



Spatial Distribution and Changes in Scheduled Caste (SC) Workforce: A Case Study of Andhra Pradesh (AP).

Prof. T.V.Krishna¹ and A. Raju²,

¹ Professor, Department of Geography, Andhra University, Visakhapatnam.

²Research scholar, Department of Geography, Andhra University, Visakhapatnam.

Email: (1) tvkgeoau@gmail.com (2) arugolanuraju@gmail.com

Abstract: Eradication of poverty and expansion of productive employment to ensure work and livelihood to all people have been important concerns of development in India. However, while the country has made several strides since independence, the problems of widespread poverty, unemployment and underemployment still persist. Further, there are regional inequalities in the employment opportunities and income generation across the religion, gender and caste etc., groups of India's population. As Scheduled caste (Sc) population are socially and economically deprived caste groups which mainly constitute of agricultural labourers, cultivators of small landholdings, artisans, petty labourers and industrial workers, an attempt is made in this research paper to study the spatial distribution of Scheduled caste Workforce / Labour force and their changes in Andhra Pradesh.

Key Words: Scheduled Caste, District, Workforce, Agricultural Labours, Other workers.

1. INTRODUCTION:

Eradication of poverty and expansion of productive employment to ensure work and livelihood to all people has been important policy of India. However, while the country has made several strides since independence, the problems of widespread poverty, unemployment and underemployment still persist. Further, there are regional inequalities in the employment opportunities and income generation across the religion, gender and caste etc., groups of India's population.

Workforce / labour force is a pool of human beings in employment and all the persons who are engaged in productive activities that contribute to national production constitute workforce. In India, the workforce can be divided into Formal and Informal sectors which include male and female workers/ labourers. Public and private sector establishments which employ more than ten (10) workers with employment security is called formal sector and all other sectors without employment security is called informal sector. Thus, informal sector includes millions of very small farmers, agricultural labourers, house hold industry workers, and other workers in India.

The contributions of informal labourers are immense and expanding globally, most significantly in developing countries like India. Scheduled caste labours are frequently associated with informal sector. Moreover, Scheduled caste women employed more in informal sector. Formal and informal labours can be divided into sub-categories like agricultural workers and non-agricultural workers. Agriculture and informal economic activities are some of the most important sources of livelihood for Scheduled caste population in India.

Even after 75 years of planned development, more than half of the Indian workforce depends on farming as a major source of livelihood. Statistics on the workforce reveal that 70% of the workforce constituted in rural areas. Regarding distribution of workforce across economic sectors of India (2019), the agriculture sector recorded about 42.6% in 2019 followed by services sector workforce (32.2%), industrial sector (25.1%) in 2019 period.

According to 2011 census of India, about 481.9 million workers recorded as workforce from all categories. Regarding distribution of main and marginal workers of Scheduled caste workforce, about 73% main workforce and 27% marginal workforce, whereas distribution of Scheduled caste workforce according to occupational structure shows that Cultivators were recorded about 20%, Agricultural labourers 45.6%, Household industry workers 3.9%, and Other workers 30.5%.



As Scheduled caste (Sc) population are socially and economically deprived caste groups which mainly constitute of agricultural labourers, cultivators of small landholdings, artisans, petty labourers and industrial workers, In this context, an attempt is made in this research paper to study the spatial distribution of Scheduled caste Workforce / Labour force and their changes in Andhra Pradesh.

2. LITERATURE REVIEW:

Scheduled Caste constitutes the socially and economically deprived caste groups of the Hindu society. They mainly consist of agricultural labourers, cultivators of small land holdings, artisans, petty labourers and industrial workers. According to the 2011 census, scheduled caste accounts for 16.6% of the total population in India. The sex ratio is 945 and the literacy rate is 66.1 percent in scheduled castes. Social scientists have recognised caste discrimination in the labour market, employment opportunities, and daily wage rate, in both the public and private sectors. Some Studies have provided convincing empirical evidences on caste based discrimination in employment opportunities and wages in the private labour market (Madheswaran 2010: Throat and Attewel 2007). However, these studies mainly focused on discrimination in wage rate and ignored the estimation of employment discrimination and unemployment in Scheduled castes. In this context an attempt is made in this paper to study the spatial distribution and changes in Scheduled Caste workforce to fill the above said gap.

3. (a) MATERIALS:

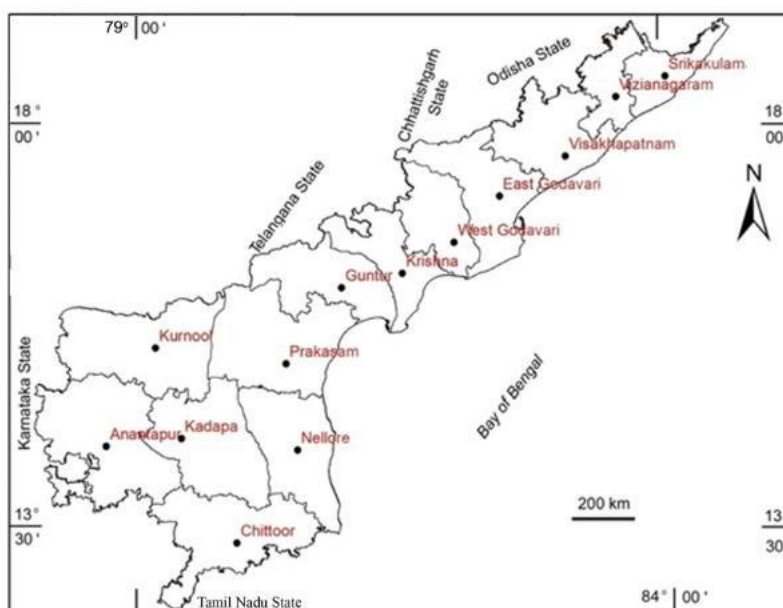
The materials used in this paper are pertaining to data regarding Scheduled Caste (Sc) population and workforce during 1991, 2001, 2011 periods of Andhra Pradesh State which was bifurcated during 2014 with erstwhile 13 districts. The required data collected from Hand book of statistics of Andhra Pradesh 1998-99 and statistical abstracts of Andhra Pradesh 2010 and 2019 and also from hand book of statistics of 13 districts.

