

## **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 detailed below.

### **D. Models and its description:**

**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 all most all the division. 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.

**(b) 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 beneficiaries and protection is given to the plants till their establishment and maturity. During the maintenance stage technical advice is given to the beneficiaries.

**(2) Supply of Bamboo, Acacia and Casuarina 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.

**(3) Supply of Sarala valae/ Smokeless chullas and Astra valae/ LPG:** Under the SCP scheme 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 improving efficiency in cooking and to reduce the smoke impact on the health of womenfolk who are subjected to environmental hazard.

**(4) 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.

**(5) Others:** Honey box and Enviro fit stoves were given in some Divisions.

## **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

Abstract for Number of Samples selected for Evaluation under SCP Unit 3								
Samples selected for evaluation								
Division	Year	Supply of Bamboo	Solar lamp	Sarala Valae	LPG Stove	Social Security Plantation	OTHERS	Grand total
		Beneficiary	Beneficiary	Beneficiary	Beneficiary	Beneficiary	Beneficiary	Beneficiary
<b>Bhadavathi</b>	<b>2009-10</b>	0	0	0	0	66	0	<b>66</b>
	<b>2010-11</b>	10	0	0	0	10	0	<b>20</b>
	<b>2011-12</b>	0	8	0	0	0	0	<b>8</b>
	<b>2012-13</b>	0	0	0	0	0	0	<b>0</b>
			10	8	0	0	76	0
<b>Shimoga</b>	<b>2009-10</b>	0	0	0	0	126	0	<b>126</b>
	<b>2010-11</b>	0	0	0	0	54	9	<b>63</b>
	<b>2011-12</b>	0	12	0	0	0	0	<b>12</b>
	<b>2012-13</b>	0	0	0	0	0	0	<b>0</b>
			0	12	0	0	180	9
<b>Sagar</b>	<b>2009-10</b>	0	0	0	0	57	0	<b>57</b>
	<b>2010-11</b>	3	14	0	0	54	0	<b>71</b>
	<b>2011-12</b>	0	7	0	0	3	0	<b>10</b>
	<b>2012-13</b>	0	7	0	0	3	0	<b>10</b>
			3	28	0	0	117	0
<b>Chitradurga</b>	<b>2009-10</b>	0	0	0	0	129	0	<b>129</b>
	<b>2010-11</b>	0	0	0	64	0	0	<b>64</b>
	<b>2011-12</b>	0	24	22	13	0	0	<b>59</b>
	<b>2012-13</b>	0	0	0	13	0	0	<b>13</b>
			0	24	22	90	129	0
<b>Koppal</b>	<b>2009-10</b>	0	0	0	0	35	0	<b>35</b>
	<b>2010-11</b>	31	2	63	9	121	0	<b>226</b>
	<b>2011-12</b>	0	3	93	0	5	0	<b>101</b>
	<b>2012-13</b>	0	17	120	57	0	0	<b>194</b>
			31	22	276	66	161	0
<b>Hassan</b>	<b>2009-10</b>	4	0	0	0	0	0	<b>4</b>
	<b>2010-11</b>	6	6	10	1	0	17	<b>40</b>
	<b>2011-12</b>	0	65	0	0	0	0	<b>65</b>
	<b>2012-13</b>	0	51	0	30	0	0	<b>81</b>
			10	122	10	31	0	17
<b>Tumkur</b>	<b>2009-10</b>	0	0	0	0	180	0	<b>180</b>
	<b>2010-11</b>	0	8	1	15	141	0	<b>165</b>
	<b>2011-12</b>	0	15	31	64	17	0	<b>127</b>
	<b>2012-13</b>	0	31	226	0	9	0	<b>266</b>
			0	54	258	79	347	0
<b>Koppa</b>	<b>2009-10</b>	0	0	0	0	1	42	<b>43</b>
	<b>2010-11</b>	0	4	0	7	3	60	<b>74</b>
	<b>2011-12</b>	0	14	0	0	4	0	<b>18</b>
	<b>2012-13</b>	0	7	87	32	4	0	<b>130</b>
			0	25	87	39	12	102
<b>TOTAL</b>								<b>2457</b>

## Chapter IV

**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. As 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.
- **Bamboo/ Acacia Casuarinas 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)
- **Solar lamp:** Physical verification/use frequency.

## Chapter V

### 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 yards back of households and to raise them to get the usufructs benefits. The seedlings supplied were mainly Mango, Sapota, Drumstick, Jamoon, Amla, and such other fruit species. 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.

