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Determining Development Of Urban Slums With Growth Index Using Sas

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Abstract: Improvement in standard of living has remained the basic objective of any democratic nation. The most commonly and extensively used measure of economic development is the concept of gross domestic product or national income. This concept in per capita terms is crudely used to reflect the standard of living. But the standard of living or quality of life is more related to per capita consumption rather than to per capita income or production. This per capita consumption, if extrapolated to the slum level, we can derive a systematic indexing technique which will help us to understand the development levels of urban slums. In this paper we attempt to develop a composite index of development of slums which will mitigate the tasks of government and other public bodies to understand their development and hence take the appropriate measures.

Key words: Urban Slums , domestic product , human settlement ,demographically.

INTRODUCTION:

A slummay be defined as a deprived human settlement, which is demographically, economically and environmentally vulnerable. Slums are looked down upon and denigrated. Extreme overcrowding, high density and high levels of mortality and fertility are typical demographic features of slums. A large, unorganized sector, low levels of productivity and extreme poverty are the usual economic features; and the lack of access to basic needs like water, sanitation and clean environment, make these areas environmentally hazardous [1]. A Slum, for the purpose of Census, has been defined as residential areas where dwellings are unfit for human habitation by reasons of dilapidation, overcrowding, faulty arrangements and design of such buildings, narrowness or faulty arrangement of street, lack of ventilation, light, or sanitation facilities or any combination of these factors which are detrimental to the safety and health [2].

The last two decades has witnessed a large scale migration of the rural poor to metropolitan slums. Slums, historically have been accepted as a part of the urban environment characterizing under-development in the developing countries[3]. Improvement in standard of living has remained the basic objecting of India's planning. The most commonly and extensively use measure of economic development is gross domestic product or national income. This concept in per capita terms is crudely used to reflect the standard of living. But the standard of living or quality of life is more related to per capita income consumption rather than to per capita income or production.

LITERATURE SURVEY:

CITIES AND SLUMS:

While cities are generators of the nation's wealth and income, there are large sections of the poor in cities, especially slum dwellers, who are bypassed by the process of growth [4]. An urban-urban divide is emerging as revealed by the trends in Gini co-efficient of urban income distribution encompassing various monthly expenditure classes. A critical issue of public policy is thus how to make cities inclusive in accordance with the 11th Plan Strategy of inclusive growth and provide basic services and access to affordable shelter and employment to the urban poor, including the dwellers of the slum which manifest the worst form of poverty [5]. The backlog and current needs of the poor including slum dwellers will have to be addressed along with those from future urban growth so as to prevent the conditions that led to mushrooming of slums and haphazardly grown cities and towns in the past. A strategy of guided urbanization will recognize that the urban poor, including slum-dwellers, numbering millions at the bottom of the pyramid, have a key role in the development of the cities. Their number is so large that even a modicum increase in their productivity through intervention by the governments will mean that the contribution to GDP will be huge. The urban poverty issue has been elevated to the National concern with a high priority value [6].

MATERIALS AND METHODS:

SOURCE OF DATA & SAMPLING:

The data analyzed here are drawn from a study on daily livelihood and social amenities in the Pimpri-Chinchwad Municipal Corporation (PCMC) area [7]. The source population was defined geographically by the

boundaries of the PCMC, which includes about 147,700 inhabitants. A multi-stage selection procedure was used in order to survey 35,222 households from slums geographically distributed all over the PCMC area, including all ethnic and religious communities. Pavement dwellers and the squatters were excluded from the study population. The PCMC was first divided into wards and then into slums. Every household within the selected slum satisfying the entry criterion (at least one child under five years old) had to be surveyed.

DATAANALYSIS:

The data is obtained by designing a questionnaire with a unique research methodology. The slum dwellers are either present generation migrants or have been living in cities for more than a generation. (For the purpose of analysis rural-urban linkages, only the present generation migrants have been taken into consideration).

