Continuous Population Evolution of Kediri Regency Based on the 2010 and 2020 Population Censuses

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Abstract

This study aims to determine the readiness of the residents of Kediri Regency in increasing sustainable development based on the 2010 and 2020 population censuses, this is in accordance with one of the Sustainable Development Golds (SDGs) programs. In this development period, population demographic data is needed in various types of development planning among others for the purposes of increasing human resources in an area, for this reason, formal data in the form of a population census really needs to be studied. In tackling the population problem, it is not only charged to the government and population experts, but also to all Indonesians, especially in an effort to include the community in understanding and solving the population problem (ida bagus mantra, introduction to demographic studies, 2002 edition of the reference). This study aims to evaluate the data of Agexs, Joint Score Index (Combined Index), and Pyramid. Where this program is carried out in order to find out the differences in sex ratio, dependency ratio, and population growth (Arfida Br, pendulukan economic praticum module, 2019). The results showed: Agesx that the average age ratio deviation in 2010 of men (5.29), women (5.18) was higher than in 2020 which experienced a decrease in the average age ratio deviation in men by (2.45), women (3.13). Likewise, the average ratio difference in 2010 was (3.40) higher than in 2020 by (1.82). Meanwhile, the number of age sex accuracy index in 2010 was (20.66) higher than in 2020 by (11.04) which decreased. Joint Score Index then this can be categorized as the quality of population age analysis data for both male and female residents in urban and rural areas of Kediri Regency in 2010 which is based on the calculation of the Joint Score Index, which is "Moderate means that Kediri Regency has a Joint Score Index (20.67) the JSI size for Kediri Regency is ideal for development planning" and in 2020 which is based on the Joint Score Index calculation, which is "Accurate means that Kediri Regency has a Joint Score Index (11.04) the JSI size for Kediri Regency is good for development planning". Pyramid according to age group and gender in 2010 is in the form of an Expansive Pyramid or often called a triangle, cone, limas, or pyramid of young inhabitants and in 2020 the shape of a Stationary Pyramid is often called a grenade or rectangular shape.

Keywords: *Population Census, SDGs, Joint Score Index, Dependency Ratio, Agexs, Pyramid.*

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INTRODUCTION

Population evolution is a process of change carried out by the population on all forms of life from one generation to the next in the theory of evolution becomes a kind of foundation, scientific for materialism, the basis for the ideology of communism. The sustainable development goals have the potential to transform Kediri Regency into an area that can develop in all fields and can apply the principles of a sustainable economy appropriately. Where the sustainable development goals are very important for a country and region, especially Indonesia, from these sustainable development goals can make Indonesia a developed country that is able to develop in all aspects and is also able to implement and apply its sustainable economic concept properly and thoroughly so that Indonesia can become a fully developed country. Holistically integrated sustainable development targets are the last pillar of the Sustainable Development Goals (SDGs).

A resident is an individual or a group of individuals residing in an area in accordance with the provisions of the applicable legal entity. Where the population includes natives and foreigners residing in the area. The need to build a group and do dominate over neighboring groups is strongly linked to security (Morland, 2019). In Indonesia, the population only has.

Before the 19th century, statistical data on the population in Indonesia was still relatively incomplete, because there was still no enumeration of the population in the form of a census. This is based on estimates made by demography experts regarding the number of inhabitants in Indonesia which is mainly for the island of Java/Madura in the past which is based on various administrative records from the colonial authorities. Where the latest or relatively more careful recording of the number of inhabitants in Indonesia can only be carried out in 1930 through the implementation of the Population Census. From 1930 with the completion of the Population Census, the total population in Indonesia was estimated at 60.7 million people. In the following period, a new population census was conducted in 1961, based on the census the number of people in Indonesia was 97.0 million. After the second year, population enumeration has been carried out regularly with sufficient areas that are relatively complete and either through the Population Census or through SUPAS (Inter-Census Population Survey). From the development of Indonesia's population growth, it shows that in general Indonesia's population growth rate is still relatively high which is above the world population growth average.

Regional development is one way to achieve success in the implementation of development. The population census is a mandate of Law No. 16 of 1997 on statistics, based on every ten years which has a zero. From the results of the 2020 population census conducted by BPS, it was noted that the total population of Kediri Regency in December 2020 was 1,635,294 people. When compared to the previous year, the population growth rate of Kediri Regency has always increased. This is when viewed within ten years since 2010, the total population of Kediri Regency has increased by around 91,415 people or seen from an average of 9,100 people every year (BPS, 2020).