#### Table showing the pattern of distribution of seedlings.

Year	No of beneficiaries (Reported)	Received	% Received
2009-10	5940	5940	100
2010-11	3830	3830	100
2011-12	260	260	100
2012-13	190	190	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.

#### 5.1.1 Survey of 100 seedlings category:

##### Table showing beneficiaries interviewed for 100 Nos Seedlings category.

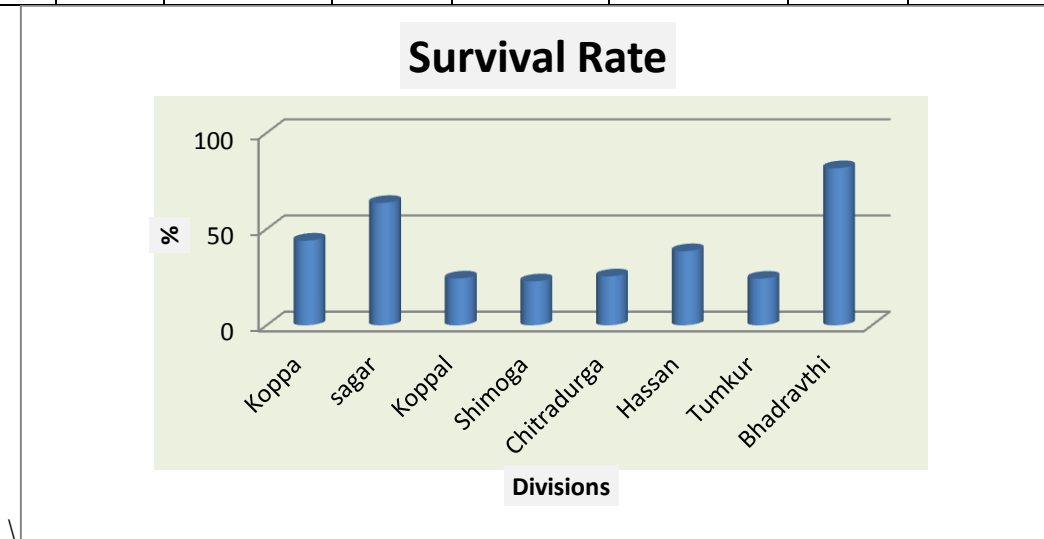
Year	Koppa	Sagar	Shimoga	Hassan	Koppal	Tumkur	Chitradurga	Bhadravathi
2009-10	13	5	16	38	15	55	7	7(1)

The verification of the seedlings supplied to beneficiaries has been found accurate for all the beneficiaries except for one beneficiary in Bhadravathi who has not been traced.

**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 rate of all the seedlings supplied under the program have been counted and the survival rate has been calculated.

**Table showing Survival % of 100 seedlings scheme.**

Year	Koppa	Sagar	Koppal	Shimoga	Chitradurga	Hassan	Tumkur	Bhadravthi
2009-13	44	63.6	24.3	22.81	25.4	38.5	24.2	81.66



The survival rate of the seedlings has shown that the survival rate of seedlings is very poor in many divisions except in Bhadravathi and Sagar where the rainfall is very good. In other drier divisions like Koppal and Chitradurga the survival rate is very low with just 24% which needs a proper strategic level planning and implementation. The overall weighted average of survival is 31.63.

### 5.1.2 Survey of 2 seedlings category:

**Table showing beneficiaries interviewed for 2 Seedlings category.**

Year	Koppa	Sagar	Shimoga	Chitradurga	Hassan	Koppal	Tumkur	Bhadravthi
2009-10	98(2)	99(4)	146(0)	72(27)*	171(3)	162(12)	274(23)	337