To analyze the location of the slums and study the demographic profile, we dichotomized [8] the data into two different part. The first one contains the details of the slum viz., name, pin, sector, Department, ownership, area of the slum and C S No. The preliminary analysis helps us to understand the population density and co-relate the same with the development/productivity of the slums. Not necessary, the development and the density are inter-linked as several issues may be raised followed by constraints like the native population and the migrated population. Hence, we deduced the second table which was based on ramifications of notified and non-notified slums.

S.N	Name of Slum	Pin	Sector	Department	Ownership	Area (sq.m)	C S No.
1	Vidyanagar 19	19	3	Akurdi 35	MIDC	41004.42	CTS No. 5233, S.N. 119 (Part)
3	Mahatma Phulenagar/Mahanagar	19	3	Akurdi	MIDC	14537.55	S.N. 126 Part
5	Kalbhornagar 19	19	3	Akurdi	MIDC	2523.76	CTS No. 5116 Part, S.N. 154 Part
7	Ambedkarnagar 35	35	3	Akurdi	MIDC	5477.48	61.00 mtr. Telco Road
8	Ramnagar 19	19	3	Akurdi	MIDC	16124.01	S.N. 119 Part
9	Duttanagar 19	19	4	chinchwad	MIDC	46208.38	S.N. 119 Part, CTS No. 5232
10	Ajanthanagar 35	35	3	Akurdi	MIDC	13105.1	S.N 88 Part
14	Annabhau Sathenagar 26	26	4	Chinchwad	MIDC	8539.01	S.N. 310 Part
19	Indiranagar 19	19	4	Chinchwad	MIDC	23075.82	S.N. 2049/203 Part and CTS No. 4713
61	Morwadi 18	18	2	Pimpri Waghere	Private+MIDC	23240.87	S.N. 141 Part, 38 Part and 151 Part
45	Mahatma Phulenagar 26	26	4	Bhosari 26	MIDC	33628.02	CTS No. 3000 Part
47	Gavalinagar Vasahat 26	26	4	Bhosari	MIDC	21448.23	CTS No. 2942, 2943, 2996, 2997, 2998, 2999
43	Balajinagar26	26	4	Bhosari	MIDC	54872.03	CTS No. 3000 Part
44	Ganeshnagar 26	26	4	Bhosari	MIDC	6387.6	CTS No. 2991, 2992, 2993
42	Landewadi 26	26	4	Bhosari	MIDC	24214.02	S.N. 631, 632 CTS No. 2736, 2909
52	Shantinagar 26	26	4	Bhosari	Govt	5629.88	S.N. 25 Part
67	Sharadnagar 35	35	3	Nigadi	PCNTDA	6621.43	S.N. 56 Part
68	Samratnagar Ankush Chowk 44	44	3	Nigadi	PCNTDA	2471.04	61.00 mtr. is on the road
