

DISTRIBUTION AND PATTERN OF AGE STRUCTURE IN RANCHI DISTRICT (JHARKHAND): AN ANALYTICAL STUDY

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ABSTRACT

In Population Geography, Age Structure is one of the most significant factors of Population Composition and this is studied as Biological Composition of any population. The study of age-structure or age composition has been neglected by geographers because it is less easily observed and appreciated than other aspects of the composition of population. Often statements are made about population growth in absolute numbers without reference to changes in age-structure. One cannot proceed very far in the study of population growth or migration without examination of age-structure. There is hardly an aspect of individual or communal life which is not affected by age like Economic and social activities, military service, political propensities, social attitudes, mobility etc. Social scientists have a special interest in the study of age composition because this composition as social relations within a community are affected by the age structure. Many types of planning like planning of community institutions and services, manpower supply etc. are guided by the age structure of the populations. Age is an important variable and it is used in measuring potential school population, potential voting population, potential man power, future population projections and projections for the requirements of teachers, doctors, technical hands, armed personnel etc. The studies of an age composition of a population become important for a population who is engaged in regional Analysis. Age is one of the important demographic attributes of a social group which plays very important role in migration, population growth and the structure of population. Age is an important factor which determines the physical as well as mental capacity of people to engage themselves in an economic and other activities. Age structure is calculated by different measures like Age Groups (Young, Adult and Old) and Age Pyramid. The purpose of this study is to analyze the distribution and pattern of Age structure. The present study is observational research conducted in Ranchi district (Jharkhand) which is based on secondary data. In this research paper an attempt has been made to focus on the very important issues of discussion about distribution and pattern of Age Structure in Ranchi district.

Keywords: Age structure, Population, Age Group, Young, Adult, Old, Age Pyramid and Dependency Ratio.

1.0 INTRODUCTION

The United Nations has defined age as "the estimated or calculated interval or time between the date of birth and the date of census, expressed in completed solar years." "The age structure influences the economic and social interactions, social attitudes and social and occupational

mobility” (Maurya, S.D., 1988). Children upto the age of 14 years are unable to bear any physical and mental burden. Being immature they cannot be reliable with responsible jobs. The persons above 60 or 65 years become to weak to undergo physical strain because of their old age and feeble health. They want to retire and rest in peace for the remaining period of life. Through these variables of age composition (fertility, mortality and migration), the socio-economic conditions of a community definitely influence the age structure of concerned population. After enumeration, population data are classified into Age-groups. Through this classification, it becomes easy to show population distribution by population geographers and demographers. It is very necessary to know about the number of the young, the adults and the old people in the population of any region or country. The young and old population are inactive, unproductive and dependent but the adult population are active, economically productive and biologically reproductive. There is different biological, social and economic importance of this age group in any population.

Age is the aspect of population composition which is most commonly investigated in enumeration. The data on age is also handicaps by mis-statements due to ignorance, carelessness or mis-representation. But statisticians have several methods for determining the accuracy of age. Age data are often presented in several different ways: age-groups, indices, pyramids and divergence groups. It is not always possible to obtain the date of birth from a population in which the majority are either illiterate or Semi-literate. In this situation, information on age is collected by asking about "the age completed on the last birthday." It is easy to ask questions on age, but it is extremely difficult to obtain correct information about age when people are illiterate or semi-literate and are ignorant about their own age. In India, the practice of registering births is not widely followed and therefore, birth certificates are not available with the Indian people. There is a great deal of apathy on this matter of correct age, because Indians generally do not have to face situations where they have to produce proof of age. The Indian Age data, therefore, show concentration of population at a certain age, for Indians prefer to report their age in numbers ending with 0 or 5. Errors in age reporting also creep in because of carelessness in reckoning age, misunderstanding of the question or deliberate misstatement. As the age data may be defective because of several reasons, demographers first evaluate them to determine the nature and magnitude of errors and then make the necessary adjustments before using such data for demographic analysis.

“The socio-economic conditions of a community definitely influence the age structure of concerned population through these variables” (Chandna, R.C., 2009). The age structure of a population either males or females are also affected by natural calamities, epidemics, wars, population policies etc.

1.1 Objectives

1. To analyze the distribution of Age structure in Ranchi district through the statistical measures like Percentage distribution of population in different Age groups such as Young, Adults and Old.
2. To analyze the pattern of Age structure in Ranchi district through the statistical measure like Age-Sex Histogram or Age Pyramid.
3. To evaluate the Economic dependency in Ranchi district through the statistical measure like Dependency Ratio.

1.2 Study Area

Ranchi district is one of the most significant districts out of 24 districts of Jharkhand because Capital of the state is situated here. The origin of Ranchi district has ancient and complex account. The present shape of Ranchi district in the political maps of Jharkhand comes into light in 1983. Ranchi district is situated at central location in the map of Jharkhand state (India). The area under study is Ranchi district ranks 1st in terms of population and 3rd in terms of Area. The geographical extent of Ranchi district are spread between Latitude 22°34' North to 23°43' North and Longitudes 84°53'20" East to 85°54' East. Total geographical area of Ranchi district is 5097 Km². The Tropic of Cancer at 23½° North passes through Ranchi district at Ormanjhi block.

