre Industry through their local agents, while for casurina wood produced market exists in Bangalore City for consumption as building material and fuel.

7.9 In Table V is presented the quantity of wood produces and disposed in the selected villages of Kolar district covering the harvest of Eucalyptus and Casurina made by the cultivators concerned between 1980-81 and 1983-84. Salient aspects of the wood production is extracted and presented in the subjoined table V-A.

Table V A
Quantity of wood produced and marketed from 1980-81 to 1983-84
in Kolar district

Year	Eucalyptus				Casurina			
	No. of house holds	Quantity of wood (in tonnes)			No. of house hold	Quantity of wood (in tonnes)		
		Pro-duced	Sold	Perce- tage sold to produced		Pro-duced	Sold	Perce- tage sold to produced
1980-81	-	-	-	-	-	-	-	-
1981-82	4	64.0	64.0	100%	-	-	-	-
1982-83	9	243.0	243.0	100%	-	-	-	-
1983-84	3	28.0	28.0	100%	-	-	-	-
Total	16	335.0	335.0	100%	-	-	-	-

7.10 It can be seen from the above table that for the four years taken to-gether in the selected villages of Kolar district, 16 cultivators have harvested the wood produce of Eucalyptus with a total output of 335 tonnes and the entire quantity produced is rendered marketable surplus for sale. No cultivator has reported on enquiry harvest of Casurina during this four year period in the selected villages of Kolar district.

7.11 It may be seen from Table V that in the year 1981-82, Eucalyptus wood produce of 64 tonnes was harvested by 4 cultivators from an area of 3.44 hectares. The wood produced on an average works out to 18.6 tonnes per hectare. In the year 1982-83, 9 cultivators have to-gether harvested 243 tonnes of Eucalyptus wood from an area of 8.76 hectares. The average yield of wood produced is 27.7 tonnes per hectare. While in the year 1983-84, 28 tonnes of Eucalyptus wood was harvested by 3 cultivators from an area of 2.24 hectares, yielding on an average 12.5 tonnes per hectare. The total wood production of 33.5 tonnes by 16 cultivators from an area of 14.44 hectares, has yielded an overall average of 23.2 tonnes per hectare, while on comparing with the overall average production in Bangalore, is found to be more than one and a quarter times.

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Table - V

Wood produce, and sold from 1980-81 to 1983-84 (Eucalyptus)

Kolar district

Sl. No.	Name of the village	No. of house hold	Total area harvested	Quantity produced	Quantity self consumed	Quantity sold	Vale per tonnes (Rs.)	Amount realised	Purpose for which used
1	2	3	4	5	6	7	8	9	10
<u>Eucalyptus (1981-82)</u>									
1.	Chikkesubbanahalli	2	1.82	40	-	40	250	10,000	Sold to Harihara Polyfibre through Local agents and used as Industrial raw material
2.	Chadumanahalli	2	1.62	24	-	24	240	5,760	
		4	3.44	64	-	64		15,760	
<u>Eucalyptus (1982-83)</u>									
1.	Chikkasubbana-halli	9	8.76	243	-	243	272	66,096	-do-
						1983-84			
1.	Chikkasubbana-halli	1	0.28	9	-	8	300	2,400	-do-
2.	Venarasi	2	1.96	20	-	20	210	4,200	
		3	2.24	28		28		6,600	

7.12 The whole quantity of 335 tonnes of Eucalyptus wood produced having been rendered to be sold as marketable surplus, has fetched a total value of Rs.88456, at rates ranging between Rs.210 to Rs.300 per tonne. The average return per tonne works out ^{at} Rs.264, more or less comparative to Rs.260/- obtained in Bangalore district. The economic benefits derived by the motivation extended by the Government seem to be impressive under the basic ~~input~~ ^{on put} cost being practically negligible.

7.13 From the enquiry made with these 23 cultivators in Bangalore and Kolar districts taken together who have marketed the Eucalyptus and Casurina wood produced, it is ascertained that the marketable surplus generated is cent percent. In other words the wood produced between the period 1980-81 to 1983-84 has not been used for own consumption. It is ascertained that only branches during the growing periods of these wood species were used as fuel for own use, having secured the economic value of the wood produced and ready market available for its disposal at the village site itself.