69	Rajnagar44	44	3	Nigadi	PCNTDA	18464.66	61.00 mtr. is on the road
70	Siddharthnagar44	44	3	Nigadi	PCNTDA	3104.34	61.00 mtr. is on the road
2	Durganagar35	35	3	Akurdi	PCNTDA	5799.66	61.00 mtr. Telco Road,
6	More Vasti/Ram Shalcheanar35	35	3	Chikhali	PCNTDA	32558.22	
53	Khande Vasti26	26	4	Bhosari	PCNTDA	7469.44	S.N. 58 Part
24	Annabhau Sathenagar 14	14	2	Wakad	PCNTDA	7894.07	S.N. 206 Part
35	Ganeshnagar17	17	2	Pimpri Waghere	Private+Govt	2458.45	S.N. 233 Part
31	Sanjay Gandhinagar17	17	2	Pimprinagar	Govt	6902.44	S.N. 212 Part
55	Vitthalnagar26	26	4	Pimpri Waghere	Govt	31425.18	S.N. 100 Part
49	Nashik Phata 34	34	1	Kasarwadi34	Private+Govt	7634.6	S.N. 433 Part,
51	Sanjay Gandhinagar Pavhadewadi12	12	1	Moshi	Govt	25837.71	CTS No. 869 group No. 852 Part and 473 Part
46	Sanjaynagar Vakhare	74	1	Phugewadi	Govt+Railway	8060.18	Railway Land
36	Mahatma Gandhinagar	17	2	Pimprinagar	Govt	5194.09	CTS No. 2523/2537
37	Boudhanagar 12	12	2	Pimprinagar	Govt	20900	S.N. 18, 19, Part
38	Bhimnagar/Sanitary Chawl17	17	2	Pimprinagar	Govt+Railway	8989.46	CTS No. 3721, 3722, 4662, S.N. 12
39	Rambhaunagar/Niranjan acre17	17	2	Pimprinagar	Govt+Railway	17513.41	S.N. 19 Part
33	Indiranagar17	17	2	Pimprinagar	Govt	3650.06	CTS No. 2943, S.N. 211, 212, 213
34	Kailashnagar17	17	2	Pimprinagar	Govt	8078.69	S.N. 211, 212, 213 Part
28	Shashtrinagar17	17	2	Pimprinagar	Govt.	15913.05	CTS No. 1552
30	Ambedkarnagar17	17	2	Pimprinagar	Govt	15320.56	S.N. 12, CTS No. 2523 Part
32	baldevnagar17	17	2	Pimprinagar	Govt	7352.28	CTS No. 1552 Part, S.N. 211, 213 Part
29	Subhashnagar17	17	2	Pimprinagar	PCMC+Govt	19283.37	S.N. 12, 13, 14 Part
18	Vetal Babanagar33	33	2	Chinchwad	PCMC	30685.41	S.N. 174 Part
13	Udyog/Dalvinagar33	33	2	Chinchwad	Private+Railway	16375.97	CTS No. 3606 to 3618, S.N. 195 Part
41	Link Road/Patra Shed17	17	2	Chinchwad	PCMC	15224.69	S.N. 254, 255, 256 Part
25	Adarshnagar17	17	2	Pimprinagar	PCMC	5621.96	S.N. 12, 13 Part
26	Milindnagar17	17	2	Pimprinagar	PCMC	17012.37	S.N. 12, 13, 14 Part
27	Uttamnagar17	17	2	Pimprinagar	PCMC	1360.32	S.N. 12, 13, 14 Part

