

Impact Of Rural Workforce On Total Income–A Spatial Temporal Analysis Of Solapur District.

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Abstract

The present research paper is an attempt to show how the rural working force in Solapur district affects on district's total income in last two decades. The aim of the research work is the spatial and temporal analysis of rural working force in Solapur district and how the working force impact on district total income.

The author has tried to bring out the spatio –temporal characteristics of rural working force in Solapur district of Maharashtra .According to him, the spatio-temporal growth of working population is determined with the help of 'Dependency Ratio'. The co-relation between dependent (income) and independent (working force) variables is calculated by using Karl Pearson-Co-efficient of co- relation Method and found out how increasing working force determines total rural income in Solapur district .Finally human development index has been used to calculate rural development. It is achieved to know the goal of rural development in Solapur district.

KEYWORDS:-Workers, Human activities, Rural Development, Dependency ratio, Co-relation method, Development Index.

Introduction:

Food, clothing, shelter, health are the basic needs of human beings. Agriculture and allied activities in rural area are solving the problem of basic needs. Rural population is mostly concerned with primary activities. The population which engaged themselves in different economic activities is called working population or working force.

Majority of labour force in rural areas is unorganized. It includes landless labours, small and marginal farmers, non agriculture worker like rural artisans, forest labourers, fishermen and beedi workers etc. The large numbers of rural labour forces are engaged in different activities to supplement the family income as well as general income. Their contribution however is yet to be quantified in terms of working hours as well as in terms of income generated.

Study region: -

The Solapur district is bounded by 17°16' to 18° 32' north latitudes and 74° 42' to 76° 15' east longitude. The East-West extension of Solapur is 200kms and North-south

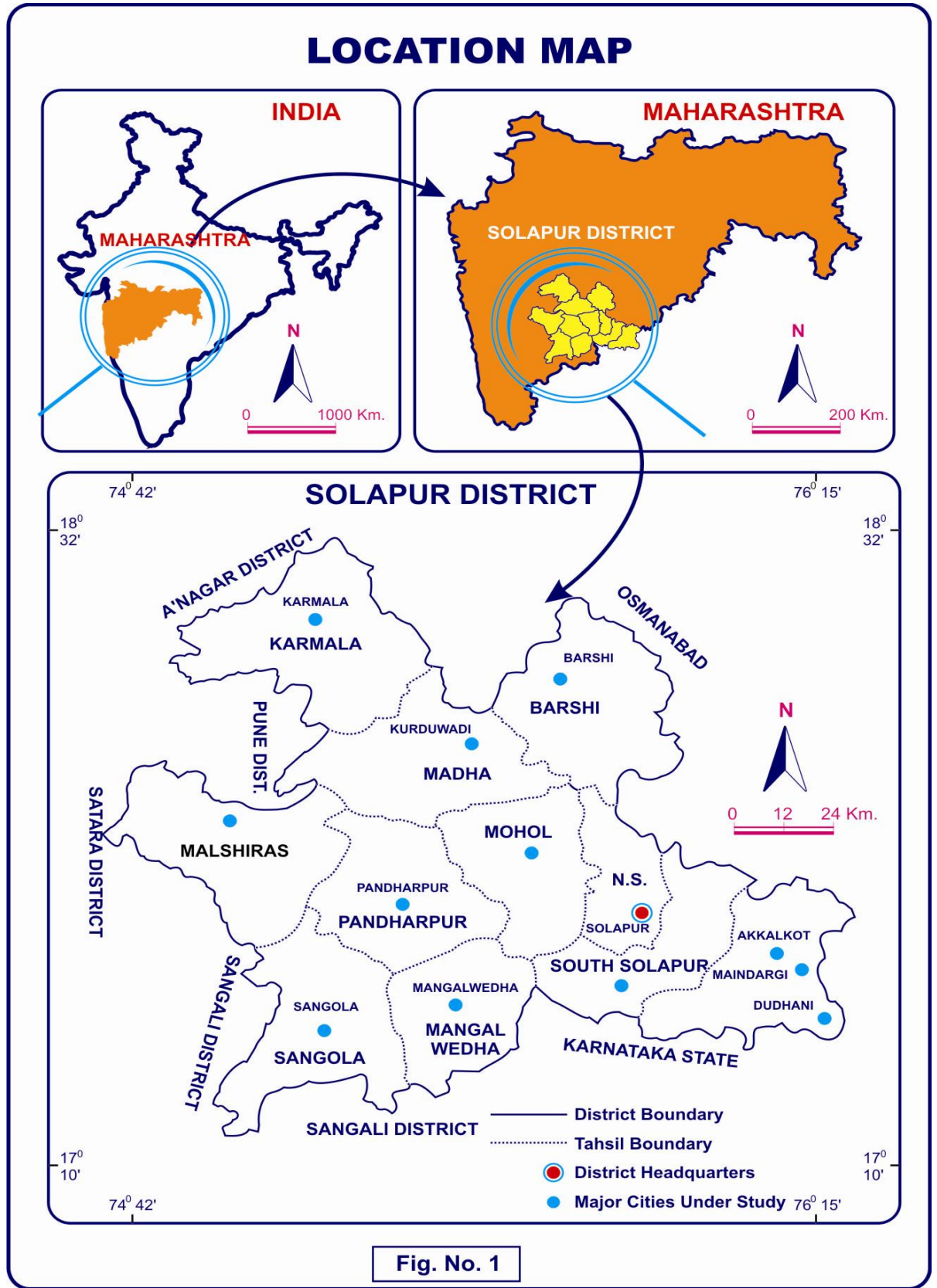
stretch of the Solapur district is 150 kms.