7.14 As the collection of field data on wood produced and marketed is through oral enquiry from the cultivators as stated earlier, it is bound to contain element of subjectivity. Besides data collected for the back year from 1980-81 to 1983-84 are bound to contain this element on more pronounced scale due to distance of time. Keeping this in view, analysis of field data is divided into two periods, viz., for the first period from 1980-81 to 1983-84 and for the second period from 1st April 1984 to 31st July 1985. It is considered that the field data collected during the latter period could function as an inter check, as well as more reliable for analysis and drawing inferences. Accordingly, in the paragraphs to follow, analysis of the field ^{data} for the second period has been attempted.

VIII. EXTENT OF WOOD PRODUCED FROM 1ST APRIL 1984 TO 31ST JULY 1985.

8.1 In Table VI the details of wood produced and marketed during the second period covering 16 months from April 84 to July 85 is presented. In the subjoined Table VI A the extent of wood production Bangalore District for these 16 months covering from April 84 to July 85 is given.

Table-VI A

Quantity of wood produced between April 84 and July 85 in
Bangalore district.

Sl. No.	village	No. of house holds	Area harvested (in hecets)	Quantity of wood produced (in tonnes)	
				Eucalyptus	Casurina
1.	Anneswarhalli	13	31.38	1040	-
2.	Settigere	1	0.40	10	-
3.	Chokkanahalli	1	2.00	80	-
4.	Kaikondanahalli	2	3.35	-	58
Total		17	37.13	1080	58

8.2 It can be seen from Table VI A that between April 84 and July 85 in the selected villages of Bangalore, 37.18 hectares covering both Eucalyptus and Casurina of 17 cultivators, has been harvested for wood produce and the total output obtained in terms of wood production was 1138 tonnes, comprising 1080 tonnes of Eucalyptus and 58 tonnes of Casurina. The average production of wood harvested works out to 30.6 tonnes. Of the 17 cultivators, 15 have harvested a total area of 33.78 hectares of Eucalyptus with an out put of 1080 tonnes, yielding on an average 32 tonnes of wood per hectare. While 2 cultivators have harvested an area of 3.35 hectares of casurina with an output of 58 tonnes, yielding an average of 17 tonnes of wood produce per hectare.

8.3 In the sub-joined Table VI B the status obtaining in Kolar district on wood production between April 1984 and July 1985 is presented.

Table VI B

Quantity of wood production between April 84 and July 85 in
Kolar district.

Sl.No.	Village	No. of HH	Area harvested (in hectares)	Quantity of wood produced (in tonnes)	
				Eucalyptus	Casurina
1.	Chikkasubbanahalli	1	0.65	20.0	-
2.	Vanarasi	4	2.77	46.0	-
3.	Chadumanahalli	12+2	19.85+16.20	360.5	429.0
4.	Upparahalli	2	6.48	240.0	-
Total		21	43.95	666.5	429.0

Table VI - 15 -
Wood produced and sold from 1-4-84 to 31-7-1985

Sl. No.	Name of village	No. of house hold	Total area harvested (in hecets)	Total quantity produced (in tonnes)	Total quantity self consumed (tonnes)	% age	Total quantity sold locally (tonnes)	% age	Total quantity sold for out side (tonnes)	% age	Rate per tonne
1	2	3	4	5	6	7	8	9	10	11	12
Bangalore district		<u>Eucalyptus</u>									
1.	Anneswarahalli	13	31.38	1040	39.0	3.9	-	-	1001.0	96.1	250/-.
2.	Settigore	1	0.40	10	-	-	-	-	10.0	100.0	200/-.
3.	Chokkanahalli	1	2.00	30	2.5	8.3	-	-	27.5	91.7	250/-.
Total		15	33.78	1080	41.5	3.8	-	-	1038.5	96.2	
		<u>Casurina</u>									
1.	Kaikondanahalli	2	3.35	58	7	-	-	-	51	88	340/-.
		<u>Eucalyptus</u>									
Kolar district											
1.	Chikk subbenahalli	1	0.65	20.0	-	-	-	-	20.0	100	300/-.
2.	Vanarasi	4	2.77	46.0	2.3	5.0	-	-	43.7	95	182/-.
3.	Chadumanahalli	12	19.85	360.5	15.5	4.0	-	-	345.0	96	200/-.
4.	Upparahalli	2	6.48	240.0	-	-	-	-	240.0	100	200/-.
Total		19	29.75	666.5	17.8	2.7	-	-	648.7	97.3	
		<u>Casurina</u>									
1.	Chadumanahalli	2	16.20	429	19	4.0	-	-	410	96	350/-.