Real Status	Basic Services	Date	No. of Households			Population			Toilet Seats	Road	Gutters R. mtr.	Social Temple	Water Tap	Balwadi/ Aanganwadi	Electricity Poles
			Kuchcha	Pacca	Total	Female	Male	Total							
Non-notified	Notified	* As per rule	321	817	1138	2101	2209	4310	52	5605	1530	1	11	3	62
Notified	Notified	11.04.1991	295	214	509	1084	1177	2261	56	4388	1050	1	11	1	27
Notified	Notified	11.04.1991	25	62	87	141	172	313	24	3007.25	250	0	3	0	12
Non-notified	Notified	* As per rule	176	46	222	449	517	966	8	1720.5	460	0	8	1	18
Non-notified	Notified	* As per rule	416	11	427	846	861	1707	20	2755	1667.50	1	12	2	27
Non-notified	Notified	* As per rule	292	1099	1391	2764	3058	5822	92	14975	3905	2	22	2	80
Notified	Notified	11.04.1991	450	470	920	2200	2400	4600	38	770	1545	1	12	0	9
Notified	Notified	31.01.1991	99	216	315	694	714	1408	13	1528	480	0	5	1	17
Notified	Notified	31.01.1991	471	352	823			3615	36	5832	855	0	14	3	45
Notified	Notified	01.05.1986	908	7	915	1673	1934	3607	37	6003.85	850	0	30	2	18
Notified	Notified	11.04.1991	1288	1	1289	2420	2748	5168	42	7142.7	1555	1	26	4	34
Notified	Notified	11.04.1991	96	554	650	1175	1399	2574	39	4283.7	1780	1	28	2	42
Notified	Notified	11.04.1991	748	1108	1856	3694	3911	7605	70	8537	1225	2	38	3	114
Notified	Notified	11.04.1991	27	106	133	270	265	535	4	1289.75	682	0	15	1	9
Notified	Notified	11.04.1991	97	826	923	1825	2042	3867	72	7573.2	2445	1	30	4	71
Notified	Notified	* As per rule	509	148	657	1446	1658	3104	4	3310	1200	0	12	2	24
Non-notified	Notified	* As per rule	16	217	233	488	586	1074	10	0	125	0	6	1	10
Non-notified	Notified	* As per rule	51	4	55	103	112	215	8	0	0	0	1	0	3
Non-notified	Notified	* As per rule	353	12	365	797	810	1607	0	600	0	0	4	0	1
Non-notified	Notified	* As per rule	109	0	109	203	224	427	0	0	0	0	1	0	3
Notified	Notified	11.04.1991	113	151	264	549	585	1134	18	2974.65	650	0	8	1	27
Non-notified	Notified	* As per rule	463	89	552	1003	1159	2162	19	0.00	0	0	2	1	0
Non-notified	Notified	* As per rule	101	24	125	271	320	591	0	1600.5	247.5	0	0	0	5
Non-notified	Notified	* As per rule	143	0	143	323	374	697	0	0	0	0	1	1	0
Notified	Notified	31.01.1991	59	35	94	199	189	388	8	784.5	249	0	4	0	6
Notified	Notified	* As per rule	280	36	316	615	657	1272	16	2689.89	525	0	7	1	9
Notified	Notified	11.04.1991	152	1215	1367	3256	3513	6769	48	8532.38	3625	0	53	5	62
Non-notified	Notified	* As per rule	60	94	154	308	309	617	22	775.2	620	0	5	1	25
Notified	Notified	25.08.1994	196	180	376	691	771	1462	32	5170	1450	0	14	1	21
Non-notified	Notified	* As per rule	126	111	237	436	505	941	16	1660.2	540	2	8	1	11
Non-notified	Notified	* As per rule	14	99	113	172	187	359	19	1341.5	92	0	4	0	10
Non-notified	Notified	* As per rule	861	2	863	1721	1899	3620	50	3807.5	750	0	13	1	36
Non-notified	Notified	* As per rule	6	280	286	499	536	1035	14	1394	714.5	1	6	0	16
Non-notified	Notified	* As per rule	517	95	612	1129	1168	2297	20	6186.55	1083.5	0	16	2	32
Notified	Notified	31.01.1991	24	105	129	350	169	519	4	1718.75	343	0	5	1	7
Notified	Notified	31.01.1991	182	110	292	461	714	1175	16	2342.09	650	0	8	0	25
Non-notified	Notified	* As per rule	252	200	452	813	848	1661	18	5141	1323	0	17	3	35
Non-notified	Notified	* As per rule	308	266	574	846	927	1773	24	3713.2	893.5	1	13	2	33
Non-notified	Notified	* As per rule	61	169	230	319	378	697	4	1871.15	522.5	0	5	2	12
Non-notified	Notified	* As per rule	128	365	493	908	946	1854	28	4322.05	895.5	0	12	0	41
Notified	Notified	31.08.1995	964	325	1289	2622	2836	5458	52	7511	1424	0	27	2	55
Non-notified	Notified	* As per rule	307	345	652	1443	1533	2976	32	6244	1010	1	11	2	19
Non-notified	Notified	* As per rule	665	21	686	1451	1568	3019	22	5540	1515	0	22	1	17
Notified	Notified	31.01.1991	56	78	134	302	319	621	16	1518.75	408	0	6	0	9
Notified	Notified	31.01.1991	377	124	501	924	1009	1933	8	4039	1260	1	17	1	32
Notified	Notified	31.01.1991	23	2	25	35	40	75	0	270	12	0	1	0	4