(b) METHOD:

The data collected for Scheduled Caste (Sc) population and workforce from the above sources are converted in to percentages. Then spatial distribution and changes observed through tables for sc population, sc workforce (all categories), and also according to category wise / sector wise sc workforce.

4. PROFILE OF THE STUDY AREA:

Fig no.1: Study area (Andhra Pradesh) showing districts.



Andhra Pradesh State is situated on the country's south – east coast and covers an area of 1, 62,975 sq km and it lies between $12^{\circ} 41'$ and 19.07° N latitudes and 77° and $84^{\circ} 40'$ E longitudes. Following the Andhra Pradesh (AP) state reorganization act of 2014, the erstwhile Andhra Pradesh was bifurcated into Andhra Pradesh with 13 districts and



Telangana State with 10 districts on 23rd June 2014. The state of Andhra Pradesh comprises two physical regions 1) coastal Andhra region and 2) Rayalaseema region and there are 13 districts, of which nine are in coastal Andhra region and four are in the Rayalaseema region. According to 2011 census, the residual state of AP had a population of 4, 93, and 86,799 in which about 70.4% rural population and 29.6% of urban population and the state comprises 17.1% of Schedule caste population. According to 2011 census, about 84, 45,398 were sc population in which about 64.47% literates. Andhra Pradesh is predominantly agriculture activity dominated state, with more than three fourths of its workforce engaged directly in agriculture sector (CESS, 2012). As all the Scheduled caste (Sc) population are disadvantage castes and minority communities which are socially and economically backward which accounts to about one – third of the Andhra Pradesh state population, an attempt is made in this paper to study the spatial distribution of sc workforce and its changes in AP to know the status of employment and unemployment situation of Scheduled caste (Sc) population to provide employment and to formulate schemes for their development.

5. OBJECTIVES:

- 1) To study spatial distribution of Scheduled caste (Sc) population and their changes.
- 2) To study spatial distribution of Scheduled caste (Sc) workforce and their changes.

6. DISCUSSION & RESULTS

Spatial distribution of Scheduled caste (Sc) population and their changes during 1991-2011 periods in Andhra Pradesh (AP):

To know the total work force in AP it is essential to examine the spatial distribution of sc population and their changes.

6.1. Spatial distribution of Scheduled Caste population:

It can be observed from the table no:1 that, according to 1991 census, Andhra Pradesh recorded 63,18,945 Schedule caste population in which highest percentage of scheduled caste population recorded in East Godavari district (13.10%) followed by West Godavari district (10%), Krishna District (9.7%), Chittoor district (9.55%), Guntur district (9%), Prakasm district (8.7%), Nellore district (8.3%), Kurnool district (8.2%), Anantapur district (7.2%), Kadapa district (5.3%), Visakhapatnam district (4.1%). Vizianagaram district (3.5%) Whereas lowest percentage of Schedule caste population present in Srikakulam district (3.4%). Distribution according to physical regions, about 69.8% recorded in coastal Andhra region and the remaining 30.2% recorded in Rayalaseema region.

During 2001 period Andhra Pradesh recorded about 74,28,301 Scheduled caste population in which highest percentage of sc population recorded in East Godavari district (11.9%) followed by Guntur district (11%), Krishna district (10.1%), West Godavari district (9.8%), Chittoor district (9.5%), Prakasam district (8.8%), Anantapur district (6.9%), Kadapa district (5.5%), Visakhapatnam district (3.9%), Vizianagaram district (3.2%), and lowest sc population recorded in Srikakulam district. Distribution according to physical regions, about 69.6% sc population recorded in coastal Andhra region and the remaining 30.4% recorded in Rayalaseema region.

During 2011 Census period, about 84,45,398 sc population recorded in Andhra Pradesh in which highest percentage of sc population recorded in Guntur district (11.3%), followed by East Godavari district (11.2%), Krishna district (10.3%), West Godavari district (9.6%), Chittoor district (9.3%), Prakasam district (9.3%), Kurnool district (8.7%), Nellore district (7.9%), Anantapur district (6.9%), Kadapa district (5.6%), Visakhapatnam district (3.9%), Srikakulam district (3%) and lowest percentage of Schedule caste population present in Vizianagaram district (2.9%). Distribution according to physical regions, coastal Andhra region recorded 69.5% Scheduled caste population and the remaining 30.5% recorded in Rayalaseema region.

Table no.1: Spatial distribution of sc population and their changes during 1991-2011.

S. No	District names	Scheduled caste (sc) population			Changes in sc population (%)	
		1991	2001	2011	1991-2001	2001-2011
1	Srikakulam	2, 16,898 (3.4%)	2, 29,609 (3.1%)	2, 55,664 (3%)	5.90%	11.30%
2	Vizianagaram	2, 20,352 (3.5%)	2, 38,023 (3.2%)	2, 47,728 (2.9%)	8%	4%
3	Visakhapatnam	2, 56,936 (4.1%)	2, 91,219 (3.9%)	3, 29,486 (3.9%)	13.30%	13.10%