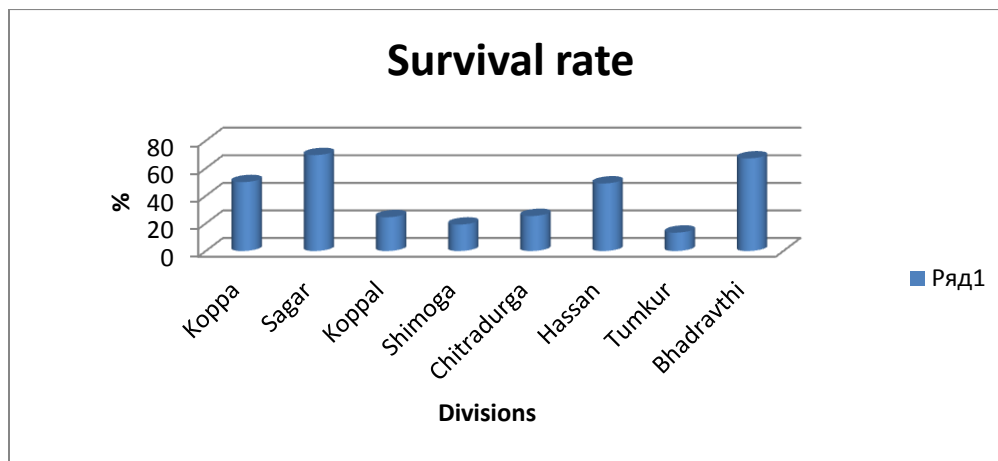
The figure in the parenthesis indicates the beneficiaries were not found\*.

The survey has shown that all the beneficiaries reported in the data base have actually received the seedlings. The numbers of seedlings received were also found to be accurate. In Chitradurga 27 beneficiaries have not received the seedlings. Similarly in Tumkur 23 beneficiaries have not received the seedlings.

**Table showing survival % in two seedlings scheme**

Year	Koppa	Sagar	Koppal	Shimoga	Chitradurga	Hassan	Tumkur	Bhadravthi
2009-13	50	69.16	24.52	19.17	25.4	49	13.32	67.18

**Graph showing the survival percentage in two seedlings:**



**Results:** The survey has shown that the survival of seedlings varying from 13 -67.18% across divisions. The lowest survival was found in Tumkur and the highest was in Sagar 69.16%. The overall survival was estimated by calculating the weighted average was 35.5%.

**Cause for low survival.**

- (a) **Suitability of species.** The beneficiaries have expressed un-suitability of species to the soil and local climate. Sapota 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) **Beneficiary’s choice.** Beneficiaries preferred species of different kind than what has been supplied. Therefore demand based supply is essential.
- (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 seedlings were smaller than one meter in height, which has very low survival chance in isolation.
- (e) **Replacement.** There were no seedlings supplied for replacement, which hampered the causality 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 wise survival assessment:** The species survival rate was assessed based on the data collected. The following table gives the species survival rate in different divisions.

Year	Koppa	Sagar	Koppal	Shimoga	Chitradurga	Hassan	Tumkur	Bhadravthi
2009-13	Mango Sapota	Mango	Mango	Mango Sapota	Mango	Mango and Eucalyptus	Mango	Mango

### 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 50 % survival. Others particularly Sapota and Jamoon have not done well.

### 5.2 Supply of Energy saving devices.

Under the special component program the supply of smokeless chullas of different types has been undertaken. The evaluation results including physical verification of assets distributed and quality of use has been given in the table below.

### 5.2 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 assets:**

Year	Chitradurga	Koppal	Hassan	Tumkur	Koppa
09-10	-	-	-	-	-
10-11	-	100%	100%	-	-
11-12	100%	100%	-	75%	-
12-13	100%	-	-	92%	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 except as Tumkur Division where it was ranging between 77 to 92%.

