

CHAPTER - I

EXECUTIVE SUMMARY

1.1 Background

The social security plantation is a very important component of the SCP implemented in almost all the divisions. The component involves raising one hectare of plantation of usufructs and economically valuable species. The degraded forests are selected nearer to the beneficiary's habitations and the plantation is established in consultation with the beneficiary by choosing the species based on silvicultural and economic criteria. The planting and seedling cost is borne by the scheme while the beneficiary is paid for his labor during the land preparation and planting activity. The subsequent maintenance and the watch and ward are the responsibility of the beneficiary.

1.2 Activities

1.2.1 Seedling distribution/Social security plantations

Distribution of seedling is a major component of the SCP program. In this component seedlings of high quality economically valuable species are selected and given to the beneficiaries free of cost. The seedlings are planted on their own farm lands of beneficiaries and protection is given to the plants till their establishment and maturity. During the maintenance stage technical advice is given to the beneficiaries. Besides supplying two seedlings the social security plantations were raised by supplying 100 seedlings of usufructs.

1.2.2 Supply of Casurina and Eucalyptus poles

Supply of Casurina and Eucalyptus poles to the beneficiaries is done with an objective of providing construction material to the beneficiaries to repair and build the dwellings and cattle sheds. In certain cases the raw material is also used for the value addition.

1.2.3 Supply of Saralavale/ Smokeless chullas

Under the SCP the forest department has been supplying the smoke less chullas to the beneficiaries with an objective of assisting the beneficiaries to use less firewood while reducing the smoke impact on the health of womenfolk who are subjected to environmental hazard.

1.2.4 Supply of LPG

Under the SCP the forest department has been supplying the LPG kits to the beneficiaries with an objective of assisting the beneficiaries to use less firewood while reducing the smoke impact on the health of women folk who are subjected to environmental hazard.

1.2.5 Supply of Solar lamp

Under the SCP the forest department has been supplying the solar lamps to the beneficiaries with an objective of helping the beneficiaries to have access to better quality of life, single or two bulbs have been supplied for house lightings.

Evaluation of Social Security Plantation

The survey has shown that the all the beneficiaries reported in the data base have actually received two seedlings. The numbers of seedlings received were also found to be accurate. In Dharwad 6 beneficiaries have not received the seedlings. In other divisions all the beneficiaries have received the seedlings. The species supplied is mango and Sapota, coconut and teak.

Table showing beneficiaries receiving for 2 Seedlings category

Year	Belgaum	Bagalkot	Bidar	Gulbarga	Dharwad	Gokak	Raichur	Bijapur
2009-11	190	80	61	9	16	42	110	133

Table showing beneficiaries received for 100 Nos. Seedlings category

Year	Belgaum	Bagalkot	Gokak	Bidar	Raichur	Bijapur	Gulbarga	Dharwad
2009-10	207	31	9	15	22	9	13	6

The verification of the 100 seedlings supplied to beneficiaries has been found accurate for all the beneficiaries. The seedlings supplied are Mango, Coconut and Sapota.

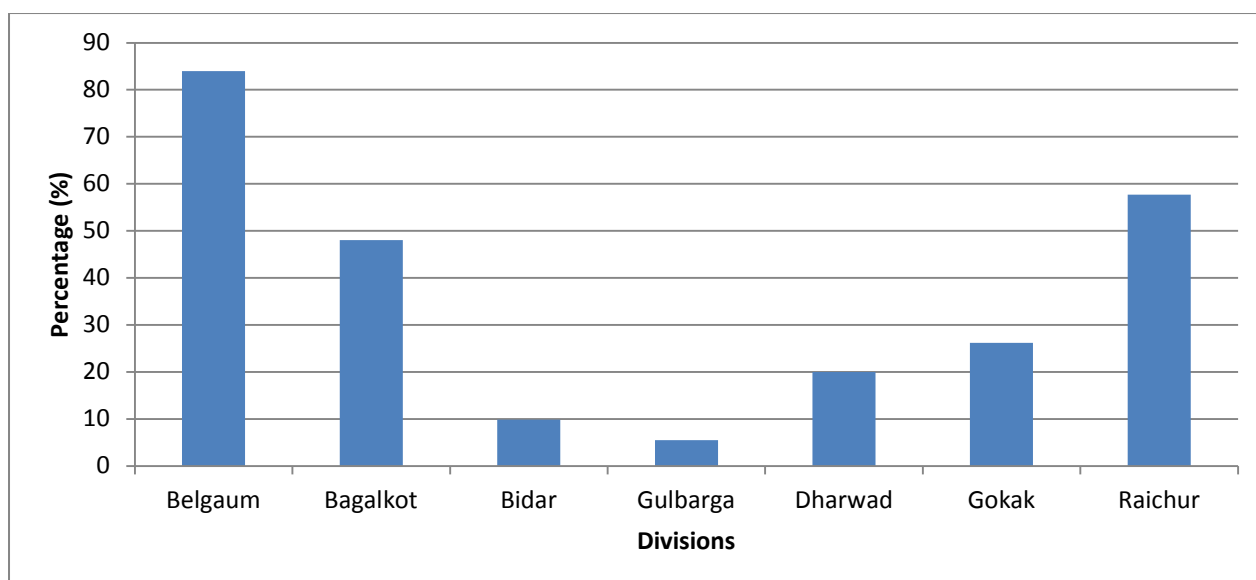
- (a) **Survival rate.** The survival rates were counted by observing the seedlings surviving in the field. The table gives the survival rate for different division. To calculate the survival all the seedlings supplied under the program have been counted and the survival rate has been calculated.

Table showing survival % in two seedlings scheme:

Year	Belgaum	Bagalkot	Bidar	Gulbarga	Dharwad	Gokak	Raichur	Bijapur	W. Avg
2009-11	84	48	9.83	5.5	20	26.19	57.72	0	39.61%

Results: The survey has shown that the survival of seedlings varying from 0 -84% across divisions. Bijapur recorded 100% mortality. However the lowest survival was found in Gulbarga with 5.5% and the highest in Belgaum with 84%. The overall survival rate (estimated by calculating the weighted average) is 39.61%.

Graph representing survival percentage among Divisions for 2 seedlings category:

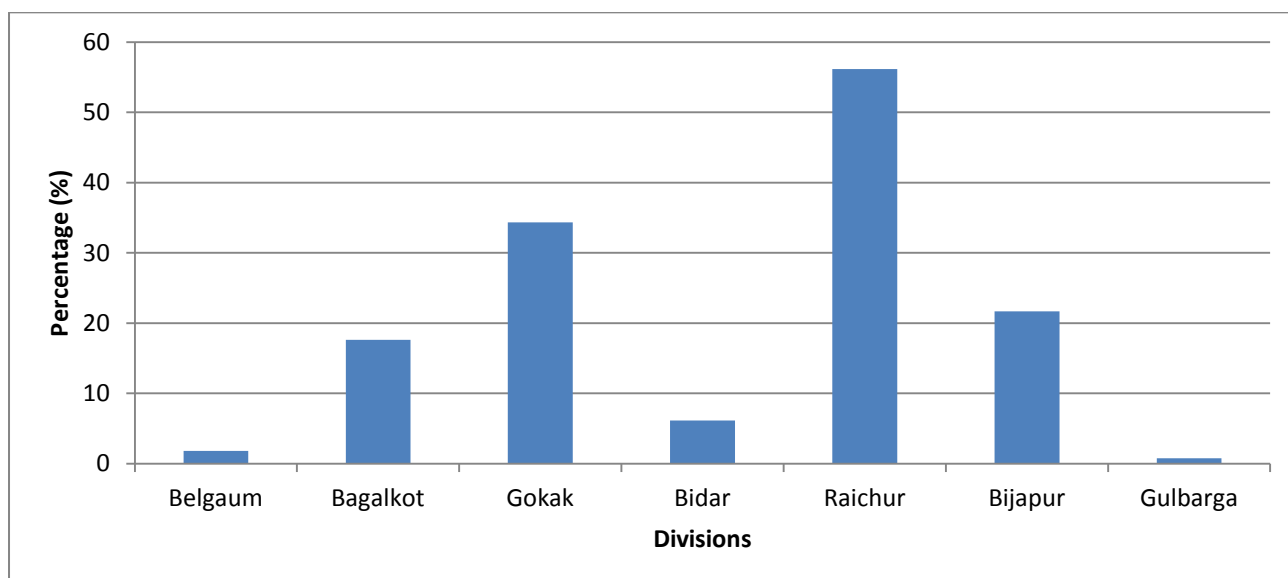


Survival of plantation of 100 seedlings category

Year	Belgaum	Bagalkot	Gokak	Bidar	Raichur	Bijapur	Gulbarga	W. Avg
2009-10	1.8	17.62	34.33	6.13	56.13	21.66	0.76	9%

