

2.1 Population Projections

The basic objective of the Comprehensive Development Plan is to achieve the balanced and sustainable growth of urban and rural centers within the SDA area. Planners are invariably most concerned with population projections which form the framework for setting targets expected to be achieved within a specified time-frame, be it for land use, services or facilities. The population projection for the SDA area has been worked out based on different methods of projection and some factual information and justified assumption. To assess the trends of projections, mathematical methods are taken into consideration, via,

- a. Arithmetic Progression method,
- b. Incremental Increase method and
- c. Average Decadal Percentage Growth method.

Then population projection has been worked out applying a combination of methods including trend based methods, sustainable inducement and accelerated growth related to planning propositions.

The trend of urban and rural population of the Sambalpur, Burla, Hirakud and newly added additional 67 villages as per census data available for the period from 1971 to 2001 were considered, analyzed, projected and then added to arrive at a more appropriate projection for the SDA area for the target year of 2030.

The urban area within the SDA comprises of Sambalpur Municipality, Burla NAC and Hirakud NAC. Refer **Table 2A** for the list of rural areas included in the Sambalpur Development Authority area.

Table 2A

List of Rural Areas Included In the Sambalpur Development Authority Area

Sambalpur	Burla	Hirakud	Rural areas included in July 2011			
Kainser	Amsada Katapali	Jamadaripali	Gunderpur	Kankhinda	Nishanbhanga	Garmunda
Singhapali		Ranibandh	Gulunda	Sangulpali	Pudapada	Satijor
Dengsargi		Gadmunda	Maneswar	Kilasama	Gurupali	Rengalipali
Sankarma		Larbanga	Kanteipali	Jharaghati	Pandloi	Chipilima
Malipali		Solabandh	Gulundipali	Kumbharkata	Brahmanipali	
Pardhiapali		Sotpali	Balbaspur	Nuakhurigaon	Katar-baga	
Dhankauda			Gurupali	Bhalubahal	Ludhapali	

Khairpali			Talaba	Pabpali	Bhoipali	
Khandual			Pandripali	Rani-khinda	Tilaimal	
Putibandh			Madhupur	Munda-bel	Bamaloi	
Naksapali			Jogipali	SanTitheipali	Dharopali	
Themera			Bhualpali	Katapali	Derba	
Sindurpank			Bhalukunda	Pithampur	Kharhiapali	
Tumbesinga			Bhagatpali	Bisalkhinda	Bhaighar Reserve Forest	
Dandeipali			Chhatargada	Rengali	Sikirdi	
Kudopali			Majhipali	Jangala	Potapali	
Takaba			Sandasingha	Thelkoloi	Baijamunda	
Gambharkata			Ajitpur-sason	Dhubenchhaper	Kalamati	
Baidarnuapai			Debaipali	Lapanga	Basantpur	
Badafaskuda			Barmunda	Salad	Satupali	
Mathapali			Bisipali	Nuarampela	Govindapali	
No. of villages = 21	No. of village = 1	No. of villages = 6	No. of villages = 67			

As per the latest census 2011 provisional data available till now, the population of Sambalpur Urban Agglomeration has been estimated to be 2,69,575 persons. As per census 2011, the Sambalpur Urban Agglomeration comprises of Sambalpur Town (Municipality), its outgrowth namely Dhankuda and Mathapali, Burla Town (NAC) and its outgrowth namely, Amsadha Katapali and Hirakud Town (NAC).

Refer **Table 2B** for comparison of the population as per census 2001 and 2011 for Sambalpur Urban Agglomeration area. It is pertinent to note that the Sambalpur Development Authority area comprises of the Sambalpur Urban Agglomeration and the surrounding rural areas also including the newly added 67 villages.

Table 2B**Population of Sambalpur Urban Agglomeration – 2001 & 2011**

	Census 2001	Census 2011	Difference	Decadal growth rate
Sambalpur Town (M)	153643	183383	28840	+18.66
Dhankauda & Mathapali Area (OG)	900			
Burla Town (NAC)	39204			
Amsadha Katapali Area (OG)	3618			
Hirakud Town (NAC)	26394			
Sambalpur UA	223759	269575	45816	+20.48

The trend of actual population as per census data of the relevant year and the different parameters required for population projection is shown in the **Table 2C** for urban areas and in **Table 2D** for rural areas below. Provisional census data of 2011 was available hence it is used for the population projection for Sambalpur Municipality which is the major urban center of the SDA.

Table 2C
Trend of Population in the SDA Area (Urban), 1971-2001

SDA Component	Parameter	1971	1981	1991	2001	2011
Sambalpur Municipality	Population	64675	110282	131138	153643	183383
	Decadal Growth		45607	20856	22505	29740
	Percentage Decadal Growth Rate		70.52	18.91	17.16	19.36
	Incremental Increase in Population			-24751	1649	7235
	Average Decadal Growth		29677			
	Average Incremental Increase			-5289		
Burla Town	Population	15587	24694	31087	39204	

(NAC)	Decadal Growth		9107	6393	8117	
	Percentage Decadal Growth Rate		58.43	25.89	26.11	
	Incremental Increase in Population		9107	-2714	1724	
	Average Decadal Growth		7872			
	Average Incremental Increase		2706			
Hirakud Town (NAC)	Population	15040	21701	23833	26394	
	Decadal Growth		6661	2132	2561	
	Percentage Decadal Growth Rate		44.29	9.82	10.75	
	Incremental Increase in Population		6661	-4529	429	
	Average Decadal Growth		3785			
	Average Incremental Increase		854			

Decadal growth rate of urban population of SDA area was very high during the period from 1971 to 1981 because of development associated with the construction and completion of Hirakud dam and coming up of the big industries. Educational hub at Burla also contributed for the higher growth rate. But later on the population growth stabilized because of lack new economic activities and lack of planning intervention. Burla grow with higher decadal growth rate of more than 25 percent from 1981 to 2001. Decadal growth rate of population in Hirakud NAC has stabilized after the completion of Hirakud Dam and it is in the range of 10 - 11 percent.

Table 2D
Trend of Population in the SDA Area (Rural), 1971-2001

		1971	1981	1991	2001
Sambalpur Rural Area	Population	17803	21457	26689	27305
	Decadal Growth		3654	5232	616
	Percentage Decadal Growth Rate		20.52	24.38	2.31
	Incremental Increase in Population		3654	1578	-4616
	Average Decadal Growth Rate		3167		
	Average Incremental Increase		205		
Burla Rural Area	Population	2393	3188	3553	3618
	Decadal Growth		795	365	65
	Percentage Decadal Growth Rate		33.22	11.45	1.83
	Incremental Increase in Population		795	-430	-300
	Average Decadal Growth Rate		408		
	Average Incremental Increase		22		
Hirakud Rural Area	Population	3172	5532	6426	7313
	Decadal Growth		2360	894	887
	Percentage Decadal Growth Rate		74.40	16.16	13.80
	Incremental Increase in Population		2360	-1466	-7
	Average Decadal Growth Rate		1380		
	Average Incremental Increase		296		
67 Villages	Population	54210	68008	79176	92437
	Decadal Growth		13798	11168	13261

	Percentage Decadal Growth Rate		25.45	16.42	16.75
	Incremental Increase in Population		13798	-2630	2093
	Average Decadal Growth Rate		12742		
	Average Incremental Increase		4420		

Decadal growth rate of rural areas of Sambalpur and Burla included in the SDA area has declined significantly in the last decade of 1991-2001 because of the reason that their urban component has increased due to migration from rural to nearby urban areas. The Hirakud dam construction has led many people to live in the rural areas hence the decadal growth rate is very high for the period from 1971-1981 in the rural areas of Hirakud.

After that the decadal growth rate is stabilized to about 14-16 percent in the rural areas of Hirakud. So far as newly added 67 villages in the SDA area is concerned, the decadal growth rate was more than 25 percent during 1971 to 1981 but after that it also stabilized to about 16 percent.