The average altitude of Ranchi is 600 Metre above the mean sea level with undulating land features. The total population of Ranchi district is 2,914,253 (29.14 Lakh) where 1,494,937 Males and 1,419,316 Females during census year 2011. In 2011, the population growth rate of Ranchi district is 24.0 %. In terms of population density, Ranchi is the 7th densely populated district in the state with 572 persons per Km². The sex ratio of this district is 949 females per thousand males (Census 2011). The percentage of Urban populations in Ranchi district are 43.14%. During the year 2000, Ranchi which has been the head quarter of Ranchi district, became the Capital city of the state. East-West maximum width of the district is above 100 Km while North-South maximum length of the district is about 130 Km.

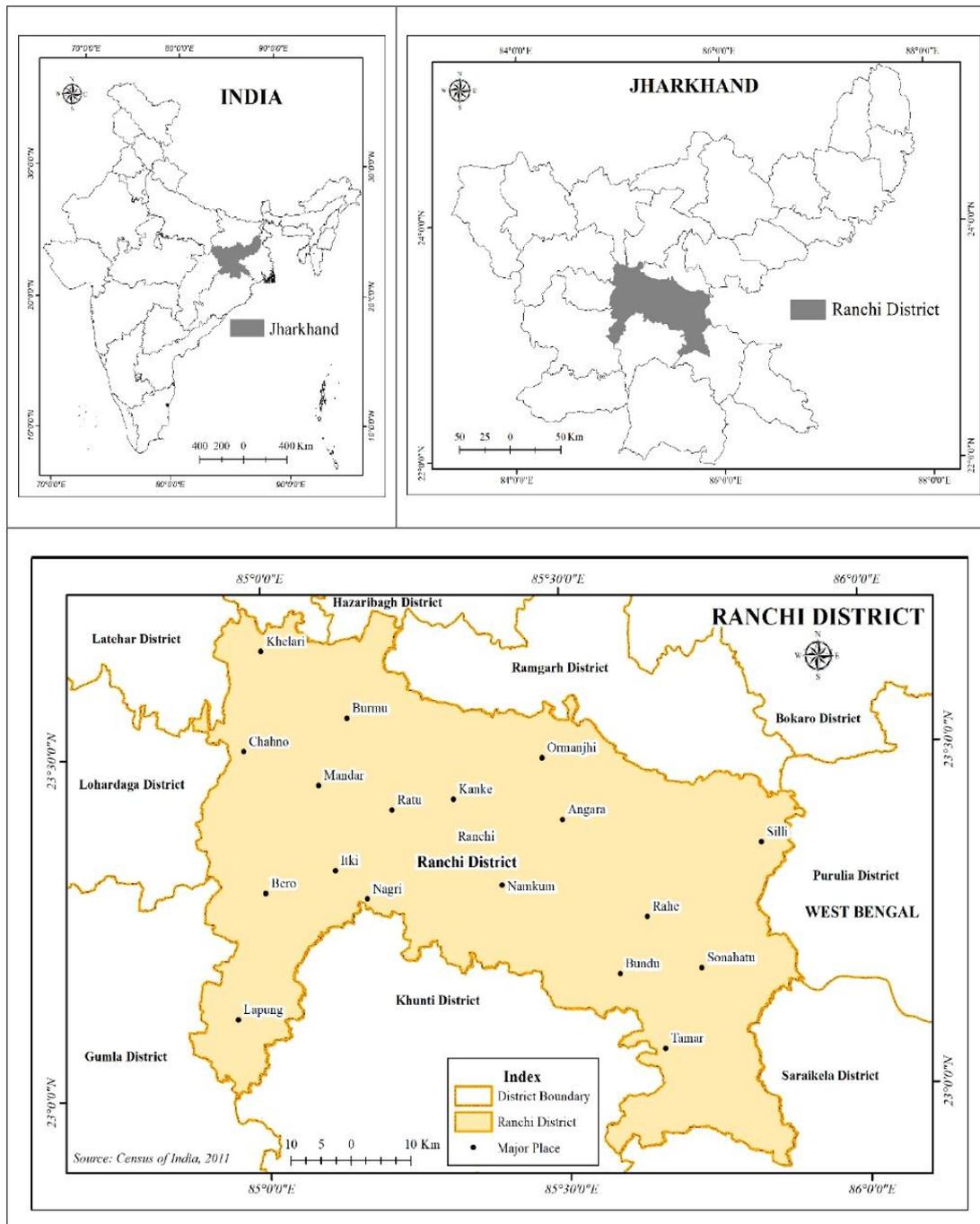
The Northern Boundary of Ranchi district is delimited by the presence of catchment area of Damodar Basin and the higher plateau Region called "The Pats". The Jurisdiction of the district has undergone many changes since 1983 because of creation of New districts such as Lohardaga, Gumla, Simdega and Khunti through bifurcation of old Ranchi district. According to census 2011, Ranchi district is divided into two sub-divisions Ranchi and Bundu whereas under Ranchi Sub-divisions there are 14 C.D. Blocks and Bundu Sub-divisions consists of 4 C.D. Blocks. Ranchi district consists of 18 C.D. Blocks (Community Development Blocks), 303 Panchayats, 1311 Villages and 15 Towns. The Ranchi district is bounded by the Ramgarh, Hazaribagh and Chatra districts in the North, Khunti district in the South, Latehar, Lohardaga and Gumla district in the West and Saraikela Kharsawan district and West Bengal state in the East. It can be seen in Map 1.1: Location Map of Ranchi District.