The survival rate of the seedlings has shown that the survival rate of seedlings is very poor in many divisions except in Belgaum and Dharwad where the rainfall is very good. In other drier divisions like Bagalkot, Gulbarga and Bidar the survival rate is very low which needs a proper strategic level planning and improvement. The overall weighted average is 9%.

Graph showing survival percentage among Divisions (100 Seedlings category):



- A. Species wise Survival rate:** From this survey it is found that, Mango and sapota had very high survival rate as compared to other species. They prefer of beneficiaries are also was found to be more for mango and sapota as compared to other species.
- B. Supply of number of Seedlings:** Supply of just two seedlings are highly risky as there are no options available to replace the mortality. As the mortality rate of seedlings are almost 50 % in high rainfall areas, to ensure survival of 2 seedlings, minimum 4 seedlings needs to be supplied.
- C. Viability of seedlings numbers:** In very few cases, 100 seedlings (mango) has given 90-100 % success perhaps the beneficiary thinks worthwhile to spend his time and effort to protect bigger numbers than the two numbers as more numbers means an economic advantage to the beneficiary.
- D. Suitability of species:** The beneficiaries have expressed that un-suitability of species.

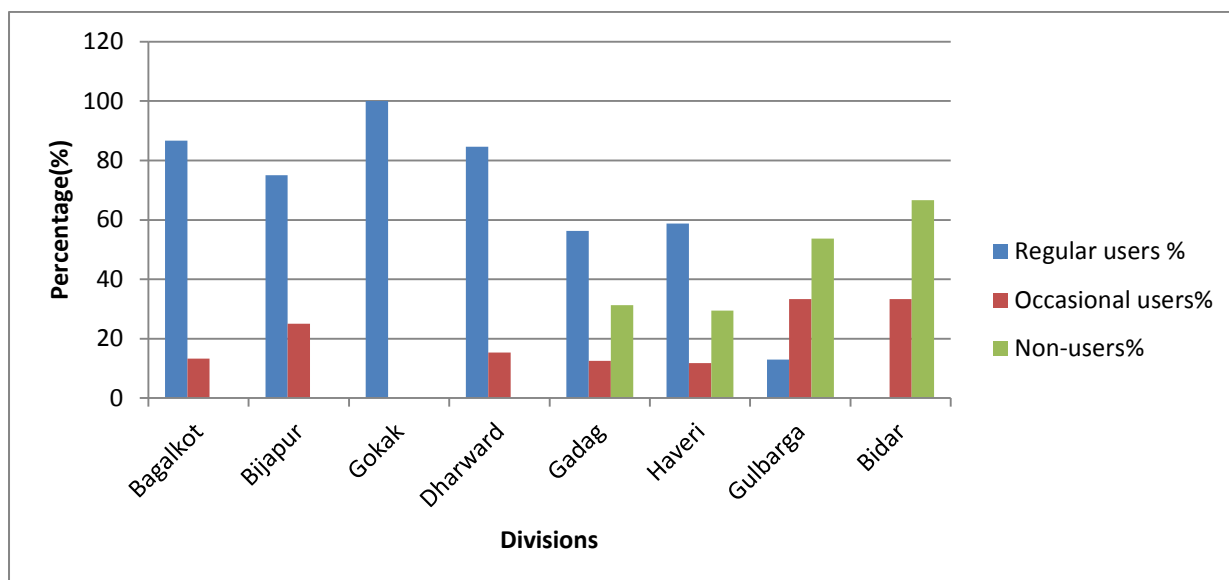
Evaluation of Smokeless stoves:

The survey has shown 90% of beneficiaries using the Astra valae/ Smokeless chullas in different divisions. The respondents have shown keen interest in using the improved stoves, as it has very high energy efficiency and less pollution (indoors), which has helped the beneficiaries. The pattern of use as regular users, occasional and no users are presented in the table and graph.

Table representing pattern of use in different divisions:

Division	Regular users %	Occasional users%	Non-users%
Bagalkot	86.66	13.33	0
Bijapur	75	25	0
Gokak	100	0	0
Dharwad	84.61	15.39	0
Gadag	56.25	12.5	31.25
Haveri	58.8	11.76	29.41
Gulbarga	12.96	33.33	53.70
Bidar	0	33.33	66.6

Graph representing smokeless stoves pattern of use in different divisions:



Health Impacts:

The survey of Health impact upon the use of smokeless chulas has shown that there was positive health impact on the beneficiaries using the improved stove.

LPG kits distribution: The distribution among the sampled beneficiaries has indicated 98% of the beneficiaries have received the benefits.

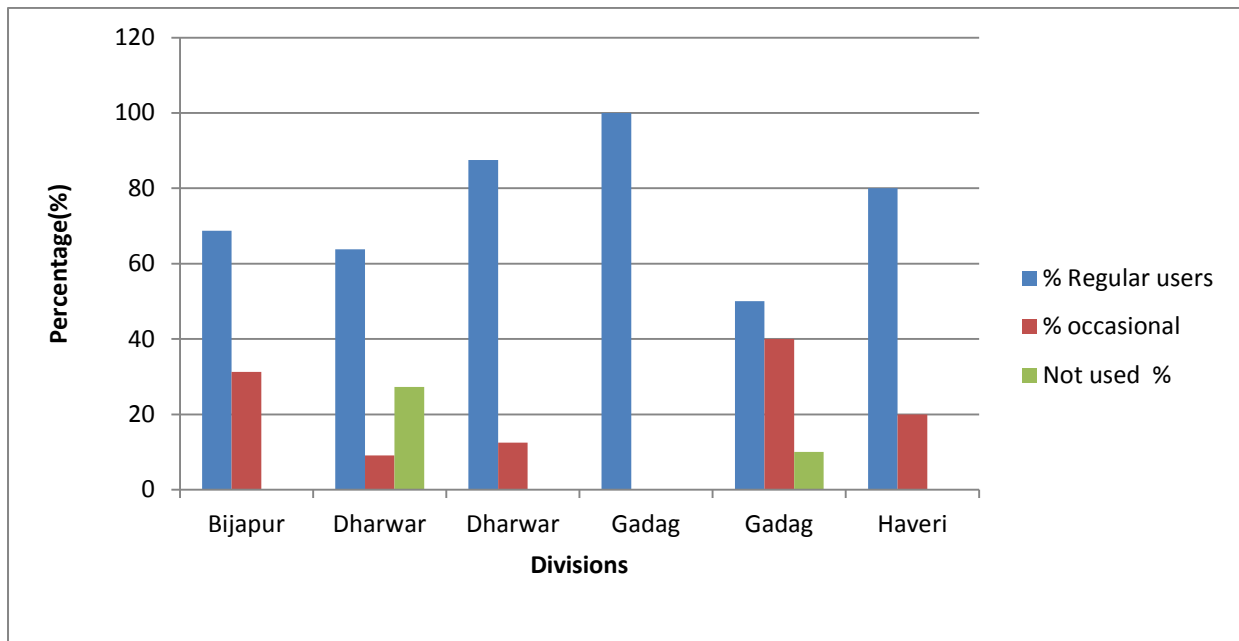
The LPG kit distribution evaluation has shown that nearly 50% beneficiaries are not using the benefits due to non availability of gas.