The trend of the actual population from 1961 to 2001 indicates that the decadal population growth over the SDA areas have stabilized only after 1981 mainly because of the completion of Hirakud Dam project in this region. Hence, average decadal percentage growth from 1981 onwards is an important parameter for consideration of population projection. Thus, three methods viz.,

1. Arithmetic Progression Method
2. Incremental Increase Method
3. Average Percentage Decadal Growth from 1981 when population growth is stabilized,

were considered for population projection for the target year of 2030. The average of figures arrived from these three methods were considered to finalize the projected population for the years 2011, 2021 and the target year 2030. The detail of the calculation statement for each of the urban and rural areas of the SDA for arriving at the projected population is shown in the **Annexure 2A**. The population figures arrived on the basis of three methods of projection and ultimately finalized for the SDA area for the target year of 2030 is shown in the **Table 2E** for the urban area and in **Table 2F** for the rural area below.

Table 2E

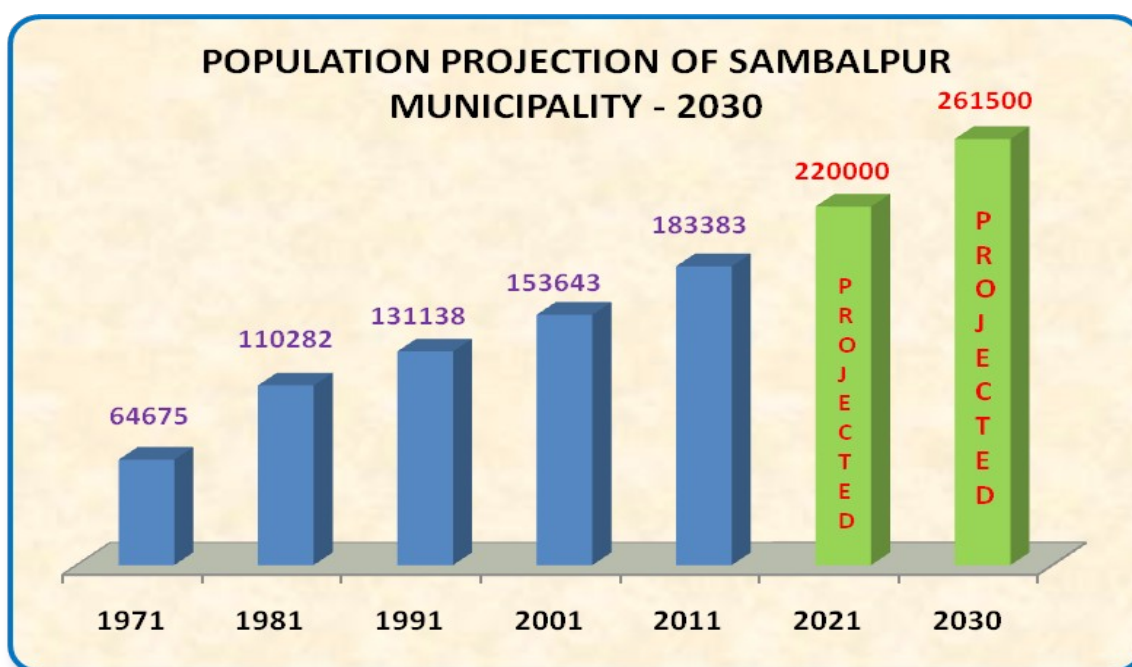
Population Projection of the Urban Area of SDA, 2011-2030

		Urban			
Year		Sambalpur (M)	Burla NAC	Hirakud NAC	SDA
1971	Census Population	64675	15587	15040	95302
1981		110282	24694	21701	156677
1991		131138	31087	23833	186058
2001		153643	39204	26394	219241
2011	Arithmetic Progression Method	183383	47076	30179	260638
	Incremental Increase Method	183383	49783	31033	264199
	Average %age Growth assumed	183383	49397	29109	261889
	Average of three Methods	183383	48752	30107	262242
	Finalized Projection	183383	48217	30000	261600
2021	Arithmetic Progression Method	213060	56089	33785	302934
	Incremental Increase Method	207771	57890	34734	300395
	Average %age Growth assumed	220060	60753	33086	313898
	Average of three Methods	213630	58244	33868	305743
	Finalized Projection	220000	58000	34000	312000
2030	Arithmetic Progression Method	249677	66443	37695	353815

Incremental Increase Method	250471	67728	38367	356566
Average %age Growth from 1981-2021	261486	73080	37497	372063
Average of three Methods	253878	69084	37853	360815
Finalized Projection	261500	69000	38000	368500

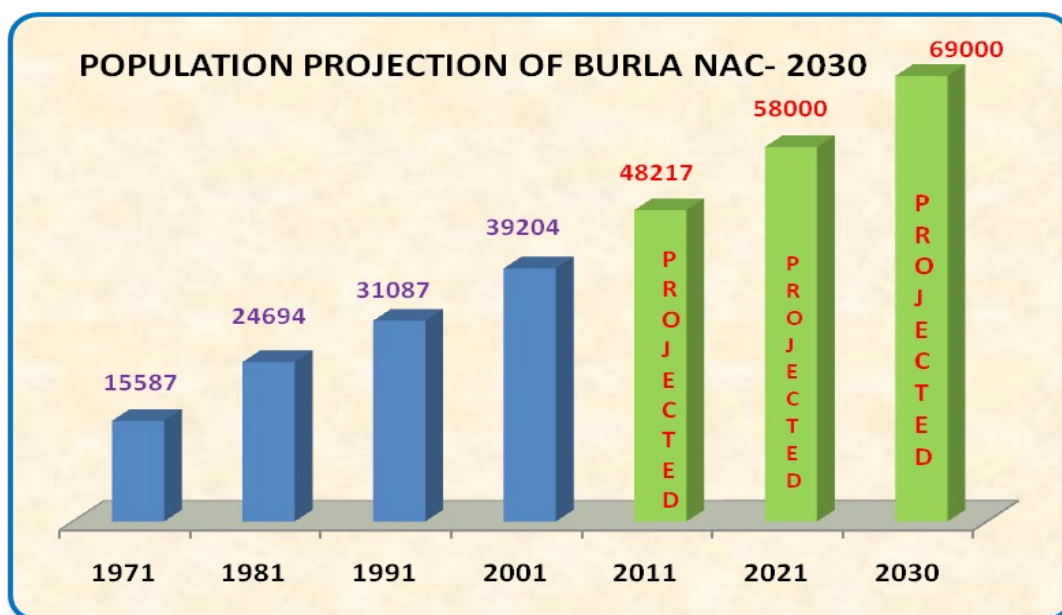
Since the provisional census data of 2011 is available for Sambalpur Municipality only, the same figure is used for different projection methods for the Sambalpur municipality for the year 2011. The bar chart showing the projected population of the Sambalpur municipality area on the basis of population growth trend from 1971 to 2011 is depicted in the **Chart 2(e1)** below.

Chart 2(e1)



The bar chart showing the projected population of the Burla NAC area on the basis of population growth trend from 1971 to 2001 is depicted in the **Chart 2(e2)** below.

Chart 2(e2)



The bar chart showing the projected population of the Hirakud NAC area on the basis of population growth trend from 1971 to 2001 is depicted in the **Chart 2(e3)** below.