2.0 METHODOLOGY

The paper attempts to analyze distribution and pattern of Age structure in Ranchi district. Present study is based on secondary data. It will be calculated and tabulated with assistance of suitable statistical methods and represented by Charts, Diagrams and Histograms.

Finally, this research paper would give concrete suggestions which would be beneficial for analyzing distribution and pattern of Age structure. Many types of planning like planning of community institutions and services, manpower supply etc. are guided by the age structure of the population.

LOCATION MAP



Map 1.1: Location Map of Ranchi District

2.1 Statistical Methods

The statistical methods used in this research paper are classification of total population of Ranchi district into Young, Adult and Old Age groups in absolute numbers and in percentage

which indicates distribution of Age structure. The statistical measure used for showing the pattern of Age structure is Age Pyramid which is also known as Age and Sex Pyramid. This measure is helpful in forming an idea about the age structure of any population and it is used for describing it. It is also used to compare the age structure of two or more populations at a point of time or to compare the age structure of the same population at different points of time. “Three different methods have been commonly used by the geographers, demographers and other social scientists in the analysis of age structure of population either males or females. These methods are: (a) Age-groups, (b) Age pyramids and (c) Age indices like Dependency Ratio etc”(Bhende and Kanitkar, 1994).

The Dependency Ratio is generally calculated by dividing the number of children (Yongs) plus old age people by the number of adults and multiplying it by hundred. This dependency ratio is an index of age produced drain on a country's manpower potential and it is very helpful in the analysis of an economy. The formula for the calculation of dependency ratio are given as :-

$$\text{Dependency Ratio} = [(\text{Young} + \text{Old Population}) / \text{Adult Population}] * 100$$

Or

$$\text{Dependency Ratio} = \frac{P(0-14) + P(60 \text{ or } 65+)}{P(15-59 \text{ or } 64)} K$$

Where $P_{(0-14)}$, $P_{(60 \text{ or } 65+)}$ and $P_{(15-59 \text{ or } 64)}$ denote the population in the age groups 0-14, 60 or 65 + and 15-59 or 64 respectively and where K is 100.

3.0 BRIEF DISCUSSION

3.1 Distribution of Age Structure in Ranchi District: -

Table 1.1: Percentage Distribution of Population of Ranchi District in Broad Age Groups (1991)

| Age- group (in Years) | Total Pop. | Male | Female | Total Pop.(in%) | Male (in%) | Female (in%) |
|-------------------------|------------|---------|---------|-----------------|------------|--------------|
| Young (0-14) | 849039 | 433117 | 415922 | 38.34 | 37.57 | 39.18 |
| Adult (15-59) | 1221489 | 644009 | 577480 | 55.16 | 55.86 | 54.41 |
| Old (60 or65 and Above) | 118790 | 61180 | 57610 | 5.36 | 5.30 | 5.42 |
| Total | 2214048 | 1152736 | 1061312 | 100.0 | 100.0 | 100.0 |

Source: - Census of India (1991)

The above table 1.1 reveals that the population of Ranchi district of census year 1991 are classified into broad age groups as Young, Adult and Old age groups which are lies in the ages

between 0-14 years, 15-59 years and 60 or 65 years and above. According to census 1991, the total population of Ranchi district were classified into three age groups in which 38.34% were belongs to Young age group, 55.16% were recorded as Adult age group and 5.36% population were recorded as Old age group. In census year 1991, the population belongs to Adult age groups were maximum and population belongs to Old age group were minimum. Thus, in census year 1991, the economically most active and biologically most productive population of Adult age group were high in Ranchi district.

So, in 1991 census year in Ranchi district, more than 50% population were belongs to Adult age group and it is similar for male and female population, Old age group population were recorded less than 10% and it also similar for males and females population and Young age group population were recorded less than 40% which are similar for male and female population.

