Research Papers

REGIONAL VARIATIONS IN POPULATION AGEING AND HUMAN DEVELOPMENT IN KARNATAKA

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Abstract :

PopulationAgeing is a byproduct of demographic transition in which both fertility and mortality decline to lower rate. This has lead to changes in the age structure; decreasing youth population and increasing old age population. The aims of this paper are to examine the regional variations in Population Ageing and to find out relationship between Population Ageing and Human Development. For this purpose Ageing Index has been worked out and district level Human Development data has been used. With the help of Ageing index and human development index the study has identified three different stages in population ageing and human development. They are 'Youth stage', 'Intermediate stage' and 'Old stage' in terms of population ageing and 'High', 'Medium' and 'Low development' regions in terms of human development. Northern Karnataka region is in 'Infant stage', Southern Karnataka region is in 'Mature stage' (adolescence) and Coastal Karnataka region is in 'Ripe stage' with respect to both the Population Ageing and Human development. The Pearson's correlation has been used to examine the relationship between the population ageing and human development. The study revealed with some exceptions they are positively correlating each other.

KEYWORDS :

Population Ageing, Ageing Index, Human Development, Youth stage, Intermediate stage, Old stage,

1.0 INTRODUCTION:

Population ageing is an inevitable product of demographic transition changes in the demographic components namely fertility, mortality, life expectancy and migration.At the global level the improvements in the chance of survival due to better health care, mortality gets reduced and life expectancy increases.as a result the share of older people rises in the population.PopulationAgeing has resulted in, rise in the old age population, fall in the young population, higher survival rate and limited fertility and mortality rate. There are several measures of population ageing like;Proportion of Aged population, Child population, Ageing index and Median age. Among these measures of ageing index is one of the most important indicators as it is a composite demographic ratio between Aged and Child population. In Indian context Ageing Index is defined as the 'Number of people aged 60and above per 100 youths under the 15 years of age'9&21at the global level as the level of population ageing differs in different regions, it has been categorized into three; 'Young', 'Intermediate or Mature' and 'Old stage'.

As the population ageing is commonly linked with level of human development an attempt has been made to compare Human Development with the population ageing. The Human Development is a summary of composite index that measures a State/Nation average achievement in three basic aspects namely; longevity, knowledge and a decent Standard of living.Longevity/Health is the ability to live long and lead to healthy life. Literacy/Education is the ability to read, write and acquire knowledge. Income is theability to enjoy a decent standard of living and have a socially meaningful life. Economic attainment, education attainment, health attainment and demographic concerns are the basic elements of Human Development. (NHRD-2001and 1999, 2005KHDR)Based on theextent of human development the levels of development can be categorized threelevels like; 'High development', 'Medium development' and 'Low development regions'.

2.0 STUDY AREA:

The Southern state of Karnataka is pioneer in many fields among the Indian states. It is located in the Western part of

the Deccan plateau. It is surrounded by Maharastra in the North, Andhra Pradesh in the East, Tamilnadu in the South and Southeast, Kerala in the Southwest and Goa in the Northwest. In the Western part it is flanked by the Arabian Sea.

Figure1: Study area   Figure 2: Regions of Karnataka

It extendsLatitudinally from 11031'to 18045' North and longitudinally from 74012' to 78040' East. The total geographical area of the state is about 1, 91,791 Sq.km. It is divided into two broad Geographic divisions like Coastal region and Plateau. Plateau is divided into two sub divisions, Southern Karnataka Region and Northern Karnataka Region (19&20).As per 2011 census Karnataka has 6.1 crore population with 3.1 crore males and 3.0 crore females. It has 5.31% of India's total population and ranks ninth in the country. The total Aged population in 2001 was 4.1 million with 1.9 million males and 2.1 million females. As per 2011 census Karnataka has 9.55% of aged population in total population it is 8 95% in males and 10.17 % in female and 10.47% in rural and 8.10% in urban areas it shows that the in Karnataka, population ageing process is feminizing and ruralizing(5&6).

2.0Objectives:

The objectives of the present study are:

To identify the Regional variation in Population Ageing and Human Development in different regions of Karnataka.
To find out the relationship between the Population Ageing and Human Development.