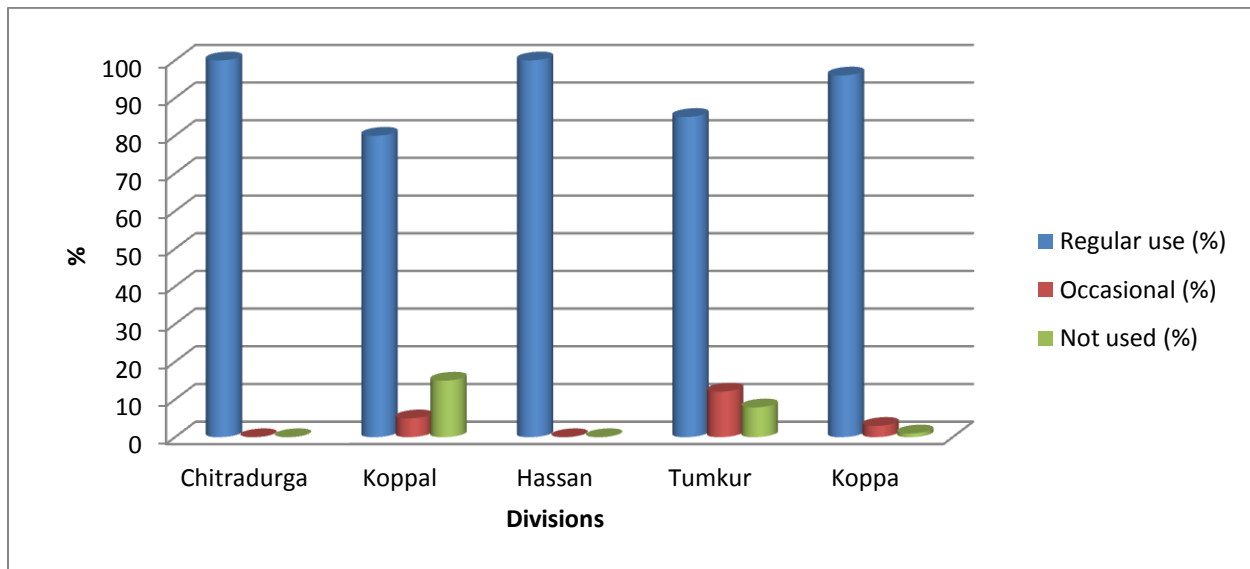
**Specifications.** The specification and quality of the assets were also evaluated and found that the specifications were as per the approved standards. The size of the stove and the length of the pipes were also verified as part of the exercise.

**(b) Pattern of use:** The survey was conducted to evaluate the pattern of use by asking the beneficiaries the question whether they are using regularly, occasionally and not used.

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

Division	Regular use (%)	Occasional (%)	Not used (%)
Chitradurga	100	0	0
Koppal	80	5	15
Hassan	100	0	0
Tumkur	85	12.1	7.9
Koppa	96	3	1

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



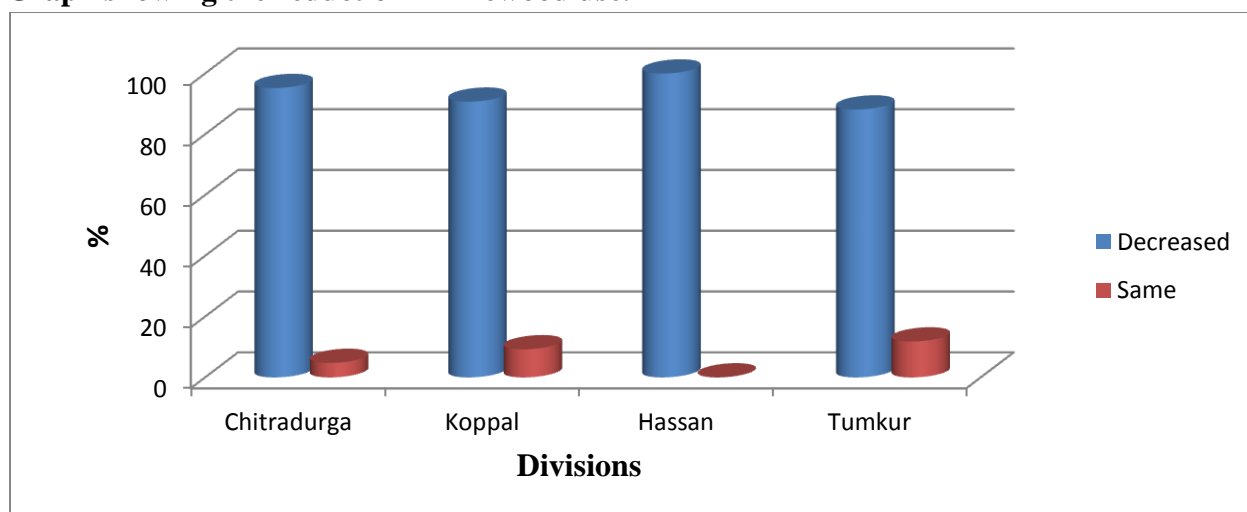
**Results:** The survey has shown that the use of smokeless chullas was varying from 89-100% in different divisions. In Chitradurga the use was by all the beneficiaries followed by Koppa with 90% use in practice. Only Koppal recorded 80% use.

(c) **Firewood consumption pattern study:** The survey was conducted to assess the firewood consumption pattern. The results are tabulated below.