Table 1.2: Percentage Distribution of Population of Ranchi District in Broad Age-Groups (2001)

| Age- groups (in Years) | Total Pop. | Male | Female | Total Pop.(in%) | Male (in%) | Female (in%) |
|-------------------------|----------------|----------------|----------------|-----------------|--------------|--------------|
| Young(0-14) | 1038486 | 531692 | 506794 | 37.28 | 37.00 | 37.59 |
| Adult(15-59) | 1569003 | 814736 | 754267 | 56.33 | 56.69 | 55.95 |
| Old(60 or 65 and Above) | 172293 | 87470 | 84823 | 6.18 | 6.08 | 6.29 |
| Total | 2785064 | 1436976 | 1348088 | 100.0 | 100.0 | 100.0 |

Source: - Census of India (2001)

The above table 1.2 reveals that the population of Ranchi district of census year 2001 are classified into broad age groups as Young, Adult and Old age groups which are lies in the ages between 0-14 years, 15-59 years and 60 or 65 years and above. According to census 2001, the total population of Ranchi district were classified into three age groups in which 37.28% were belongs to Young age group, 56.33% were recorded as Adult age group and 6.18% population were recorded as Old age group. In census year 2001, the population belongs to Adult age groups were maximum and population belongs to Old age group were minimum. Thus, in census year 2001, the economically most active and biologically most productive population of Adult age group were high in Ranchi district.

So, in 2001 census year in Ranchi district, More than 50% population were belongs to Adult age group and it is similar for male and female population, Old age group population were recorded less than 10% and it also similar for males and females population and Young age group population were recorded less than 40% which are similar for male and female population.

Table 1.3: Percentage Distribution of Population of Ranchi District in Broad Age-Groups (2011)

| Age groups (in Years) | Total Pop. | Male | Female | Total Pop. (in%) | Male (in%) | Female (in%) |
|-----------------------|------------|------|--------|------------------|------------|--------------|
|-----------------------|------------|------|--------|------------------|------------|--------------|

| | | | | | | |
|----------------|---------|---------|---------|-------|-------|-------|
| Young(0-14) | 928941 | 477102 | 451839 | 31.87 | 31.91 | 31.83 |
| Adult(15-59) | 1738213 | 891629 | 846584 | 59.64 | 59.64 | 59.64 |
| Old(60 or 65+) | 210243 | 107062 | 103181 | 7.21 | 7.16 | 7.26 |
| Total | 2914253 | 1494937 | 1419316 | 100.0 | 100.0 | 100.0 |

Source: - Census of India (2011)

The above table 1.3 reveals that the population of Ranchi district of recent census year 2011 are classified into broad age groups as Young, Adult and Old age groups which are lies in the ages between 0-14 years, 15-59 years and 60 or 65 years and above. According to census 2011, the total population of Ranchi district are classified into three age groups in which 31.87% are belongs to Young age group, 59.64% are recorded as Adult age group and 7.21% population are recorded as Old age group. In census year 2011, the population belongs to Adult age groups are maximum and population belongs to Old age group are minimum. Thus, in census year 2011, the economically most active and biologically most productive population of Adult age group are high in Ranchi district.

So, in 2011 census year in Ranchi district, More than 50% population were belongs to Adult age group and it is similar for male and female population, Old age group population were recorded less than 10% and it also similar for males and females population and Young age group population were recorded less than 40% which are similar for male and female population.

Thus, from decade 1991 to 2011, It is finds that the population belongs to Young age group are decreased continuously during this decades since 1991 to 2011 but the population belongs to Adult and Old age group are increased from 1991 to 2011 in Ranchi district. This condition is also similar for males and females during these decades. It proves that the population of the Ranchi district is going towards development which can be social, economic and demographic also and it is a positive sign for the population of this district where most of the population are belongs to Adult age group who are economically more active and biologically most reproductive. The main reason behind the increasing population of old population are development in the medical, sanitation, food and nutrition and health care facilities which are responsible for high life expectancy. The main cause of decreasing population of young age group are that the maximum educated population adopted small family norms and family planning measures for achieving their high standards of living and socio-economic development through the use of contraceptives. This reason and affects are also similar for male and female population of Ranchi district and in this case male population are higher than female population in every age group and in every decades since 1991 to 2011 in Ranchi district.

3.2 Pattern of Age Structure in Ranchi District: -

Table 1.4: Pattern of Age Structure in Ranchi District (1991)

| Age-group (in Years) | Total Pop. | Male | Female | Total Pop.(in%) | Male (in%) | Female(in%) |
|----------------------|------------|------|--------|-----------------|------------|-------------|
|----------------------|------------|------|--------|-----------------|------------|-------------|