3.0 METHODOLOGY:

The present study is based on the secondary source of information collected from different sources like the reports and tables of Karnataka on age, HDR reports of India, census of India and other sources related to Population Ageing and human development. To understand the regional variation of population ageing, ageing index has been worked out using the following formula (9&21):

Number of Persons aged 60 years and above in the same period

Ageing Index =   --   X   100

Number of Persons aged under the 15 years in Particular period

A population with an Ageing index under 15 is considered as 'Youth', 30 as 'Old' and between 15 and 30 as 'Intermediate stage' (9). In the present study as the youth stage does not appear anywhere larger parts of the state represents 'Intermediate stage'. The Intermediate stage has been divided into two categories such as: 'Early Intermediate stage'with less than 15.10-21.95,'LaterIntermediate stage'with 21.95-28.36 and 'Old stage'with 28.36- 40.52of Ageing index.
The Human Development has been categorized into three; 'High Development Regions', 'Medium Development Regions' and   'Low Development Regions'basedon the HDI values more than 0.800, 0.501 - 0.799 and less than 0.500(14)respectively.
To examine the relation between the process of population ageing and the level of Human development the Pearson's correlation has been worked out for each region.

DISCUSSIONS:

4.0 Regional variation and correlation between Population Ageing and human development: In India the rate of population ageing varies between the Northern and Southernstates. The North Indian states are low performance ofpopulation ageing than the South Indian states. Amongst the South Indian states Karnataka ranks third in population ageingafter Kerala and

Tamilnaduin 2001 with 24.4 ageing index(5). In Karnataka population ageing is slowly picking up its momentum in the past two decadesdue to declining fertility and mortality andincreasing life expectancy. As per 2001 data in the national level Karnataka stands 9th in Ageing index and 7thin Human Development Index. In 2001 Karnataka is in the 'Intermediate stage' with 24.45 of ageing index with the regional variation due to the variation in demographic determinates.Northern Karnataka Region comes under 'Early Intermediate stage'with 20.15, SouthernKarnataka Region lies in 'Later Intermediate stage'with 28.10 and Coastal Karnataka Region stands in 'Old stage' with 32.53 regional average of Ageing Index.

Table: 1 Regional variation in Population Ageing and Human Development in Karnataka-2001
Human development is a measure of achievements in the fields of health, education

Regions	Aged popu lation (In %	Ageing Index	Fertility (per woman)	Mortality (per 1000)	Life Expectancy (In years)	HDI Value	Education in %	Income (in Rupees)
NKR	7.24	20.15	3.02	8.42	63.42	**0.601**	59.57	15400
SKR	8.26	28.10	2.05	7.56	64.92	**0.636**	67.58	19632
CKR	9.01	32.53	2.00	6.70	66.03	**0.696**	80.40	24075
Karnataka	7.78	24.40	2.40	7.50	65.80	**0.650**	66.64	19821
Legend: HDI-Human development index, NKR-Northern Karnataka Region, SKR- Southern Karnataka Region, CKR- Coastal Karnataka Region								

and income. In 2001 Karnataka was in 'Medium Human development state' with a value of 0.650 HDI with regional variations due to Geodemographic and Socioeconomic factors.Northern Karnataka Region is in 'Low human development region'with 0.601, Southern Karnataka Region lies 'Medium human development region'with 0.644 and Coastal Karnataka Region stands in 'High human development region' with 0.693 regional average of HDI values.

4.1 Northern Karnataka Region:In terms of population ageing it is in'Early Intermediate stage'with 20.2 of average ageing index due to the high fertility, high mortality and lower life Expectancy compared to the other regions of the state. The population ageing is very less in Raichur district with 15.10 ageing index. Thedistricts like Belgaum, Dhawad and Gadag have greater ageing index than the regional average due better performance in demographic characteristics.Even in human development this regionlies in'Low human development region'with0.601 HDI value, due to lowperformance in health, income and education. However there is a prevalence of inter district variation within the region the Belgaum, Dharwad and Gadagdistrictsare better performing because, Belgaum is administrative headquarters of the Belgaum division, Dharwad is well known for education and Gadagis a newly established district andearlier it wasa part of Dharwad district.

It has shown 'Positive relationship'with0.801 correlations efficiently between Population ageing and Human development because; it has low Ageing index and HDI value. In terms of population ageing it is in 'Early Intermediate stage' and in human development it is in 'Less Human development region'.