From the above table it can be seen that a total of 21 cultivators have harvested, from an area of 45.95 hectares, wood produce of 1095.5 tonnes comprising 666.5 tonnes of Eucalyptus and 429.0 tonnes of Casurina. The average output works out to 23.8 tonnes per hectare. Of the 21 cultivators, 19 have harvested from an area of 29.75 hectares of Eucalyptus, wood produce of 666.5 tonnes, yielding on an average 22.4 tonnes per hectare, while 2 cultivators have obtained an output of 429.0 tonnes of Casurina wood produce from 16.20 hectares of area harvested, yielding 26.5 tonnes per hectare. The field data collected for the foregoing analysis covering the period April 84 to July 85 can be seen to afford consistency with that analysed for the period from 1980-81 to 1983-84 vide Table IV to establish credibility of the inferences drawn from this study.

IX MARKETING AND CONSUMPTION OF WOOD PRODUCED BETWEEN APRIL 84 AND JULY 85.

9.1 In the earlier paragraph the quantity of wood production has been analysed separately for the four year period 1980-81 to 1983-84 and from April 84 to July 85. In the Table VI details of the marketing and consumption of wood produced is furnished. Further analysis of the same are attempted in the paragraphs to follow.

9.2 In Table VI C is extracted particulars of the pattern of marketing and consumption of wood produced from April 84 to July 85 in Bangalore district.

Table VI C
Marketing and consumption pattern of wood production between April 1984 and July 1985 in Bangalore district.

Sl. No.	Village	No. of HH	Quantity produced, marketed and consumed (in tonnes)				
			Produced	Self consumed	Marketed by sale		Rate per tonne (Rs)
					Locally	Outside	
			<u>Eucalyptus</u>				
1.	Anneswarahalli	13	1040.0	39.0 (3.9%)	-	1001.0 (96.1%)	250/-.
2.	Settigere	1	10.0	-	-	10.0	200/-.
3.	Chikkenahalli	1	30.0	2.5 (8.3%)	-	27.5 (91.7%)	250/-.
Sub total			15	1080.0	41.5 (3.8%)	1038.5 (96.2%)	250/-. (avg.)

		<u>Casurina</u>				
4 Kri.kodanahalli	2	58.0	7.0 (12%)	-	51.0 (88%)	340
Grand total	17	1138.0	48.5 (4.3%)	-	1089.5 (95.7%)	254/-

Note: Figures in bracket indicate percentage to corresponding wood production.

9.3 From the above table it can be seen that in Bangalore district, against a total wood production of 1138.0 tonnes of both Eucalyptus and Casurina of the 17 cultivators, hardly, 48.5 tonnes (4.3%) has been self consumed, with the balance of wood produce at 1089.5 tonnes marketed outside the village for sale, fetching an average sale price of Rs. 254/- per tonne.

9.4 The total wood produce of Eucalyptus of the 15 cultivators was 1080.0 tonne. Of this quantity produced, hardly 41.5 tonnes (3.8%) has been self consumed, leaving the balance of 1038.5 tonnes as marketable surplus for sale outside the village, fetching an average sale price of Rs. 250/- per tonne.

9.5 Hardly 2 cultivators, of the total of 17, whose harvested wood produce of casurina was 58.0 tonnes. Only 7.0 tonnes (21%) was self consumed leaving the balance of 51.0 tonnes marketed for sale outside the village, fetching an average sale price of Rs. 340/- per tonne.

9.6 It may be noted that the marketing of wood produce has been only outside the village on the demand that existed and no local market consumption has been reported. Agencies available for meeting market demands outside villages and the type of use of self consumed wood produces is discussed in the paragraphs to follow.

9.7 In Table VI D is extracted particulars of the pattern of marketing and consumption of wood produced from April 1984 to July 1985 in Kolar district.

Table VI D

Marketing and consumption pattern of wood production between April 1984 and July 1985 in Kolar district.