| | | | | | | |
|----------------|----------------|----------------|----------------|------------|------------|------------|
| 0-4 | 282750 | 142860 | 139890 | 12.77 | 12.39 | 13.18 |
| 5-9 | 295692 | 148400 | 147292 | 13.35 | 12.87 | 13.87 |
| 10-14 | 270597 | 141857 | 128740 | 12.22 | 12.30 | 12.13 |
| 15-19 | 208461 | 110400 | 98061 | 9.41 | 9.57 | 9.23 |
| 20-24 | 181742 | 94165 | 87577 | 8.20 | 8.16 | 8.25 |
| 25-29 | 173694 | 89803 | 83891 | 7.84 | 7.79 | 7.90 |
| 30-34 | 152371 | 75164 | 77207 | 6.88 | 6.52 | 7.27 |
| 35-39 | 142752 | 75765 | 66987 | 6.44 | 6.57 | 6.31 |
| 40-44 | 119262 | 62567 | 56695 | 5.38 | 5.42 | 5.34 |
| 45-49 | 102146 | 57090 | 45056 | 4.61 | 4.95 | 4.24 |
| 50-54 | 84541 | 47955 | 36586 | 3.81 | 4.16 | 3.44 |
| 55-59 | 56520 | 31100 | 25420 | 2.55 | 2.69 | 2.39 |
| 60-64 | 54470 | 28150 | 26320 | 2.46 | 2.44 | 2.47 |
| 65-69 | 26000 | 13540 | 12460 | 1.17 | 1.17 | 1.17 |
| 70-74 | 19930 | 10180 | 9750 | 0.90 | 0.88 | 0.91 |
| 75-79 | 7660 | 3820 | 3840 | 0.34 | 0.33 | 0.36 |
| 80+ | 10730 | 5490 | 5240 | 0.48 | 0.47 | 0.49 |
| Age not stated | 24730 | 14430 | 10300 | 1.11 | 1.25 | 0.97 |
| Total | 2214048 | 1152736 | 1061312 | 100 | 100 | 100 |

Source:- Census of India, 1991

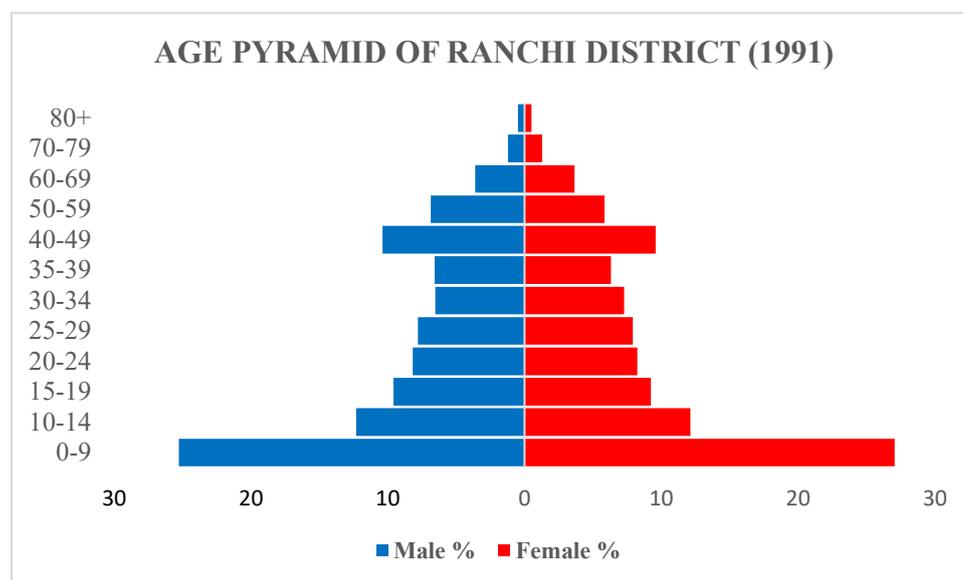


Figure 1.1: Age Pyramid of Ranchi district, 1991

Data source: Census of India, 1991

Figure 1.1 shows the Age Pyramid of Ranchi District during 1991 census year which shows the pattern of Age Structure in Ranchi district. In Figure 1.1, the shape of this Pyramid was

Expansive during 1991 census year because in 1991, the population of Young age and Adult age groups (pre reproductive and reproductive age) were large and population of Old age group (Post reproductive) was very less than these two age groups in Ranchi district. In Figure 1.1, this pyramid has broad base and sharp at apex, the slope of both sides of pyramid are increased towards base.

In this shape of pyramid, the child death rate has been controlled but there are no any decrease in child birth rate took place. So, the rate of population growth becomes high. This will also applied on Population of Ranchi district during 1991 census year because of same situation.

Table 1.4 reveals that in census year 1991, the percentage population belongs to young age group like 0-4 years, 5-9 years and 10-14 years was higher than the other age groups and population in percentage were decreasing from young age groups toward Adults and Old ages population. The percentage of population belongs to Age group 5-9 years were recorded higher as 13.35% and the percentage of population belongs to age group 75-79 years were recorded low as 0.34% respectively. The maximum and minimum figures in percentage were also belongs to these age groups 5-9 years and 75-79 years for male and female population in 1991 census year. This Table shows the Pattern of Age structure in Ranchi district in 1991 census year. This pattern of age structure are shown by constructing Age and sex Pyramid in Figure 1.1. Age Pyramid is one of the important methods used for analyzing age composition of a population. Age pyramid also known as age and sex pyramid because it represents the male and female population in pyramid in which Right side represents female Population and Left side represents male population.