4.2 Southern Karnataka Plateau: This region stands in'Later Intermediate stage'in population ageing with the 28.10 of average ageingindex. The districtslike Chamarajanagar, Mandya, Hassan, Tumkur and BengaluruRural have shown more than 28.36 of Ageing Index. Mandya,ChamarajanagaraandKolarhaveregistered low performance in healthindicator hence, They have below the regional average in life expectancy and aboveaverage in mortality although they have high ageing index due to the emigration of adult population, Tumkur and Hassanhave below regional average in fertility and aboveaverage in life expectancy, Bengaluru Rural has below The regional average mortality and above average life expectancy. So they have above the regional average of ageing index. However entire region has 28.10 of average Ageing Index so it isin 'Later Intermediatestage" in population ageing.

In terms of human development it is in 'Medium human developed region'with0.644 HDI value. Within the region district like Bengaloururban, Kodagu have aboveand Chamarajanagara, Mandya have below the regional average of HDI. Bengaluru urban ranks 1st with 0.753 HDI value at state level because it is the politicalcenter and capital the state, more number of industries and educational centerconcentrate here,Kodagu is a low populated area consequently availability of agricultural land is high, agriculture is purely commercial oriented and it received high rain fall. Agriculture is predominated in Chamarajanagara and Mandya districts but they have low Human Development because in these areas there isfluctuation in rain fall, and crops price.

It is in 'Later Intermediate stage' in population ageing but districts like Chamarajanagar, Mandya, Hassan, Tumkur and Bengaluru Rural come under the 'Old stage' with more than 30 of Ageing index. It is in 'Medium Human development region ' as its performance in the health, education and income but districts like Bangaluru urban and Kodagu lie in 'High Humandevelopment region' with more than 0.690 of HDI value but districts like Chamarajanagar and Mandya fall under the 'Low Human development region'with below the regional average of HDI value. As a result this region has shown 'Negative relation' with -0.588 correlations efficiently between population ageing and human development.

Table: 2 Relationships between Population Ageing and Human Development

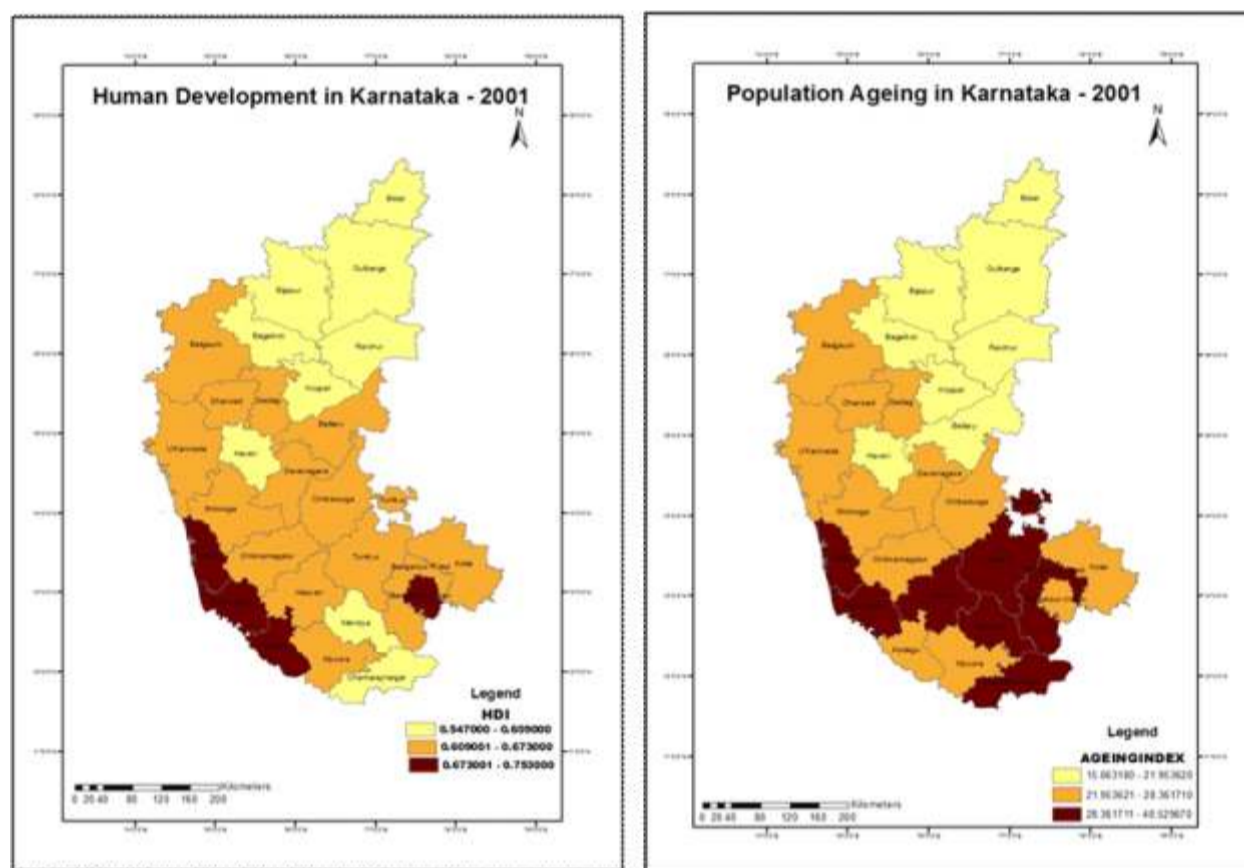| Regions	Ageing Index	HDI value	Correlation	
Northern Karnataka Region	20.15	0.601	0.80153	Positive
Southern Karnataka Region	28.10	0.636	-0.58033	Negative
Coastal Karnataka Region	32.53	0.696	0.588103	Positive
KARNATAKA	24.40	**0.650**	**0.51803**	**Positive**