Sl. No.	Village	No. of HH	Quantity produced, marketed and consumed (in tonnes)				
			Produced	Self consumed	Marketed by sale		Rate per tonne (Rs.)
					Locally	Outside	
<u>Eucalyptus</u>							
1.	Chikkasubbenahalli	1	20.0	-	-	20.0 (100%)	300/-.
2.	Vanarasi	4	46.0	2.3 (5%)	-	43.7 (95%)	182/-.
3.	Chadumanahalli	12	360.5	15.5 (4%)	-	345.0 (96%)	200/-.
4.	Upparahalli	2	240.0	-	-	240.0 (100%)	200/-.
Sub- total		19	666.5	17.8 (2.7%)	-	648.7 (97.3%)	211/-. (avg.)
<u>Casurina</u>							
5.	Chadumanahalli	2	429.0	19.0 (4.4%)	-	410.0 (96%)	350/-.
Grand total		21	1095.5	36.8 (3.4%)	-	1058.7 (96.6%)	265/-. (avg.)

Note: Figures in bracket indicate percentage to the corresponding wood production.

9.8 It can be seen from the above table that in the selected villages of Kolar district, 21 cultivators who have harvested a total of 1095.5 tonnes of wood produce of the Eucalyptus and Casurina together, have used for self consumption, hardly 36.8 tonnes (3.4%), while the balance of 1058.7 tonnes have been marketed by sale outside the village, fetching an average sale price of Rs. 265/- per tonne.

9.9 Of the total wood production, Eucalyptus has contributed 666.5 tonnes. The quantity self consumed is hardly 17.8 tonnes (2.7%), the balance of 648.7 tonnes having been marketed as surplus outside the village, fetching an average sale price of Rs. 211/- per tonne. The wood production of Casurina was 429.0 tonnes, of which, hardly 19.0 tonne (4%) is consumed for own use by the cultivators, leaving the major share of wood produce at 410.0 tonnes (96%) as surplus, for marketing on sale outside the village. Such market sales has fetched an average sale price of Rs. 350/- per tonne.

9.10 No local marketing of wood production was reported due to nil demand, while agents at village sites were available for disposal of the marketable surplus on sale. More details are discussed in the paragraphs to follow.

X. SELF CONSUMPTION AND ITS USES:

10.1 We have analysed in the earlier paragraph that in Bangalore district 3.8 percent of Eucalypts and 12 per cent of casurina in Kolar district, 2.7 percent of Eucalyptus and 4 per cent of Casurina wood production respectively have been self consumed by the cultivators. These species of wood pulp crop are grown by cultivators for deriving economic benefits through sale. Home consumption as fuel and other needs like poles for roof constructions, building material, for fuel etc., are practically negligible as their produce bears immense economic importance through ready market.

10.2 In the Table VII the type of usage to which self consumed wood produce of Eucalyptus and casurina in Bangalore and Kolar is analysed. Normally cultivators use the branches, deadleaves and left over after marketing, to meet their domestic fuel needs and the self consumed wood produce is used to meet their Farm needs, like agricultural implements, building material for construction of sheds etc.,

10.3 It can be seen from Table VII that in Bangalore, among the 15 cultivators (vide Table VI) 6 cultivators who were interviewed for self-consumption data on wood produce of Eucalyptus, have consumed a total quantity of 41.5 tonnes of Eucalyptus wood for domestic use. Of this quantity, 5.0 tonnes (12%) has been used as building material, and the rest of 36.5 tonnes (88%) is used as fuel. While 7 tonnes of Casurina self consumed by 2 cultivators is put to exclusive use as fuel in the house.

10.4 Similarly in Kolar district, among the 19 cultivators, 11 cultivators who were interviewed for self consumption data on wood produce of Eucalyptus, have consumed for use in the home front a total quantity of 17.8 tonnes. Of this quantity, 1.45 tonnes (8%) is used for farm implements, 2.75 tonnes. (16%) as building material and the rest of 13.60 tonnes (76%) as domestic fuel.

Annexure - Table VII

Uses of Eucaliptus and Casurina, Self consumed by the grower from 1.4.85 to 31.7.85.