STANDARD OF LIVING: A COMPOSITE INDEX

The different stages in the construction of a composite index of standard of living are:

1.Choice of aspects of living to be covered.
2.Choice of indicators for each aspect.
3.Transformation of variables for comparability.
4.Assignments of weight to indicators.

The final choice of aspects of life to be covered is found to be normative. In the context of western countries the level of pollution could be an important concern, but in a country like India, provisions of minimum need like food, nutrition, health, housing, education, drinking water and infrastructure facilitates would be of much higher priorities [9] [10] [11]. The choice of indicators is governed by ready availability, in addition to their relevance. In selection of the variables the pre-requisites are accuracy, timely availability, action orientation, measurability, stability, etc. The selection of the variables is constrained to a great extent by the ready and easy availability. The choice has also been confined to the consumption items both at the individual level as well at the society level. Since the variables are specified in different units, transformations are performed to render them comparable. All the variables have to be appropriately normalized in terms of per unit area or population to reflect the different sizes of the slums studied. The disparity between the best performing and the worst performing slums becomes the reference with which we evaluate each slum's relative position.

Material &Method: SLUM SAMPLING USING CLUSTERING

The Sampling design for collection of data is as under. All slums of the district were classified into the following four strata according to the slums population; in

terms of household [12][13]. The ramification of the slums done on the basis of households will help us to extrapolate the

Stratum I	Small Slums	Slums with population less than 500.
Stratum II	Moderately Small Slums	Slums with population between 500-1000.
Stratum III	Medium size slums	Slums with population between 1000-2000.
Stratum IV	Large size slums	Slums with population more than 2000.

For each stratum five slums were selected by simple random sampling technique.

For each selected slums data have been collected on the following variables:

1.Toilet Seats
2.Roads
3.Gutters(mtr)
4.Social Temple
5.Water Tap
6.Balwadi/Anganwadi (Primary Education)
7.Electricity Poles

ANALYSIS ACCORDING TO SIZE OF THE VILLAGE AT STATE LEVEL

Tables 1 to 4 present the information on mean and standard deviation for various indicators at the ward level according to the four strata.

	Table 1 (a):	Ward 1						
Variable/Strata	1		2		3		4	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Toilet Seats	13.90	16.27	13.3	13.53	17.5	11.46	11.03	9.30
Roads	32.67	51.30	33.85	50.17	27.36	51.63	17.26	28.58
Gutters	5.4S	11.18	5.39	14.02	3.43	6.44	3.48	11.87
Social TeMples	4.40	12.46	4.45	13.08	2.82	9.39	3.78	15.77
Water Taps	15.26	20.00	13.45	13.82	12.12	10.60	11.88	9.85
Primary Education	.30	.46	.35	.48	.36	.48	.52	.50
Electricity Polls	.15	.35	.17	.37	.18	.38	.31	.46
	Table 1(b):	Ward 2						
Variable/Strata	1		2		3		4	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Toilet Seats	14.70	14.52	18.02	17.34	21.87	25.12	20.97	22.44
Roads	39.10	35.21	33.79	31.98	35.10	35.15	35.07	32.52
Gutters	6.62	7.49	6.73	6.73	7.26	7.03	10.34	4.65
Social TeMples	6.82	7.46	5.62	5.62	7.51	4.64	6.22	2.89
Water Taps	15.26	20.00	13.45	13.82	12.12	10.60	11.88	9.85
Primary Education	.30	.46	.35	.48	.36	.48	.52	.50
Electricity Polls	.15	.35	.17	.37	.18	.38	.31	.46

	Table 1 (c):	Ward3						
Variable/Strata	1		2		3		4	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Toilet Seats	13.90	16.27	13.3	13.53	17.5	11.46	11.03	9.30
Roads	32.67	51.30	33.85	50.17	27.36	51.63	17.26	28.58
Gutters	5.4S	11.18	5.39	14.02	3.43	6.44	3.48	11.87
Social TeMples	4.40	12.46	4.45	13.08	2.82	9.39	3.78	15.77
Water Taps	15.26	20.00	13.45	13.82	12.12	10.60	11.88	9.85
Primary Education	.30	.46	.35	.48	.36	.48	.52	.50
Electricity Polls	.15	.35	.17	.37	.18	.38	.31	.46
	Table 1(d):	WARD 4						
Variable/Strata	1		2		3		4	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Toilet Seats	19.98	19.83	15.79	15.13	16.09	14.40	14.62	13.02
Roads	22.14	18.41	19.53	19.53	18.08	16.69	15.51	14.27
Gutters	4.49	5.72	3.83	4.83	3.88	4.58	2.79	4.34
Social TeMples	3.74	4.89	2.80	3.46	2.59	3.38	1.99	3.18
Water Taps	15.26	20.00	13.45	13.82	12.12	10.60	11.88	9.85
Primary Education	.48	.44	.50	.51	.50	.65	.48	.48
Electricity Polls	.38	.10	.35	.21	41	.22	.41	.38

Indices according to the size of slums:

Making the use of this information, the overall indices under the four heads i.e. type of type of construction, number of toilet seats, roads, drainages, water taps, pre-primary education, electricity poles have been worked out using the following formula[14].

