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CHANGING OCCUPATION STRUCTURE AMONG WORKING-AGE POPULATION AND ITS IMPACT ON DEVELOPMENT IN KARNATAKA

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ABSTRACT

The larger share of India's population falls in Working-Age Population (15-59 years). The huge bulk of human resources particularly in working age is one of the major reasons for a very high competition in labour market in India especially for its low cost, high quality and large quantity of man power which forms a great potential for the country's economic development. The working age population is actively participating in various sectors of the economy either as main or marginal workers. The study tries to explore the regional patterns of working age population in the different geographic regions in Karnataka, and the type of work rendered by the different age groups of this population. The purpose of this is to understand how regional conditions decide the quality of labour, skill and finally the level of economic attainment; changing occupational structure; and the quality of labour in terms of age in different geographic regions. The age wise population participation in agricultural, Industrial and Service sectors are analysed from 1971 to 2011 and regional patterns have evolved and emerged as dominant regions in terms of their economic specialization, which in turn determines the nature of labour force.

Key words: Working-Age Population (WAP), Active Workers (AW), Agricultural and allied activities, Industrial activities, Service Activities, Gross Domestic Product (GDP) and Physiographic Divisions

INTRODUCTION:

One of the interesting causes of rapid economic progress of India is associated with the larger share of Working-Age Population (WAP) i.e. the age of 15-59 years. Because India is the second largest country in the world with 859 million of WAP as of 2015 (Populyst, UN Population Division Medium Variant) compared to China's 1007 million.

All working-age groups are not economically active at all times, the status of persons who are able and seeking work also keeps changing most of the times. Hence, in the present study, the persons who are economically viable under age group of 15-59 years are termed as "Active Workers" (AW).

Definition and Concept:

The World's developing countries are the home to vast majority of the world's population that are in varying stages of demographic transition from high to low rates of fertility and mortality. This transition is producing a 'boom generation' that is gradually working its way through nation's age structure (David E. Bloom, David Canning, JaypeeSevilla. 2003). Hence, proper opportunities can be created with right kinds of policies and programmes which will lead to the economic growth of developing countries. As such, Karnataka is one of the leading states with 39.23 million (2011) of WAP having a high potentiality to contribute a greater share to the nation's economy.

According to 2011 Indian census, work is defined as participation in any economically productive activity with or without compensation, wages or profit. Such participation may be physical and/or mental in nature. Work involves not only the physical work but also includes supervision and direction given to other workers.

The Working-Age Population is defined as those aged between 15 and 64 years. The basic indicator for employment is the proportion of WAP aged 15-64 (World) who are employed (OECD. 2018). But Census of India has classified three broad age groups viz. 0-14, 15-59 and 60+ in which 15-59 years age group are termed as **Working-Age Group**. Here, economic productive activities are classified into three major groups based on the workers data of various sectors classified by census of India and these sectors are clubbed together and grouped as Agricultural and Allied activities, Industrial activities as well as Service activities.

Objectives:

1. To assess the trends and patterns of WAP and AW during 1971-2011
2. To examine the impact of shifting Occupation Structure among WAP on Development.

Methodology:

The present study is based on secondary data obtained from Census of India website, Directorate of Economics and Statistics and Karnataka State Gazetteer.

Population data are normalised to show the distribution pattern of WAP and AW in terms of population density per Sq. Kms and these are shown on the Maps using Arc GIS 10.5. The following formulas are used to compute WAP and AW:

i. Working-Age Population:

$$WAP = \frac{\text{Population in 15-59 age groups}}{\text{Total Population}}$$

ii. Active Workers:

$$AW = \frac{\text{Total Workers in 15-59 age groups}}{\text{Total Population in 15-59 age groups}}$$

Similarly, in order examine the impact of changing occupation structure on different variable of development Gross Domestic Product (GDP) of various physiographic Regions is considered and Bivariate Correlation model is applied using SPSS 25.