Sl. No.	District village	No. of HH	Total quantity self consumed (tonnes)	Used as (in tonnes)							
				Raw materials	%	Agl. implements	%	Building material	%	Fuel	%
				<u>Eucaliptus.</u>							
<u>Bangalore District:</u>											
1.	Anneswarahalli	5	39.0	-	-	-	-	5.0	12.0	34.0	87.0
2.	Chokkanahalli	1	2.5	-	-	-	-	-	-	2.5	100
Total		6	41.5	-	-	-	-	5.0	12.0	36.5	88.0
				<u>Casurina.</u>							
	Kai kondanahalli	2	7.0	-	-	-	-	-	-	7.0	100
				<u>Eucaliptus.</u>							
<u>Kolar district:</u>											
1.	Vanarasi	3	2.30	-	-	0.35	15.0	0.75	33.0	1.20	52.0
2.	Chadumanahalli	8	15.50	-	-	1.10	7.0	2.00	13.0	12.40	80.0
Total		11	17.80	-	-	1.45	8.1	2.75	15.5	13.60	76.4
				<u>Casurina.</u>							
i.	Chadumanahalli	2	19.0	-	-	4.0	21.0	4.0	21.0	11.0	58.0

2 cultivators who have consumed 19.0 tonnes of Casurina wood produce, have put to use, 4.0 tonnes (21%) for farm implements, another 4.0 tonnes (21%) as building material and the rest 11.0 tonnes (58%) as domestic fuel. It may be noted from the pattern of self consumed wood produce of Eucalyptus and Casurina, domestic fuel usage is more prevalent than of other uses

XI. MARKETING FACILITIES.

11.1 In Table VI the production and disposal of wood produce of Eucalyptus and casarine was analysed. We have seen that from the sample villages enumerated both in Bangalore and Kolar districts more than 95% of the wood produce was sold for deriving economic benefits. Without adequate marketing facilities such efforts would not be possible and raising of these two species on their agricultural holdings would be proposition involving high risk when domestic consumption is too low.

11.2 It has been ascertained on enquiry, that the cultivator at the village level do not face any problem for marketing their wood produce. There are a number of middle men who act as agents on behalf of big saw mill owners and wood depots, who purchase the wood produce ready for sale on the village site itself. Consumption of wood pulp as raw material by Harihara Poly Fibres in large quantities, has generated adequate market demand for wood produce of Eucalyptus and purchase of these at the village site by local agents has provided the infrastructural base for marketing facilities. In Bangalore and Kolar there are number of agencies who pay money in advance even about a year ahead of the harvest of the wood produce and book the contract to meet ^{the} demands of wood pulp industries. These agents/agencies have their infrastructural network to transport these wood pulp produce to the consumer centres. Such marketing facilities available at the doorsteps of the cultivators naturally motivate them to raise these wood species even on their agricultural farm land holdings. The demands for wood pulp produce being presently on a high scale, marketing facilities practically reach the door steps of the cultivators, without their having to exert on this aspect which is one of the most important one.

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XII. MARKET DISPOSALS AND ITS USES.

12.1 As analysed in Table VI, in Bangalore district 96.2 percent of wood produce of Eucalyptus and 88 percent of casurina produce and in Kolar district, 97.3 per cent of Eucalyptus produce and 96 percent of casurina produce are disposed off for sale outside the village. Marketing support and facilities available at the village site was highlighted in para X.

12.2 In Table VIII the type of uses to which the quantity disposed off is analysed. In Bangalore district among 15 cultivators who have harvested 1080.0 tonnes of Eucalyptus wood produce, 14 of them have together sold a quantity of 1058.5 tonnes (96.2 percent). As many as 13 among those, have sold their entire wood production of Eucalyptus. It can be seen in the Table VIII that the whole quantity of 1038.5 tonnes of Eucalyptus wood produce marketed outside the village site has been ascertained to be used as industrial raw material by Harihara Poly Fibres.

12.3 Similarly of 2 cultivators who have harvested 58 tonnes of Casurina wood produce, one of them has marketed his entire produce of 57 tonnes (88%) for sale to be used as fuel. It is also ascertained that Casurina wood is initially put to use as rafters and calavadi material in building construction activities which fetches returns and subsequently disposed off as fuel etc. When its serviceability in the use of rafters and calavadi material depletes, direct disposal of wood produce as fuel is also being resorted to, depending on the demands arising.

12.4 In Kolar district vide Table VIII; among the 19 cultivators who have harvested 666.5 tonnes of Eucalyptus wood produce, 18 of them have together sold a quantity of 648.7 tonnes (97.3%), of these as many as 12 of them have sold their entire wood produce amounting to 365.0 tonnes. As much as 97% of the wood sold is used as industrial raw material by Harihara Poly Fibres and a small quantity of 19 tonnes or 3 per cent of wood sold is disposed as fuel.