4	East Godavari	8, 26,057 (13.1%)	8, 81,650 (11.9%)	9, 45,269 (11.2%)	6.70%	7.20%
5	West Godavari	6, 29,233 (10%)	7, 28,963 (9.8%)	8, 11,698 (9.6%)	15.80%	11.30%
6	Krishna	6, 13,230 (9.7%)	7, 46,832 (10.1%)	8, 71,063 (10.3%)	21.80%	16.60%
7	Guntur	5, 73,407 (9%)	8, 18,005 (11%)	9, 57,407 (11.3%)	42.70%	17%
8	Prakasam	5, 52,640 (8.7%)	6, 51,498 (8.8%)	7, 87,861 (9.3%)	17.90%	20.90%
9	Nellore	5, 22,819 (8.3%)	5, 87,157 (7.9%)	6, 66,588 (7.9%)	12.30%	13.50%
10	Y S R Kadapa	3, 37,939 (5.3%)	4, 09,492 (5.5%)	4, 65,794 (5.5%)	21%	13.70%
11	Kurnool	5, 18,108 (8.2%)	6, 28,637 (8.5%)	7, 37,945 (8.7%)	21.70%	17.90%
12	Anantapur	4, 51,810 (7.2%)	5, 14,896 (6.9%)	5, 83,135 (6.9%)	14%	13.20%
13	Chittoor	5, 99,516 (9.5%)	7, 02,320 (9.5%)	7, 85,760 (9.3%)	17.10%	11.90%
	Total AP	63,18,945 (100%)	74, 28,301 (100%)	84, 45,398 (100%)	17.60%	13.70%

(Source: Hand book of statistics of AP & Statistical abstract of AP of respective periods)

6.2. Changes in Scheduled Caste population:

Regarding sc population changes according to districts during 1991-2001 period highest sc population growth recorded in Guntur district (42.7%), followed by Krishna district(21.8%), Kurnool district (21.7%), YSR Kadapa district (21%), Prakasam district (17.9%), Chittoor district (17.1%), West Godavari district (15.8%), Anantapur district (14%), Visakhapatnam district (13.3%), Nellore district (12.3%), Vizianagaram district(8%), East Godavari district (6.7%), and lowest growth recorded in Srikakulam district (5.9%). Changes according to districts during 2001-2011 period, highest growth recorded in Prakasam district (20.9%) followed by Kurnool district(17.9%), Guntur district (17%), Krishna district(16.6%),YSR Kadapa district (13.7%), Nellore district (13.5%), Anantapur district (13.2%), Visakhapatnam district (13.1%), Chittoor district (11.9%), West Godavari district and Srikakulam districts (11.3% each), East Godavari district (7.2%), and lowest percentage recorded in Vizianagaram district (4%). Regarding changes in Scheduled caste population of AP about 17.6% sc population growth registered during 1991-2001 period and it decreased to 13.7% during 2001-2011 period.

Changes according to physical regions, highest sc population growth recorded in Rayalaseema region (18.2%) followed by coastal Andhra region (17.3%) in 1991-2001 period. During 2001-2011 period highest sc population growth also recorded in, Rayalaseema region (14.1%) followed by coastal Andhra region (13.5%).

It can be observed from the above discussion that highest percentage of sc population recorded in East Godavari district during 1991(13.1%),2001(11.9%) and 2011(11.2%) census periods but East Godavari district recorded normal sc population growth during 1991-2001(6.7%) and 2001-2011(7.2%) periods in the entire Andhra Pradesh. Lowest sc population recorded in Srikakulam and vizianagaram districts in the study period and normal sc population growth recorded in these districts during the study period in the entire Andhra Pradesh.

Study according to regions of Andhra Pradesh shows that, the East Godavari district recorded highest sc population during the study period in the coastal Andhra Pradesh whereas highest sc population growth recorded in Guntur district (42.7%) during 1991-2001 and Prakasam district (20.9%) during 2001-2011 period. Lowest population recorded in Srikakulam and Vizianagaram districts during the study period whereas lowest sc population growth recorded in Srikakulam district during 1991-2001 and Vizianagaram district in 2001-2011 period.



In Rayalaseema region highest sc population recorded in Chittoor district during the study period and lowest sc population recorded in YSR Kadapa district during the study period. Highest sc population growth recorded in Karnool district (21.7%) during 1991-2001 and also Kurnool district (17.9%) during 2001-2011 period whereas lowest sc population growth recorded in Anantapur district (14%) during 1991-2001 and also (13.2%) during 2001-2011 periods.

7. Spatial distribution of Scheduled Caste workforce (all categories) and their changes during 1991-2011 periods in AP according to districts:

7.1. Spatial distribution of Scheduled Caste workforce (all categories):

It can be observed from the table no-2 that, sc workforce recorded in AP during 1991 was about 30,47,393 in which highest percentage of workers recorded in East Godavari district (12.1%) followed by West Godavari district (10.2%), Krishna district (9.8%), Chittoor district (9.7%), Guntur district (9.5%), Prakasam district(9.1%), Nellore district (8.3%), Kurnool district(8.2%), Anantapur district (7.2%), Kadapa district(5.2%), Vizianagaram district(3.5%), Srikakulam district(3.4%), and lowest percent recorded in Visakhapatnam district (3.3%). Distribution of sc workforce according to physical regions, coastal Andhra region recorded 69.5% and the remaining 30.5% workers recorded in Rayalaseema region.

Table No.2: Spatial distribution of sc workforce (all categories) and their changes during 1991-2011 according to districts.

S No	District names	% of sc workers			% of changes	
		1991	2001	2011	1991-2001	2001-2011
1	Srikakulam	3.40%	2.90%	2.90%	0.04%	12.70%
2	Vizianagaram	3.50%	3.20%	2.90%	9.20%	0.70%
3	Visakhapatnam	3.30%	2.40%	3.20%	-10.70%	48.50%
4	East Godavari	12.10%	10.80%	10.30%	5.00%	8.20%
5	West Godavari	10.20%	10%	9.90%	14.70%	11.80%
6	Krishna	9.80%	10.20%	10.50%	22.10%	17.00%
7	Guntur	9.50%	11.80%	12%	46%	15.30%
8	Prakasam	9.10%	9.30%	9.80%	20.80%	18.90%
9	Nellore	8.30%	7.80%	7.50%	9%	9.80%
10	YSR Kadapa	5.20%	5.40%	5.40%	21.20%	13.40%
11	Kurnool	8.20%	8.80%	9.10%	25.40%	16.90%
12	Anantapur	7.20%	7.10%	7.10%	17.10%	13.60%
13	Chittoor	9.70%	9.40%	9.00%	14.60%	7.80%
	Total AP	100%	100%	100%	17.20%	13.70%
	coastal Andhra Region	69.50%	69.00%	69.20%	16.20%	14.20%
	Rayalaseema Region	30.50%	31%	30.80%	19.30%	12.70%