Chart 2(e3)

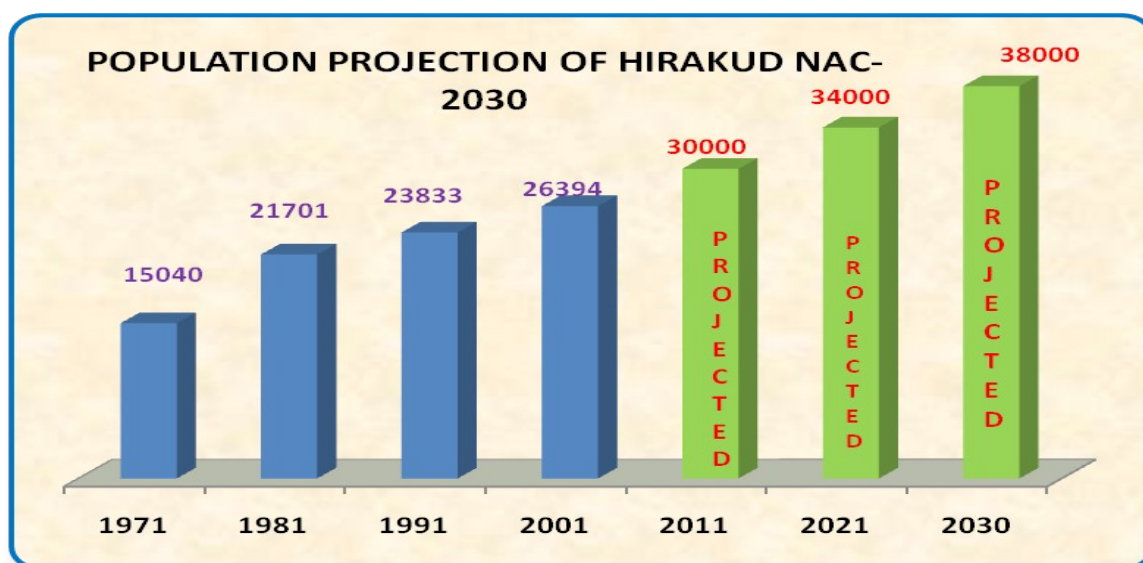


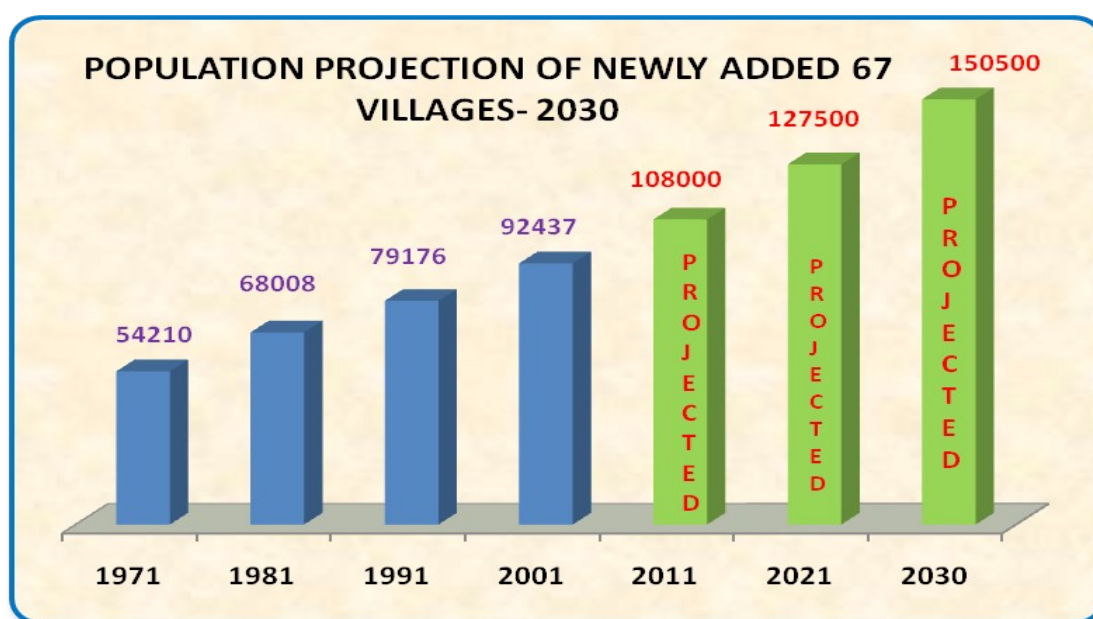
Table 2F

Population Projection of the Rural Area of SDA, 2011-2030

		Rural				
Year		Sambalpur	Burla	Hirakud	67 Villages	SDA
1971	Census Population	17803	2393	3172	54210	77578
1981		21457	3188	5532	68008	98185
1991		26689	3553	6426	79176	115844
2001		27305	3618	7313	92437	130673
2011	Arithmetic Progression Method	30472	4026	8693	105179	148371
	Incremental Increase Method	30679	4049	8990	109601	153318
	Average %age Growth assumed	30949	3858	8409	108151	151367
	Average of three Methods	30700	3978	8697	107644	151019
	Finalized Projection	30700	4000	8700	108000	151400
2021	Arithmetic Progression Method	33867	4408	10080	120742	169098
	Incremental Increase Method	35360	4578	10478	124104	174519
	Average %age Growth assumed	34797	4266	10003	127440	176506
	Average of three Methods	34675	4417	10187	124095	173374
	Finalized Projection	34500	4500	10000	127500	176500
2030	Arithmetic Progression Method	37781	4895	11384	141653	195713
	Incremental Increase Method	38730	5039	11539	145302	200609
	Average %age Growth from 1981-2021	39104	4799	11498	150450	205851
	Average of three Methods	38538	4911	11474	145801	200724
	Finalized Projection	39000	5000	12000	150500	206500

The bar chart showing the projected population of the newly added 67 villages in the SDA area on the basis of population growth trend from 1971 to 2001 is depicted in the **Chart 2(f)** below.

Chart 2(f)



The population projection figure for the whole of the SDA area as tabulated in the **Table 2G below** has been arrived at by adding the finalized projection figures of each individual urban and rural component of the SDA area so as to capture their different trends of growth rate

Table 2G

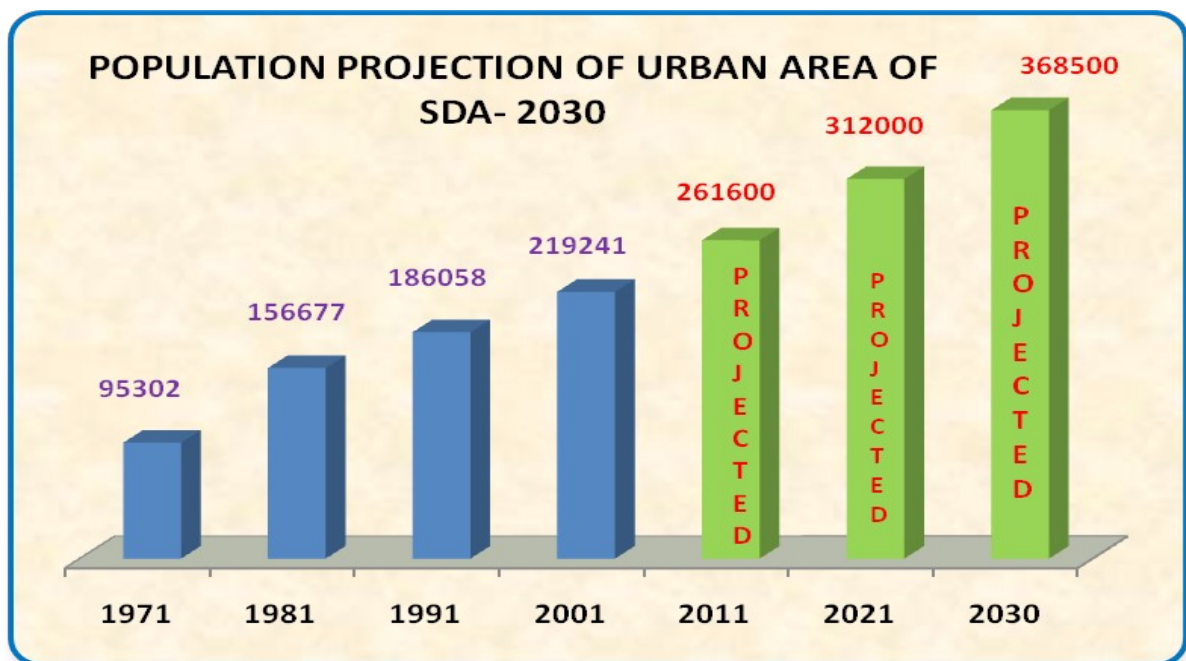
Population Projection of the SDA Area, 2011-2030