Solar lamps: Solar lamps have been distributed in seven divisions and the evaluation done in all the divisions are tabulated here.

Table showing the use pattern of solar lamps

Year	Division	Regular users %	Occasional users%	Non-users%
2010-11	Bijapur	68.75	31.25	0
2010-11	Dharwad	63.83	9.09	27.27
2012-13	Dharwad	87.5	12.5	0
2010-11	Gadag	100	0	0
2012-13	Gadag	50	40	10
2012-13	Haveri	80	20	0

Graph showing the use pattern of solar lamps:



Poles Distribution: The survey has shown that, the Eucaluptus and Casuarina poles distributed were not used by more than 70% beneficiaries in Bagalkot division. Only 21.05% beneficiaries used the material for household needs.

CHAPTER – II

INTRODUCTION

A. Special Component Plan (SCP) is a centrally sponsored program funded by Government of India. The main objective of the program is to help the poor and marginalized scheduled caste households to create economic assets through plantation development and to grow usufructs plants and to value add to the raw material supplied to them for improving their livelihood systems. The scheme is implemented throughout the state of Karnataka and the beneficiaries selected based on their caste and economic status.

B. Objectives of the program.

1. To assist Scheduled caste families to improve their livelihood and living standards.
2. To help the beneficiaries to grow usufructs seedlings of high nutritional quality for improving livelihood systems.
3. Smokeless chullas are supplied to the beneficiaries to improve the energy efficiency of stoves which in turn will reduce the firewood consumption and help in reducing carbon dioxide emission.

C. Funding. The funds are shared by state and central government. The states are required to earmark 15% of the state outlay under this program. The details of the funds year wise are mentioned in the next page.

D. Program and Activities.

Components of the SCP program: The components of the programs are selected as per the guidelines issued by the GOI from time to time and local conditions to enable the beneficiaries to make use of the assistance to develop durable assets. The components of the program implemented during 2009-2013 survey period are as follows.

(1) Social security plantations (SSP): The social security plantation is a very important component of the SCP implemented in almost all the divisions. The component involves raising one hectare of plantation of usufructs and economically valuable species. The degraded forests are selected nearer to the beneficiary's habitations and the plantation is established in consultation with the beneficiary by choosing the species based on silvicultural and economic criteria. The planting and seedling cost is borne by the scheme while the beneficiary is paid for his labour during the land preparation and planting activity. The subsequent maintenance and the watch and ward are the responsibility of the beneficiary.

SCP: UNIT - 1

Sl. No.	Circle	Division	2009-10 (in lakhs)			2010-11 (in lakhs)			2011-12 (in lakhs)			2012-13 (in lakhs)			Total (in lakhs)		
			Fin target	Amount released	Amount spent	Fin target	Amount released	Amount spent	Fin target	Amount released	Amount spent	Fin target	Amount released	Amount spent	Fin target	Amount released	Amount spent
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Gulbarga	Gulbarga	0.228	0.228	0.228	1	1	1	36.7	36.7	36.7	30.716	25.716	25.716	68.644	63.644	63.644
2		Bidar	3.996	3.996	3.995	16.779	16.779	16.773	22.6	22.6	22.451	36.478	31	30.328	79.853	74.375	73.547
3		Raichur													0	0	0
4		Yadgir	0	0	0	0.992	0.992	0.992	17.5	17.5	17.5	10.256	10.256	10.256	28.748	28.748	28.748
Total			4.224	4.224	4.223	18.771	18.771	18.765	76.8	76.8	76.651	77.45	66.972	66.3	177.245	166.767	165.939
5	Belgaum	Belgaum	6.197	6.196	6.196	26.014	26.014	26.014	15.01	15.01	15.014	12.57	12.57	12.57	59.791	59.79	59.794
6		Gokak	1.542	1.542	1.542	6.475	6.475	6.475	20	20	20	14.1	14.1	14.1	42.117	42.117	42.117
7		Bagalkot	2.1382	2.138	2.138	14.077	14.077	14.077	18.896	18.896	18.896	29.998	29.998	29.998	65.109	65.109	65.109
8		Bijapur	4.479	4.479	4.479	18.806	18.806	18.806	25.2	24.197	24.197	23.752	23.752	23.752	72.237	71.234	71.234
Total			14.356	14.355	14.355	65.372	65.372	65.372	79.106	78.103	78.107	80.42	80.42	80.42	239.254	238.250	238.254
9	Dharwad	Dharwad	1.757	1.757	1.757	7.376	7.376	7.376	10	10	10	15.009	15.009	15.009	34.142	34.142	34.142
10		Gadag	1.837	1.837	1.837	7.714	7.714	7.714	10.3	10.3	10.3	19.5	19.5	19.5	39.351	39.351	39.351
11		Haveri	0	1.547	1.547	0	9.845	9.845	0	13.33	13.33	0	18.355	18.355	0	43.077	43.077
Total			3.594	5.141	5.141	15.09	24.935	24.935	20.3	33.63	33.63	34.509	52.864	52.864	73.493	116.570	116.570

(2) Seedling distribution: Distribution of seedling is another major component of the SCP program. In this component seedlings of high quality economically valuable species are selected and given to the beneficiaries free of cost. The seedlings are planted on their own farm lands of the beneficiaries and protection is given to the plants till their establishment and maturity. During the maintenance stage technical advice is given to the beneficiaries.

(3) Supply Eucalyptus and Casuarinas Poles: Supply of Bamboo to the beneficiaries is done with an objective of providing construction material to the beneficiaries to repair and build the dwellings and cattle sheds. In certain cases the raw material is also used for the value addition.

(4) Supply of Saralavalae/Smokeless chullas and Astra valae/LPG: Under the SCP the forest department has been supplying the smoke less chullas to the beneficiaries with an objective of assisting the beneficiaries to use less firewood while reducing the smoke impact on the health of womenfolk who are subjected to environmental hazard.

(5) Supply of Solar lamp: Under SCP in few places solar lamps have been supplied to beneficiaries for house lightings with single or two bulbs. The scheme is aimed at helping the beneficiaries to have access to better quality of life.

E. Evaluation objectives.

The Evaluation of the program implemented during 2009-2013 was undertaken with the following objectives.

- Survey and Assessment of the physical assets created and the genuineness of the beneficiaries (according to eligibility)
- Evaluation of the Quality of the Assets and durability of the benefits.
- Physical verification of the Assets to assess the cost worthiness.
- Impact assessment of the scheme against the stated objectives.