The Solapur district contains 11 talukas. There are 10 urban centers and 1134 Villages in the district. Solapur district is having 3855386 populations according to 2001 census. Out of the total population 2926383 populations is living in rural area [village] and only 929000 population living in urban center's only, Solapur city is having 621000 population. It is round about 16.10 % to the total population of the district. The share of the rural population is 75.90 % in this district, which is the Main object of the research work.

Objectives:-The present research work depends on following objectives.

- 1) To assess the rural working force in Solapur district.
- 2) To examine the rural working force and its share in total income.
- 3) To find out the impact of rural workforce on total income.

Data base or data collection:-The total research paper is depending on secondary data. Socio-economic abstract, census hand book is used for collect data.



Methodology:-

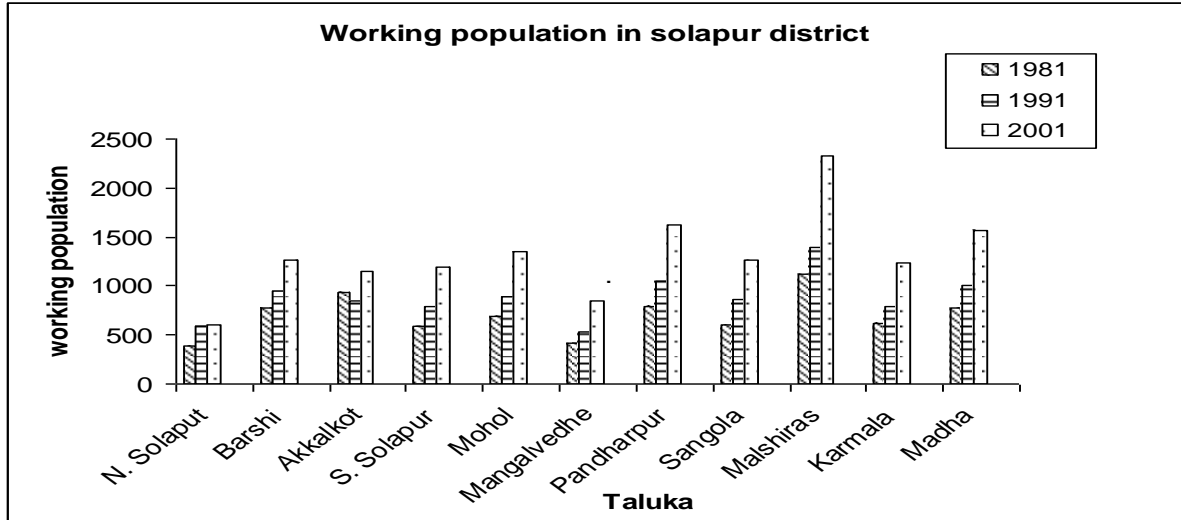
The present research paper is an attempt to show how the rural working force in Solapur district affects the district income in the last three decades. Taluka wise working population and income are calculated. Then the co-relation between working force and income with the help of co-relation method is found out.

