Mysore J. Agric. Sci., 59 (2) : 187-194 (2025)

Impact of Tribal Development Programmes on Socio-Economic Condition of Soliga Tribal Women in Chamarajanagar District of Karnataka

K. N. Manohar[1], V. Govinda Gowda[2], Y. N. Shivalingaiah[3] and G. M. Gaddi[4]
[1&3]Department of Agril. Extension, [4]Department of Agril. Economics, College of Agriculture, UAS, GKVK, Bengaluru
[2]ICAR-Krishi Vigyan Kendra, Tumakuru, UAS, Bengaluru
e-Mail : knbmpu711@gmail.com

Authors Contribution

K. N. Manohar : Conceptualization, data collection, analysis and manuscript preparation

V. Govinda Gowda : Supervision, results interpretation, critical feedback and editing

Y. N. Shivalingaiah & G. M. Gaddi : Guidance, analytical approach and draft review

Corresponding Author :
K. N. Manohar

Received : December 2024
Accepted : January 2025

Abstract

The present study was conducted in the Chamarajanagar district of Karnataka in 2023 to analyse the impact of tribal development programmes on the socio-economic conditions of Soliga tribal women. The primary data was collected from 180 Soliga women using a pretested interview schedule through a random sampling method. The results revealed that significant changes following the implementation of tribal development programmes, particularly in housing, household material possessions, livestock possession, annual income, participation in traditional festivals and cropping patterns. Notably, there was a complete shift from huts and wooden houses to pucca houses with sheet and cement roofs with percentage increases of 56.11 per cent and 20.00 per cent, respectively. Significant improvements were also observed in livestock possession and household material possessions with paired t-values of 7.160 and 31.732, respectively. The mean annual income of Soliga tribal women increased substantially from Rs.5,657.77 to Rs.15,909.44 after the programmes were implemented. Additionally, there was an increase in the area under crops like ragi, coffee, maize, pepper, marigold and also the introduction of new crops such as ginger, chilli and turmeric was observed as a result of these programmes.

Keywords : Soliga tribal women, Impact, Socio-economic condition, Tribal development programmes

Karnataka hosts a rich diversity of tribal communities, including the Soligas, Jenu Kurubas and Koragas, comprising about 6.95 per cent of the state's population in which Soligas population is about 33871 which contribute only 0.79 per cent of total ST population of Karnataka (Annonymous, 2011). The Soligas primarily inhabit the Biligiri Rangana Hills (BRH), Male Mahadeshwara Hills and surrounding areas, relying on Non-Timber Forest Products (NTFP) like honey, gooseberries and bamboo for their livelihood. However, displacement due to conservation policies and inadequate rehabilitation measures has disrupted their traditional ways of life. Tribal women, especially Soligas, face severe disadvantages due to limited education and awareness of government benefits. Effective policies ensuring secure land rights, access to essential services and integration of their forest knowledge into conservation efforts are vital for preserving their socio-economic and cultural heritage. The Soliga tribal women have undergone significant socio-economic transformations due to various tribal development programmes under Tribal Sub Plan *i.e.,* Integrated Tribal Development Project a holistic approach that includes economic development, infrastructure development, social development and cultural preservation. These interventions have targeted improving living conditions, income levels, livestock possession and household amenities, while promoting economic stability and modernization. The programmes have

also impacted traditional practices and participation in cultural events, highlighting the dynamic interplay between modernization and cultural preservation. This study examines the influence of these developmental initiatives on aspects such as housing, livestock, household material possessions, annual family income and participation in traditional festivals, showcasing the strides made in enhancing the quality of life for Soliga women while addressing the challenges encountered. With this background present study was conceptualized with specific objective:

1. To assess the impact of tribal development programmes on socio-economic condition of the Soliga tribal women

Methodology

The present study was conducted in the Chamarajanagar district of Karnataka with a sample size of 180 Soliga tribal women. All five taluks from the district were selected and from each taluk, four villages were selected based on the highest number of population of Soliga women. An *ex-post facto* research design was followed with a random sampling method and the data was collected by a pretested interview schedule by personal interview method. The data regarding impact was measured based on the recall method by using the before implementation of programmes and after-implementation of programmes with completion of a minimum of five years. The collected data was analysed, quantified and categorised into low (< Mean-0.5*SD), medium (Mean ±SD) and high (> Mean + 0.5*SD) using statistical methods like percentage, mean, standard deviation and paired t test.