Study Area:

Karnataka is located on the western part of the Deccan plateau. The latitudinal extends of the state is between 11°31' and 18°45' North which forms 750 kms of distance whereas longitudinally extends from 74°12' to 78°40' East which is about 400 kms. The total Geographical area of the state is about 191791 sq. Kms. The state has geographically divided into four major divisions (Learmonth, A.T.A., op. cit.) based on homogeneity criteria like rain fall, climate, type of the soil, topography, etc. they are: Coastal Region, Malnad, Northern Maidan and Southern Maidan.

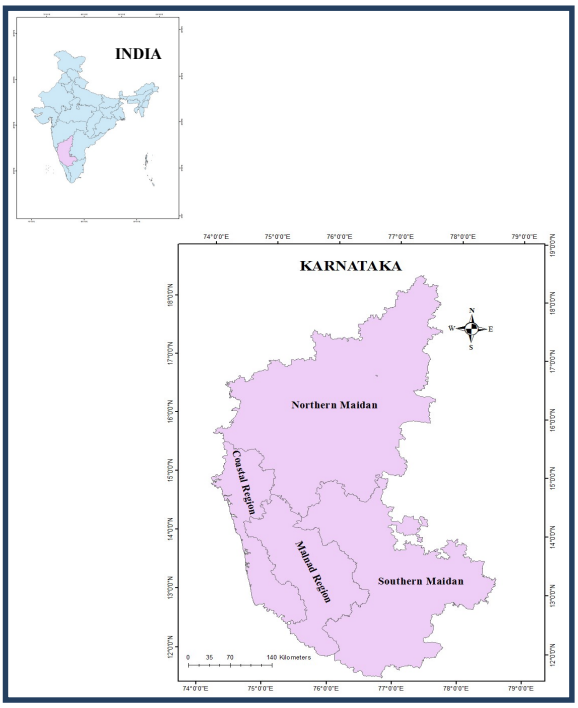
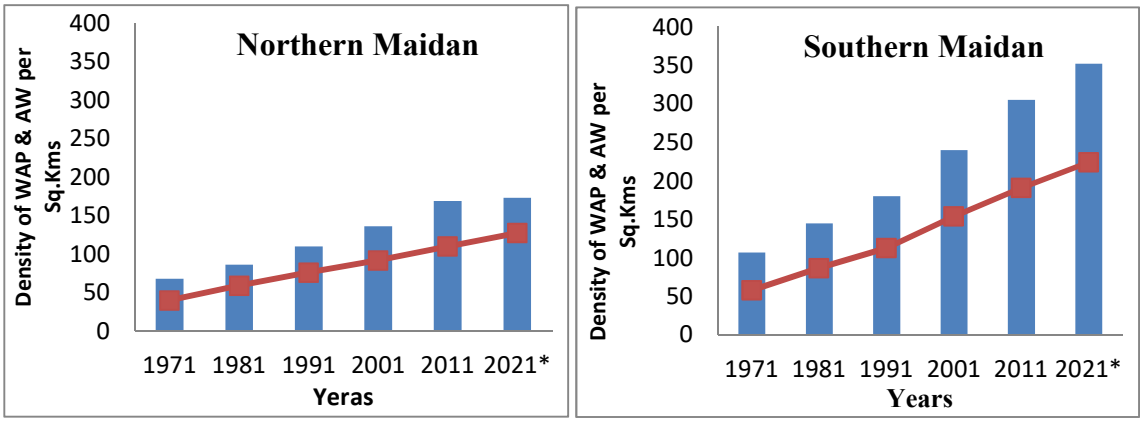


Figure 1: Study Area

Trends and Distribution Pattern of WAP and AW:

Trends of WAP and AW:

The present investigation seeks to monitor the changes in the density of Working Age Group and Active Workers in during 1971-2011 and estimation is made for the year 2021. Figure 2 shows the trend of WAP against the growth of AW during these five decades. Decadal growth of Malnad region shows a slight increase in both WAP and AW population whereas Southern Maidan shows large decadal increase in the density of WAP and AW compare to coastal and Northern Maidan regions.