		SDA		
Year		Urban	Rural	Total
1971	Census Population	95302	77578	172880
1981		156677	98185	254862
1991		186058	115844	301902
2001		219241	130673	349914
2011	Arithmetic Progression Method	260638	148371	409009
	Incremental Increase Method	264199	153318	417518
	Average %age Growth assumed	261889	151367	413256

	Average of three Methods	262242	151019	413261
	Finalized Projection	261600	151400	413000
2021	Arithmetic Progression Method	302934	169098	472032
	Incremental Increase Method	300395	174519	474914
	Average %age Growth assumed	313898	176506	490405
	Average of three Methods	305743	173374	479117
	Finalized Projection	312000	176500	488500
2030	Arithmetic Progression Method	353815	195713	549528
	Incremental Increase Method	356566	200609	557176
	Average %age Growth from 1981-2021	372063	205851	577914
	Average of three Methods	360815	200724	561539
	Finalized Projection	368500	206500	575000

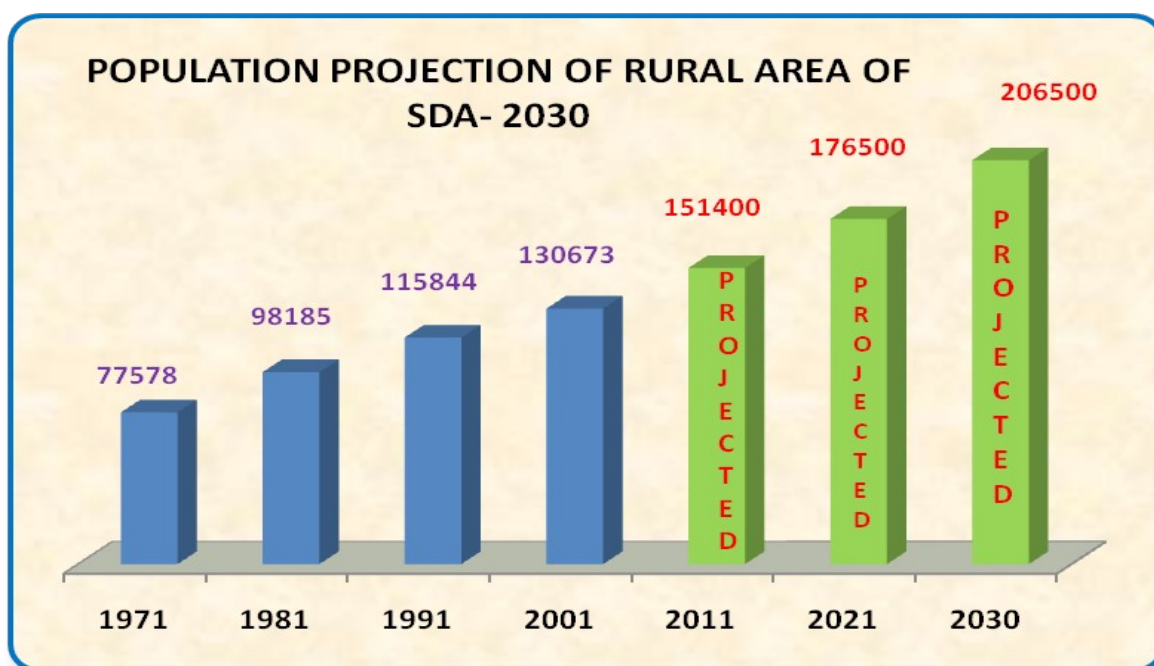
The bar chart showing the projected population of the urban component of the SDA area on the basis of population growth trend from 1971 to 2001 is depicted in the **Chart 2(g1)** below.

Chart 2(g1)



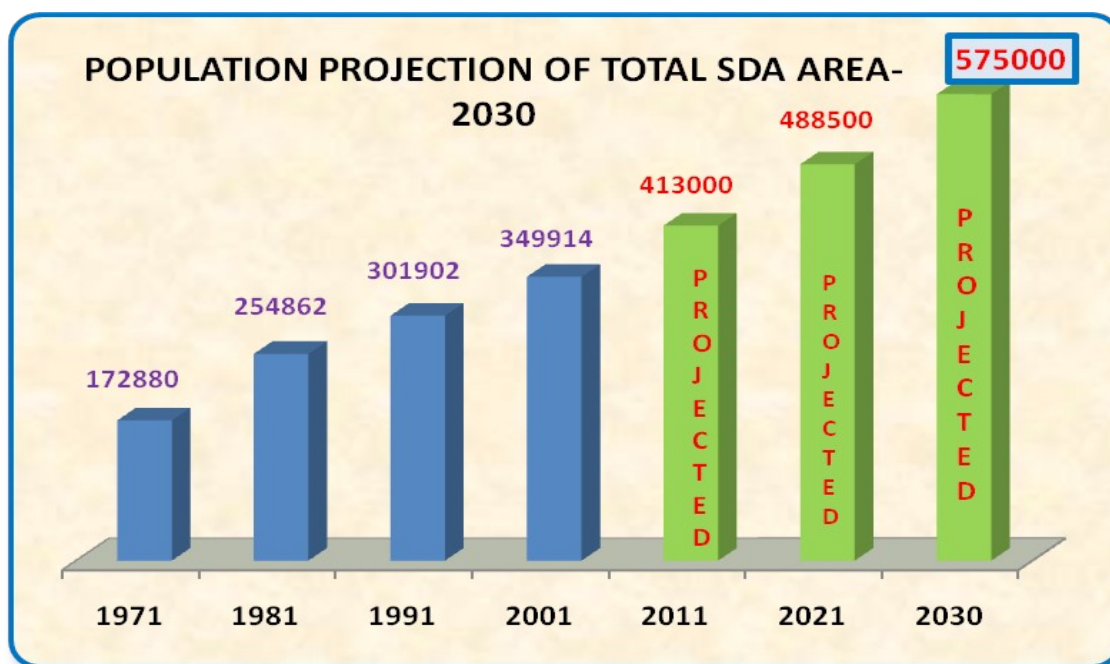
Similarly, the bar chart showing the projected population of the rural component of the SDA area on the basis of population growth trend from 1971 to 2001 is depicted in the **Chart 2(g2)** below.

Chart 2(g2)



The bar chart showing the projected population of the SDA area on the basis of population growth trend of each of the urban and rural component from 1971 to 2001 is depicted in the **Chart 2(g3)** below. Considering the trend of population and assuming the impact of planning intervention by means of this implementation of the CDP proposals mentioned in this report, the population of SDA area is projected to be 4,88,500 by the year 2021 which will rise to 5,75,000 people by the target year of 2030. All the planning proposals for the SDA area in this Comprehensive Development plan are based for this target population of 5.75 lakh.