Results and Discussion

Impact of Tribal Development Programmes on Socio-Economic Condition of the Soliga Tribal Women

The changes in socio-economic conditions due to the intervention of developmental activities and programmes in the study area were measured in terms of changes that occurred in type of house, livestock possession, household material possession, annual family income, participation in traditional festivals and cropping pattern.

Type of House

The data presented in Table 1 on the type of housing among Soliga tribal women shows a significant transformation in housing conditions following the implementation of tribal development programmes such as Housing scheme for the vulnerable section under ITDP.

Table 1

Impact of tribal development programmes on changes in type of house among Soliga tribal women

(n =180)

Category	Before		After		Difference**	
	No.	%	No.	%	No.	%
Hut	100	55.56	0	0.00	-100.00	-55.56
Wooden/ Bamboo house	32	17.78	0	0.00	-32.00	-17.78
Thatched house	23	12.78	1	0.56	-22.00	-12.22
Kutcha house	21	11.67	38	21.11	17.00	9.44
Pucca house (RCC)	1	0.56	37	20.56	36.00	20.00
Semi-Pucca house (Sheets)	3	1.67	104	57.78	101.00	56.11
Paired 't' stat = 34.63**						

***- Significant at 1 %; ** - Significant at 5 % and * - Significant at 10 %

Before implementation of the housing scheme for vulnerable groups, more than half of the women (55.56%) lived in huts followed by 17.78 per cent of them residing in wooden or bamboo houses and 12.78 per cent lived in thatched houses. A small percentage lived in kutcha houses (11.67%), with very few having pucca (RCC) houses (0.56%) and Semi-pucca (sheet) houses (1.67%). After the implementation of programmes there was a complete elimination of huts and wooden/bamboo houses with all women moving out of these categories. The number of women living in thatched houses also significantly decreased (12.22 %) from 12.78 per cent to 0.56 per cent. Mean while, there was an increase in the number of women residing in kutcha houses, rising from 11.67 per cent to 21.11 per cent, showing a 9.44 per cent increase. The most notable changes were in the shift to pucca houses. The proportion of women living in pucca (RCC) houses increased from 0.56 per cent to 20.56 per cent, while those in semi-pucca (sheet) houses dramatically rose from 1.67 per cent to 57.78 per cent.

The table highlights the significant changes in housing type over the years, attributed to the effective implementation of tribal development programmes in the study area. However, changes in house types are evident with some applications still pending due to emphasis given to Particularly Vulnerable Tribal Groups (PVTGs). Additionally, the division of joint families into smaller nuclear families after separation may have resulted in the rejection or delay of housing applications for some families. These results are inline with findings of Pavithra (2019).

Livestock Possession

The Table 2a reveals notable changes in specific livestock possession among Soliga tribal women. The most significant increase was observed in poultry with ownership rising from 33.33 per cent to 61.11 per cent, indicating a 27.78 per cent increase. Goat and sheep ownership also saw increases with goat possession rising by 5.56 per cent (from 20.56 to 26.11 %) and sheep by 6.11 per cent (from 25.56 to 31.67 %). While the number of respondents owning buffalo and cows slightly decreased by 0.56 per cent and 6.11 per cent, respectively, there was an introduction of new livestock activities such as rabbit rearing (0.56%) and fish rearing (3.33%), which were previously non-existent. These shifts suggest a diversification in livestock resources, contributing to enhanced food security and economic stability among the women.

Further, from Table 2b, it is clear that a little more than half (51.11 %) of Soliga women had low livestock possession followed by medium (25.00 %) and high (23.89 %) livestock possession before the implementation of tribal development programmes.

Table 2a

Impact of tribal development programmes on livestock possession among Soliga tribal women

(n =180)

Particulars	Before		After		Difference***	
	No.	%	No.	%	No.	%
Buffalo	12	6.67	11	6.11	-1	-0.56
Cow	47	26.11	36	20.00	-11	-6.11
Goats	37	20.56	47	26.11	10	5.56
Sheep	46	25.56	57	31.67	11	6.11
Poultry	60	33.33	110	61.11	50	27.78
Piggery	1	0.56	1	0.56	0	0.00
Rabbit	0	0.00	1	0.56	1	0.56
Fish rearing	0	0.00	6	3.33	6	3.33

Paired 't' stat = 7.160***

***- Significant at 1 %; ** - Significant at 5 % and * - Significant at 10%

TABLE 2b

Overall livestock possession of Soliga tribal women

(n =180)

Category	Before		After		Difference***	
	No.	%	No.	%	No.	%
Low (<6.25)	92	51.11	73	40.56	-19	-10.56
Medium (6.26-9.44)	45	25.00	62	34.44	17	9.44
High (>9.44)	43	23.89	45	25.00	2	1.11
Mean = 7.85; ½ SD = 1.59						

Paired 't' stat = 7.160***

***- Significant at 1 % level

After the implementation of programmes nearly three-fifth (59.44 %) of them belonged to medium (34.44 %) to high (25.00 %) livestock possession and remaining 40.56 per cent of them belonged to low category. Which shows significant differenceat one per cent level with 't' value of 7.160.