CHAPTER – III: SAMPLE WORK

Circle	Division	Year	Supply of Poles (Casurina & Eucaluptus)	Solar Lamp	Sarala Valae/ Smokeless Stoves	LPG Stove	Social Security Plantation	Grand Total
			Beneficiary	Beneficiary	Beneficiary	Beneficiary	Beneficiary	Beneficiary
Belgaum	Bagalkot	2009-10	0	0	0	0	94	94
		2010-11	39	0	0	0	18	57
		2011-12	0	0	180	0	9	189
		2012-13	0	0	405	0	0	405
								745
	Belgaum	2009-10	0	0	0	0	175	175
		2010-11	0	0	0	0	207	207
		2011-12	0	0	138	0	10	148
		2012-13	0	0	138	0	11	149
								679
	Bijapur	2009-10	0	0	0	0	126	126
		2010-11	0	0	25	0	0	25
		2011-12	0	0	125	0	12	137
		2012-13	0	12	0	65	7	84
								372
	Gokak	2009-10	0	0	0	0	44	44
		2010-11	0	0	0	0	22	22
		2011-12	0	0	185	0	14	198
		2012-13	0	0	195	0	195	390
								654
Dharwad	Dharwad	2009-10	0	0	0	0	50	50
		2010-11	0	0	0	0	16	16
		2011-12	0	13	0	0	4	17
		2012-13	0	18	133	0	0	151
								234
	Gadag	2009-10	0	0	0	0	4	4
		2010-11	0	0	0	0	14	14
		2011-12	0	11	0	0	4	15
		2012-13	0	22	158	0	0	180
								213
	Haveri	2009-10	0	0	0	0	32	32
		2010-11	0	26	0	0	1	27
2011-12		0	18	0	0	13	31	
2012-13		0	15	143	0	4	162	
							252	
Gulbarga	Bidar	2009-10	0	0	0	0	45	45
		2010-11	0	0	0	105	0	105
		2011-12	0	26	0	0	10	36
		2012-13	0	0	184	0	10	194
								380
	Gulbarga	2009-10	0	0	0	0	7	7
		2010-11	0	0	0	7	0	7
		2011-12	0	32	0	32	15	79
		2012-13	0	55	75	0	0	130
								223
	Raichur	2009-10	0	0	0	0	120	120
		2010-11	0	0	112	0	0	112
2011-12		0	27	0	0	10	37	
2012-13		0	53	0	0	9	62	
							331	
	Total							4083

CHAPTER – IV

MATERIAL AND METHODS

Methodology followed in evaluation:

The contact work was split into cluster of circles which are adjacent to each other by the Forest department for the management convenience. Accordingly In each unit there were approximately three to four circles comprising of 11 forest Divisions. In each division there were 800 to 1000 beneficiaries in each year. It was agreed that there should be 10 % sampling intensity covering at least one activity in each division. The probabilistic sampling method was employed to select the samples from each Range with 10% intensity. The samples selected were again checked to ensure the coverage of all the ranges.

Defining the parameters for Evaluation: The following parameters were selected and defined to assess the program uniformly throughout the study.

- **Plantation and seedlings distribution.** The plantation was evaluated using the Performa developed and used for the plantation evaluation by FDA and other centrally sponsored schemes. The following parameters have been used to assess the plantations.
 - a) Survival %.
 - b) Collar diameter.
 - c) Vigor of the plantation.
 - d) Species suitability.
- **Eucalyptus and Casurina poles** - Physical verification and usage types.
- **Sarala vale/ Astra valae and Smoke less chullas** - Physical verification/use frequency/ Health impacts and fuel wood consumption rate.
- **LPG Stove** - Physical verification/use frequency/ Health impacts and fuel wood consumption rate

CHAPTER - V
ANALYSIS AND EVALUATION RESULTS

5.1 Evaluation of seedling distribution under SCP

Under the special component program distribution of seedlings to the beneficiaries was an important activity. Its main objective is to supply seedlings of usufruct value to be planted in the vacant back yard and to raise them to get the benefits. The seedlings supplied were mainly Mango, Sapota, coconut, and such other fruit species seedlings. The number of seedlings supplied varied from 2 to 100 depending upon local conditions.

Evaluation of the success of the social security plantation was done by selecting more than 1022 beneficiaries in different divisions. For the purpose of presenting the results the circle level pooling of data has been done, the division level results are given in the annexure.

The circles evaluated are Belgaum, Dharwad and Gulbarga.

5.1.1 Survey of 2 seedlings category:

Table showing the pattern of distribution of two seedlings

Year	Division	No. of Beneficiaries (Reported)	Received	% Received
2009-10	Bijapur	133	133	100
2010-11	Dharwad	80	74	92
2009-10	Gokak	275(52 surveyed)	52 (surveyed)	100 (against 52)
2009-10	Bagalkot	121(111 surveyed)	111	100 (against 111)
2009-10	Raichur	110	103	93.63
2009-10	Belgaum	403(397 surveyed)	397	100 (against 397)
2010-11	Bidar	61	61	100
2010-11	Gulbarga	9	9	100

(a) **Evaluation of survival of seedlings:** The evaluation was done by selecting 10% sample from the total number of beneficiaries. House to House survey was done to verify the physical execution of the program. The other important aspect of the evaluation was to assess the quality of the execution and the success of the program. Under this program two seedlings have been supplied.

(b) **Physical verification of seedlings planted:** The verification was done by making the door to door visit. The results are tabulated below. Circle level results are presented by pooling the data.

Table showing beneficiaries receiving for 2 Seedlings category

Year	Belgaum	Bagalkot	Bidar	Gulbarga	Dharwad	Gokak	Raichur	Bijapur
2009-11	190	80	61	9	16	42	110	133

The figure in the parenthesis indicates the beneficiaries were not found*.

The survey has shown that the all the beneficiaries reported in the data base have actually received two seedlings. The numbers of seedlings received were also found to be accurate. In Dharwad, 6 beneficiaries have not received the seedlings. In other divisions all the beneficiaries have received the seedlings. The species supplied is mango and sapota coconut, teak.

Table showing beneficiaries received for 100 No: Seedlings category.

Year	Belgaum	Bagalkot	Gokak	Bidar	Raichur	Bijapur	Gulbarga	Dharwad
2009-10	207	31	9	15	22	9	13	6

The verification of the 100 seedlings supplied to beneficiaries has been found accurate for all the beneficiaries. The seedlings supplied are mango, coconut and sapota.

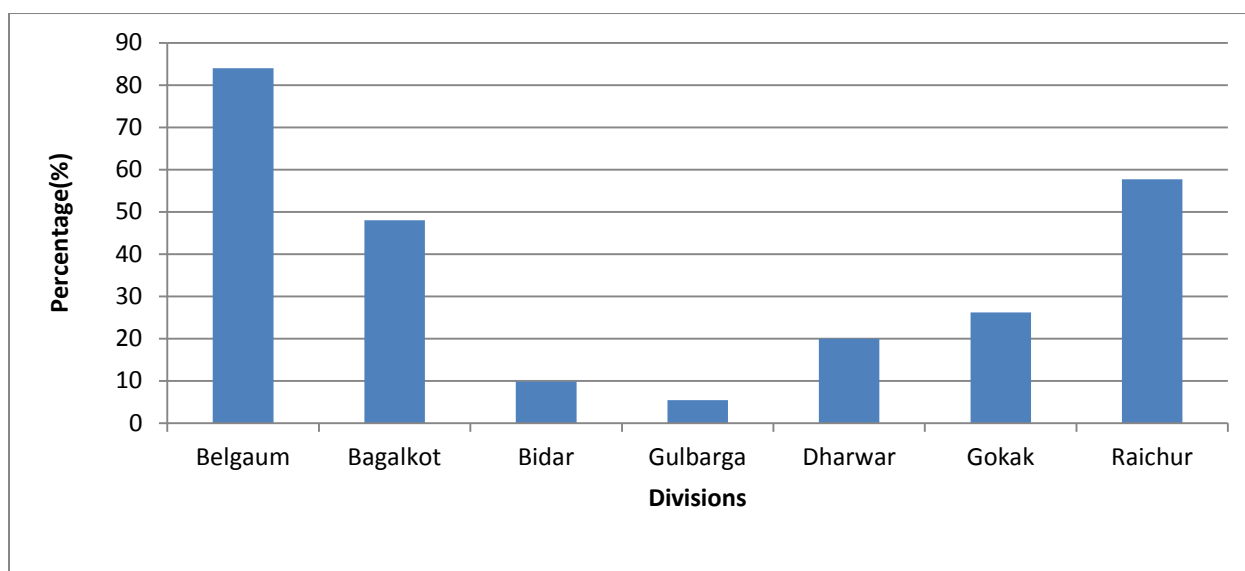
- (b) **Survival rate.** The survival rates were counted by observing the seedlings surviving in the field. The table gives the survival rate for different circle. To calculate the survival all the seedlings supplied under the program have been counted and the survival rate has been calculated.