12.5 Similarly vide Table VIII among the 2 cultivators who have harvested 429 tonnes of Casurina wood, both of them have together sold a total quantity of 410 tonnes (96%) outside the village site which has been disposed of as fuel.

Use of Eucalyptus and Casurina sold out side the village from 1-4-84 to 31.7.85

Sl. No.	Name of village	No. of house hold	Total quantity sold	Used as Ind. raw material	% age	As build- ing material	% age	As ag. imple- ment	% age	As fuel	% age
1	2	3	4	5	6	7	8	9	10	11	12

Bangalore district.

1. Anneswarahalli	12	1001.0	1001.0	100						
2. Chokkenahalli	1	27.5	27.5	100						
3. Settigere	1	10.0	10.0	100						
Total	14	1038.5	1038.5	100						

1. Kaikondanahalli

[illegible]

Kolar district.

1. Chikkasubbanahalli	1	20.0	20.0	100	---	---	---	---	---	---
2. Vanarasi	4	43.7	39.7	90	---	---	---	---	4.0	10
3. Chadumanahalli	11	345.0	345.0	100	---	---	---	---	---	---
4. Uparahalli	1	240.0	225.0	94	---	---	---	---	15.0	6
Total	18	648.7	629.7	97	---	---	---	---	19.0	3

1. Chadumanahalli	2	410	CASURIN	410	100
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XIII SUMMARY AND FINDINGS.

13.1 In the repeat selected five villages in Bangalore district as many as 88 cultivators have grown in 1985-86 Eucalyptus on an area of 50.67 hectare and casurina on an area of 61.80 hectare, which together comprised 28.7 per cent of the land possessed by these cultivators. Similarly in the repeat selected five villages in Kolar district as many as 77 cultivators have grown Eucalyptus on an area of 111.52 hectares and Casurina on an area of 4.72 hectares, which together comprised 43.4 per cent of the land possessed by these cultivators.

13.2 Village-wise observation present that there has been a gradual increased impact in the cultivation of social forestry, particularly of Eucalyptus cultivation, for which ready market exists.

13.3 Between April 84 and July 85, around 96.2 percent of Eucalyptus produced in Bangalore district and 97.5 per cent of Eucalyptus produced in Kolar district has been marketed. Similarly in respect of Casurina around 88 per cent in Bangalore and 96 per cent in Kolar district has been marketed.

13.4 Less than 5 per cent of wood produce of Eucalyptus and Casurina has been put to self use by the Cultivators, establishing that the cultivation of these two species of wood are mainly grown for marketing, as the economic benefits derived is quite substantial for the input costs and also due to heavy marketing demands.

13.5 The entire quantity of Eucalyptus sold in Bangalore district and 97 per cent of the quantity sold in Kolar district was consumed as industrial raw material by M/s Harihar Poly Fibres and hardly 3 per cent sold in Kolar district, has been used as fuel.

13.6 In respect of Casurina, the entire quantity sold both in Bangalore and Kolar districts has been ultimately used as fuel although they are initially used as calavadies in building constructions, for which good market exists in the urban agglomeration of Bangalore.

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13.7 The pattern of self consumed wood produce of Eucalyptus and Casurina has been for agricultural implements, as building material and also as fuel in both Bangalore and Kolar district. Self consumed quantity of wood produce is however less than 5 percent of the total wood produced.

13.8 Adequate marketing facilities are available through several local agencies that have grown up for purchasing the wood produced by the cultivators at the village site itself. This has indirectly built the required infrastructure for marketing support. There are no government or factory agencies for the promotion and control of the sale of the wood produced. Market demands for industrial use being heavy and the net work of local agents ready to absorb the stock of wood produce of these two species marketed. Contact between the actual growers viz., the cultivators and the consumer seldom exists, giving rise to the middle men exploiting the economic benefits due to the cultivator as being the actual grower.

13.9 While the study has helped to draw broad conclusions based on its findings, however for formulating suitable policies on marketing aspects of the wood production of the two species of Eucalyptus and Casurina, a regular sample survey is considered essential to objectively assess its needs.