**Table showing the reduction in firewood use.**

Divisions	Decreased (%)	Same (%)
<b>Chitradurga</b>	95.23	4.77
<b>Koppal</b>	90.75	9.25
<b>Hassan</b>	100	0
<b>Tumkur</b>	88.17	11.83
<b>Koppa</b>	90.94	9.06

**Graph showing the reduction in firewood use.**



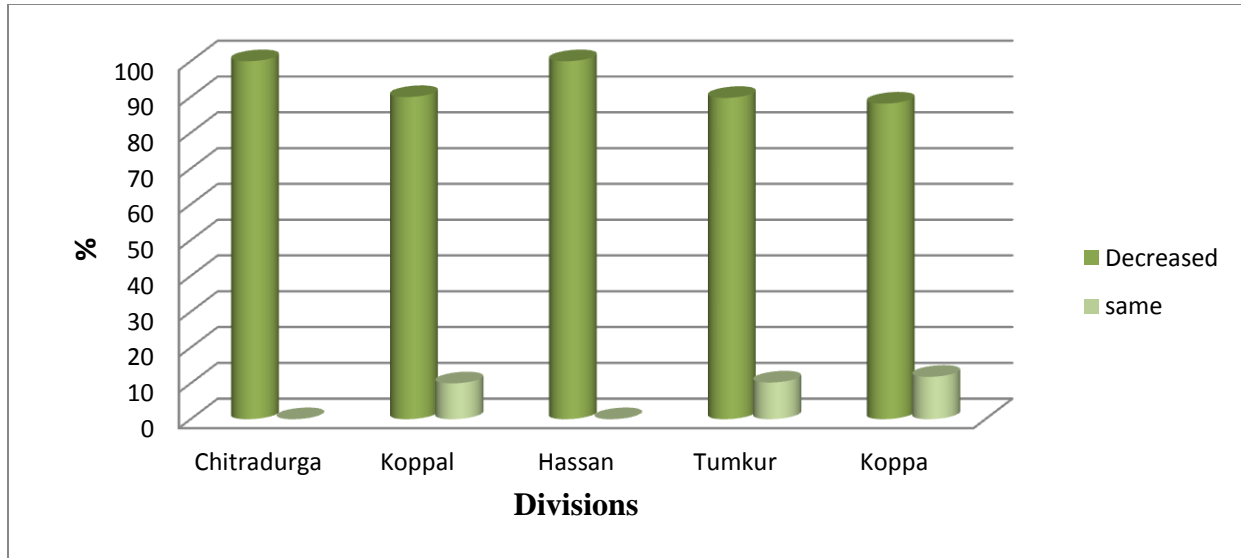
**Firewood used.** The survey has shown the following frequency of firewood use in smokeless chulla uses. The reduction in the quantity of firewood used found to vary from 88-100% in different divisions. In drier districts like Chitradurga 100% respondents are using reduced firewood.

(d) **Health impacts:** The health impact due to use of smokeless chullas was surveyed to know the impacts. The results are tabulated and represented in the table and graphs.

**Table showing the impact on health by using Sarala valae, Astra valae and Smoke less chullas.**

Divisions	Improved (%)	Same (%)
<b>Chitradurga</b>	100	0
<b>Koppal</b>	90.75	9.25
<b>Hassan</b>	80	20
<b>Tumkur</b>	81.88	18.12
<b>Koppa</b>	91.39	8.61