Table showing survival % in two seedlings scheme:

Year	Belgaum	Bagalkot	Bidar	Gulbarga	Dharwad	Gokak	Raichur	Bijapur	W. Avg
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Results: The survey has shown that the survival of seedlings varying from 0 -84% across divisions. Bijapur recorded 100% mortality. However the lowest survival was found in Gulbarga with 5.5% and the highest in Belgaum with 84%. The overall survival rate (estimated by calculating the weighted average) is 39.61%.

Graph representing survival percentage among Divisions:



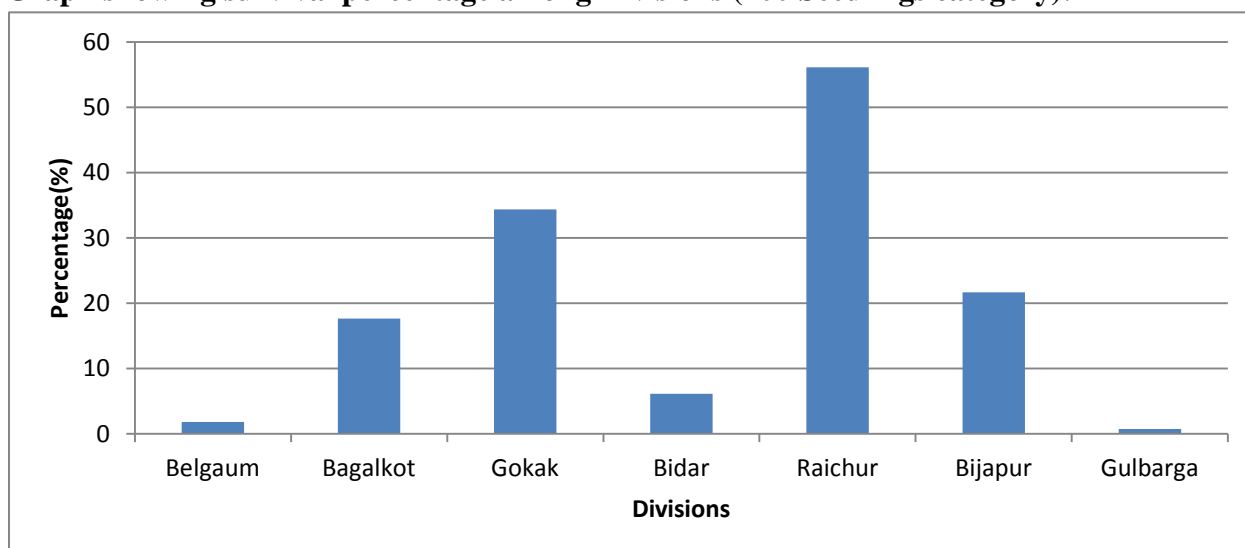
5.1.2 Survey of 100 seedlings category:

(c) Survival of plantation of 100 seedlings category.

Year	Belgaum	Bagalkot	Gokak	Bidar	Raichur	Bijapur	Gulbarga	W. Avg
2009-10	1.8	17.62	34.33	6.13	56.13	21.66	0.76	9%

The survival rate of the seedlings has shown that the survival rate of seedlings is very poor in many divisions except in Belgaum and Dharwad where the rainfall is very good. In other drier divisions like Bagalkot, Gulbarga and Bidar the survival rate is very low which needs a proper strategic level planning and improvement. The overall weighted average is 9%.

Graph showing survival percentage among Divisions (100 Seedlings category):



- (a) **Suitability of species.** The beneficiaries have expressed that un-suitability of species to the soil and local climate as one reason for the failure. Sapota and mango was not suited to drier climate. Similarly Amla and Jackfruit requires good rainfall to establish and survive. Mango was the most preferred species and its survival rate is comparatively higher compared to other species.
- (b) **Beneficiaries' choice.** Beneficiaries preferred species of different kind than what has been supplied.
- (c) **Suitability of land.** The suitability of land was another factor that was examined, It appears the land where the social security plantations have been raised are unsuitable for tree cultivation as they are very shallow and lack any organic matter.
- (d) **Size of the seedlings.** Most of the places they were smaller than one meter in height.
- (e) **Replacement.** There were no seedlings for replacement.
- (f) It is essential to integrate the follow-up and after care into the program. The incentives may be linked to the program implementation.

Species survival assessment: The species survival rate was assessed based on the date collected. The following table gives the species survival rate in different circles.

- i) **Mango.** In Belgaum the mango was found to have 90% rate of survival compared to sapota and coconut. However in Bijapur, Bagalkot, Gulbarga the survival rate is as low as 0-20%
- ii) **Coconut.** Coconut supplied in Belgaum had 84% success. In other divisions it was not supplied
- iii) **Sapota** recorded very low survival rate in all divisions.

Key findings:

Low survival rates. The overall survival rate is very poor and does not have any impact on the beneficiaries. The scheme objectives are good but needs a good package and protocol to control the quality of the implementation.

1. Viability of holdings. Supplying 2 to 10 seedlings may be avoided as they are not viable for the maintenance.
2. Among different species supplied Mango is doing well with more than good survival. Others particularly Sapota and Jamoon have not done well.
3. In very drier climate supplying Drumstick and Zizyphus (two year old grafted seedlings) may be very promising than supplying mango seedlings.

5.2 Supply of Energy saving devices

Under the special component program the supply of smokeless chullas of different types has been undertaken, as part of the evaluation the assessment of the impact of the program and the physical verification of assets distributed has been given in the table below.

5.2.1 Sarala valae, Astra valae and Smokeless chullas:

(a) **Physical verification of Assets.** The physical verification of assets distributed to beneficiaries was verified by randomly selecting the beneficiaries (10%). The results of the survey are tabulated in the table.

Table showing the distribution of saralavale assets:

Year	Division	No. of Beneficiaries	Actually Received in %	% Received
2012-13	Gulbarga	75	75	100
2012-13	Bidar	184	148	89
2010-11	Raichur	112	110	99
2012-13	Gadag	158	158	100
2012-13	Dharwad	133	133	100
2012-13	Haveri	143	143	100
2011-12	Belgaum	138	138	100
2012-13	Belgaum	138	138	100
2011-12	Bijapur	125	125	100
2011-12	Bagalkot	180	180	100
2012-13	Bagalkot	405	405	100

Results and analysis. The survey has shown the distribution was as per the data supplied by the department. There was almost 100% accuracy in the distribution of assets to the beneficiaries in the sampled villages. However Bidar and Raichur the beneficiaries actually found having received the assets are 89 and 99% respectively.

Specifications. The specification and quality of the assets were also evaluated and found that the specifications were as per the approved standards. The size of the stove and the length of the pies were also verified as part of the exercise.