(Source: Hand book of statistics of AP & Statistical abstract of AP of respective periods)

During 2001, about 37,72,521 sc workforce recorded in AP in which highest percentage of workforce recorded in Guntur district(11.8%), followed by East Godavari district (10.8%), Krishna district(10.2), West Godavari district (10%), Chittoor district(9.4%), Prakasam district(9.3), Kurnool district (8.8), Nellore district(7.8), Anantapur district(7.1%), Kadapa district(5.4), Vizianagaram district (3.2), Srikakulam district(2.9), and lowest recorded in Visakhapatnam district (2.4%). Distribution of sc workforce according to physical regions, coastal Andhra region recorded 69% and Rayalaseema region recorded 31% .

During 2011, about 42,68,327 workforce recorded in AP in which highest percent of workers recorded in Guntur district (12%), followed by Krishna district(10.5), East Godavari district (10.3%), West Godavari district (9.9), Prakasam district(9.8%), Kurnool district(9.1%), Chittoor district(9%), Nellore district(7.5), Anantapur district(7.1%), Kadapa district(5.4), Visakhapatnam district(3.2%), and least number of workers present in Vizianagaram district (2.9%) and also in Srikakulam district(2.9%). Distribution of sc workforce according to physical regions, coastal Andhra region recorded 69.5% whereas Rayalaseema region recorded 30.5%.



7.2. Changes in Scheduled caste workforce (all categories):

During 1991-2001 period, highest growth in sc workforce recorded in Guntur district (46%) followed by Kurnool district (25.4%), Krishna district (22.1%), Kadapa (21.2%), Prakasam district (20.8%), Anantapur district (17.1%), West Godavari district (14.7%), Chittoor district (14.6%) Vizianagaram district (9.2%), Nellore district (9%), East Godavari district (5%) and lowest growth recorded in Srikakulam district (0.04%) whereas sc workers decreased in Visakhapatnam district (-10.7%).

During 2001-2011 period, highest growth in sc workforce recorded in Visakhapatnam district (48.5%) followed by Prakasam district (18.9%), Krishna district (17%), Kurnool district (16.9%), Guntur district (15.3%) Kadapa district (13.4%), Anantapur district (13.6%), Srikakulam district (12.7%), Chittoor district (7.8%), and lowest growth recorded in Vizianagaram district (0.7%). Changes in sc workforce according to physical regions, coastal Andhra region recorded about 16.2% growth during 1991-2001 periods whereas it decreased to 14.2% during 2001-2011 periods. The Rayalaseema region recorded 19.3% growth during 1991-2001 period and it decreased to 12.7% during 2001-2011 periods.

It can be observed from the above discussion that highest percentage of Sc workforce recorded in East Godavari district (12.10%) in 1991 and Guntur district both in 2001(11.8%) and 2011 (12%) of the entire state. Highest growth rate in sc workforce recorded in Guntur district (46%) during 1991-2001 periods and in Visakhapatnam district (48.5%) during 2001-2011 periods whereas the entire Andhra Pradesh state recorded about 23.2% growth during 1991-2011 period and decreased to 14.2% growth during 2001-2011 period.

8. Category wise / Sector wise distribution of Scheduled Caste workforce in AP During 1991-2011 periods:

Table no:3 shows that about 30,47,393 workers (all categories) recorded in 1991 in which highest about 78.3% recorded as agricultural labourers, followed by other workers (13.4%), cultivators (7.4%) and household industry workers (0.7%). During 2001, about 37,72,521 workers recorded in which highest about 74.4% recorded as agricultural labourers followed by other workers (18.3%), cultivators (6%), and household industry workers(1.1%). During 2011 about 42,68,327 workers recorded in which highest about 71.7% recorded as agricultural labourers followed by other workers (23.7%), cultivators (3.6%), and household industry workers (0.8%).

Regarding changes in category wise/sector wise workforce, cultivators decreased to -0.3% during 1991-2001 periods and their percent further decreased to -30.7% in 2001-2011 period. Agricultural labourers increased to 17.6% during 1991-2001 period whereas their growth reduced to 8.9% during 2001-2011period. Household industry workers increased to 108% during 1991-2001 and their growth reduced to 46.3% during 2001-2011 periods. Other workers increased to 68.6% during 1991-2001 periods whereas their growth reduced to 46.3% during 2001-2011 periods.

Table no.3: Category wise distribution of sc workforce and their changes in Andhra Pradesh

S No	Category wise/sector wise workforce	1991 Sc- workers (%)	2001 Sc- workers (%)	2011 Sc-workers (%)	Changes during 1991-2001(%)	Changes during 2001-2011(%)
1	SC- Cultivators	2, 27,508 (7.4%)	2, 26,705 (6%)	1, 57,053 (3.6%)	-0.30%	-30.70%
2	SC- Agriculture Labourers	23, 88,685 (78.3%)	28, 10,482 (74%)	30, 61,660 (71.7%)	17.60%	8.90%
3	SC- House hold industry workers	20,262 (0.7%)	42,219 (1.1%)	35,093 (0.8%)	108%	-16.80%
4	SC- Other Workers	4, 10,938 (13.4%)	6, 93,115 (18.3%)	10, 14,521 (23.7%)	68.60%	46.30%
	Total SC workers	30,47,393 (100%)	37,72,521 (100%)	42,68,327 (100%)	23.70%	13.10%

(Source: Hand book of statistics of AP & Statistical abstract of AP of respective periods)

It can be observed from the above discussion that highest percentage of sc workforce recorded in agricultural labourers category followed by other workers category, cultivator’s category, and household industry workers category. Regarding changes during 1991-2001 period highest growth recorded in sc household industry workers (108%) followed by sc



other workers (68.6%), sc agricultural labourers (17.6%) and negative growth observed in sc cultivators category (-0.30). During 2001-2011 period highest growth recorded in sc other workers (46.3%) category followed by sc agricultural labourers (8.9%) whereas negative growth noticed in sc cultivators (-30.7%) and also in sc household industry workers (-16.80%) category. The entire Andhra Pradesh recorded growth about 23.7% in sc workforce during 1991-2001 period and it decreased to 13.10% during 2001-2011 periods.

