

# Population And Environmental Problems In Future Development

Afdhal<sup>1</sup>, Paus Iskarni<sup>2</sup>, Ratna Wilis<sup>3</sup>  
{pangeranafdhal@gmail.com<sup>1</sup>, pausiskarni@fis.unp.ac.id<sup>2</sup>}

Geography Department, Universitas Negeri Padang, Padang, Indonesia

**Abstract.** Indonesia has could reduce the birth rate convincingly. However, in the last 20 years there has been stagnation. On the other hand, new problems arise which include: first, the large population and population growth that has not yet reached ideal conditions. Second, the large proportion of the productive age population. Third, the number and proportion of the elderly population (over 60 years) will experience a very rapid increase. Fourth, the increasing proportion of the population living in urban areas (urbanization) from the current condition of around 50 percent to around 75 percent. Besides resident problem, environmental problems also play a role in achieving development changes in social, economic, and political life of the community are taking place very quickly, becoming a challenge in itself. Physical development is currently more spread out and many areas, especially those with natural resources. Apart from funding problems which are often seen as the main source of difficulty in accelerating the development process in various regions, the expertise of regional heads and their instruments is the key to the success of the development process. All population problems and environment above must be managed properly and integrated into national development policies, other population issues such as: indigenous peoples, people with physical and mental disabilities and people with special needs, also need attention from the government. With various efforts, it is hoped that Indonesia will be able to improve the welfare of its population in a sustainable manner and avoid the Failed State phenomenon.

**Keywords:** Population Problem, Environmental Issues, Development

## 1 Introduction

The government's attention to population problems and environmental challenges emerged in line with the birth of the new order. This was marked by the establishment of the National Family Planning Institute (*LKBN*) in 1968. After running for about two years, *LKBN* was considered less effective. Therefore, in 1970 this institution was merged into an agency directly responsible to the President. The agency is called the National Family Planning Coordinating Board (*BKKBN*). Once the urgency of this institution, the government will increase the status of this institution from a non-departmental level to a ministry level. At the same time, the Ministry of Environment was formed. Subsequently issued Presidential Decree (*KEPPRES*) No. 64 of 1983 which aims to strengthen the role of the *BKKBN* to accelerate the decline in the birth rate in order to ensure an increase in the welfare of the people in general. Since then, the family planning program has become an important part of the national development process that relies on economic development.

The National Family Planning Program has been convincingly reducing the birth rate [10]. However, in the last 20 years there has been stagnation. The success of the National Family Planning program which is generally measured by the Total Fertility Rate (TFR) and has been successfully reduced from 5.6 per 1000 women of childbearing age (age 15-49 years) in 1970 to 2.6 per 1000 fertile women in 2002/2003, it turned out that in 2007 and 2012 (2012 SDKI results) and the calculation of the projected figure remained at 2.6, while the target of 2.1 was not achieved [1].

On the other hand, the population growth rate which was estimated to be reduced to 1.27% per year in 2010 was still quite high at 1.49% per year (2010 Population Census). Another indicator that reflects the stagnation of population and family planning programs is the high number of unmet need, namely 8.5% (SDKI, 2012); ASFR 15-19 years is 48 per 1000 fertile women (SDKI, 2012) and the increase in family planning participation is not in line with expectations, which is 0.5% for 5 years. Whereas ideally it should be able to increase CPR per year by 1% per year.

**Table 1.** Performance of the 2012 BKKBN Population Program

No		Target	Realization	Information
1	TFR	2.1	2.6	Not achieved
2	ASFR 15-19	30/1000 women	48/1000 women	Not achieved
3	CPR	65%	57.9%	Not achieved
4	Unmet need	5%	8.5%	Not achieved

## 2 Population Problems

Population problems in general are very large numbers, uneven distribution and poor composition. Population problems facing Indonesia today and in the future include: first, the large population and population growth that has not yet reached ideal conditions. If Indonesia's population growth is still at the current level (about 2.6 births, far above the ideal figure of 2.1), then Indonesia's population is estimated to reach around 340 million in 2050 and 420 million in 2100 (population projections made by UN 2010). This, of course, has an impact on global population conditions because according to the UN analysis, Indonesia is one of 5 (five) countries that contribute to world population growth until 2050 along with India, Pakistan, Brazil and Nigeria.