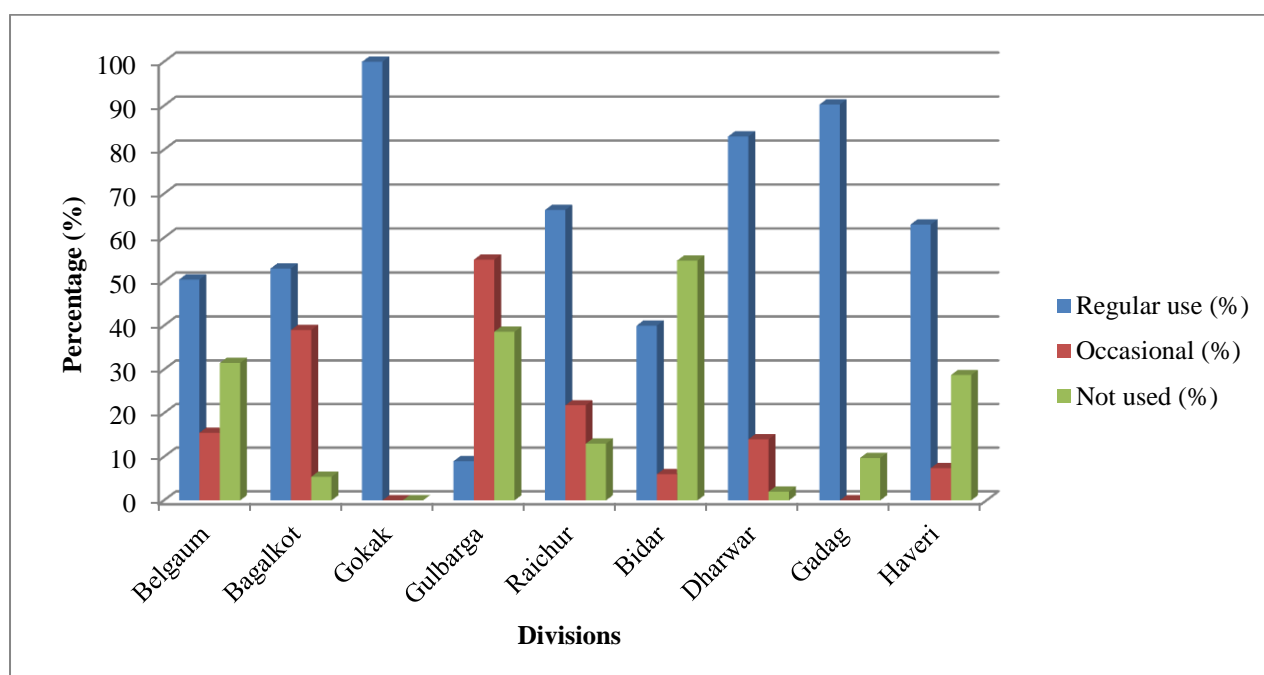
(b) **Patten of use.** During the survey the beneficiaries were asked whether they are using the stoves regularly, occasionally or not using at all to ascertain the pattern of use. The findings are tabulated below in the table.

Table showing the pattern of use of Sarala Valae , Astra valae and Smokeless chullas.

Division	Regular use (%)	Occasional (%)	Not used (%)
Belgaum	50.5	15.5	31.5
Bagalkot	53	39	5.4
Gokak	100	0	0
Gulbarga	9	55	38.6
Raichur	66.3	21.8	13
Bidar	40	6	54.8
Dharwad	83	14	2
Gadag	90.28	0	9.72
Haveri	63	7.4	28.73
%	49.0	17.55	33.45

Results. The survey has shown that the use of smokeless chulla was varying from 56-100% in different divisions. The overall % of beneficiaries using the smokeless chulla regularly was 49% and 17.5% were found using it occasionally. The rest were found not using it at all.

Graph representing pattern of use of Smokeless chullas among Divisions:



Belgaum. In Belgaum circle, Belgaum division was found to have 49% regular users and Bagalkot with 56% users.

Gulbarga. In Gulbarga circle the non-users were highest in numbers with 38%. The reason could be easy availability of agricultural waste as the fuelwood material.

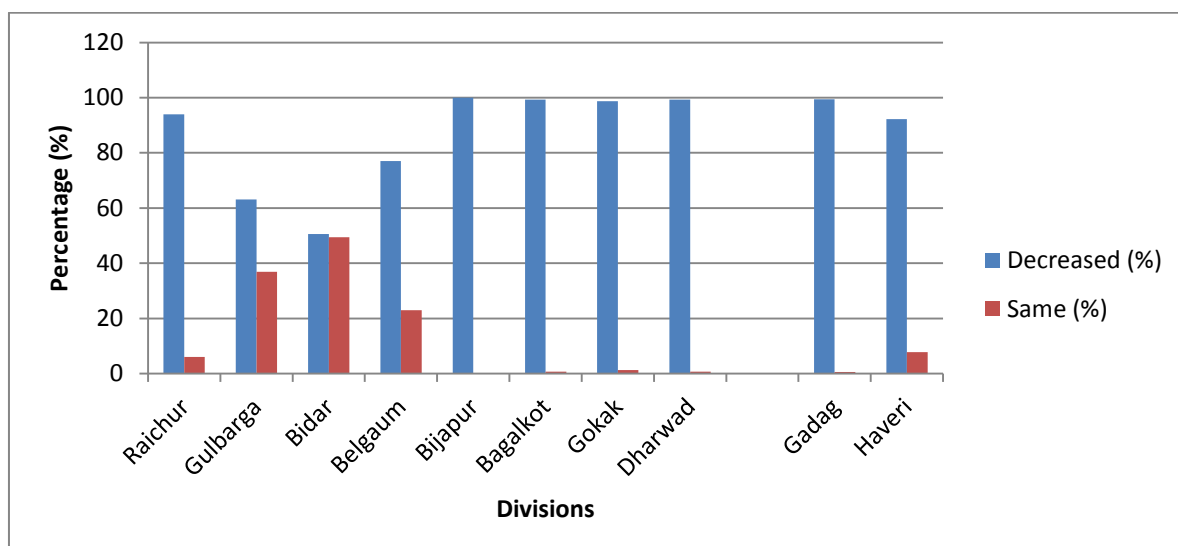
Dharwad. Dharwad circle had the maximum use pattern in all the divisions with 90.28% in Gadag and 83% in Dhaward.

(c) Reduction in Firewood consumption. The survey showing the reduction in firewood use in smokeless Chulla as felt by the users has been presented below. The reduction in the quantity of firewood used found to vary from 88-100% in different divisions. In drier districts like Gulbarga, 63.09% respondents felt that firewood use has reduced, followed by Bidar with 50.54%.

Table showing the reduced firewood consumption by the users of improved stoves:

Division	Decreased (%)	Same (%)	Remarks
Raichur	94	6	94% felt that there was reduction in use of firewood and savings in time.
Gulbarga	63.09	36.91	
Bidar	50.54	49.46	
Belgaum	77	22.99	
Bijapur	100	0	
Bagalkot	99.25	0.75	
Gokak	98.76	1.23	
Dharwad	99.25	0.75	
Gadag	99.39	0.61	
Haveri	92.24	7.76	

Results: The reduction in the firewood consumption due to adoption of Astravale as felt by the beneficiaries found varying from 0.75-49.46% in different divisions.



Gulbarga. In Gulbarga division 36.91% beneficiaries felt that there was perceptible reduction in the firewood consumption due to the adoption of Astravale.

Bidar. In Bidar, 49.46% respondents felt that there was reduction in firewood consumption after adoption of Astravale.

Raichur. In Raichur, 94% of the respondents felt that there was reduction in firewood consumption.

Belgaum. In Belgaum, 22.99% respondents felt that there was reduction in firewood consumption.