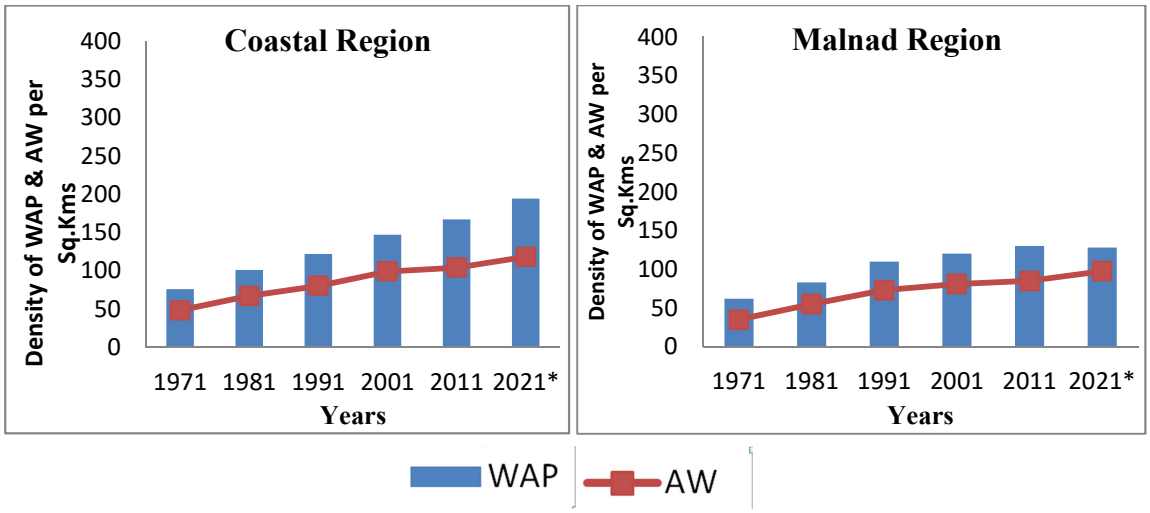


Figure 2: Trends of WAP and AW from 1971 to 2011 (*Estimation for the year 2021)

Trends of Active Workers (AW) in Agriculture, Industrial and Service Sectors

The overall distributions of AW in Agricultural and allied activities in all physiographical divisions of Karnataka are significantly declining. However, the Active Workers in Industrial and Service sectors are continuously increasing throughout the state in all the physiographical divisions.

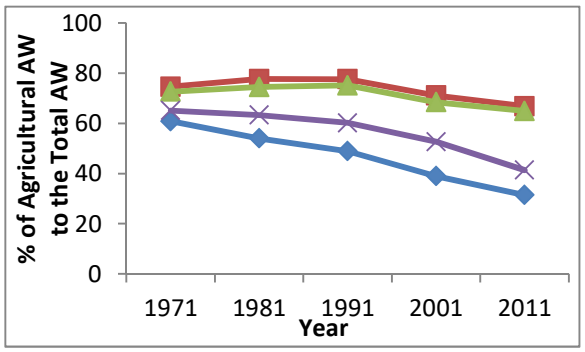


Figure 3(a): Trend of Agricultural AW to the Total AW in Different Physiographic Division

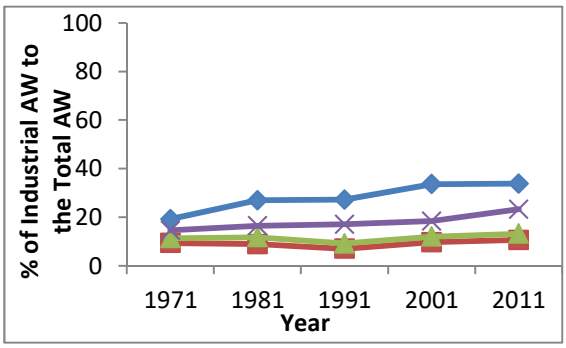


Figure 3(b): Trend of Industrial AW to the Total AW in Different Physiographic Division