9. Spatial distribution of Scheduled Caste Cultivators and their changes during 1991- 2011 periods in AP:

9.1. Spatial distribution of Scheduled caste cultivators:

It can be observed from the table No:4 that about 2,27,508 sc cultivators recorded in 1991 in which highest number of sc cultivators recorded in Chittoor district (19.8%) followed by Anantapur district (15.4%), Kurnool district(12.1%), Nellore district(11.1%), Prakasam district(6.8%), Krishna district(5.3%), Kadapa district(5.1%), Guntur district(5%), West Godavari district (4.5%), Vizianagaram district(4.4%), Srikakulam district(4.3%), East Godavari district (3.6%), and lowest number recorded in Visakhapatnam district(1.8%),

Table no.4: Spatial distribution of sc cultivators and their changes during 1991-2011.

S No	District names	% of sc-cultivators			% of change	
		1991	2001	2011	1991-2001	2001-2011
1	Srikakulam	4.30%	2.80%	2.10%	-34%	-49.40%
2	Vizianagaram	4.40%	2.90%	2.30%	-33.80%	-45.30%
3	Visakhapatnam	1.80%	1.80%	1.80%	1.80%	-31.50%
4	East Godavari	3.60%	4.70%	4.80%	31.50%	-29.80%
5	West Godavari	4.50%	5.50%	4.80%	20.30%	-38.40%
6	Krishna	5.30%	5.90%	6.00%	10.90%	-29.70%
7	Guntur	5.00%	7.30%	8.10%	43.30%	-22.40%
8	Prakasam	6.80%	8.50%	7.70%	24.30%	-37.70%
9	Nellore	11.10%	9.40%	9.00%	-14.90%	34.20%
10	YSR Kadapa	5.10%	4.30%	5.40%	-15.90%	-12.90%
11	Kurnool	12.10%	13.70%	15.40%	12.90%	-22.20%
12	Anantapur	15.40%	15.10%	13.80%	-2.30%	-36.80%
13	Chittoor	19.80%	17.30%	18.10%	-13.30%	-27.20%
	Total AP	100%	100%	100%	-0.30%	-30.70%
	coastal Andhra region	47.30%	61.80%	47.10%	30%	-47.20%
	Rayalaseema Region	52.70%	38.20%	52.90%	-27.60%	-4.00%

(Source: Hand book of statistics of AP & Statistical abstract of AP of respective periods) During 2001 period about 2,26,705 sc cultivators recorded in which highest cultivators recorded in Chittoor district (17.3%) followed by Anantapur district(15.1%), Kurnool district(13.7%), Nellore district(9.4%), Prakasam district(8.5%), Guntur district (7.3%), Krishna district(5.9%) West Godavari district (5.5%), East Godavari district (4.7%), Kadapa district (4.3%), Vizianagaram district (2.9%), Srikakulam district (2.8%), and lowest recorded in Visakhapatnam district (1.8%).

During 2011 period about 1,57,053 cultivators recorded in which highest percentage recorded in Chittoor district(13.8%), followed by Kurnool district(15.4%), Anantapur district (13.85%), Nellore district(9%), Guntur district(8.1%), Prakasam district(7.7%), Krishna district(6%), Kadapa district(5.4%), West Godavari district and East Godavari district (4.8% each), Vizianagaram district(2.3%), Srikakulam district (2.1%), and lowest recorded in Visakhapatnam district(1.8%).

9.2. Changes in Scheduled caste cultivators:

Changes in sc cultivators during 1991-2001 period shows that highest growth recorded in Guntur district(43.3%) followed by East Godavari district(31.5%), West Godavari district (20.3%), Kurnool district (12.9%), Krishna district(10.9%), Visakhapatnam district(1.8%), whereas negative growth recorded in Srikakulam district (-34%) followed by Vizianagaram district (-33.8%), Kadapa district (-15.9%), Nellore district (-14.9%), Chittoor district (-13.3%), Anantapur district (-2.3%). During 2001-2011 period all districts recorded negative growth and highest decrease noticed in Srikakulam district (-49.4%), followed by Vizianagaram district (-45.3%), West Godavari district (-38.4%), Prakasam district (37.7%), Nellore district (-34.2%), Anantapur district (-36.8%) whereas lowest decrease of cultivators



noticed in Kadapa district (-12.9%). In AP state cultivators decreased to -0.3% during 1991-2001 and it further decreased to -30.7%.

Regarding changes in sc cultivators according to physical regions, coastal Andhra region recorded growth about 30% during 1991-2001 period and it decreased to about -47.2% during 2001-2011 period. In Rayalaseema region negative growth about -27.6% noticed during 1991-2001 and during 2001-2011 period also negative growth recorded(-4%). It can be observed from the above discussion that sc cultivators are decreasing in Andhra Pradesh over the study period.

10. Spatial Distribution of Scheduled Caste Agricultural labourers and their changes during 1991-2011 periods in AP.

10.1. Spatial distribution of Scheduled caste agricultural labourers:

It can be observed from the table no:5 that, about 23,88,685 agricultural labourers recorded in 1991 in Andhra Pradesh in which highest percentage about 12.7% labourers recorded in East Godavari district(12.7%) followed by West Godavari district(11.2%), Krishna district(10.3%), Guntur district(10.1%), Prakasam district(10%), Chittoor district (9%), Nellore district (8.2%), Kurnool district (8%), Anantapur district(6.7%), Kadapa district(5.3%), Srikakulam district(3.1%), Vizianagaram district (2.9%), and lowest recorded in Visakhapatnam district(2%). Distribution of agricultural labourers according to physical regions about 70.8% recorded in coastal Andhra region and 29.2% recorded in Rayalaseema region.