Chart 2(g3)



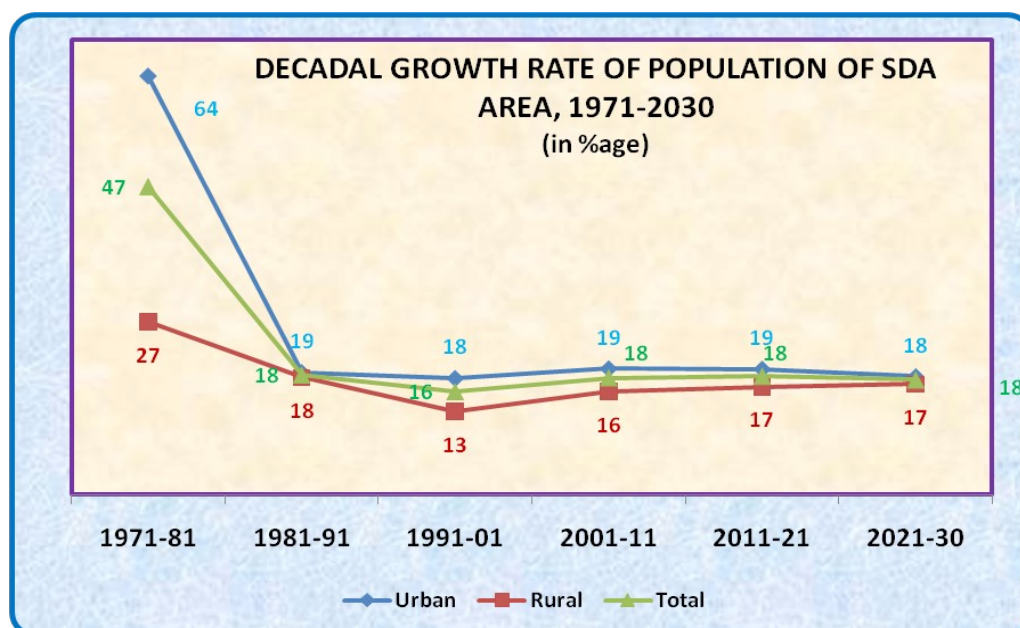
Based on the available census data and the population projected for the year 2011, 2021 and 2030, the decadal growth rate of population is shown in the **Table 2H** and is depicted in the **Chart 2(h)**. The decadal growth rate shall be 18 percent for the next two decades. The growth of rural population shall be less than the growth rate of urban population of the SDA area. The growth rate will be stabilised considering the planning intervention in the form of implementation of the proposals of this CDP.

Table 2H

Decadal growth rate of population of SDA Area, 1971-2030

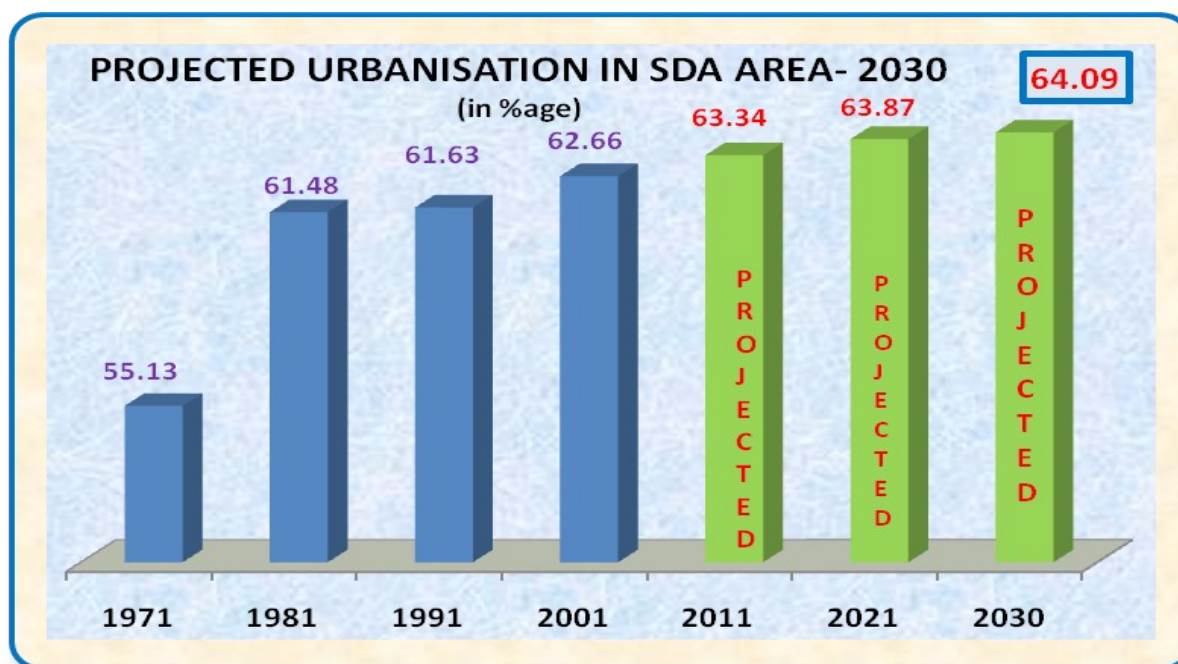
	Decadal Growth rate in percentage					
	1971-81	1981-91	1991-01	2001-11	2011-21	2021-30
Urban	64	19	18	19	19	18
Rural	27	18	13	16	17	17
Total SDA	47	18	16	18	18	18

Chart 2(h)

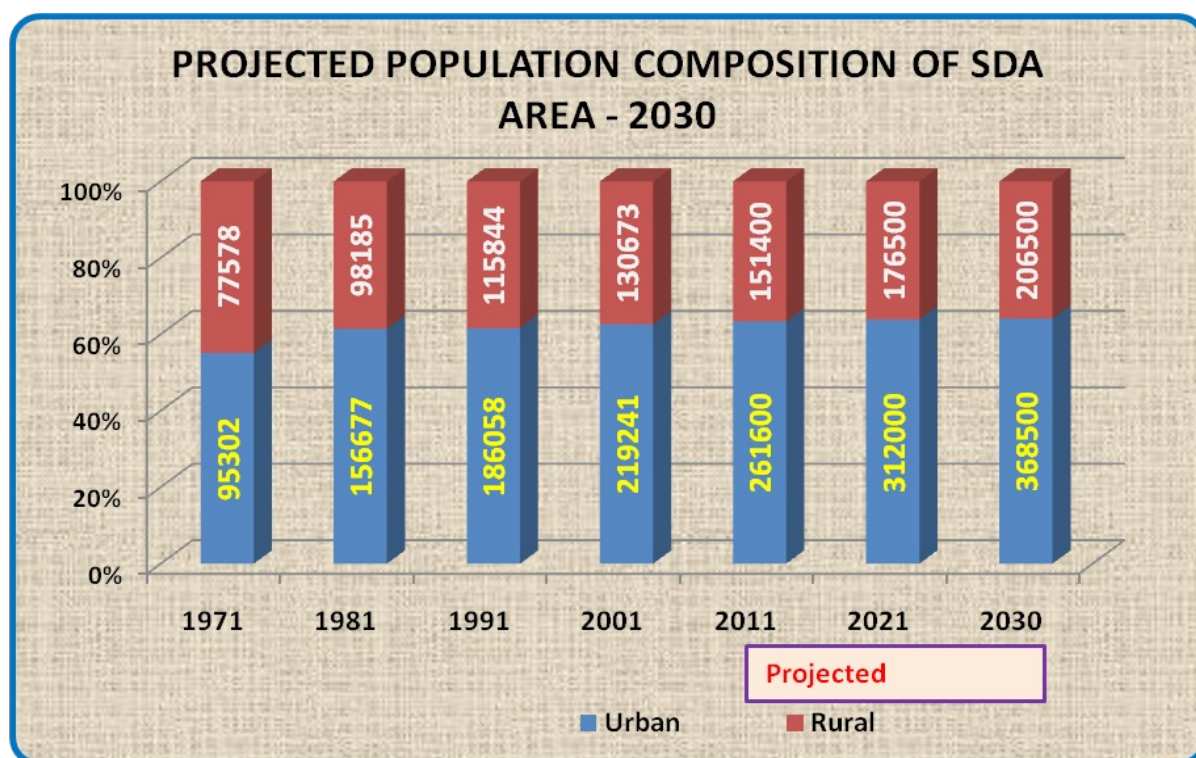


Based on the population projection discussed above, the emerging urbanisation trend in the SDA area for the year 2011, 2021 and 2030 is shown in the **Chart 2(i)** below. It is projected that by the year 2030, the urbanisation in the SDA area will increase to 64.09 percent from 62.66 percent which was in 2001. For 2011, the urbanisation in the SDA area is projected to be 63.34 percent. As per the provisional data available for the Census 2011, the urbanisation in the Orissa state is estimated to be 16.68 percent while for the Sambalpur district it is estimated to be 29.81 percent.