Table 1.5: Pattern of Age Structure in Ranchi District (2001)

| Age- group (in Years) | Total Pop. | Male | Female | Total Pop.(in%) | Male (in%) | Female (in%) |
|-----------------------|------------|--------|--------|-----------------|------------|--------------|
| 0-4 | 302609 | 153597 | 149012 | 10.86 | 10.68 | 11.05 |
| 5-9 | 372705 | 191152 | 181553 | 13.38 | 13.30 | 13.46 |
| 10-14 | 363172 | 186943 | 176229 | 13.03 | 13.00 | 13.07 |
| 15-19 | 275841 | 146502 | 129339 | 9.90 | 10.19 | 9.59 |
| 20-24 | 231458 | 119269 | 112189 | 8.31 | 8.29 | 8.32 |
| 25-29 | 219799 | 111406 | 108393 | 7.89 | 7.75 | 8.04 |
| 30-34 | 198081 | 98403 | 99678 | 7.11 | 6.84 | 7.39 |
| 35-39 | 187736 | 97284 | 90452 | 6.74 | 6.77 | 6.70 |
| 40-44 | 149193 | 78431 | 70762 | 5.35 | 5.45 | 5.24 |
| 45-49 | 130268 | 69868 | 60400 | 4.67 | 4.86 | 4.48 |
| 50-54 | 99241 | 53528 | 45713 | 3.56 | 3.72 | 3.39 |
| 55-59 | 77386 | 40045 | 37341 | 2.77 | 2.78 | 2.76 |
| 60-64 | 68155 | 34474 | 33681 | 2.44 | 2.39 | 2.49 |
| 65-69 | 43037 | 21308 | 21729 | 1.54 | 1.48 | 1.61 |
| 70-74 | 30722 | 15797 | 14925 | 1.10 | 1.09 | 1.10 |
| 75-79 | 13641 | 6888 | 6753 | 0.48 | 0.47 | 0.50 |
| 80 and Above | 16738 | 9003 | 7735 | 0.60 | 0.62 | 0.57 |

| | | | | | | |
|----------------|----------------|----------------|----------------|------------|------------|------------|
| Age not stated | 5282 | 3078 | 2204 | 0.18 | 0.21 | 0.16 |
| Total | 2785064 | 1436976 | 1348088 | 100 | 100 | 100 |

Source:- Census of India, 2001

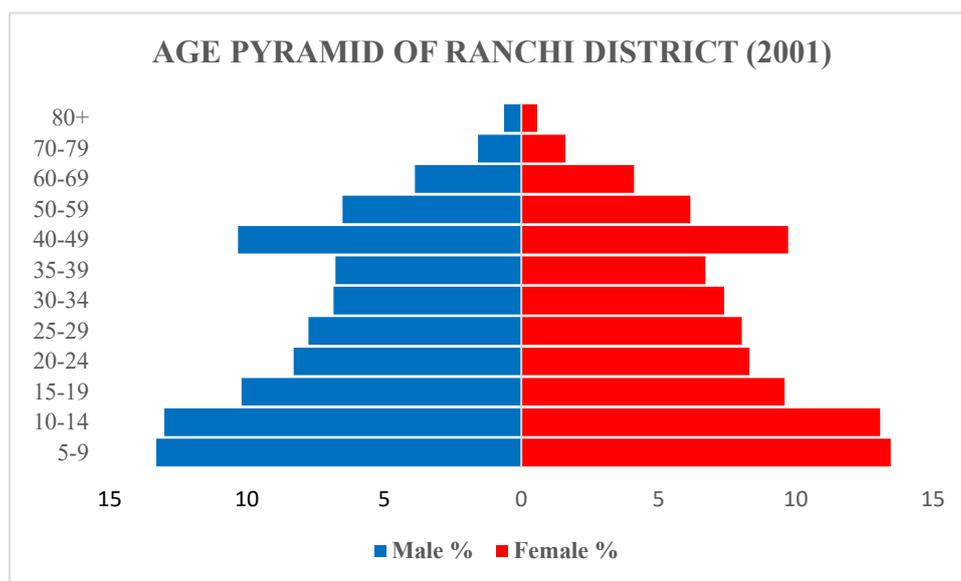


Figure 1.2: Age Pyramid of Ranchi district, 2001

Data Source: Census of India, 2001

Figure 1.2 shows the Age Pyramid of Ranchi district during 2001 census year. In Figure 1.2, the shape of this Pyramid was Expansive during 2001 census year because in 2001, the population of Young age and Adult age groups (pre reproductive and reproductive age) were large and population of Old age group (Post reproductive) was very less than these two age groups in Ranchi district. In Figure 1.2, this pyramid has broad base and sharp at apex, the slope of both sides of pyramid are increased towards base.

In this shape of pyramid, the child death rate has been controlled but there are no any decrease in birth rate took place. So, the rate of population growth becomes high. This will also applied on Population of Ranchi district during 2001 census year because of same situation.