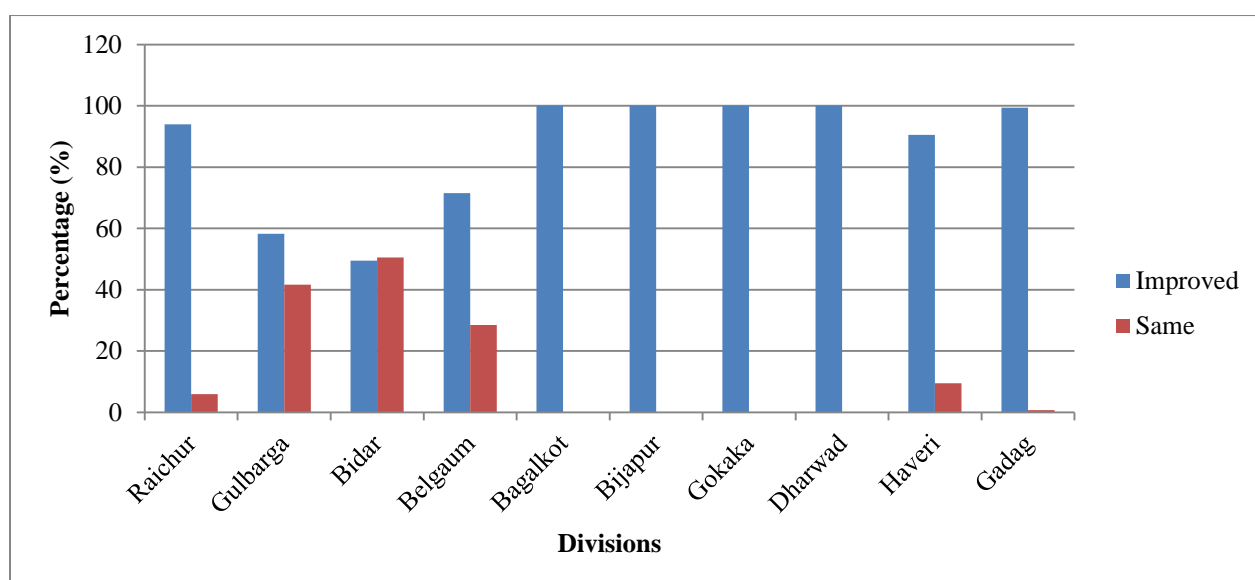
(D) Health impacts. The health impact was surveyed to know the impacts due to adoption of Astravale resulting in the reduced indoor pollution. The results are tabulated and the represented in the graphs.

Table showing health improvement status due to use of improved stoves

Division	Improved	Same
Raichur	94	6
Gulbarga	58.3	41.7
Bidar	49.54	50.55
Belgaum	71.5	28.46
Bagalkot	100	0
Bijapur	100	0
Gokak	100	0
Dharwad	100	0
Haveri	90.51	9.49
Gadag	99.39	0.7

Results: The results show that there is positive health impact due to use of Astravale and others stoves. In Raichur 94% respondents felt positive impacts on the health followed by 90% and 80% in Gulbarga and Bidar respectively. However in Bagalkot and Bijapur the respondents did not feel any change in the health status.

Graph showing the health improvement status due to use of improved stoves.



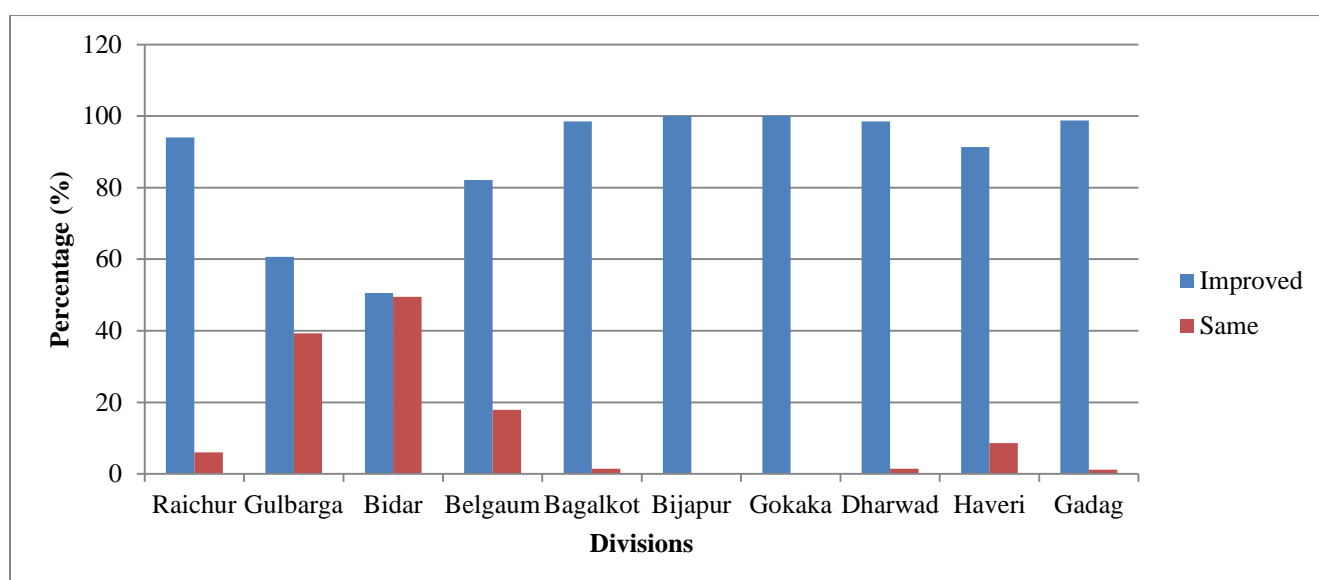
(E) Time savings: The survey was conducted to assess the time saved due to use of the smokeless assets and the respondents have said there was reduction in the time used for cooking and firewood collection.

Table showing Time saved due to use of efficient stoves.

Division	Improved	Same
Raichur	94	6
Gulbarga	60.71	39.29
Bidar	50.54	49.46
Belgaum	82.11	17.88
Bagalkot	98.5	1.41
Bijapur	100	0
Gokaka	100	0
Dharwad	98.5	1.49
Haveri	91.37	8.63
Gadag	98.78	1.22

Results: The reduced time in both cooking and the firewood collection was varied from 25% to 50% of their original time as recorded in the questionnaires. In Raichur, 94% beneficiaries felt that there was reduction in cooking and firewood collection time. Among Gulbarga respondents 60% felt the reduced time in cooking followed by 50% in Bidar.

Graph showing Time saved due to use of efficient stoves



5.3 LPG kit

The LPG kit has been supplied to the beneficiaries in Bijapur and Bidar division to reduce the firewood use by the beneficiaries and to adapt to the cleaner energy use practices. The evaluation results are tabulated below.

Year	Division	No of Beneficiaries	% of Beneficiaries Receiving	% of Beneficiaries Not Receiving	Remarks. (Sample Size)
2010-11	Bidar	1049	97.85	2.15	105
2012-13	Bijapur	647	100	0	65

Pattern of use: The pattern of use was evaluated as regular, occasional and non-users of the LPG kits. The results are tabulated below.

Table showing the pattern of use of LPG kits:

Year	Division	Regular users	Occasional users	Non users
2010-11	Bidar	30.10	19.35	50.53
2012-13	Bijapur	95.31	4.68	0

Results: In Bidar 30.10 % of beneficiaries were found using the LPG regularly. However the non users were accounting for nearly 50.53% indicating low adoption rate. Further 19.5% beneficiaries were found using occasionally.

Low adoption: The main reason for the low adoption is non availability of gas to the beneficiaries which needs to be addressed before selecting the beneficiaries.

5.4 Eucalyptus and Casuarinas Poles distribution.

Under SCP program Eucalyptus and Casuarinas poles have been distributed in Bagalkot division.

- (a) **Physical verification of assets:** The evaluation has shown that there was 100 percent beneficiaries had received the assets. The results are presented in the table below.

Table showing sampled beneficiaries receiving/ not receiving assets:

Division	Year	Beneficiaries	Sample size	% receiving	Remarks
Bagalkot	2009-11	390	39	100	All the beneficiaries have received

- a. **Value addition.** The survey was done to ascertain the value addition efforts made by the beneficiaries. The results are tabulated below.

Division	House use	Crafts	Agriculture	Sold	Not used
Bagalkot	21.05	0	0	0	78.94

The survey has shown that the eucalyptus poles were distributed in Bagalkot division to 390 beneficiaries. Out of 39 sampled all were found receiving the benefits. The use pattern shows only 21.05% used the material for the household and the rests have not used the material for any other purpose.

5.4 Solar lamp

Solar lamps have been distributed to beneficiaries to provide light to households which are not connected by grid connected electricity supply.