Chart 2(i)



The composition of total population of the SDA area over the period from 1971 to the target year 2030 is depicted in the **Chart 2(j)** below. The composition of rural population will be reducing in the SDA area over the period. **Chart 2(j)**



Thus, out of the total population **5,75,000** souls of SDA area projected for the year 2030, **3,68,500** shall be in the urban areas and rest **2,06,500** shall be living in the rural areas of SDA with urbanisation of **64.09** percent.

The gross density works out to be **12 persons per hectare**. The demographic data of the SDA area as per census data and as per projection is tabulated below in **Table 2I**.

Table 2I

Population Projection of the SDA area at a Glance, 1971-2030

			1971	1981	1991	2001	2011	2021	2031
			As per Census data				Projected		
Urban	Sambalpur	Municipality	*64675	110282	131138	153643	183383	220000	261500
	Burla	NAC	15587	24694	31087	39204	48217	58000	69000
	Hirakud	NAC	15040	21701	23833	26394	30000	34000	38000
	Total	3	95302	156677	186058	219241	261600	312000	368500
Rural	Sambalpur	21 Villages	17803	21457	26689	27305	30700	34500	39000
	Burla	1 Village	2393	3188	3553	3618	4000	4500	5000
	Hirakud	6 Villages	3172	5532	6426	7313	8700	10000	12000
	Newly added	67 Villages	54210	68008	79176	92437	108000	127500	150500
	Total	95 Villages	77578	98185	115844	130673	151400	176500	206500
SDA	Total		172880	254862	301902	349914	413000	488500	575000
		Development area	82478	131739	157827	180948	214083	254500	300500

	Burla		17980	27882	34640	42822	52217	62500	74000
	Hirakud		18212	27233	30259	33707	38700	44000	50000

2.2 Zonal projections

The planning area of the SDA shall be divided into various Zones and shall be demarcated on the basis of ease in implementation of the CDP proposals after the proposed land use is finalized. The plan for each Zone shall be prepared containing detailed information regarding provision of social infrastructure, parks and open spaces, circulation system, etc. The Zonal plans shall act as a link between the CDP and the layout plan to create a sustainable environment for better quality of life. The Zonal plans shall be in the form of structure plan.

To understand the present urban structure of the three master plans area of the SDA, different Zones have been identified on the basis of homogeneity in the character of development and its location. The study of these Zones has helped in framing the proposed land use for the planning area of CDP.

Table 2J
Spatial Zones of Zones in SDA

Master Plan	Zone	Spatial Extent	Area (in sq. Km.)
Sambalpur	I	Includes the high density main activity area of the town within the municipality area encompassed between railway line on the north, river Mahanadi on the South, Ward No. 2/p, 3, 4/p on east and Ward No. 24/p on west. May be termed as CBD of the town. The zone includes area like, Golebazar, Kamlibazar, Nadapara, Marwaripara, Laxmi talkies, various administrative buildings, Circuit House, office buildings, Government Hospital, Private Bus stand, Stadium, T.V. center, Jail, Samlaeswari Temple etc.	6.4953
	II	Includes the trade & commercial area through which passes the portion of NH-6 from Remed chowk in the west to Railway level crossing near Tangarpali in the east. It encompasses the area north of the railway line upto the boundary of the municipality. Ward No. 23, 24/p, 25, 26, 27, 28 and 29 of Sambalpur Municipality are part of this Zone. Remed Chowk, Baraipali chowk, Ainthapali Chowk, Government Bus stand are included in this Zone. Recent fast development of commercial and residential activities has been witnessed in this Zone in Ward No. 28 along the road from Ainthapali Chowk upto the railway line in the north - south direction. Budharaja Reserve forest falls in this Zone.	12.2148
	III	It includes the low development area of the municipality encompassed between Zone I on the west, Zone II on the North, municipality boundary on the east and boundary of river on the south. Ward No. 2/p, 3, 8/p and 9 of Sambalpur Municipality are part of this Zone. It includes rural area of Dhankaura also. Broad gauge railway line from Sambalpur to Talcher to Cuttack passes through this zone.	9.0416

		Portion of NH-6 is also falling in this zone where sparse development on both sides could be seen. Motijharan Reserve forest falls in this Zone.	
	IV	It includes partly municipality area and partly rural area. Rural areas include Putiband, Tumbesingha & Sindurpank. Ward No. 1/p, 2/p and 5/p of Sambalpur Municipality are part of this Zone. The zone is encompassed between Zone III on the north, BG railway line on the east, river Mahanadi on the West and rural area of Bhatra and Khairpali on the south. Major traffic junction at Dhanupali falls in this zone. Road coming from the main town center, NH-42 to Cuttack, Bye pass to NH 6 to Deogarh and road to Dhama meets at this junction where lot of commercial and business activities could be seen.	6.1148
	V	This is the zone on the south west of the municipality area falling under Ward No. 24. This is a pocket between Zone I on the east, Zone II on the north, NH-6 and municipality boundary on the west and river Mahanadi on its south. BG railway line passes through this zone. Bye pass from NH-6 passes through this Zone in the south and connects it to the major commercial hub of the town in Zone I. Commercial activities could be seen on both sides of this bye pass.	2.7308
	VI	This is a small pocket in the Municipality area on the South of the Zone IV, east of Mahanadi river and by the municipal boundary on its east and south. The zone is not very developed and has a rural character though it is min the municipality. NH-42 and road to Dhama passes through this zone. Ward No. 1/p and 5/p of Sambalpur Municipality are part of this Zone.	2.1158
	VII	The area is outside the municipality but inside the rural areas of the Sambalpur master plan area. The area is encompassed between Lamdungri Reserve Forest in the north, SH-10 on the east, municipal boundary and Zone II on the south and Sambalpur Master plan boundary (village Remed) on the west. There is a sparse development in this zone having the rural character. Some residential and commercial development could be seen along the north – south main road running from Lamdungri Reserve Forest to Ainthapali Chowk. Similar development could be seen in the western side of the SH-10 in this zone. Singhpali dumping yard falls in this zone.	11.5145
	VIII	The zone comprises of rural area of the master plan encompassed between SH-10 and Zone VII on the west, Sambalpur master plan boundary on the north and east and river boundary on the south. Major portion of the area in this zone falls between the SH-10 and BG railway line running almost parallel from Sambalpur to Jharsuguda. Development along this corridor could be seen.	7.4791
	IX	This zone comprises of vast rural area of the eastern side of the master plan area bounded by Zone III, IV and VIII on the western side, boundary of village Khairpali on the south and boundary of the master plan on the rest of the sides. Some residential and commercial development along the boundary of the municipality on the west side of the zone could be seen.	21.7727
	X	It is the south east side of the rural area of master plan. It includes the area bounded by the boundary of the Zone IV, VI and IX on the	12.4806