We also try to bring out the spatio-temporal characteristics of rural working force and income in Solapur district of Maharashtra. Firstly, taluka wise dependency ratios are calculated with the help of dependency ratio. Then co-relation between dependent (income) and independent (working force) variables are calculated by using 'Karl Pearson's' co-efficient of co-relation method and the increasing working force is determined on the basis of working population, and Component index is calculated.

Table no-1.1.

Taluka wise rural working population in Solapur district 1981-2001(population in '000')

<i>Taluka</i>	<i>W.P. in 1981</i>	<i>Working population in %</i>	<i>W.P. in 1991</i>	<i>Working population in %</i>	<i>W.P. in 2001</i>	<i>W. population in %</i>
N.Solapur	381	24	594	37.54	607	68.86
Barshi	781	42.24	945	44.36	1258	53.30
Akkalkot	931	55.41	848	41.36	1148	50.35
S.Solapur	591	58.51	784	41.92	1193	56.27
Mohol	684	43.01	894	44.03	1352	53.65
Mangalwedha	417	41.70	530	41.08	841	56.44
Pandharpur	790	45.66	1046	44.13	1627	52.31
Sangola	608	37.07	861	41.19	1263	51.76
Malshiras	1126	39.92	1387	39.62	2328	54.13
Karmala	615	41.27	795	45.42	1238	58.67
Madha	770	40.95	1008	44.01	1574	58.51
Total	7694	42.25	9692	42.10	14429	54.86



The table shows that percentage of rural working population of last three decade in Solapur district. In 1981, the total rural working population in Solapur district was 42.25 %. The maximum working population was in South Solapur (58.51%), and in Akkalkot (55.41%), and the minimum working population was in Sangola (37.7 %) and 24%.in North Solapur. Next decade total district rural working population decreased by 0.15% .The total working population was 42.10%. Malshiras (39.62%) had the lowest working population and Karmala (58.67%) had the highest rural working population.

The district ratio in 1981 was 0.86 and rural dependent ratio was 0.89 it means that 89% people are dependent. In 1991, the quality decreased and district's total dependant ration was 0.81, and rural ratio was 0.84. In 2001 census the ratio again decreased; the total ratio was 0.76 and rural dependency ratio was 0.76. In each decade, the ratio between total population and dependant ratio of Solapur district was decreasing during the course of time.

After the calculation of dependent ratio, it is important to calculate co-relation between working force and income in study area. Karl Pearson's method of co-efficient of co-relation is used to find out co-relation between these two variables. The following formula is used to find out the co-relation---

Table No.1.2

Decked wise Calculation of co-relation values by using the formula.

Sr. No.	Year	Co-relation value	Remark
1	1981	+0.79	High positive co-relation
2	1991	+0.76	High positive co-relation
3	2001	+0.60	Medium positive co-relation

Co-relation between working population and income in rural area of Solapur district is show (Table no.1.2.) in 1981, the co-relation value is 0.79. It shows there is very high co-relation between these two variables. In next 1991 decade the value decreases by 0.03 and very high positive co-relation. In this census the total working rural population in Solapur district was 9692 thousand and district total rural income was Rs.419.5 lakh. In 2001 census was 14.37 lakh and total income was Rs. 214355 lakh. The co-relation value between working population and income is required +0.60. It shows medium positive co-relation.

The table shows the co-relation values have been decreased in each decade .In 1981; it shows that working population is key factor. Other factors are also developed and they are also determinant factor for district income.

Measurement of rural development in Solapur district:-

Measurement of rural development in any region is calculated in two ways.

- 1) Measurement of the level of rural development
- 2) Measurement of the distribution of rural development.