During 2001 period about 28,10,482 agricultural labourers recorded in Andhra Pradesh in which highest labourers recorded in Guntur district(12.4%), followed by East Godavari district (11.6%) West Godavari district (11.2%), Krishna district(10.6%), Prakasam district(9.5%), Chittoor district(9%), Kurnool district(8.1%), Nellore district(7.6%), Anantapur district(6.6%), Kadapa district(5.5%), Vizianagaram district(2.9%), Srikakulam district(2.7%). Distribution according to physical regions about 70.6% recorded in coastal Andhra region and 29.4% recorded in Rayalaseema region.

During 2011 period about 30,61,660 agricultural labourers recorded in which highest percentage recorded in Guntur district(12.4%), followed by West Godavari district (11.3%), East Godavari district (11.1%), Krishna district(10.9%), Prakasam district(10.2%), Kurnool district(8.7%), Chittoor district(8.3%), Nellore district(7.3%), Anantapur district(6.9%), Kadapa district(5.3%), Srikakulam district(2.8%), Vizianagaram district(2.6%), and lowest recorded in Visakhapatnam district(1.7%). Distribution of sc agricultural labourers according to physical regions about 70.7% recorded in coastal Andhra region and 29.3% recorded in Rayalaseema region.

Table no.5: Spatial distribution of sc agricultural labourers and their changes during 1991- 2011.

S No	Districts	% of sc agricultural labourers			% of changes	
		1991	2001	2011	1991-2001	2001-2011
1	Srikakulam	3.10%	2.70%	2.80%	3.50%	10.20%
2	Vizianagaram	2.90%	2.90%	2.60%	16.60%	-1.20%
3	Visakhapatnam	2.00%	1.70%	1.70%	-2.70%	9.70%
4	East Godavari	12.70%	11.60%	11.10%	8.20%	4.10%
5	West Godavari	11.20%	11.20%	11.30%	17.80%	10.20%
6	Krishna	10.30%	10.60%	10.90%	20.80%	11.50%
7	Guntur	10.10%	12.40%	12.40%	44.50%	9.50%
8	Prakasam	10.00%	9.50%	10.20%	12.10%	17%
9	Nellore	8.25%	7.60%	7.30%	10.20%	3.40%
10	YSR Kadapa	5.30%	5.50%	5.30%	22%	4.10%
11	Kurnool	8.00%	8.10%	8.70%	18.30%	17.80%
12	Anantapur	6.70%	6.60%	6.90%	16.70%	13.60%
13	Chittoor	9.00%	9.00%	8.30%	17.70%	0.40%
	Total AP	100%	100%	100%	17.70%	8.90%
	coastal Andhra Region	70.80%	70.60%	70.70%	17.30%	8.90%
	Rayalaseema Region	29.20%	29.40%	29.30%	18.4	8.80%

(Source: Hand book of statistics of AP & Statistical abstract of AP of respective periods)



10.2. Changes in Scheduled caste agricultural labourers:

During 1991-2001 period highest growth in agricultural labourers recorded in Guntur district (44.5%) followed by Kadapa district (22%), Krishna district (20.8%), Kurnool district (18.3%), West Godavari district (17.8%), Chittoor district (17.7%), Anantapur district (16.7%), Vizianagaram district (16.6%), Prakasam district (12.1%), Nellore district (10.2%), Srikakulam district (10.2%), East Godavari district (8.2%) whereas negative growth recorded in Visakhapatnam district (-2.7%). During 2001-2011 period highest growth recorded in Kurnool district (17.8%), followed by Prakasam district (17%), Anantapur district (13.6%), Krishna district (11.5%), West Godavari district (10.2%), Srikakulam district (10.2%), Visakhapatnam district (9.7%), Guntur district (9.5%), Kadapa district (4.1%), East Godavari district (4.1%) Nellore district (3.4%), Chittoor district (0.4%), and negative growth recorded in Vizianagaram district (-1.2%). Changes of agricultural labourers according to physical regions, coastal Andhra region recorded 17.3% growth during 1991-2001 and it decreased to 8.9% during 2001-2011 period whereas about 18.4% growth recorded during 1991-2001 and it decreased to 8.8% during 2001-2011 period in Rayalaseema region. Andhra Pradesh recorded growth about 17.7% during 1991-2001 periods whereas it decreased to 8.9% during 2001-2011 periods. It can be observed from the above discussion that sc agricultural labourers are decreasing in Andhra Pradesh over the study period.

11. Spatial distribution of Scheduled Caste Household industry workers and their Changes during 1991-2011 periods in AP:

11.1. Spatial distribution of Scheduled caste household industry workers:

It can be observed from table no.6 that, about 20,262 sc household industry workers recorded in 1991 in which highest percentage of workers recorded in Visakhapatnam district(12.7%) followed by East Godavari district (11.4%), Kurnool district (11%), Chittoor district(10.6%), Srikakulam district (8.4%), Krishana district (7.6%), Vizianagaram district (4.8%), Guntur district(4.3%), Prakasam district (4.2%), and lowest recorded in Kadapa district (4.2%). Distribution of household workers according to physical regions about 66.9% recorded in coastal Andhra region and 33.1% recorded in Rayalaseema region.

During 2001 about 42,219 sc house hold industry workers recorded in which highest workers recorded in Kurnool district (13.4%) followed by Chittoor district (13%), Visakhapatnam district (9.2%), Guntur district (8.7%), Anantapur district(8.5%), Krishna district (8.2%), Prakasam district (7.8%), East Godavari district (6.2%), Nellore district (5.3%), Kadapa district(4.4%), Vizianagaram district(4.1%), Srikakulam district(3.8%).Distribution of household workers according to physical regions about 60.5% recorded in coastal Andhra region and 39.5% recorded in Rayalaseemna region.