Formula:

$$I=\frac{\Sigma W_x}{\Sigma W}$$

$$\mathbf{W = weight} = \frac{1}{\sigma}$$

x= value of the indicator

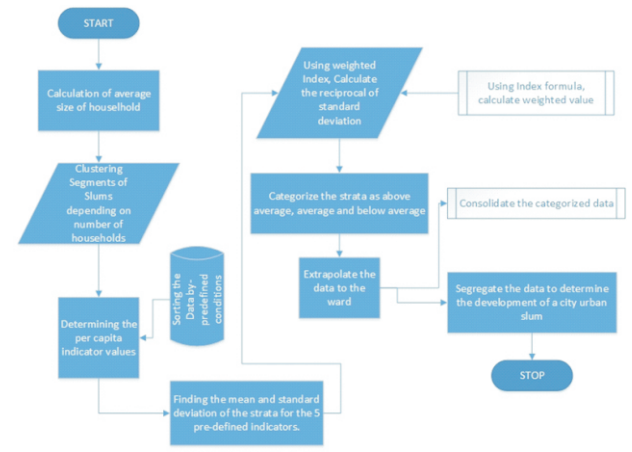
Using the weighing formula for the various indicators, a summed Ward 1 table is displayed below as follows:

Variable/Strata	States	1	2	3	4
Toilet Seats	WARD 1	10.99	10.54	8.82	7.96
	WARD 2	11.80	11.23	10.98	9.5
	WARD 3	7.67	6.51	6.46	5.37
	WARD 4	12.62	13.89	12.52	13.60
Roads and Social Temples	WARD 1	.14	.15	.15	.24
	WARD 2	.16	.18	.21	.31
	WARD 3	.21	.23	.22	.30
	WARD 4	.20	.24	.27	.37
Gutters	WARD 1	.07	.11	.12	.22
	WARD 2	.07	.10	.15	.30
	WARD 3	.05	.09	.11	.17
	WARD 4	.02	.06	.09	.20
Water Taps	WARD 1	.07	.09	.13	.25
	WARD 2	.12	.21	.26	.47
	WARD 3	.10	.11	.14	.23
	WARD 4	.07	.11	.20	.39
Primary Education	WARD 1	.02	.06	.09	.20
	WARD 2	.16	.18	.21	.31
	WARD 3	.62	.63	.64	.67
	WARD 4	7.67	6.51	6.46	5.37
Electricity Poles	WARD 1	.28	.28	.30	30
	WARD 2	.68	.69	.70	.74
	WARD 3	.62	.63	.64	.67
	WARD 4	.36	.41	.44	.44

Indices at Ward Level:

Following the same methodology the composite index has been calculated for each district. On the basis of average index for each state, the districts within the states have been classified into three categories, viz., above average, average and below average. The wards classified in the average category are those which are within the 10 per cent of the district ward index[15]. The above average categories are those which have values more than 10 per cent of the state index and those in the below average category having indices 10 per cent below the district ward index.