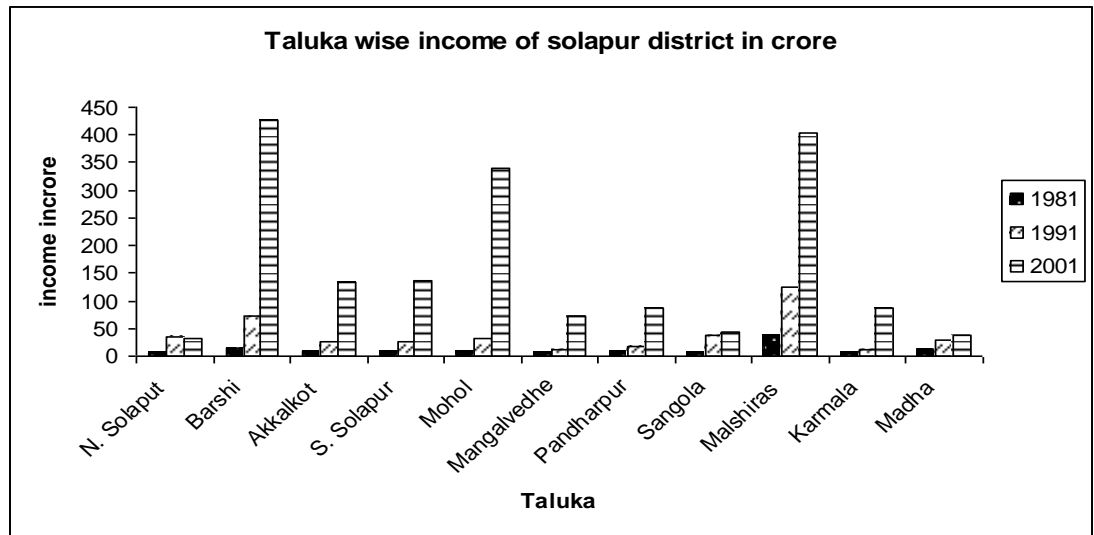
The present research paper, measure level of rural development and human development index in Solapur district. In 2001 census total working population was 54.86%. As compared to 1981, it was increased by 12.61 %. North Solapur has the highest working population (68.86%) and Akkalkot have the lowest working population (50.35%).

- Table no. 1.3

Distribution of taluka wise income in Solapur district. (In percentage)

<i>Taluka</i>	<i>Income in % 1981</i>	<i>Income in crore 1981</i>	<i>Income in % 1991</i>	<i>Income in crore 1991</i>	<i>Income in % 2001</i>	<i>Income in crore 2001</i>
North Solapur	4.22	4.95	8.59	36.09	1.70	30.67
Barshi	13.33	15.62	17.01	71.44	23.75	427.42
Akkalkot	6.24	7.32	6.18	25.95	7.49	134.96
South Solapur	6.23	7.31	5.92	24.87	7.64	137.53
Mohol	8.27	9.70	7.41	31.12	18.82	338.71
Mangalwedha	4.21	4.94	2.63	11.06	3.96	71.36
Pandharpur	6.22	7.29	4.25	17.88	4.88	88.00

Sangola	5.01	5.88	8.92	37.48	2.37	42.70
Malshiras	31.24	36.60	29.49	123.80	22.40	403.21
Karmala	5.18	6.07	2.85	11.99	4.88	86.98
Madha	9.79	11.47	6.62	27.82	2.11	38.12
Total	100	117.15	100	419.80	100	1799.66



In 1981, district total rural income was one crore Rs. seventeen lakh fifteen thousand Malshiras taluka (36.60lakh) stands first and Barshi taluka (13.33lakh) rank second. North Solapur and Mangalwedha taluka have the lowest income (4.95 lakh), Madha (11.47 lakh), Barshi (13.33lakh) income. In 1991 census district total rural income was 4.19 crore. Within same year Malshiras income was 1.23 crore Rs. Malshiras stands first in production. Out of the total income, 29.49 % income was derived from Malshiras taluka which stands second in rank. The percentage of total income of Barshi taluka is 17.01 %.The percentage of remaining all talukas of the district is below 10 % income. In 2001 census district rural income was Rs.1799.60 crore. Barshi (4.27crore), Malshiras (4.03 crore), Mohol (3.38crore) were the leading income talukas in Solapur district. South Solapur and Akkalkot taluka have also above one crore income. Remaining Karmala, Madha, North Solapur, Pandharpur, Sangola, Mangalwedha have below one crore income.

Dependency ratio in Solapur district:-

Dependency ratio is important in the study of income. So the dependency ratio is calculated with the help of following formula—

$$\text{Dependent population} = \frac{\text{0-14 + 60 > age}}{\text{15 -59 population}} \times 100$$

Table no.1.4

Dependency ratio of rural population in Solapur district.