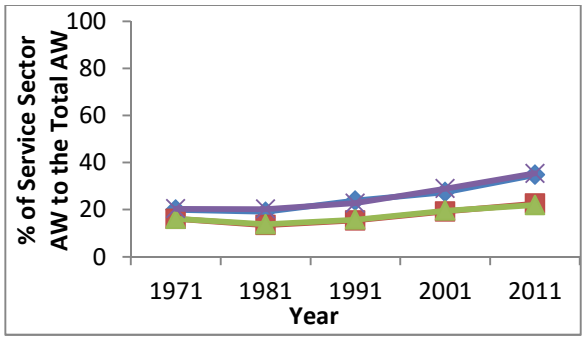


Figure 3(c): Trend of Service Sector AW to the Total AWin Different Physiographic Division

From the figure 3(a), (b) and (c), the scenarios of WAP and AW clearly illustrates that there is an inverse state of trend between Agricultural and Industrial as well as Service Sector Active Workers. Another noteworthy is that, of all four divisions, Northern Maidan and Malnad region are experiencing high rate of work participation in Agricultural sector. Similarly, Coastal region shows high rate of AW in Industrial and service sector followed by Southern Maidan while share of AW is less in agricultural sector.

Spatial Distribution Pattern of WAP and AW:

Distribution pattern of WAP and AW are shown in figure (4) and (5), improved socio-economic infrastructures and advancement in life style with feasible geographical situation has enable populations to engage in different economic activities in Southern Maidan. Hence, the region shows highest concentration of WAP and AW compare to other physiographic regions in the state.

WAP in Coastal Region has grown rapidly from a very lower to moderate level from 1971 to 2011 while the AW also has made an enormous shift from low to moderate level.

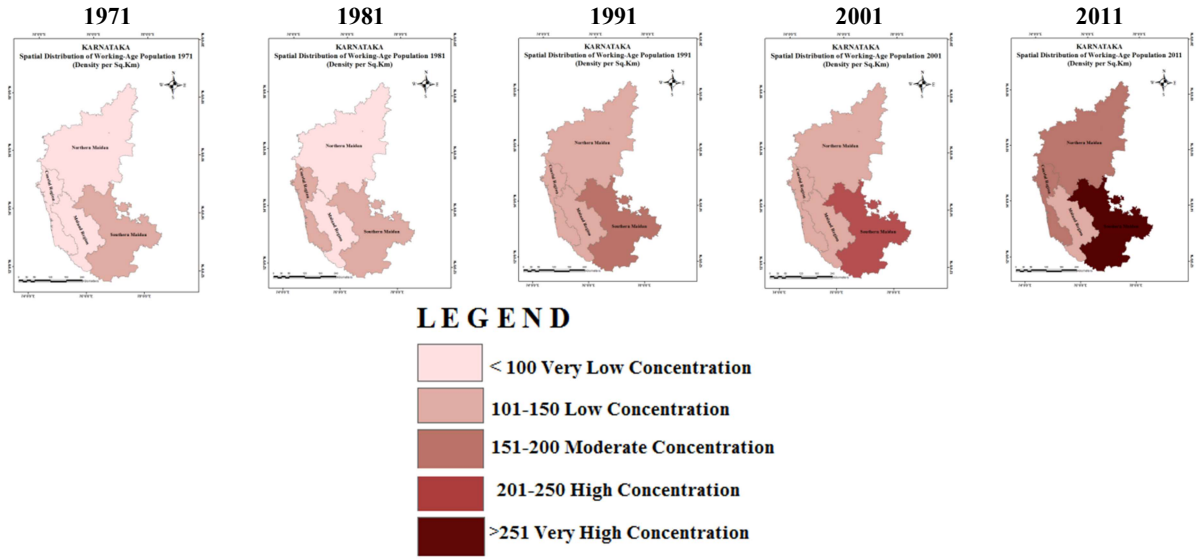


Figure 4: Spatial Distribution Pattern of Working-Age Population from 1971 to 2011 in Various Physiographic Divisions of Karnataka