**Graph showing the impact on health by using Astra valae and other stoves.**



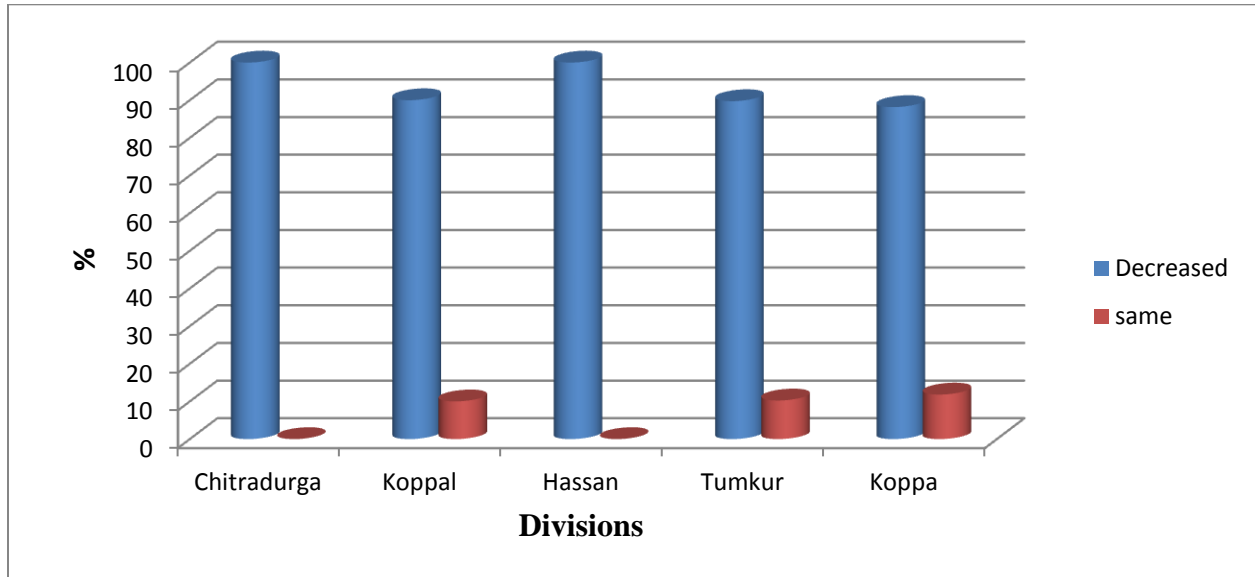
**Results:** The results show that there is positive health impact due to use of Astra valae and others stoves. In Chitradurga 100% respondents felt positive impacts in the health followed by 90.75% in Koppal and 80% in Hassan.

**(e)Time savings:** The survey was conducted to assess the time saved in cooking due to use of the smokeless chullas. The respondents have said there was reduction in the time used for cooking as well as firewood collection.

**Table showing the time saved in fuel wood consumption using Sarala valae and other stoves.**

Divisions	Decreased (%)	Same (%)
<b>Chitradurga</b>	100	0
<b>Koppal</b>	90	10
<b>Hassan</b>	100	0
<b>Tumkur</b>	89.75	10.25
<b>Koppa</b>	88.17	11.83

**Graph showing the time saved in fuel wood consumption using Sarala valae and other stoves.**



**Results:** The reduced time in both cooking and the firewood collection varied from 25% to 50% of their original time as recorded in the questionnaires. In Chitradurga 100% beneficiaries felt that there was reduction in cooking and firewood collection time.

### 5.3 Bamboo distribution

The bamboo distribution to beneficiaries was assessed for verifying the accuracy of the distribution and the use pattern was also assessed. The results are tabulated and discussed below.

**(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.**

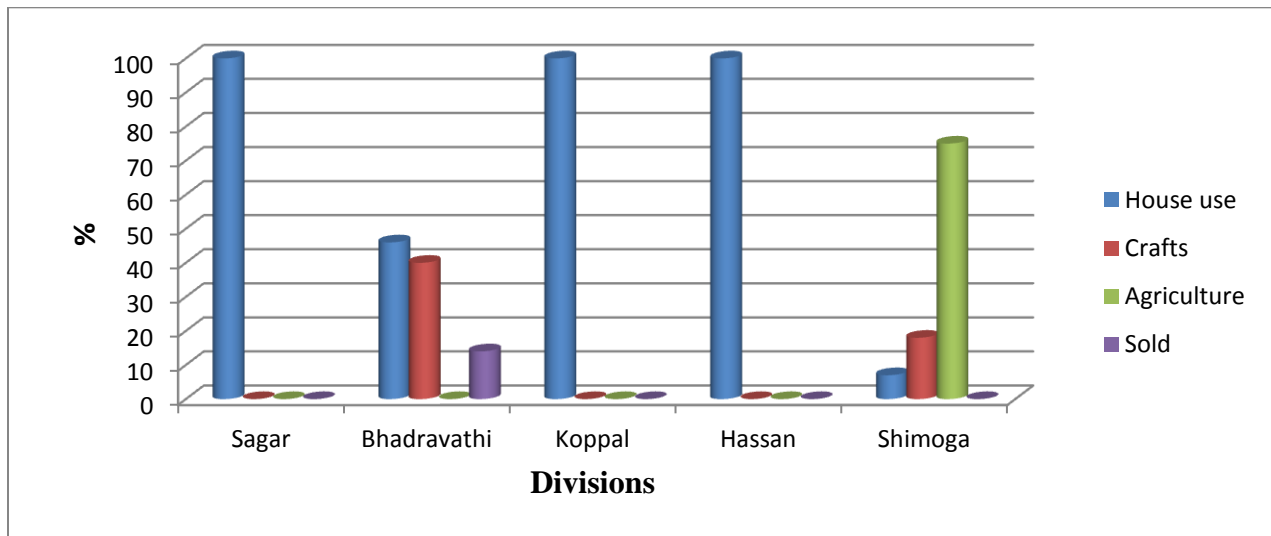
Division	Receiving	Not receiving	% Received	Remarks
Sagar	3	0	100	All the beneficiaries have received
Bhadravathi	10	0	100	
Koppal	31	0	100	
Hassan	10	0	100	

(b) **Value addition.** The survey was done to ascertain the value addition efforts made by the beneficiaries to the bamboo and poles. The results are tabulated below.