The probable reason for the above results is that tribal welfare department provided the livestock with a subsidised rate before COVID pandemic. After the COVID pandemic the tribal communities were not benefited from any livestock programmes especially among Soliga tribes in the study area.

Household Material Possession

An overview of Table 3a regarding the possession of essential household items among Soliga tribal women shows improvements after the implementation of development programmes.

TABLE 3a

Impact of tribal development programmes on household material possession among Soliga tribal women

(n =180)

Category	Before		After		Difference**	
	No.	%	No.	%	No.	%
Grinder/ mixy	1	0.56	103	57.22	102	56.67
Fan	2	1.11	127	70.56	125	69.44
Television	1	0.56	154	85.56	153	85.00
Tape recorder/ radio	1	0.56	47	26.11	46	25.56
Gas stove	3	1.67	141	78.33	138	76.67
Cycle	22	12.22	61	33.89	39	21.67
Four wheeler	0	0.00	20	11.11	20	11.11
Two wheeler	3	1.67	130	72.22	127	70.56
Mobile phone	1	0.56	147	81.67	146	81.11
Ward robe	7	3.89	138	76.67	131	72.78
Cot	16	8.89	144	80.00	128	71.11

Paired 't' stat = 31.732**

***- Significant at 1 %; ** - Significant at 5 % and * - Significant at 10%

TABLE 3b

Overall household material possession of Soliga tribal women (n =180)

Category	Before		After		Difference**	
	No.	%	No.	%	No.	%
Low (<1.09)	151	83.89	72	40.00	-79	-43.89
Medium (1.09 - 3.89)	29	16.11	56	31.11	27	15.00
High (>3.89)	0	0.00	52	28.89	52	28.89
Mean = 2.49; ½ SD = 1.40						

Paired 't' stat = 31.732**

**- Significant at 5% level

The percentage of women owning grinders/mixies surged from 0.56 per cent to 57.22 per cent, reflecting a substantial increase in access to essential kitchen appliances. Similarly, the proportion of women with fans rose from 1.11 per cent to 70.56 per cent, indicating enhanced comfort through better cooling devices. Access to televisions increased significantly from 0.56 per cent to 85.56 per cent, suggesting greater availability of information and entertainment. Ownership of tape recorders/radios grew from 0.56 per cent to 26.11 per cent, highlighting improved access to audio entertainment and news. Gas stove ownership jumped from 1.67 per cent to 78.33 per cent, reflecting better cooking facilities. One-third (33.89%) of respondents possessed cycles in their families which rose from 12.22 per cent, while no one possessed four-wheelers before, about 11.11 per cent are now having them, enhancing transportation options. Two-wheeler ownership surged from 1.67 per cent to 72.22 per cent, showing improved personal transportation. Mobile phone ownership increased from a meagre 0.56 per cent to 81.67 per cent, indicating better communication access. Additionally, the percentage of women with wardrobes rose from 3.89 per cent to 76.67 per cent, reflecting better storage solutions and ownership of cots increased from 8.89 per cent to 80.00 per cent, indicating improved sleeping arrangements.

In addition to this, Table 3b showed that before implementation of tribal development programmes, none of Soliga tribal women belonged to high category of household material possession, followed by the 83.89 per cent and 16.11 per cent were distributed among low and medium categories respectively. While, after the utilization of these programmes nearly two-third (60.00 %) of them belonged to medium to high category, remaining two-fifth (40.00 %) of Soliga women belonged to the low category which shows significant change at 5 per cent with 't' value 31.732. This might be due to the increase in income over the years and effect of modernization among the tribal community. These results are inline with the findings of Arularasan and Narayanaswamy (2011).