Algorithm:



1.Initialize the system.
2.Use Proc tabulate to calculate the average size of the household and classify them:

PROC TABULATE DATA=FINAL FORMAT=PCT.;
CLASS HYPER REGION;
WEIGHT PWGTQ;
TABLES HYPER,
REGION="Region of Residence"*PCTN<HYPER>=“ “
;
RUN;
3.Determine the per capita income for indicator values.
4.Use PROC MEANS to determine mean and standard deviation of the various indicators to calculate the descriptive statistics:

PROC MEANS DATA=one;
VAR x y;

RUN;

Following is the output of Proc means when used to determine standard deviation and mean of the strata:

The SAS System 14:54 Fric

The MEANS Procedure

Variable	N	Mean	Std Dev	Minimum	Maximum
x	30	3.5333333	1.6553640	1.0000000	6.0000000
y	30	117.1415137	181.3599755	1.9558646	693.8421207

1.OR Apply Proc Unvariate for extensive descriptive statistics:
PROC UNIVARIATE DATA=one;
VAR x y;
CLASS GroWard 1;
OUTPUT OUT=Desc N=N_x N_y
MEAN=mean_x mean_y
STD=sd_x sd_y;

RUN;
Following is the procedure of the output of PROC UNVARIATE:

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The UNIVARIATE Procedure
Variable: y

Moments

N	30	Sum Weights	30
Mean	117.141514	Sum Observations	3514.24541
Std Deviation	181.359976	Variance	32891.4407
Skewness	2.06391409	Kurtosis	3.68025503
Uncorrected SS	1365515.81	Corrected SS	953851.781
Coeff Variation	154.821267	Std Error Mean	33.1116499

Basic Statistical Measures

Location		Variability	
Mean	117.1415	Std Deviation	181.35998
Median	31.0157	Variance	32891
Mode	.	Range	691.88626
		Interquartile Range	151.49364

1.Using the weighted Index formula, find out the weighted value of every indicator and compare the same with benchmarked values:

$$I=\frac{\Sigma W_x}{\Sigma W}$$

$$\mathbf{W=weight=}\ \frac{1}{\sigma}$$

1.Categorize the slums depending on the value as above average, average and below average.

2.Extrapolate the data to the ward.
3.Segregate the data to determine the development of urban slum.
4.Stop.

STANDARD ERROR:

The index is subject to sampling errors because the estimates for the different variables entering into the index have their standard errors. Table 3a presents the distribution of percentage standard error of the variable entering into the development index. The result are presented for each stratum and combined for 4 stratums. At the stratum level (except stratum 1) the standard error of the most of the variables indicators are Ward 1 to 10 percent of the true value in different states. Whereas for some, especially for stratum 1 it is even more than 30 percent. However, at the ward level the standard errors of different indicators are below 30%[16] [17].

The table below shows the magnitude of percentage standard errors of the development index for different states. For the overall index at the state level the standard errors are within 5 percent of true value and for bigger states, it is even much less. However, at stratum level for the overall index it is Ward 1 to 10 percent of the true value.

Thus, the result of the overall index should be interpreted with these standard errors.

Sr. No.	Stratum	1	2	3	4	Combined
1.	Ward 1	8.5	4.4	3.5	4.6	2.6
2.	Ward 2	11.1	6.2	5.2	4.9	3.4
3.	Ward 3	13.0	9.0	6.4	4.9	4.1
4.	Ward 4	16.0	9.2	8.8	9.0	53

POST IMPLEMENTATION IMPACT ANALYSIS OF SDI:

Social Changes in social policies were made to address not only the existing social inequity and concerns, but also the serious social impacts that accompanied economic liberalization and globalization. Using the SDI, the NGO's were able to determine the development levels and current conditions of the slums with an unarguably increased speed and time efficiency. The Programme developed has become an umbrella package of social sector schemes and programmes that are administered by various Ministries and implemented by State/Union Territory Governments with the basic objectives of poverty eradication and improving the quality of life of the poor and the under privileged population of the country [6]. The broad aspects covered under the Programme include poverty, employment, education, housing, health, drinking water, energy to rural areas and welfare of the weaker sections of the society.

Interventions for poverty eradication:

Most of the poverty eradication programs can be classified under one of the following, (i) self-employment (ii) wage employment (iii) food safety and (iv) social security. These programmes have to a very large extent been helpful in fighting poverty in India.The Integrated Rural Development Programme (IRDP) was started in the seventies to increase the income of small farmers and landless labourers. The beneficiaries were given subsidized credit, training, and infrastructure, so that they could find new sources of earnings and finally lead to community development.

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