During 2011 about 35,093 Sc house hold industry workers recorded in which highest percentage of workers recorded in Kurnool district (15.4%), followed by Anantapur district (12.6%), Chittoor district(11.7%), Guntur district (10.2%), Krishna district(8.4%), East Godavari district (6.7%), Nellore district (6.1%), Kadapa district (5.9%), and Visakhapatnam district(5.9%), Prakasam district(5.4%), West Godavari district (4.4%), Srikakulam district(3.7%), and lest recorded in Vizianagaram district (2.9%).Distribution according to physical regions about 54.2% recorded in coastal Andhra region and 45.8% recorded in Rayalaseema region.

11.2 Changes in Scheduled caste household industry workers:

During 1991-2001 period, highest growth recorded in Guntur district (318%) followed by Prakasam district (283%), Chittoor district (155%), Kurnool district (153%) Anantapur district ((149%), west Godavari district (126%), Kadapa district (115%), West Godavari district (86%), Nellore (83.3%), Vizianagaram district (80.4%), Visakhapatnam district (51.1%), East Godavari district (23.9%), whereas negative growth recorded in Srikakulam district (-5.4%). Changes according to physical regions, coastal Andhra region recorded growth about 88.6% and 148% growth recorded Rayalaseema region. During 2001-2011 periods all districts recorded negative growth of workers. Highest decrease noticed in Visakhapatnam district (-46.3%) followed by Prakasam district (-42%), West Godavari district (-40.8%), Vizianagaram district (40.3%), Chittoor district (-25.1%), Srikakulam district (-18.1%), East Godavari district (-17.8%), Krishna district (-14.9%), Nellore district (-4.9%) and lowest decrease noticed in Kurnool district (-4.5%). Changes in household workers according to physical regions about -25.5% decreases recorded in coastal Andhra



Table no.6: Spatial distributions of sc household industry workers and their changes during 1991- 2011.

S No	District names	% of sc household industry workers			% of changes	
		1991	2001	2011	1991-2001	2001-2011
1	Srikakulam	8.40%	3.80%	3.70%	-5.40%	-18.10%
2	Vizianagaram	4.80%	4.10%	2.90%	80.40%	-40.30%
3	Visakhapatnam	12.70%	9.20%	5.90%	51.10%	-46.30%
4	East Godavari	11.40%	6.80%	6.70%	23.90%	-17.80%
5	West Godavari	6.90%	6.20%	4.40%	86.00%	-40.80%
6	Krishna	7.60%	8.20%	8.40%	126.00%	-14.90%
7	Guntur	4.30%	8.70%	10.20%	318.00%	-2.60%
8	Prakasam	4.20%	7.80%	5.40%	283.00%	-42%
9	Nellore	6.10%	5.30%	6.10%	83.30%	-4.90%
10	YSR Kadapa	4.20%	4.40%	5.90%	115%	11.90%
11	Kurnool	11.00%	13.40%	15.40%	153.00%	-4.50%
12	Anantapur	7.10%	8.50%	12.60%	149.00%	22.70%
13	Chittoor	10.60%	13.00%	11.70%	155.00%	-25.10%
	Total AP	100%	100%	100%	108.00%	-16.90%
	coastal Andhra Region	66.90%	60.50%	54.20%	88.60%	-25.50%
	Rayalaseema Region	33.10%	39.50%	45.80%	148.00%	-16.80%

(Source: Hand book of statistics of AP & Statistical abstract of AP of respective periods)

Region and -16.8% decreases recorded in Rayalaseema region. In the entire Andhra Pradesh state, growth about 108% recorded during 1991-2001 and it decreased to 16.9% only during 2001-2011 period. It can be observed from the above discussion that sc household industry workers are decreasing in Andhra Pradesh during the study period.

12. Spatial distribution of Scheduled Caste other workers and their changes during 1991-2011 periods in AP:

12.1. Spatial distribution of Scheduled caste other workers:

It can be observed from the table no.7 that, about 4, 10,938 sc other workers recorded in 1991 in which highest percentage of workers recorded in East Godavari district (12.4%) followed by Krishna district (10.4%), Vishakhapatnam district (10.1%) Guntur district (9.4%), Kurnool district (8.8%), West Godavari district (8.8%), Chittoor district (7.6%), Nellore district (7.6%), Prakasam district (5.7%), Anantapur district (5.3%), Vizianagaram district (5.1%), Kadapa district (4.5%) and lowest recorded in Srikakulam district (3.6%). Distribution of other workers according to regions about 73.6% recorded in coastal Andhra region and about 26.4% recorded in Rayalaseema region.

Table no.7: Spatial distribution of sc other workers and their changes during 1991-2011.

S No	District names	% of sc other workers			% of changes	
		1991	2001	2011	1991-2001	2001-2011
1	Srikakulam	3.60%	3.60%	3.40%	69.20%	37.50%
2	Vizianagaram	5.10%	4.70%	3.80%	58.00%	16.90%
3	Visakhapatnam	10.10%	8.00%	7.90%	33.70%	44.50%
4	East Godavari	12.40%	9.60%	8.90%	30.40%	35.40%
5	West Godavari	8.80%	6.60%	6.30%	25.80%	39.70%
6	Krishna	10.40%	10.00%	10.30%	62.40%	51.30%
7	Guntur	9.40%	10.90%	11.30%	94.40%	51.60%
8	Prakasam	5.70%	8.80%	8.90%	156.00%	48%
9	Nellore	7.60%	7.60%	8.00%	67.80%	56.60%
10	YSR Kadapa	4.50%	5.40%	5.90%	100%	58.60%
11	Kurnool	8.80%	9.70%	8.90%	86.00%	33.50%
12	Anantapur	5.30%	6.30%	6.50%	99.00%	52.40%
13	Chittoor	7.60%	8.30%	9.50%	84.00%	67.30%



	Total AP	100%	100%	100%	68.70%	46.40%
	coastal Andhra region	73.60%	70.10%	69.00%	60.70%	44.10%
	Royalaseema Region	26.40%	29.90%	31.00%	90.70%	51.50%

(Source: Hand book of statistics of AP & Statistical abstract of AP of respective periods)

During 2001 about 6,93,115 sc other workers recorded in which highest percentage of workers recorded in Guntur district (10.9%) followed by Krishna district(10.4%), Visakhapatnam district (10.1%), Guntur district (9.4%), Kurnool district (8.8%), West Godavari district (8.8%), Chittoor district (7.6%), Nellore district (7.6%), Prakasam district (5.7%), Anantapur district (5.3%), Vizianagaram district (5.1%), Kadapa district (4.5%), Srikakulam district (3.6%). Distribution of other workers according to physical regions about 69% recorded in coastal Andhra region and about 31% recorded in Rayalaseema region.