Annual Income of the Family

The annual income distribution of Soliga tribal families showed notable changes post-intervention as shown in Table 4. The proportion of families in the low-income category (<4146.44) increased from 12.22 per cent to 22.22 per cent, reflecting a rise of 10.00 per cent. In contrast, the medium-income category (4146.44 to 16356.90) decreased significantly from 82.78 per cent to 62.78 per cent with a reduction of 20.00 per cent. However, families in the high-income category (>16356.90) increased from 5.00 per cent to 15.00 per cent indicating a rise of 10.00 per cent.

The average annual income of the families improved substantially, increasing from Rs.5,657.77 to Rs.15,909.44 with a significant 't'- statistic value of 7.286 at the 1 per cent level. This suggests that there

TABLE 4

Impact of tribal development programmes onthe annual income of the Soliga family

(n =180)

Category	Before		After		Difference***	
	No.	%	No.	%	No.	%
Low (< 4146.44)	22	12.22	40	22.22	18	10.00
Medium (4146.44 – 16356.90)	149	82.78	113	62.78	-36	-20.00
High (> 16356.90)	9	5.00	27	15.00	18	10.00
Mean = 10251.67; ½ SD = 6105.23						

Paired 't' stat = 7.286***

***- Significant at 1 % level

has been a significant uplift in the overall income levels of Soliga tribal families. This might be due to most of Soliga family members were mainly dependent on the daily wages and other subsidiary activities which helps to get regular income throughout the year when compared to before implementation of the programmes which in turn helps to increase their socio-economic condition with their minimal income. Similar results were reported by Bhuvana *et al.* (2014).

Participation in Traditional Festivals

An overview of Table 5a shows that before implementation of tribal development programmes more than half of the Soliga women participated in traditional festivals like Rotti habba (53.33 %), Hosa ragi habba (64.44 %) and marriages within clans (61.67 %). While, after implementation and utilization, some changes were observed in Rottihabba (44.44%), Hosaragi habba (56.11%) and marriages within clans (53.89%) among Soliga tribal women.

From the Table 5b, overall participation in tribal festivals among Soliga tribal women reveals notable changes, comparing the periods before and after developmental interventions. Before interventions, a significant portion nearly half (48.88%) of them reported high participation in traditional festivals. However, this declined to 39.44 per cent after the interventions, reflecting a decrease of 9.44 per cent. Conversely, the proportion of women with low participation increased from 35.56 per cent to 41.12 per cent (a 5.56% rise), while those with medium participation increased from 15.56 per cent to 19.44 per cent (a 3.89% rise). The overall decline in mean

TABLE 5a

Impact of tribal development programmes on participation in traditional festivals

(n =180)

Category	Before (Participated)		After (Participated)		Difference***	
	No.	%	No.	%	No.	%
Rotti habba	96	53.33	80	44.44	-16	-8.89
Hosa ragi habba	116	64.44	101	56.11	-15	-8.33
Marriages within clans	111	61.67	97	53.89	-14	-7.78

***- Significant at 1 %; ** - Significant at 5 % and * - Significant at 10%

TABLE 5b

Overall participation in traditional festivals among Soliga tribal women

(n =180)

Category	Before		After		Difference***	
	No.	%	No.	%	No.	%
Low (<1.12)	64	35.56	74	41.12	10	5.56
Medium (1.12 - 2.48)	28	15.56	35	19.44	7	3.89
High (> 2.48)	88	48.88	71	39.44	-17	-9.44
Mean = 1.80; ½ SD = 0.681						

Paired t stat = -3.366***

***- Significant at 1 % level

participation scores from 1.80 to 1.55 was statistically significant at the 1 per cent level (paired *t* = -3.366).

There was a negatively significant relation after the implementation of the programmes with a minor difference in participation in traditional festivals. This might be due to the Soliga community living in the study area still depends on their traditions, customs and rituals. Only few people had changed their mindset on traditions.

The cropping pattern changes due to tribal development programmes are depicted in Table 6.

In the *Kharif* season, the area under ragi cultivation increased from 13.50 acres to 23.75 acres, marking a rise of 10.25 acres, emphasizing its role as a staple crop for food security. Similarly, area under maize cultivation expanded from 2 acres to 6 acres, indicating a shift toward high-yielding cereals.

In the *Rabi* season, the area under Kadale (Bengal gram) dropped from 2 acres to 0.5 acres, indicating a decline in traditional pulses, while Avare (field beans) slightly increased from 1 acre to 1.25 acres, suggesting some preference for resilient legumes. The Summer season showed notable expansion in commercial crops. Marigold cultivation rose significantly from 1.5 acres to 5.5 acres, an increase of 4 acres, reflecting a shift toward floriculture. New crops like Ginger, Chilli and Turmeric were introduced, occupying 1.5 acres, 1 acre and 0.5 acres, respectively, pointing to diversification into high-value crops.