*Second*, the large proportion of the productive age population (15-60 years) and the young population (10-24 years) until around 2030. This condition has an impact on decreasing the dependency ratio and has a very positive impact on economic development. Currently, Indonesia is enjoying a demographic bonus. Between 2020-2030 Indonesia experienced a period of "window of opportunity" which is a period where the "dependency ratio" is at a very low position. After 2030 the "dependency ratio" will increase again. Indonesia must invest effectively and efficiently in human resources, especially the young age group if it does not want the "window of opportunity" to turn into a "window of disaster". Effective, efficient and quality investment in the health sector including reproductive health, education, and training for the young population (10-24 years) is a must. The health of the younger generation, especially related to risky sexual behavior, smoking, alcohol and illegal drugs, is of great concern [4].

*Third*, the number and proportion of the elderly population (over 60 years) will experience a very rapid increase after 2030. In 2050 the number of elderly people in Indonesia is almost 80 million people. They consist of about 36 million aged 60-69 years, 32 million aged 70-79 years and 11.8 million aged over 80 years. The government must develop a comprehensive policy for the elderly population from now on if it does not want to have complex socioeconomic problems in the future. The SJSN program, which will be fully implemented in 2019, for example, must really be designed by taking into account aspects of changes in general structure, disease patterns and social structures that exist in society because otherwise the program will be a ticking time bomb for the nation's economic problems in the future.

*Fourth*, the increasing proportion of the population living in urban areas (urbanization) from the current condition of around 50 percent to around 75 percent in 2050. The challenge in the development of urbanization in Indonesia that must be a concern for the government is the rapid development of metropolitan cities and big cities which are far beyond medium and large cities. small. As a result, villagers who want to move to urban areas are more likely to go directly to metropolitan and large cities rather than to medium and small cities. This raises many socio-cultural problems in metropolitan cities and big cities.

All of the population problems above must be managed properly and integrated into national development policies, other population issues such as: indigenous peoples, people with physical and mental disabilities and people with special needs, also need attention from the government. Awareness of the complex issues in the field of population and family planning requires an institutional arrangement that is able to handle these various problems. At this time the task is borne by the *BKKBN* which has been around for more than 50 years since the first time it was formed under the reign of President Soeharto.

### **3 Environmental Problems**

The problems that have been discussed in the previous description increasingly need attention due to environmental changes. The reformation era, which began in 1998, has changed the social, economic, political and social constellations of people in Indonesia. The system of government changed from centralized to decentralized. Likewise, the center of power has changed where previously the executive was very dominant, so now the legislative power is very dominant, even though our government system is still presidential. Currently, civil society also has a greater place in the development process than before. This development was made possible by the desire to have a "good governance".

All of the above dynamics affect the development process and output in both a positive and negative sense. Physical development is currently more spread out and many regions, especially those with abundant natural resources, are better able to develop their territories so that the progress of facilities and infrastructure in their areas is evident. Likewise, several regions that are able to manage the development process well have shown good socioeconomic progress as indicated by improving health and education status as well as decreasing poverty levels. The provinces of Riau, East Kalimantan, East Java and DI Jogjakarta are four of the many provinces and districts/cities that have made significant progress in this reform era.

Apart from funding problems which are often seen as the main source of difficulty in accelerating the development process in various regions, the expertise of regional heads and

their instruments is the key to the success of the development process. The regent/mayor's expertise in optimizing available funds, formulating policies and programs that are able to attract investors, and involving all stakeholders is a key factor in the success of development at the local level. Fifteen years of reform have taken place in Indonesia. How is the progress of Indonesia's population, especially human resources? The MDGs indicators and the Human Development Index (HDI), which are mostly a description of population development, especially human resources, have shown significant progress in many aspects, but there are still many challenges that must be resolved. There is a very significant progress from the poverty depth index, the proportion of self-employed workers and family-free workers to total employment opportunities, and the prevalence of children under five with low body weight/malnutrition.

The proportion of the population living below the national poverty line from 15.10 percent (1990) to around 12 percent (2012) and the Poverty Depth Index from 2.70 to 2.08 in the period 1990 and 2011. The GDP growth rate per worker increased from 3.52 percent (in 1990) to 5.04 percent (in 2011). In addition, there was a decrease in the proportion of the population suffering from hunger from 1989 to 2010 as indicated by the prevalence of under-fives with low body weight from 31.00 percent to 17.91 percent, as well as the proportion of the population with a calorie intake of less than 1400 K cal/ca-pita/day from 17.00 percent (1990) to 14.65 percent (in 2011).

Education indicators also experienced a very significant increase. The net enrollment rate (NER) for primary schools, the proportion of grade 1 students who have successfully completed primary school, as well as the literacy rate for the population aged 15-24 years, girls and boys, all of which are approaching 100 percent. This increase in basic education participation is accompanied by increasing gender equality in education. In 2011, the NER female/male ratio at the primary level was 98.80; at the junior high school level is 103.45; and at the level of higher education is 97.82. The literacy ratio of women to men in the age group 15-24 has reached 99.95 percent in the same year.