		north, river Mahanadi on the west and boundary of the master plan on the rest of the sides. Some development because of vicinity to the municipality area and presence of NH-42 could be seen in this zone.	
Burla	I	The NAC area of Burla is divided into two zones. The area bounded by the East – West Power channel and Mahanadi river is designated as Zone I. This zone includes the old Burla, VSS Medical College and Hospital, Engineering College, Burla College, OSEB Guest House, Officer's colony and Staff quarters. PG Chowk is the important traffic junction in this zone. One major road running east - west from this Chowk meets NH-6 on the eastern side of the zone. Commercial activities could be seen on both sides of this major road of the town. Ward No. 11, 12, 13, 14 and 15 of Burla NAC are part of this Zone. Mainly institutional areas are included in this zone.	14.7568
	II	The area of the NAC on the South of the Power Channel is included in the Zone II. Most of the new residential and commercial developments are concentrated in this part of the NAC. Burla Power House, NAC office, Sambalpur University Campus, Jagannath temple, Hiraakud Railway station etc. is important locations falling in this zone. Most of the residential localities and the daily markets are located in this zone between Power Channel and the east-west main road connecting NH-6 on the east to Power House, Nehru Minar and Hiraakud Dam in the west. The institutional area is on the south of this main road of the town. Some residential development on the west of the NH-6 could be seen in this zone. Ward No. 1 to 10 of Burla NAC is part of this Zone.	11.4101
	III	The zone comprises of village Amsadhakatapali, the only rural area of the master plan of Burla located on the south of the NAC boundary. Broad gauge SE Railway line and NH-6 passes through this zone which has a rural character and predominantly agricultural activities. Some development on the boundary with the NAC could be seen in this zone.	10.0531
Hirakud	I	The NAC area of Hirakud is divided into two zones. The linear shaped area bounded by the East – West railway line in the north and river Mahanadi & Laxmidungri Reserve Forest in the south is classified as Zone I. The zone is the only developed area in this town. 30.0 mt wide main road of the town running east – west passes through this zone connecting NH- 6 in the east with the town center in the west and further to the Gandhi Minar by 24 mts wide road. IDC, ITI, ITI hostel, office of the NAC, Dam main office, OSEB, PHED, SER, residential township of INDALCO, Government hospital, High School, football field, police station, Nehru park, Satsang mandir, residential areas and old and new market are located in this zone. There being linear development, all the places are connected by the network of roads of various widths. Ward No. 1/p, 2, 3/p, 4/p, 7/p, 9/p, 13/p, 14, 15/p and 16 of Hirakud NAC is part of this Zone. All the low lying areas of the Hirakud town at Falsakanta, Nr. Overhead water tank, Nr. Satsang mandir, Brundabatipada, Neempali and at Lariapada are in this zone.	10.8233

	II	The area of the town bounded by the Zone I boundary in the South and boundary of NAC on the north is classified as Zone II. Major portion of this zone is occupied by INDALCO. Other development seen in this zone is the HPCL, factory of Hira Cables, Re-rolling mill and FCI. 12.0 mts wide east-west road is the only main road in this zone catering to these developments. Recent residential development has been noticed in this zone on the eastern tip which is adjoining to Sambalpur town near Remed Chowk. Lambadungri is part of this zone. Ward No. 1/p, 3/p, 4/p, 5, 6, 7/p, 8, 9/p, 10, 11, 12, 13/p, 15/p and 17 of Hirakud NAC is part of this Zone.	14.7285
	III	This zone comprises of vast rural area of the northern and eastern side of the master plan area of Hirakud. Jamadarpali, Ranibandh, Gadmunda, Larbanga, Solabandh and Sotpali are the villages falling in this zone. This zone has a rural character and predominantly agricultural activities. Some development on the boundary with the NAC could be seen in this zone. On the north of this zone is the Hirakud reservoir, on the east is the boundary of master plan area of Sambalpur, on the west and south is the boundary of Hirakud NAC	18.4882
Proposed 67 villages		The proposed 67 villages to be included in the CDP of SDA area have also been divided into seven zones considering the functionality and the location in the SDA area. Identification of nodes among the rural areas of 67 villages will play the vital role in boosting the major economic activities in the SDA area.	
	I	It is the rural area just north of the present boundary of the Sambalpur master plan where lot of activities are being witnessed in the recent times because of its nearness to the Sambalpur and being in the vicinity of the Sambalpur- Jharsuguda section of the State Highway. Satellite township admeasuring about 2000 acres in and around village Sasan which has been proposed by the SDA has been put in this zone. The potentiality of developing Satellite town and Mandi area in this zone shall be explored while formulating the proposal for the CDP of SDA. This zone may be classified as Satellite Township Zone.	61.3389
	II	About 30 kms north of Sambalpur town is the Village Rengali which has been classified as Zone II as this has the potentiality for developing as a socio-economic node for the SDA. SH-10 and railway line to Jharsuguda passes through the center of this village. This zone may be classified as Rengali Socio Economic Node Zone.	12.6964
	III	Further north to Rengali about 45 kms away from Sambalpur town is the village Lapanga which has the potential for development as Forest and Agro based industrial node of the region. This village has been classified as the Zone III. SH-10 from Sambalpur to Jharsuguda passes through the center of this village. This zone may be classified as Lapanga Forest Agro Industrial Node Zone.	14.3567
	IV	Out of the 67 villages proposed to be included in the SDA, the villages north of the Zone I above the reserve Forest and south of the River stream excluding Rengali are put in this zone. This zone may be classified as Rengali Rural Zone.	87.5735
	V	Out of the 67 villages proposed to be included in the SDA, the villages north of the Zone IV above the River stream excluding the	67.6314

		village Lapanga are put in this zone. This zone may be classified as Lapanga Rural Zone.	
	VI	Out of the 67 villages proposed to be included in the SDA, the villages south of the Burla and west of the Mahanadi river after Lambai Dunguri Reserve Forest are included in this zone to be classified as South Burla Rural Zone.	60.1251
	VII	Rest of the 67 villages proposed to be included in the SDA, which are south of the Sambalpur and east of the Mahanadi river are included in this zone to be classified as South Sambalpur Rural Zone.	12.808
		Total	488.75

To calculate the projected population of different Zones of the SDA area, the growth rate of population as per the projection for 2030 as discussed above for the development area of Sambalpur, Burla, Hirakud and additional 67 villages is considered. It is assumed for the sake of convenience that the growth rate is same in all the Zones of the respective development area. Once the projected population of the Zones becomes available for 2030, then the projected population of each ward and village of respective zone is calculated assuming that the ratio of population in the different wards as per the 2001 census remains the same in 2030 also. Refer **Table 2K** for the population projection of the development area of Sambalpur, Burla, Hirakud and 67 Additional villages as obtained from then Table 2I above.

Table 2K

Population Projection of the Development Area of SDA, 2001-2030

Development Area of	Component	As per census 2001	Projected 2030	Growth rate 2001-30
Sambalpur	Urban	153643	261500	
	Rural	27305	39000	
	Total	180948	300500	66.07
Burla	Urban	39204	69000	
	Rural	3618	5000	
	Total	42822	74000	72.81
Hirakud	Urban	26394	38000	
	Rural	7313	12000	
	Total	33707	50000	48.34
67 Villages	Urban	0	0	
	Rural	92437	150500	
	Total	92437	150500	62.81
SDA	Urban	219241	368500	
	Rural	130673	206500	
	Total	349914	575000	

Considering the growth rate of population of the development area from 2001 to 2030 as shown in the above Table, and assuming this growth rate to be same for all the Zones of

the respective development area, the projected population of each Zone in the development area of Sambalpur, Burla, Hirakud and 67 villages has been obtained as shown in the **Table 2L** below.

Table 2L
Population Projection of Zones of the SDA area, 2001-2030

	Population as per Census 2001	Population as projected 2030
Zone - I	81645	135700
Zone - II	28430	47200
Zone - III	15082	25000
Zone - IV	5001	8300
Zone - V	13740	22800
Zone - VI	15646	26000
Zone - VII	5964	9900
Zone - VIII	3079	5100
Zone - IX	8132	13500
Zone - X	4229	7000
Sambalpur Development Area	180948	300500
Zone - I	12790	22000
Zone - II	26414	47000
Zone - III	3618	5000
Burla Development Area	42822	74000
Zone - I	11579	17000
Zone - II	14815	21000
Zone - III	7313	12000
Hirakud Development Area	33707	50000
Zone - I	20474	33500
Zone - II	8682	14000
Zone - III	2188	3500
Zone - IV	21397	34500
Zone - V	12252	20000
Zone - VI	21144	34500
Zone - VII	6300	10500
Additional 67 villages	92437	150500
Total SDA	349914	575000

Once the projected population is available for each Zone of the respective development area for 2030, the projected population of each components of the Zone is obtained for 2030 considering that the ratio of population as per census 2001 of each component to its Zone remains the same for 2030 also, for the sake of convenience. Refer **Table 2M** below for knowing the projected population of each component of the Zones of SDA for the target year of 2030.