**Table showing the Value addition efforts made by Beneficiaries with Bamboo.**

Division	House use (%)	Crafts (%)	Agriculture (%)	Sold(%)
Sagar	100	0	0	0
Bhadravathi	46	40	0	14
Koppal	100	0	0	0
Hassan	100	0	0	0
Shimoga	7	18	75	0

**Graph showing the value addition use pattern of bamboo poles.**



**Result and analysis:** The survey has shown that, the use of bamboo was put to multiple uses like housing, crafts and agriculture. The major use was found for Housing followed by agriculture and crafts.

(1) **House hold use:** The pattern of use of bamboo for house hold varied from division to division. In Sagar, Koppal and Hassan 100% beneficiaries have used bamboo for house hold purpose. In Bhadravathi 46% have used for the Households followed by 7% in Shimoga.

(2) **Crafts purpose:** In Bhadravathi and Shimoga the beneficiaries using bamboo for crafts is 40 and 18% respectively.

(3) **Agriculture:** In Shimoga 75% was found using for agriculture.

(4) **Sold for others:** In Bhadravathi 14% beneficiaries have sold the material for others.

(c) **Economic impacts:** The survey was done to ascertain the economic impact of the program. The results are presented below.

**Table showing economic impacts as positive or not**

Division	Yes (%)	No (%)
Sagar	100	0
Bhadravathi	100	0
Koppal	100	0
Hassan	100	0
Shimoga	100	0

The survey has shown that all respondents have responded by stating that they felt derived the economic benefits. The economic benefits range from using the poles for households and using bamboo as raw material for crafting and selling it for the higher rates.

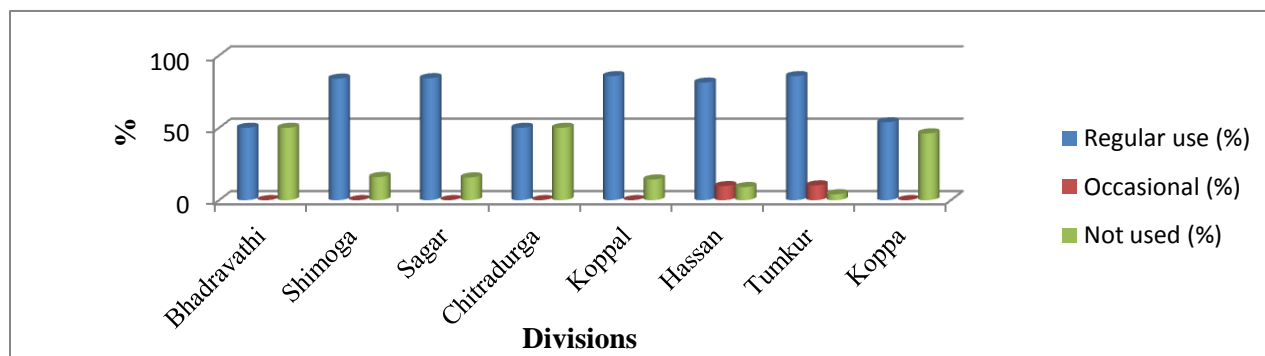
#### 5.4 Distribution of Solar lamp:

Under SCP, solar lamps have been supplied to provide lighting to houses. The survey result as the pattern of use is presented here.

**Table showing the use pattern of solar lamps.**

Division	Regular use (%)	Occasional (%)	Not used (%)
Bhadravathi	50	0	50
Shimoga	84	0	16
Sagar	84.3	0	15.7
Chitradurga	50	0	50
Koppal	85.71	0	14.29
Hassan	81.25	9.72	9.02
Tumkur	85.71	10.20	4.08
Koppa	53.84	0	46.15

**Graph showing the use pattern of solar lamp in different divisions.**



**Results:**

**(a)Physical distribution:** The survey has shown that solar lamps distribution was 100% accurate as per the list provided by the department.