Table 1.5 reveals that in census year 2001, the percentage population belongs to young age group like 0-4 years, 5-9 years and 10-14 years was higher than the other age groups and population in percentage were decreasing from young age groups toward Adults and Old ages population. The percentage of population belongs to Age group 5-9 years were recorded higher as 13.38% and the percentage of population belongs to age group 75-79 years were recorded low as 0.48% respectively. The maximum and minimum figures in percentage were also belongs to these age groups 5-9 years and 75-79 years for male and female population in 2001 census year. This Table shows the Pattern of Age structure in Ranchi district in 2001 census year. This pattern of age structure are shown by constructing Age and sex Pyramid in Figure 1.2.

Table 1.6: Pattern of Age Structure in Ranchi District (2011)

| Age- group (in Years) | Total Pop. | Male | Female | Total Pop. (in%) | Male (in%) | Female (in%) |
|-----------------------|----------------|----------------|----------------|------------------|------------|--------------|
| 0-4 | 269974 | 139280 | 130694 | 9.26 | 9.31 | 9.20 |
| 5-9 | 318793 | 164131 | 154662 | 10.93 | 10.97 | 10.89 |
| 10-14 | 340174 | 173691 | 166483 | 11.67 | 11.61 | 11.72 |
| 15-19 | 306556 | 159706 | 146850 | 10.51 | 10.68 | 10.34 |
| 20-24 | 261237 | 131590 | 129647 | 8.96 | 8.80 | 9.13 |
| 25-29 | 245559 | 123579 | 121980 | 8.42 | 8.26 | 8.59 |
| 30-34 | 211030 | 106157 | 104873 | 7.24 | 7.10 | 7.38 |
| 35-39 | 202274 | 103076 | 99198 | 6.94 | 6.89 | 6.98 |
| 40-44 | 167658 | 87559 | 80099 | 5.75 | 5.85 | 5.64 |
| 45-49 | 144976 | 76824 | 68152 | 4.97 | 5.13 | 4.80 |
| 50-54 | 108855 | 57105 | 51750 | 3.73 | 3.81 | 3.64 |
| 55-59 | 90068 | 46033 | 44035 | 3.09 | 3.07 | 3.10 |
| 60-64 | 84206 | 42054 | 42152 | 2.88 | 2.81 | 2.96 |
| 65-69 | 56399 | 28729 | 27670 | 1.93 | 1.92 | 1.94 |
| 70-74 | 35965 | 19132 | 16833 | 1.23 | 1.27 | 1.18 |
| 75-79 | 15625 | 7973 | 7652 | 0.53 | 0.53 | 0.53 |
| 80 and Above | 18048 | 9174 | 8874 | 0.61 | 0.61 | 0.62 |
| Age not stated | 36856 | 19144 | 17712 | 1.26 | 1.28 | 1.24 |
| Total | 2914253 | 1494937 | 1419316 | 100 | 100 | 100 |

Source: - Census of India (2011)

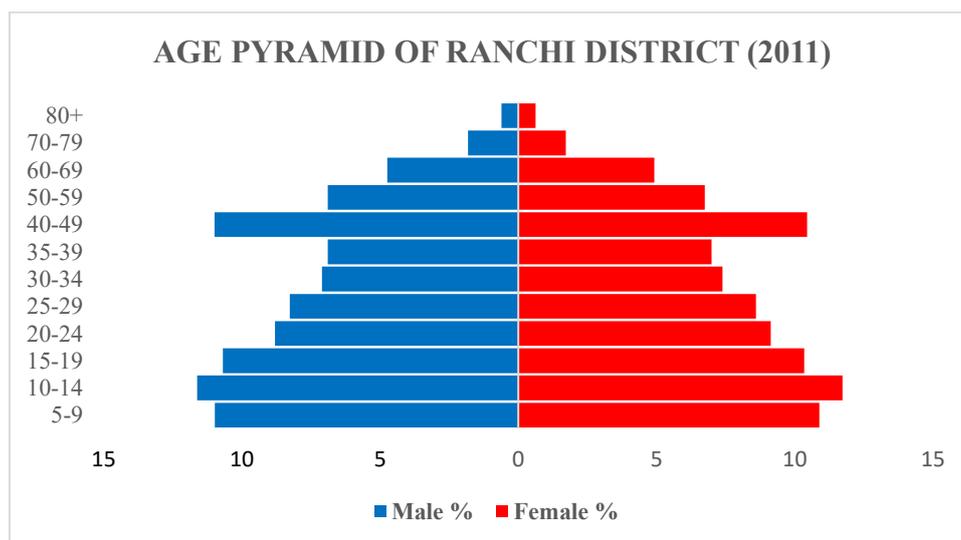


Figure 1.3: Age Pyramid of Ranchi district, 2011

Data Source: Census of India, 2011

Figure 1.3 shows that the Age Pyramid of Ranchi District during 2011 census year. “This type of pyramid is known as Constructive Population Pyramid. In this type of pyramid, the

population of Elderly people are high and this is narrow at base” (Tiwari, Dr. R.K., 2017). In this situation, the apex become rounded in shape and sides of slopes becomes steep. This shape of pyramid indicates the Age structure and population of that region where birth rates become low and death rate is stagnant. So, the Pattern of Age structure of Ranchi district during 2011 census year formed a Constructive Population Pyramid and it’s base was narrow due to decreased population of 0-4 years age group with low birth rate and population of Old age group were high. The shape of population pyramid of Ranchi district during 2011 census year was like a shape of Bee Hives. It shows the population control has been increased in the district.