Why I chose Kediri Regency in this study is because I am interested in population growth factors in this district. Population Growth in Kediri Regency if viewed is very large in terms of development. Therefore, a population census needs to be carried out in order to find out how the population distribution is developing when viewed from the age group and gender. Therefore, I would like to research by using those variables and also using the latest analysis tools to see the results whether good or bad. If compared with areas around Kediri Regency such as Malang Regency, Jombang Regency, Blitar Regency, Tulungagung Regency, and Nganjuk Regency which is one of the buffers of Kediri Regency.

 Being one problem in development faced by the Indonesian nation, namely the population problem. These population problems must receive serious attention in, among others, (1) relatively high growth rates, (2) a very large population, (3) a very young age

structure, and (4) an uneven population distribution. If it is handled in the right way then the state of the population as above can be a very important element of development. From other parties, it is also possible that it is also one of the tough challenges for development.

Unemployment is an employment problem that is often experienced by every country (Rifqy et al., 2020), especially developing countries such as Indonesia. According to the Central Agency for Statition, (2020) unemployment can be defined as people who enter the labor force (aged 15-64) years who are in search of work and still do not get it. Where unemployment is allowed continuously, of course, it will have a very negative impact on a region or country. (Muslim, 2014) explains that unemployment is a very complex problem because it affects and is also influenced by many factors that interact with each other following patterns that are not always easy to understand (Tatuhe et al., 2016).

RESEARCH METHODS

This research was conducted in Kediri Regency, which is one of the third largest regencies after Surabaya and Malang. This study used a descriptive type of research, and the research data used were secondary data based on the 2010 and 2020 population censuses. So that in this study the data obtained was sourced from the Central Statistics Agency (BPS) of Kediri Regency. The documentation method is one of the quantitative data collection methods by viewing, retrieval, and analyzing these documents, such as the Central Statistics Agency (BPS), journals, records, books, newspapers, government documents, and others. A researcher in using this method to find data that is directly related to the subject data in the form of population analysis.

RESULTS AND DISCUSSION

Overview of Kediri Regency

Geography of Kediri Regency

In general, Kediri Regency is a regency located in East Java Province which has its center of government in Kediri. Where this regency is directly bordered by Jombang Regency to the north, Malang Regency to the east, Nganjuk Regency and Madiun Regency to the west, and Kabupate Blitar and Tulungagung Regency to the south.

If you look at the geographical position of Kediri Regency which is located between 111' 47" 05" to 112' 18" 20" BT and 7' 36" 12" to 8'0" 32" LS. Kediri Regency has an area of 1,386.05 km2 or around 138,605 ha with 26 districts.
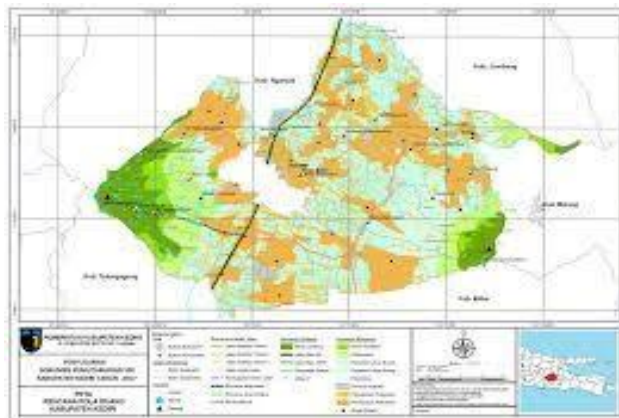

Figure 1. Regional map of Kediri Regency

Source: BPS Kediri Regency 2021

According to the Kediri Regency Population and Civil Registration Service, data on the number of residents in 2020 was 1,673,569 people consisting of 846,441 male residents and 827,128 female residents. If you look at the population density in Kediri Regency in 2020 reached 1,098 people / km2. Where Ngasem District is the most populous district with a population density of 2,726 people / km2. Where demographics are related to the three main namely, determining the number, characteristics and distribution of the population within a particular region, determining changes in their number, characteristics and distribution over time, and explaining the main factors of such changes. (Mayer, 1962).