Malnad Region experiences very low density of WAP in 1971and 1981 which shifts to low density class in 1991, 2001 and 2011. But in the matter of AW, the

region had very low density in 1971 which increased to moderate class of density in 2001 and 2011.

The Northern Maidan region has a very low WAP and AW in 1971 has transfer to moderate class of density in 2011. The proportion of AW is also very low in 1971 but there is a remarkable increase during the following decades of 2001 and 2011 which falls under moderate density class.

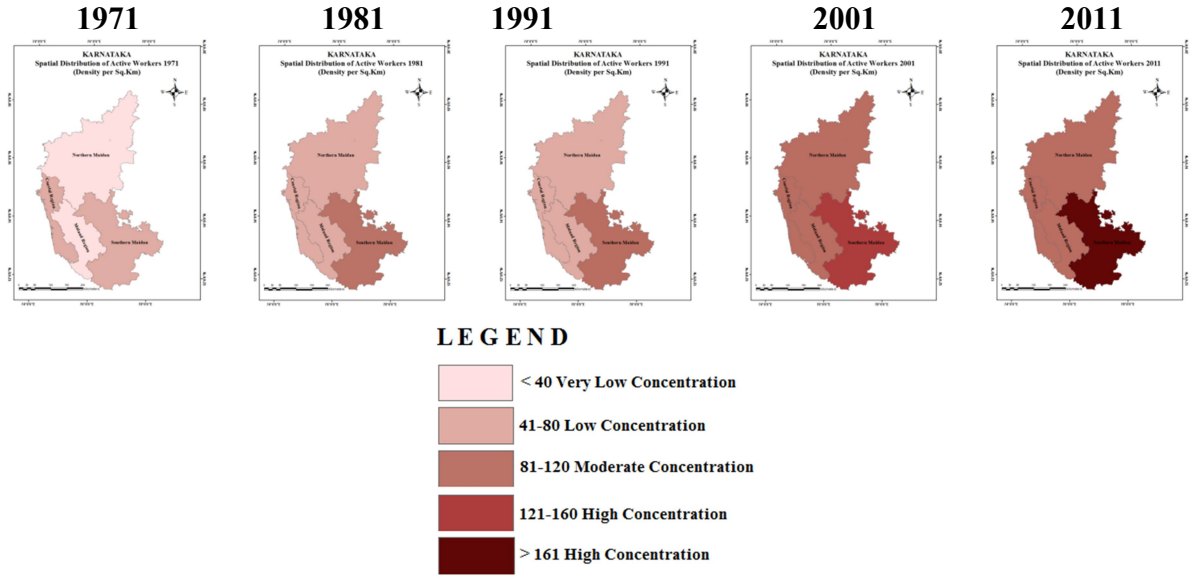


Figure 5: Spatial Distribution Pattern of Active Workers from 1971 to 2011 in Various Physiographic Divisions of Karnataka

In this backdrop, it is noteworthy to enquire about the impact of changing occupation pattern among WAP on GDP of the Region. The proportion of AW is analysed by taking the population employed in agricultural, industrial and service activities.

Impact of Changing Occupation Structure among WAP on development:

Shifting Occupation structure from tradition agriculture sector to non-agricultural sector i.e. industrial and service sector significantly impact on the economic development. Figure 6 shows the result of correlation between the Active Worker and GDP of the Region. As such, all the four regions display negative correlation between agricultural AW and GDP of the Region. Southern Maidan showed strong relationship of GDP with Industrial AW whereas Coastal Region had significant relationship with AW who engaged in Service Sector. Northern and Malnad Region have less significant correlation of GDP with industrial sector compared to Southern Maidan and Coastal Region.