(Source: Ageing Index and correlation Compiled by the author HDI (KHDR-2005))

4.3 Coastal Region: It is in 'Old stage'in population ageing with 32.53 of average Ageing index due to the replacement level of fertility, low Mortality and high life expectancy. Population ageing is very high in Udupi with 40.50 ageing index.But Uttara Kannada has below the regional average ageing index due togreater regional averagein fertility, mortality and lesser in life expectancy and falls in 'Later Intermediate stage'with 27.1 of the ageing index.

It is one of the most beautiful natural regions not only in the state but also in the national level. It is in 'High Human Development Region' with 0.696regional average HDI value. Except Uttara Kannada remaining district have more than 0.700 HDI values because Uttara Kannada has low value in the areas of education and income because Northern and Eastern parts of this district are covered by the Western Ghats, these Western Ghats to limit human economic activities and health services.

It hasshown'Positive relationship'with 0.588 correlations efficiently between population ageing and human development because it has high Ageing index and HDI value. In terms of population ageing it is in 'Old stage'and in the human development it is in'High Human development region'

Figure: 3 Ageing index and Human Developmentindex in Karnataka

6.0 FINDINGS AND CONCLUSION:

Ageing index is the best indicator to measures the population ageing because, it is the composite demographic indicators of child and aged population. Human development index is a summary of composite index like health, education and income therefore is a useful indicator to measure the Human development.Ageing index and HDI are indicators of well-being of human beings.

Karnataka is in 'Intermediatestage' in population ageing with 24.4 of Ageing index and 'Medium Human development state'in Human development with 0.650 HDI value in 2001.
On the basis of Ageing Index, to identify the three different stages in population ageing of Karnataka they are'Early Intermediate Stage', 'LaterIntermediate Stage' and 'Old Stage'.
On the basis of HDI value three different regions like;High Human Development region', 'Medium Human Development region'andLow Human Development region'areidentifiedin Karnataka
The Northern Karnataka Region comes under the 'Early Intermediate stage' in population ageing and 'Low Human development region' in human development.
The Southern Karnataka Region lies in 'Later Intermediate stage' and 'Medium Human development region' in terms of population ageing and human development respectively.
The Coastal Karnataka Regionfall in 'Old stage' inpopulation ageing and 'High Human developmentRegion' interms of development in Karnataka.
Population ageing and Human development have a 'Positive relationship' in Northern Karnataka Region and Coastal

Karnataka Region and 'Negative relationship'inSouthern Karnataka Region, due to the differences in the Demographic characteristics, Geographic conditions, Economic status and Social conditions. However Karnataka has Positiverelationship'between Population ageing and human development in 2001.

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