Population Conditions

If you look at the results of the Population Census in 2010 conducted in May, the total population in Kediri Regency amounted to 1,499,768 people, with a male population composition of 752,852 people and for women of 746,916 people. Therefore, in 2020 the total population of Kediri Regency was 1,635,294 people, consisting of 825,867 men and 809,427 women.

Table 1. Age Group and Gender

Age Group	Man		Woman		Sum	
Age Groups	Male		Female		Total	
	2010	2020	2010	2020	2010	2020
0-4	64071	58465	61488	55793	125559	114258
5-9	65766	61165	62435	58182	128201	119347
10-14	65416	61432	61085	58226	126501	119658
15-19	59075	64897	54046	61568	113121	126465
20-24	52052	66335	50365	61311	102417	127646
25-29	62678	61910	60617	57516	123295	119426
30-34	58617	62015	56671	58519	115288	120534
35-39	59130	65532	58945	61866	118075	127398
40-44	58428	62170	59607	60156	118035	122326
45-49	52101	59034	54094	59627	106195	118661
50-54	44369	54951	43541	56024	87910	110975
55-59	34979	48318	32769	50674	67748	98992
60-64	24353	37344	25640	37898	49993	75242
65-69	20598	27291	22570	28883	43168	56174
70-74	14245	17200	18441	18861	32686	36061
75+	16974	17808	24602	24323	41576	42131
Kediri District	752852	825867	746916	809427	1499768	1635294

Source: BPS Kediri Regency Population Census 2010 and 2020

Based on age group, the population composition consists of 21.60 percent of the population aged 0-14 years, 59.53 percent aged 15-54 years, and 18.87 percent aged 55 years and over. According to Putri (2020) explained that the summary population density is a comparison between the number of residents and the area inhabited. From the results of the 2020 Population Census, the majority of the population in Kediri Regency is

dominated by generation Z, generation X, and millennials. Where the proportion of generation Z is 25.44 percent of the total population (412,721) people, for generation X as much as 23.96 percent of the total population (391,816) people, and while in the millennial generation as much as 23.56 percent of the total pupulation (385,325) people in Kediri Regency. Where the sex ratio will be able to be used for gender-based development planning, especially with regard to the development of men and women in a fair manner (BPS, 2010).

Employment Conditions

Stoler (1977) posits that employment status in this case includes two aspects at once, namely, the aspect of women's autonomy and the aspect of social power. For conditions in 2010, there were around 6,442 new job vacancies, which experienced a significant decrease from the previous year which reached 8,880 new job vacancies of 27.45 percent. Where the decline in new job seekers, saw the composition of productive age reduced or under other names the new labor force in 2010 was lower than in 2009. Where the number of labor placements in 2010 was around 6,728. This means that the absorption of new job vacancies is 100 percent, while the rest is filled from job vacancies in 2019, of which there are around 22.33 percent left. So that the total in 2010 there were remaining vacancies of around 1,697 or 20.14 percent.

Therefore, the Open Unemployment rate (TPT) in Kediri Regency is 5.24 percent. Which experienced an increase of 1.56 percent if compared to the TPT in August 2019 which was 3.68 percent. Likewise, the labor force that is currently working in Kediri Regency is mostly workers or employees or employees who reached 250,679 people in 2020, which experienced a decrease of 6.64 percent when compared to 2019. Then for the employment status of free workers, which was 147,094 people, it also experienced a decline of 5.47 percent compared to 2019. For the latter the employment status tried on its own as many as 145,597 people. According to Ananta and Chotib (2002), based on the experience of developed countries, economic development usually shows very different stages, so it has different demographic characteristics.

Results of Analysis and Discussion

The data that will be used in this study is the age group of the population according to gender in 2010 and 2020 in Kediri Regency. The results of this study are to determine the results of the condition of the DR number, sex ratio, and human growth rate in 2010 and 2020 Kabuapten Kediri. The selection of years used in this study is 2010 and 2020, because that year is updated data and has been published by the Central Statistics Agency (BPS) of Kediri Regency.