Year	Dependency ratio	
	Total	Rural
1981	0.86	0.89
1991	0.81	0.84
2001	0.76	0.81

We calculate the level of rural development. It shows that how the working force does or does not promote human development in the following component index used to calculate the level of rural development.

$$\text{Component Index} = \frac{\text{Actual value} - \text{Minimum value}}{\text{Maximum value} - \text{minimum value}}$$

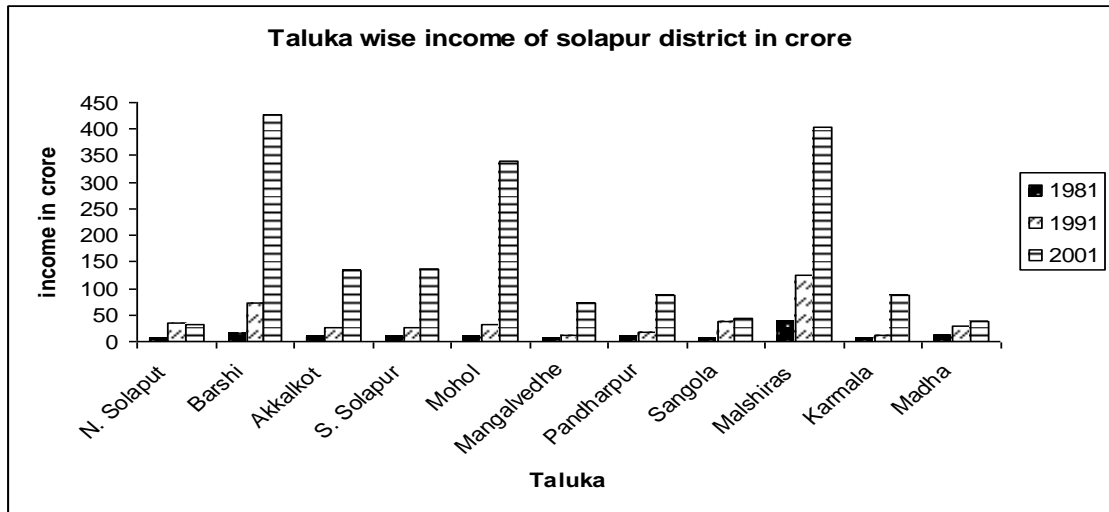
The maximum & minimum values of the component variable were fixed without reference to particular talukas that the values were norms. The minimum were those observations historically going back about 30 years and maximum were the limit of that would be happen in the next 30 years.

If the region having human development index below 0.5, it shows low level , 0.6 to 0.8 shows medium level and above 0.8 shows high level of rural development.

Table no.1.5

<i>Taluka</i>	<i>Component value 1981</i>	<i>Component value 2001</i>	<i>Taluka</i>	<i>Component value 1981</i>	<i>Component value 2001</i>
North Solapur	0.37	0.68	Pandharpur	0.45	0.52
Barshi	0.42	0.53	Sangola	0.37	0.51
Akkalkot	0.55	0.50	Malshiras	0.39	0.54
South Solapur	0.58	0.56	Karmala	0.41	0.58
Mohol	0.43	0.53	Madha	0.40	0.58
Mangalwedha	0.41	0.56	Total	4.78 (0.43)	6.09 (0.55)

- Level of working force development in study region



The table no. 1.5 shows taluka wise component index in 1981 census. All talukas in the district have below 0.5 component value. It shows the low level of rural development because all values of each taluka have below 0.5.

After 20 years (2001), due to the development of working opportunities in rural area are increased. In 2001 census, the component value of each taluka has medium level of development. In 1981 the composite development index of district was 0.43. It shows low level development. On the other hand in 2001 census, the component index was 0.55 within 20 years district reach at medium level

development.

Conclusions (findings):-

After the study of present research paper researchers came at the following conclusions.

- 1) Within twenty year the working population in rural areas is increased by 12.61 %.
- 2) The co-relation values between these two variables are decreased during the course of time. It shows that during the period other elements are developed which may be increasing the income or the impact of working force on income.
- 3) In 2001 census the co-relation value was +0.60. It shows the medium positive co-relation between variables.
- 4) The development in case of working population and income in Solapur district was of medium level (0.55)
- 5) It is estimated that according to 2001 census 1% working population and 4 crore income is increased.

Suggestions:-

- 1) To develop the water shed management programs carefully in Solapur district because Solapur district is locaketed in drought prone area of Maharashtra.
- 2) To develop the irrigation facility in most of the taluka of Solapur district.
- 3) Agrobased industries developed the agriculture sectors.
- 4) To developed the industrial sector in rural area.

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