**(b)Use pattern:** The survey has shown that the use of solar lamps varied from 50-85.8% as regular use and occasional users were between 9-10%. However the respondents not using the solar lamps were ranging between 9-50%. The technology of servicing and the Battery quality were the main causes for the low frequency use.

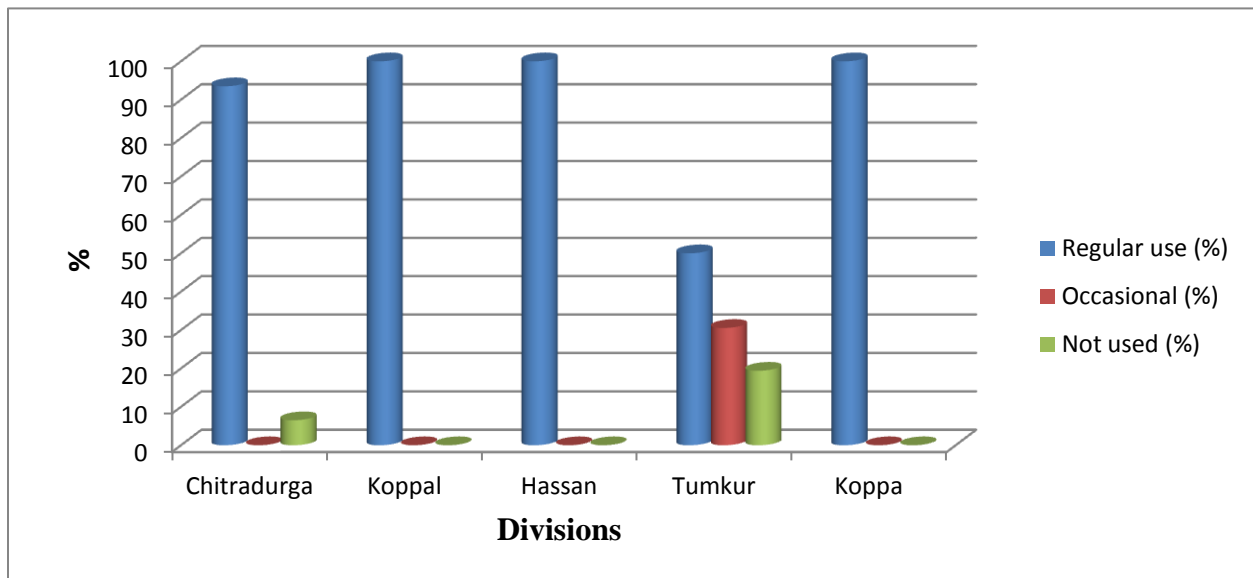
**5.5 Distribution of LPG kit:**

In some divisions LPG kit has been supplied to households. The survey has been done to assess the performance.

**Table showing the use pattern of LPG Kit:**

Division	Regular use (%)	Occasional (%)	Not used (%)	Remarks
Chitradurga	93.5	0	6.5	
Koppal	100	0	0	
Hassan	100	0	0	
Tumkur	50	30.55	19.4	Non availability of gas
Koppa	100	0	0	

**Graphs showing the use pattern of LPG stoves.**





**Results:**

**(a) Physical verification:** LPG distribution was physically distributed and found to be accurate as per the list provided.

**(b) Use pattern:** The use of LPG varied from 50-100% in different divisions. The LPG was solely dependent on the capacity source the gas. Many could not have access to the gas either due to financial or other reasons.

**5.6 Other assets:** The assets like Beekeeping boxes and Envirofit stove were also distributed to beneficiaries. The evaluation results are tabulated in the table.

**Table showing the other activities in each division:**

Year	Shimoga			Hassan		
	Envirofit cook stove		Remarks	Bee keeping box		Remarks
	SS	AR		SS	AR	
09-10	0	0	6 are not in use 3 are occasionally used	0	0	Out of 10 no's 8 are not used
10-11	9	9		17	10	
11-12	0	0		0	0	
12-13	0	0		0	0	

**(a) Use pattern of Envirofit stoves.** The survey has shown out of 9 beneficiaries 6 are not using and only three are occasionally using the stove.

**(b) Use pattern of Beekeeping boxes.** Out of 10 beneficiaries who received Bee hive boxes interviewed only two were found using and the rest are not using due to various reasons.