In the health sector, Indonesia still faces many challenges. Indonesia needs a major breakthrough to achieve the MDGs target for the infant mortality indicator, which is 32 per 1000 live births [7]. Referring to the results of the 2012 SDKI, currently the infant mortality rate in Indonesia is still around 32 per 1000 live births. Thus, maternal health, which is indicated by the mortality rate of pregnant and childbirth women, describes developments that are not as expected. The MDGs target in 2015 of 102 deaths from 100 thousand live births seems to require hard work from all parties to achieve it. The MMR in Indonesia, based on available official data, namely the 2007 SDKI is 228 per 100 thousand live births. The initial available information shows that the MMR picture based on the 2012 SDKI has also not changed much. Overall, the condition of maternal and child health during this reform period did not experience significant progress. The IMR and MMR figures between 2002 and 2012 remained relatively unchanged (IMR 2002-35 while 2012-32; MMR 2002-307 and 2012 were around this figure) [1].

The stagnation of health conditions, especially for mothers and children, is in line with the stagnation of family planning programs. Various studies and scientific literature reveal that family planning is a very cost-effective program to improve the health status of mothers and children (babies). In various scientific literatures, it is stated that the family planning program has 2 goals at once, namely as a program for regulating (management) of population growth and at the same time improving the health of mothers and children (infant). The birth rate in Indonesia, which is generally indicated by the average number of children owned by a married woman aged 15-49 years (TFR), did not change in the period 2002 to 2012 which was 2.6

children. The rate of use of contraception (CPR) both modern and traditional in the period 2003-2012 did not experience significant progress. Over the last 10 years, CPR has only increased by 2 percent from 60 percent to 62 percent. On the other hand, the percentage of those who want to use family planning but cannot be served (unmet need) is still quite high at around 9 percent. This picture has not changed over the last 10 years (Table 1).

The impact of these developments can be seen in the 2010 Population Census results, which missed almost 4 million people from the initial estimate, as shown in Table 2 below.

**Table 2.** Some Characteristics of Indonesian Population 2010-2020

Age group	2010	2015	2020
0-4 Yr. (in million/%)	22.7/9.54	23.3/9.18	22.6/8.44
5-14 Yr. (in million/%)	45.9/19.33	46.3/18.26	45.7/17.02
15-49 Yr. (in million/%)	131.1/55.15	137.9/54.33	144.3/53.79
15-64 Yr. (in million/%)	157.0/66.09	170.3/67.09	183.5/68.36
65 years and over. (in million/%)	11.9/ 5.04	13.9/5.47	16.6/6.18
Total Population (in million)	237.6	253.8	268.4

## 4 Facing Future Development

Indonesia's population problem will be more complex in the future. Indonesia's population will not only continue to grow, but various population dynamics such as changes in age structure as well as distribution and mobility patterns followed by quality dynamics will require serious handling. Without seriousness, the potential of the population as development capital will remain as jargon. On the other hand, the results of development will also only be enjoyed by a handful of residents so that the income gap will widen, which is not impossible which will lead to divisions and other social vulnerabilities.

Judging from the existing population dynamics, there are at least some main problems that must be anticipated.

First. Indonesia's population will continue to grow. By 2050 the population of Indonesia is estimated to be 320 370 million depending on how successful family planning is. The difference of 50 is also a very significant number for the existence of the continuity of life on earth. Currently, the earth's carrying capacity is around 1.8 times what it should be.

Second. Indonesia is enjoying a demographic bonus until 2030. The issue of the quality of the population, especially the younger generation, must be a major concern in relation to policies related to employment.

Third, after 2030, Indonesia will begin to enter the era of the elderly population. Indonesia is starting to face the elderly boom in 2030. Currently, the number of elderly people is around 20 million which is estimated to be around 25 million in 2030 and in 2050 the figure is close to 70 million people. A comprehensive policy is needed if Indonesia does not want to face serious problems related to the issue of the elderly.

Fourth. The distribution of Indonesia's population is still concentrated on the islands of Java, Bali and Sumatra with the proportion of those living in urban areas that will continue to increase. Currently, there are around 50 percent of the population living in urban areas, whereas in Java the figure is approaching 70 percent. In 2050, it is estimated that the population living in urban areas will approach 70 percent and on the island of Java will approach 90 percent. Java will become a city island. Is this trend desirable or should there be a

transfer of industrial locations outside Java so that the rate of urbanization in Java can be further reduced? What about the need for food supply, because the island of Java is a very suitable location for food crops? What strategies should be prepared for the substitution of food locations in Java to other islands? With the condition of the population that will continue to grow and the shrinkage of agricultural land on the island of Java, the phenomenon of food imports; such as what is happening now becomes inevitable. Is this really what you want?