Northern Maidan

Correlations

		GDP	Agriculture_AW	Industrial_AW	Service_AW
GDP	Pearson Correlation	1	-.887	.855	.907
	Sig. (2-tailed)		.305	.347	.277
	N	3	3	3	3
Agriculture_AW	Pearson Correlation	-.887	1	-.998*	-.999*
	Sig. (2-tailed)	.305		.042	.028
	N	3	3	3	3
Industrial_AW	Pearson Correlation	.855	-.998*	1	.994
	Sig. (2-tailed)	.347	.042		.069
	N	3	3	3	3
Service_AW	Pearson Correlation	.907	-.999*	.994	1
	Sig. (2-tailed)	.277	.028	.069	
	N	3	3	3	3

*. Correlation is significant at the 0.05 level (2-tailed).

Southern Maidan

Correlations

		GDP	Agriculture_AW	Industrial_AW	Service_AW
GDP	Pearson Correlation	1	-.973	.999*	.946
	Sig. (2-tailed)		.147	.022	.211
	N	3	3	3	3
Agriculture_AW	Pearson Correlation	-.973	1	-.981	-.995
	Sig. (2-tailed)	.147		.125	.064
	N	3	3	3	3
Industrial_AW	Pearson Correlation	.999*	-.981	1	.956
	Sig. (2-tailed)	.022	.125		.189
	N	3	3	3	3
Service_AW	Pearson Correlation	.946	-.995	.956	1
	Sig. (2-tailed)	.211	.064	.189	
	N	3	3	3	3

*. Correlation is significant at the 0.05 level (2-tailed).

Figure 6: Result of Bivariate Correlation in Various Physiographic Divisions

Coastal Region

Correlations

		GDP	Agriculture_AW	Industrial_AW	Service_AW
GDP	Pearson Correlation	1	-.934	.710	.996
	Sig. (2-tailed)		.232	.497	.057
	N	3	3	3	3
Agriculture_AW	Pearson Correlation	-.934	1	-.914	-.962
	Sig. (2-tailed)	.232		.265	.175
	N	3	3	3	3
Industrial_AW	Pearson Correlation	.710	-.914	1	.770
	Sig. (2-tailed)	.497	.265		.440
	N	3	3	3	3
Service_AW	Pearson Correlation	.996	-.962	.770	1
	Sig. (2-tailed)	.057	.175	.440	
	N	3	3	3	3

Correlation is significant at the 0.05 level (2-tailed).

Malnad Region

Correlations

		GDP	Agriculture_AW	Industrial_AW	Service_AW
GDP	Pearson Correlation	1	-.914	.846	.942
	Sig. (2-tailed)		.266	.358	.217
	N	3	3	3	3
Agriculture_AW	Pearson Correlation	-.914	1	-.990	-.997*
	Sig. (2-tailed)	.266		.092	.049
	N	3	3	3	3
Industrial_AW	Pearson Correlation	.846	-.990	1	.976
	Sig. (2-tailed)	.358	.092		.141
	N	3	3	3	3
Service_AW	Pearson Correlation	.942	-.997*	.976	1
	Sig. (2-tailed)	.217	.049	.141	
	N	3	3	3	3

*. Correlation is significant at the 0.05 level (2-tailed).

FINDINGS AND SUGGESTION:

1. From the above study, it is clear that Shift of Occupation pattern among WAP from agriculture to non-agricultural sector helpful to increase GDP of the Region.
2. Proportion of AW in non-agricultural sector is increasing in recent years in contrary to this proportion of AW in Agricultural sector is goes on decreasing in all the four regions.
3. Coastal Region which has significant growth in concentration of AW in Service sector also had strong correlation with GDP.
4. Southern Maidan which has larger share of WAP and AW still need attention to Service sector.

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