Table 1.6 reveals that in recent census year 2011, the percentage population belongs to young age group like 5-9 years and 10-14 years and Adult age group like 15-19 years are higher than the other age groups and population in percentage are decreasing from young age groups toward Adults and Old ages population. The percentage of population belongs to Age group 10-14 years are recorded higher as 11.67% and the percentage of population belongs to age group 75-79 years are recorded low as 0.53% respectively. The maximum and minimum figures in percentage are also belongs to these age groups 10-14 years and 75-79 years for male and female population in 2011 census year. This Table shows the Pattern of Age structure in Ranchi district in 2011 census year. This pattern of age structure are shown by constructing Age and sex Pyramid in Figure 1.3.

3.3 Dependency Ratio in Ranchi District: -

“Dependency ratio shows the percentage ratio between dependent population and working population. The dependency ratio is determined by the Age structure of a population” (Maurya, S.D., 1988). The Adult population is considered as active(working) population while children below 15 years and Old persons of 60 or 65 years and above are dependent on active population. “The dependency ratio is generally high in the case of developing and least developed countries of the world mainly due to large number of young populations” (Bhende and Kanitkar, 1994).

Table 1.7: Growth in Dependency Ratio in Ranchi District

| Dependency Ratio (in %) | | | Growth in Dependency Ratio | |
|-------------------------|-------|-------|----------------------------|-------------|
| 1991 | 2001 | 2011 | (1991-2001) | (2001-2011) |
| 79.23 | 77.16 | 65.53 | -2.07 | -11.63 |

Source: - Census of India (1991, 2001 and 2011)

Table 1.7 revealed about the Dependency Ratio and it’s growth since 1991 to 2011 in Ranchi district. The dependency ratio in 1991 were recorded as 79.23% in Ranchi district. But the dependency ratio were recorded as 77.16% in 2001 and 65.53% in 2011 respectively. The above Table 1.7 shows that the dependency ratio were decreased continuously since 1991 to 2011 census year as 79.23%(in 1991), 77.16%(in 2001) and 65.53%(in 2011) respectively. It means that population belongs to Young (0-14 years) Age groups or children were decreased since 1991 to 2011 which affected the dependency ratio and it becomes low. It proves that Dependent population were decreased continuously since 1991 to recent census year 2011 and it is a positive sign of population development as well as socio-economic development in Ranchi district. The growth in Dependency ratio were recorded in negative value during 1991-2001 and 2001-2011 decades as -2.07% and -11.63% respectively. The negative growth in

dependency ratio during these decades proves that the burden of dependent population on active population was decreased and growth of dependency ratio were also decreased continuously during these decades and became negative because population of Ranchi district adopted small family norms by using population control methods like contraceptives etc.

4.0 CONCLUSIONS

After the data analysis, it has been found that distribution of population according to age structure, the population belongs to Young age group are decreased continuously during this decades since 1991 to 2011 but the population belongs to Adult and Old age group are increased from 1991 to 2011 in Ranchi district. This condition is also similar for males and females during these decades. It proves that the population of the Ranchi district is going towards development which can be social, economic and demographic also and it is a positive sign for the population of this district where most of the population are belongs to Adult age group who are economically more active and biologically most reproductive. Age structure of male and female in population of Ranchi District are not equal. In some age groups it is in favour of males and some age groups it is in favour of females.

According to Pattern of Age structure, the population belongs to young age group were recorded high and belongs to Old age groups were recorded low and these are similar for male and female population during 1991, 2001 and 2011 census year in Ranchi district. The proportion of young age group in total population of a country is influenced by the stage of demographic transition through which it is passing. The proportion of young age group are large in the first and second stage of demographic transition. The proportion of Adult age group are increasing continuously like 55.16% in 1991, 56.33% in 2001 and 59.64% in 2011 respectively. The adults are found physically and mentally suitable for their engagement in various economic activities. The proportion of Old age group are also increasing continuously like 5.36% in 1991, 6.18% in 2001 and 7.21% in 2011 respectively. The persons of this age group are designated as senior citizens or elders. Thus, Population of Ranchi district are going through development process either socially and economically. The Dependency Ratio of Ranchi district was decreased continuously since 1991 to 2011 census year as 79.23% (in 1991), 77.16% (in 2001) and 65.53% (in 2011) respectively. It signifies that Dependent population were decreased continuously since 1991 to recent census year 2011 and it is a positive sign of population development as well as socio-economic development in Ranchi district. So, economically dependent population are decreased continuously in Ranchi district since 1991 to 2011 census year.

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