The four conditions of population dynamics above are coupled with aspects of quality and economic development that are related to one another so that it is necessary to formulate integrated policies in an effort to improve the welfare of the population.

The quality of the population needs to be improved in accordance with existing capabilities. Health and education need more attention by allocating a more adequate budget. This policy is intended so that the existing population can become an asset of development, not just a burden. The population must still be controlled through birth control, so that the burden of development does not become heavier. Economic development without the support of adequate quality will not be sustainable. On the other hand, an increase in the quality of the population will not occur if there is no economic growth. Economic growth and improving the quality of the population will be difficult to implement if the population is getting bigger and the quality is already low.

In addition to the issue of population quality which really needs to be the government's attention, the issue of controlling the population, through family planning programs and population distribution through transmigration programs that are linked to regional development, must also be a concern. The success of the family planning program and the transmigration program in the 1970s and 1990s should serve as a basis for policy. If in 2000, Indonesia could avoid 80 million people (referring to the projection made by the late Prof. Widjojo Nitisastro) then by 2050 Indonesia should be able to reach the target population of 320 million and not as much as 370 million as currently feared.

Institutions that take care of family planning programs must be strengthened so that this program gets the attention of all development sectors, especially local governments. The institution that manages the family planning program must again become a respected institution in Indonesia. The family planning program must be systematically included in the agenda of the cabinet meeting and become one of the aspects that must be monitored and evaluated continuously and strictly by the government.

Likewise, the economic development strategy must really pay attention to population dynamics. It should be avoided that the achievement of the target rate of economic growth is momentary and only enjoyed by a few people. Disparities, both between regions and socioeconomic backgrounds, will have a negative impact in the long run. The dynamics of the current population are very poorly reflected in national economic development strategies such as MP3EI and RPJM. Attention to the population aspect in every development plan needs serious and deeper attention.

## **5 Conclusion**

Population problems and dynamics must be put back into the basic framework of national development and used as a reference by all sectors as was the case in the GBHN and Repelita (new order period). Environmental problems, both natural and social, must be the main consideration in development. The government in this case should prioritize ecological

considerations first so that economic development can be sustainable. Through the various efforts above, Indonesia is expected to be able to change its development paradigm by prioritizing the population aspect as the basis for its development strategy as mandated in the Rio+20 document and the High Level Panel of Eminent Persons (HLPEP) report which is the reference for sustainable development strategies. With the various efforts above, Indonesia will be able to improve the welfare of its population in a sustainable manner, not for a moment, and avoid the Failed State phenomenon.

## Acknowledge

The authors would like to thank Department Geography, Padang State University for inviting this article in conference

## References

- [1] BPS, BKKBN, Ministry of Health, Measure DHS International ICF, Preliminary Report of the 2012 Indonesian Demographic and Health Survey, 132-144 (2013).
- [2] John Bongarts, Population Dynamics and Development Opportunities. Paper presented at the international meeting of population experts organized by BKKBN and UNFPA Indonesia, March 2013.p.3-4 (2013).
- [3] Office of the State Minister for Population/National Family Planning Agency, 25 years of the National Family Planning Movement. p.6 (1995)
- [4] Mantra. Ida Bagus. General Demographics. Jogjakarta. Offset Student Library.145-176 (2013)
- [5] Ministry of National Development Planning/*Bappenas*, World Bank, Australian AID, the Swiss Economic Development Cooperation, Indonesia, the Rise of Metropolitan Regions: Towards Inclusive and Sustainable Regional Development. p.7-9 (2013)
- [6] Ministry of National Development Planning/*Bappenas*, Road map to Accelerate Achievement of the Millennium Development Goals in Indonesia.p.22-27 (2010)
- [7] Ministry of National Development Planning/*Bappenas*, 2012: Report on the Achievement of the Millennium Development Goals in Indonesia. P.62-63 (2011).
- [8] UKP4, A New Global Partnership to Eliminate Poverty and Transform the Economy through Sustainable Development. ( 2013)
- [9] UNFPA, Reliazing the Future We Want For All: the post 2015 Development Agenda, A Call to Integrate Population Dynamics into the Post 2015 Development Agenda, Recommendations of the Global Thematic Consultation on Population Dynamics and the Post 2015 Development Agenda. Outcome Document 14 March 2013.
- [10] USAID and BKKBN, 35 Years Commitment to Family Planning in Indonesia: BKKBN and USAID's Historic Partnership (2006).