- (a) **Physical verification of assets**

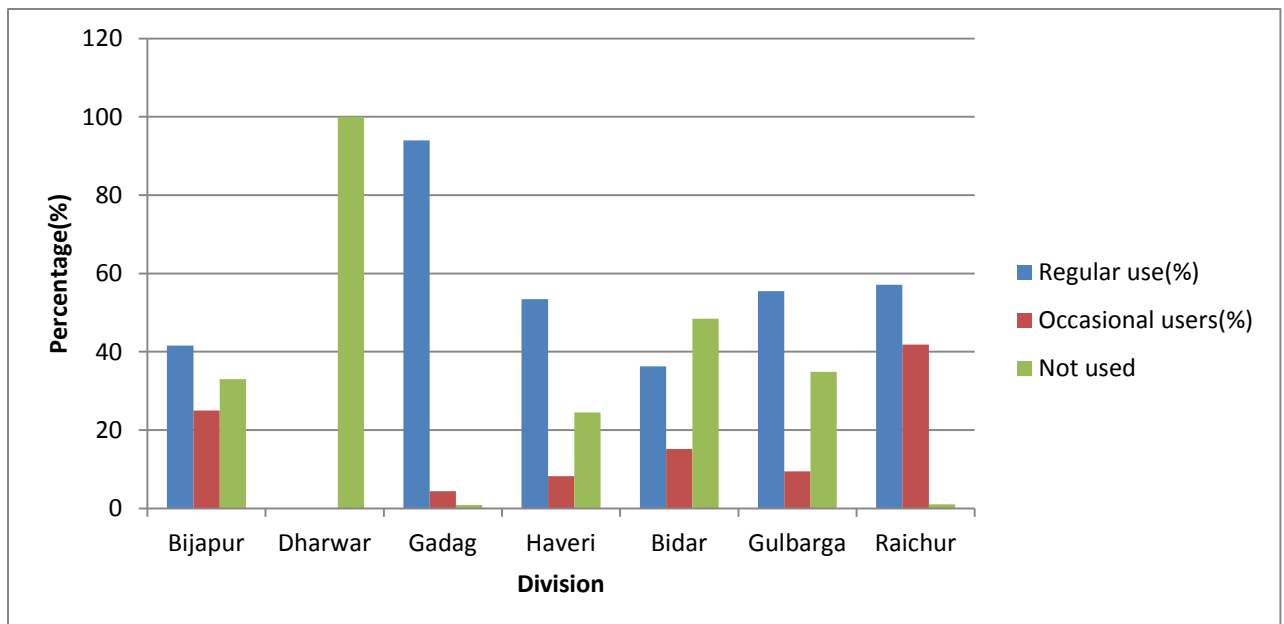
Year	Division	% received	% not received
2012-13	Bijapur	100	0
2011-13	Dharwad	93.55	6.45
2011-13	Gadag	100	0
2010-13	Haveri	100	0
2011-12	Bidar	96.16	3.84
2011-13	Gulbarga	100	0
2011-13	Raichur	100	0

Results: The physical verification was found to have 100% accuracy in all the divisions except in Dharwad division, where 6.45% have not received the assets. Similarly in Bidar division also 3.84% respondents had not received the assets.

Table showing the use of assets (Solar lamp)

Year	Division	Regular use (%)	Occasional users (%)	Not used
2012-13	Bijapur	41.6	25	33
2011-13	Dharwad	0	0	100
2011-13	Gadag	94	4.38	0.87
2010-13	Haveri	53.42	8.21	24.5
2011-12	Bidar	36.3	15.16	48.42
2011-13	Gulbarga	55.5	9.5	34.92
2011-13	Raichur	57.14	41.83	1.02

Graph showing the use of assets (Solar lamp):



Results and analysis:

Bijapur. 41% of the respondents in Bijapur have stated that they use the solar lamps regularly, while 33% are not using it due to technical issues in the lamps. The rest are using it occasionally. Provision for servicing of the lamps may be necessary after providing the assets to the beneficiaries.

Dharwad. No beneficiary is using the solar lamps due to servicing problem.

Gadag. The majority of the beneficiaries are using the solar lamps, and only 4.38% are not using it.

Haveri. In Haveri, 53.42% respondents are using and the rest are not able to use due to servicing problem.

Bidar. In Bidar, 36.3% respondents are using the solar lamps and the rests are not able to use.

Gulbarga. In Gulbarga, 55.5% are using and 34.92% are not using due to some problems in servicing.

Raichur. In Raichur, 57.14% are using it regularly and 41.83% are using it occasionally.

CHAPTER – VI

OBESERVATIONS AND IMPACT ANALYSIS

The activities undertaken under the special component program were analysed for their impact on the objectives of the scheme.

1. **Distribution of seedlings:** The distribution of seedlings was one of the important activities of the program; the assessment of the success rate has shown very poor survival of seedlings which has not achieved the objective of the program. However the program has done relatively better in the high rainfall areas as compared to low rainfall areas. Two seedlings per family looks very low as there are not enough seedlings to give minimum success rate. Considering the mortality rate minimum ten seedlings are required to ensure survival of two seedlings.
2. **Smokeless chullas:** The distribution of smokeless chullas and its usage has shown very encouraging results with more beneficiaries showing interest to use them due to their efficiency factor. This is also well demonstrated as the assets are well maintained and retained without any damage.
3. **Environment impacts:** The use of efficient chullas has helped to reduce the firewood consumption resulting in the reduced emission. The reduction in the indoor pollution has improved the health of women who were affected by the indoor pollution.
4. **Economic benefits to the beneficiaries:** The use of smokeless chullas has saved the time of firewood gathering which is used for the gainful employment.
5. **Distribution of Bamboos/poles:** The supply of bamboo and the poles was given to the beneficiaries has helped the beneficiaries to use the materials for various uses including the value addition, The value addition for making bamboo article has helped some families in earning additional income. The material also has been used for the house use and other agriculture purpose.

CHAPTER – VII

RECOMMENDATIONS

Seedling Distribution: The activity covering supply of two usufruct seedlings has not fared well due to inherent problems in the concept of the program. Supplying of two seedlings assuming 100% survival is a false notion. Further why only two seedlings, as there are many schemes within the department, where supply is free and unrestricted. Under the newly started program “Krishi Protsaha”, incentives are given to encourage farmers to grow more trees, which is better conceptualized and structured than the “two seedlings” concept under SSP. Similarly 100 seedlings program may be linked to incentives as done in “Krishi Protsaha” program.

1. Supply of Improved stoves: LPG kit linked to societies organizing gas procurement is doing well in some divisions. Similar structured and organized supplying LPG Kit with assured gas supply may be effective.
 - Sarala valae/ Smokeless Chullas: These activities need good servicing and maintenance support to improve the program. Better monitoring and training should be linked to this program.
 - Supply of Bamboo: Only artisans who can add value to the raw material should be encouraged. Training, skill development and marketing must be linked under this program
2. Demand based assets/ Benefits: KFD should have package of activities/ programs/ assistance linked to site specific needs and demand. Beneficiaries may be given range of options to choose the benefit.
3. Evaluation of Program :
 - The activities like seedlings / social security plantations must be evaluated after 5 years to assess the success rate. Further evaluation at 10th year would be useful to know the impact of the program.
 - Smokeless Chullas / Bamboo: These activities must be evaluated annually to verify the assets.
4. Concurrent monitoring: Concurrent monitoring of the program is very helpful to take up mid-course correction of the program.

Methodology:

1. 10% sampling intensity is too high: The robust statistical design must be adopted to determine the sample size and a statistical package (methodology) must be part of TOR. All the out sourced agencies doing evaluation should adopt the same method.
2. Questionnaires/ Formats: Data formats and Questionnaires’ and Statistical tools must be standardized and adopted.
3. Evaluation against standards or Base lines: To assess the components of the programs, it is better to fix standards and base line indicators against which evaluation must be done.
4. Data Formats: The data formats at division level must be entered in a uniform format, so that classification and assessment and adoption of filters are easier.