Table 2. Agesx Kediri Regency Results in 2010 and 2020

Agesx	2010	2020
Average Age Ratio Deviation For Males	5.29	2.45
Average Age Ratio Deviation For Female	5.18	3.13
Average Sex Ratio Difference	3.40	1.82
Age-Sex Accuracy Index	20.66	11.04

Source: BPS Kediri Regency Population Census 2010 and 2020 (data processed 2022)

Therefore, when viewed from the calculation results, it can be compared that the average number of age ratio deviations in 2010 for men (5.29), women (5.18) is higher than in 2020 which experienced a decrease in the average age ratio deviation in men by (2.45), women (3.13). Likewise, the average ratio difference in 2010 was (3.40)

higher than in 2020 by (1.82). Meanwhile, the number of age sex accuracy index in 2010 was (20.66) higher than in 2020 by (11.04) which decreased.

Discussion

Table 3. HDI and AHH data

HDI Components (New Method)	HDI (New Method) in Kediri Regency	
	2010	2020
Human Development Index (HDI)	66.24	72.05
Life Expectancy At Birth (AHH)	71.87	72.61

Source: BPS Kediri Regency Population Census 2010 and 2020

Based on the results of the analysis, it can be seen the development or growth of the number of residents in Kediri Regency with a population in 2010 of 1,499,768 people, the development of the population continues to develop until in 2020 it is 1,635,294 people. The development of the population based on age and gender doesnot affect development planning in various government activities, for example for planning in the fields of education, employment, health, military, marriage, family institutions and others. These goals are in accordance with the Sustainable Development (SDGs) expected by the Indonesian state. From the sustainable development goals, it will be able to make Indonesia a developed country that is able to develop in all fields and is also able to implement and apply the concept of a sustainable economy properly and thoroughly so that Indonesia can become a fully developed country. This change is expected to also occur in regions in Indonesia as is currently the case in Kediri Regency can be seen by the analysis of the age and sex ratio from the Agesx calculation that the average age ratio deviation from 2010 to 2020 has decreased. Where a condition changes in the age and sex structure of the population as a result of the demographic transition process, namely a decrease in birth rates and mortality rates. This population development can also be seen from the age of the population, both male and female residents in Kediri Regency according to the Join Score Index program in 2020 is more "Accurate" and the structure of the population of Kediri Regency according to age group and gender in 2020 pyramid form Stationary is often called also the shape of a grenade or quadrangle. Therefore, the population of productive age far exceeds the unproductive population, this will affect the dependency ratio, which is where the "economic" burden that must be borne by the productive population on the unproductive population reaches its lowest point which will later occur demographic bonuses. Adioetomo (2005) said that this demographic bonus will only occur once for all residents of a country, which is called a window of opportunity. So it is expected to substantially increase funding and for recruitment, development, training and I absorb the health workforce in Kediri Regency. Therefore, the population growth process in Kediri regency can be said to have changed where in 2010 it was so high (2.82) than in 2020 it was very low (07.72). This can be proven by the human development index (HDI) in 2020 increased by 72.05. Therefore, there is a need to increase human resources who are able to project the planning of the development of Kediri Regency for the better in the future. Ensuring also significant resource mobility from various sources, including through expanded development cooperation in order to provide tools that are fairly predictable that must be carried out by the government and later programs and policies can end poverty in all dimensions. The development can be proven that in 2010 there was the construction of the Mount Kelud tourist area and in 2020 there was the construction of the Brawijaya bridge, the construction of an airport, and a toll road that is still planned. Slowly evolving developments are capable of becoming sustainable development goals (SDGs) to end poverty, reduce inequality, and protect the environment.

CONCLUSION

Based on the results of the analysis of the research above regarding the condition of the 2010 & 2020 population census, Kediri Regency can be concluded that when viewed from the calculation results, it can be compared that the average number of age ratio deviations in 2010 of men (5.29), women (5.18) is higher than in 2020 which experienced a decrease in the average age ratio deviation. in males (2.45), females (3.13). Likewise, the average ratio difference in 2010 was (3.40) higher than in 2020 by (1.82). Meanwhile, the number of age sex accuracy index in 2010 was (20.66) higher than in 2020 by (11.04) which decreased.

It can be said that the results of data on the number of residents of Kediri Regency according to age group and gender in 2010 were in the form of an Expansive Pyramid or often called a triangular, conical, limas, or pyramid population pyramid and in 2020 the shape of a Stationary Pyramid is often called a grenade or rectangular shape. Therefore, the condition of the human growth rate in Kediri Regency can be said to be very increasing every year for population growth.

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