Cash crops like coffee and pepper also witnessed increased areas from 2.5 acres to 7 acres and 1.75 acres to 5.75 acres, respectively, showcasing diversification into perennial crops with economic potential. However, forest crops decreased from 2.75 acres to 1 acre, a reduction of 1.75 acres, perhaps due to restrictions on forest access and strict government rules.

The table reveals that less than one-fifth of Soliga tribal women were engaged in crop cultivation, primarily due to limited land ownership. A significant number of Soliga women rely on agricultural labour working for landlords to sustain their livelihoods. Another contributing factor is the reclaiming of land previously allotted to the community by the forest department. This reclamation occurred due to activities deemed in appropriate or the illegal acquisition of forest land in the study areas, further limiting agricultural opportunities for the Soliga women. These results are inline with the findings of Bharath (2018) and Madegowda (2013).

The impact analysis based on socio-economic conditions highlights the crucial role of economic stability and social structures in fostering empowerment of Soliga tribal women. Improvements in household income levels, access to sustainable livelihoods and participation in income-generating activities have directly contributed to economic empowerment. These changes have not only increased financial independence but also enhanced participants'

TABLE 6

Impact of tribal development programmes on cropping pattern of Soliga tribal women

(n =180)

Category	Before			After			Difference***		
	No.	%	Area (Ac.)	No.	%	Area (Ac.)	No.	%	Area (Ac.)
Kharif									
Ragi	9	5.00	13.50	25	13.89	23.75	16	8.89	10.25
Maize	1	0.56	2.00	7	3.89	6.00	6	3.33	4.00
Cotton	2	1.11	1.50	3	1.67	2.00	1	0.56	0.50
Rabi									
Kadale	3	1.67	2.00	1	0.56	0.50	-2	-1.11	-1.50
Avare	1	0.56	1.00	3	1.67	1.25	2	1.11	0.25
Summer									
Marigold	1	0.56	1.50	7	3.89	5.50	6	3.33	4.00
Ginger	0	0.00	0.00	2	1.11	1.50	1	0.56	1.50
Chilli	0	0.00	0.00	1	0.56	1.00	1	0.56	1.00
Turmeric	0	0.00	0.00	1	0.56	0.50	1	0.56	0.50
Perennial crops									
Coffee	3	1.67	2.50	8	4.44	7.00	5	2.78	4.50
Pepper	2	1.11	1.75	4	2.22	5.75	2	1.11	4.00
Forest crops	7	3.89	2.75	1	0.56	1.00	-6	-3.33	-1.75

Paired 't' stat = 2.376***

***- Significant at 1 %; ** - Significant at 5 % and * - Significant at 10%

ability to meet basic needs and invest in education and health. While socio-economic conditions have demonstrated notable progress in uplifting individuals and communities, sustainable and inclusive strategies remain critical to ensuring long-term empowerment and equitable socio-economic growth.

REFERENCES

ANNONYMOUS, 2011, Census 2011, Office of the Registrar General, India.

ARULARASAN, G. AND NARAYANASWAMY, B.K., 2011, Effectiveness of integrated tribal development programme in western ghats of south India. *Mysore J. Agric. Sci.,* **45** (4) : 861 - 867.

BHARATH, K., 2018, An analysis of livelihood status of tribal youth in selected districts of Karnataka. *Ph. D. Thesis* (Unpub.), Univ. Agric. Sci., Bengaluru.

BHUVANA, N., KRISHNAMURTHY, B., NANJAPPA, D. AND LALITHA, K. C., 2014, Socio-economic impact of MGNREGA programme on women beneficiaries in Bangalore Rural district. *Mysore J. Agric. Sci.,* **48** (2) : 277 - 283.

MADEGOWDA, C., 2013, A study on lifestyle of Soliga tribe at Biligirirangaswamy temple wildlife sanctuary- A social work perspective. *Ph.D. Thesis* (Unpub.), University of Mysore, Manasagangotri, Mysore.

PAVITHRA, V., 2019, A critical analysis of social capital among tribal women in Heggadadevanakote taluk of Mysuru district. *M.Sc. Thesis* (Unpub.), Univ. Agric. Sci., Bangalore.