Table 2M

Projected Population of Each Component of Various Zones of the SDA Area, 2030

ZONES		Population as per Census 2001	Population as projected 2030
	<i>SAMBALPUR</i>		
I	Ward No.4	3151	5237
I	Ward No.5	6218	10335
I	Ward No.6	3594	5973
I	Ward No.7	5216	8669
I	Ward No.8	3426	5694
I	Ward No.10	3603	5988
I	Ward No.11	3209	5334
I	Ward No.12	3589	5965
I	Ward No.13	4155	6906
	Ward No.14	4282	7117
I	Ward No.15	4053	6736
I	Ward No.16	6460	10737
I	Ward No.17	6730	11186
I	Ward No.18	4760	7911
I	Ward No.19	4292	7134
I	Ward No.20	5378	8939
I	Ward No.21	6919	11500

I	Ward No.22	2610	4338
I	Badafaskuda	0	0
	Sub Total Zone - I	81645	135700
II	Ward No.23	4093	6795
II	Ward No.26	6882	11426
II	Ward No.27	6198	10290
II	Ward No.28	6560	10891
II	Ward No.29	4697	7798
II	Budharaja Reserve Forest		0
	Sub Total Zone - II	28430	47200
III	Ward No.3	6783	11244
III	Ward No.9	7399	12265
III	Motijharan Reserve Forest		0
III	Dhankauda	900	1492
	Sub Total Zone - III	15082	25000
IV	Putibandh	1727	2866
IV	Sindurpank	2577	4277
IV	Tumbesingha	697	1157
	Sub Total Zone - IV	5001	8300
V	Ward No.24	6772	11237
V	Ward No.25	6968	11563
	Sub Total Zone - V	13740	22800
VI	Ward No.1	6275	10428
VI	Ward No.2	9371	15572

	Sub Total Zone - VI	15646	26000
VII	Baidarnuapali	1268	2105
VII	Dengsargi	1264	2098
VII	Kainsir	2543	4221
VII	Singhapali	889	1476
	Sub Total Zone - VII	5964	9900
VIII	Malipali	946	1567
VIII	Pardhiapali	1115	1847
VIII	Sankarma	1018	1686
	Sub Total Zone - VIII	3079	5100
IX	Dandeipali	507	842
IX	Gambharkata	994	1650
IX	Kudopali	795	1320
IX	Takaba	1667	2767
IX	Themera	4169	6921
	Sub Total Zone - IX	8132	13500
X	Khairpali	1060	1755
X	Khandual	1318	2182
X	Mathapali		0
X	Naksapali	1851	3064
	Sub Total Zone - X	4229	7000
	Sambalpur Development Area	180948	300500
	BURLA		

I	Ward No.11	2582	4441
I	Ward No.12	1492	2566
I	Ward No.13	2744	4720
I	Ward No.14	3953	6800
I	Ward No.15	2019	3473
	Sub Total Zone - I	12790	22000
II	Ward No.1	2718	4836
II	Ward No.2	3152	5609
II	Ward No.3	2583	4596
II	Ward No.4	2974	5292
II	Ward No.5	2677	4763
II	Ward No.6	2412	4292
II	Ward No.7	2615	4653
II	Ward No.8	2299	4091
II	Ward No.9	2717	4835
II	Ward No.10	2267	4034
	Sub Total Zone - II	26414	47000
III	Amsadha Katapali	3618	5000
	Sub Total Zone - III	3618	5000
	Burla Development Area	42822	74000
	HIRAKUD		
I	Ward No.1	2258	3315
I	Ward No.2	1023	1502

I	Ward No.11	1652	2425
I	Ward No.12	1335	1960
I	Ward No.13	1299	1907
I	Ward No.14	1012	1486
I	Ward No.15	1466	2152
I	Ward No.16	1534	2252
	Sub Total Zone - I	11579	17000
II	Ward No.3	1584	2245
II	Ward No.4	2736	3878
II	Ward No.5	1240	1758
II	Ward No.6	2131	3021
II	Ward No.7	2033	2882
II	Ward No.8	2248	3187
II	Ward No.9	839	1189
II	Ward No.10	689	977
II	Ward No.17	1315	1864
	Sub Total Zone - II	14815	21000
III	Ranibandh	826	1355
III	Jamadarpali	911	1495
III	Gadmunda	3663	6011
III	Larbanga	1913	3139
III	Solabandh	Uninhabited	0

III	Sotpali	Uninhabited	0
	Sub Total Zone - III	7313	12000
	Mahanadi	Uninhabited	0
	Laxmidungri Reserve Forest	Uninhabited	0
	Hirakud Development Area	33707	50000
	<i>Additional 67 villages</i>		
I	Ajit-pur-sason	700	1145
I	Balbas-pur	1028	1682
I	Bar-munda	241	394
I	Bhagatpali	6	10
I	Bhalubahal	1762	2883
I	Bhalu-kunda	601	983
I	Bhualpali	337	551
I	Bisalkhinda	2593	4243
I	Bisipali	310	507
I	Chhatar-gada	231	378
I	Debaipali	909	1487
I	Gurupali	585	957
I	Jogipali	619	1013
I	Kankhinda	1335	2184
I	Katapali	788	1289
I	Madhupur	297	486

I	Majhipali	312	511
I	Munda-bel	107	175
I	Pabpali	679	1111
I	Pandripali	438	717
I	Pithampur	756	1237
I	Rani-khinda	1769	2894
I	Sandasingha	687	1124
I	Sangulpali	465	761
I	San-Titheipali	170	278
I	Talab	2749	4498
	Sub Total Zone - I	20474	33500
II	Rengali	8682	14000
	Sub Total Zone - II	8682	14000
III	Lapanga	2188	3500
	Sub Total Zone - III	2188	3500
IV	Bhaighar R.F.	0	0
IV	Bhoipali	621	1001
IV	Brahmanipali	1580	2548
IV	Jangala	2886	4653
IV	Jharaghati	667	1075
IV	Katar-baga	5146	8297
IV	Kilasama	2469	3981

IV	Kumbharkata	554	893
IV	Ludhapali	618	996
IV	Nishanbhanga	1742	2809
IV	Nuakhurigaon	1191	1920
IV	Nuarampela	2240	3612
IV	Salad	1683	2714
	Sub Total Zone - IV	21397	34500
V	Bamaloi	2371	3870
V	Derba	1895	3093
V	Dharropan	966	1577
V	Dhubenchhaper	742	1211
V	Gurupali	164	268
V	Kharhiapali	1420	2318
V	Pandloi	1002	1636
V	Pudapada	431	704
V	Thelkoloi	1784	2912
V	Tilaimal	1477	2411
	Sub Total Zone - V	12252	20000
VI	Baijamunda	2723	4443
VI	Basantpur	1816	2963
VI	Chipilima	2783	4541
VI	Garmunda	1653	2697

VI	Govindapali	250	408
VI	Kalamati	8893	14510
VI	Potapali	418	682
VI	Rengalipali	213	348
VI	Satijor	61	100
VI	Satupali	1309	2136
VI	Sikirdi	1025	1672
	Sub Total Zone - VI	21144	34500
VII	Gulunda	1788	2980
VII	Gulundipali	228	380
VII	Gunderpur	1704	2840
VII	Kanteipali	743	1238
VII	Maneswar	1837	3062
	Sub Total Zone - VII	6300	10500
	Additional 67 villages	92437	150500

Thus, the population is projected for each ward of the Sambalpur municipality, Burla NAC and Hiraikud NAC besides the rural areas of the SDA for 2030.