During 2011 about 10,14,521 sc other workers recorded in which highest percentage of workers present in Guntur district (11.3%) followed by Krishna district (10.3%), Chittoor district(9.5%), Prakasam district (8.9%), East Godavari district (8.9%), Nellore district (8%), Visakhapatnam district (7.9%), Anantapur district (6.5%), West Godavari district (6.3%), Kadapa district (5.9%), Vizianagaram district (3.8%), and lowest recorded in Srikakulam district(3.4%). Distribution of other workers according to physical regions about 69% of sc other workers recorded in coastal Andhra region and about 31% recorded in Rayalaseema region.

12.2. Changes in Scheduled caste other workers:

During 1991-2001 period, highest growth recorded in Prakasam district (156%) followed by Kadapa district (101%), Anantapur district (99%), Guntur district (94.1%), Kurnool district (8.6%), Chittoor district (84%), Srikakulam district (69.2%), Nellore district (67.8%), Krishna district (62.4%), Vizianagaram district (58%), Visakhapatnam district, East Godavari district (30.4% each) and lowest growth recorded in West Godavari district (25.8%). During 2001-2011 period, highest growth recorded in Chittoor district(67.3%) followed by Kadapa district(58.6%), Nellore district (56.6%), Anantapur district(52.4%), Guntur district(51.6%), Krishna district(51.3%), Prakasam district(48.3%), Visakhapatnam district (44.5%), West Godavari district (39.7%), Srikakulam district (37.5%), East Godavari district (35.4%), Kurnool district(33.5%), and lowest growth recorded in Vizianagaram district (16.9%). Changes according to physical regions, coastal Andhra region recorded highest growth about 60.7% during 1991-2001 and it decreased to 44.1% during 2001-2011, whereas growth about 90.7% recorded during 1991-2001 and it decreased to 51.5% during 2001-2011 periods in Rayalaseema region. AP state recorded growth about 68.7% during 1991-2001 which decreased to 46.4% during 2001-2011 periods. It can be observed from the above discussion that sc other workers are increasing in Andhra Pradesh during the study period.

13. CONCLUSION:

It can be observed from the above discussion that Scheduled caste (sc) population and Scheduled caste workforce (all categories) are showing increasing trend during 1991-2011 period in Andhra Pradesh. The study regarding sc cultivators category workers, sc agricultural labourers category workers, sc household industry category workers are showing decreasing trend whereas sc other workers category showing increasing trend in Andhra Pradesh. It can be concluded that Scheduled caste other workers category only showing increasing trend and the remaining all categories workforce showing decreasing trend which indicating the shift of Scheduled caste workforce from the present workers category to other workers category.

REFERENCES:

1. Attewell,P.,Thorat,S.(2010) - Caste is not past: The persistence of discrimination in India's formal Labour Market in M.A. Centeno and K.S. Newman (eds): Discrimination in an Unequal world, Oxford University Press, Oxford.
2. Bhandri,A.K., Almas Heshmati,A.(2006) - Wage inequality and job insecurity among permanent and contract workers in India: Evidence from organised manufacturing industries, Working Paper no. 2097, Institute for the Study for Labour (IZA), Bonn, Germany.
3. Das, A., Pandey, D. (2004) - Contract workers in India: Emerging economic and social issues, Indian journal of industrial Relation, 40(2)m 242-265.



4. Deshpande, A. (2011) - *The Grammar of the Caste: Economic discrimination in modern India*, Oxford University Press, New Delhi.
5. Dharmarajan, N. (2012) - *Contract labour: an employers perspective*, in K.R. Shyam Sundar (ed.): *contract labour in India: Issues and perspective*, Daanish books, New Delhi, 103-108.
6. Dubey, A., Gangopadhyay, S., and Wadhwa, W. (2001) - *Occupational Structure and Incidence of Poverty in Indian Towns of Different Size*, *Review of Development Economics*, Vol.5, No. 1, pp. 49-59.
7. Kundu, A., N. Lalitha, and S. Arora, (2001) - *Growth Dynamics of Informal Manufacturing Sector in Urban India: An Analysis of Interdependencies*, (with Lalitha, N. and Arora, S) in Kundu, A. and A.N. Sharma, (eds.), *Informal Sector in India*, Institute of Human Development, New Delhi.
8. Karan A, Negandhi H, Nair R, et al. (2019) - *Size, composition and distribution of human resource for health in India: new estimates using National Sample Survey and Registry data*. *BMJ Open*.
9. Newman C. (2014) - *Time to address gender discrimination and inequality in the health workforce*. *Hum Resource Health*.
10. Nanoi National Economics University. (2011) - *Research on informal employment in Viet Nam; Current situation and solution*. Discussion Paper, Hanoi National Economics University, Hanoi.
11. NCEUS. (2009) - *The challenge of employment in India: an informal economy perspective*, Vol. 1, Government of India, New Delhi.
12. Rajeev, M. (2009) - *Globalisation and labour market flexibility: A study of contractual employment in India*, *international journal of Development Issues*, 8(2), 168-183.
13. Thorat, S., Newman, K. (2010) - *Blocked by Caste: Economic discrimination in modern India*. Oxford University Press, New Delhi.
14. Vaid, D. (2014) - *Caste in contemporary India: Flexibility and Persistence*, *Annual Review of Sociology*, 40, 391-410.