

Demographic Bonus Management Strategies In Facing The Industrial Revolution 4.0 With The Perspective Of Defense Science And State Defense

Bagaskara Wahyu Purbaningrat¹⁾, I Nengah Putra Apriyanto²⁾, George Royke Deksino³⁾
^{1,2,3)}Defense Industry / Faculty of Defense Science and Technology, The Republic of Indonesia Defense
University

*Corresponding Author

Email: bagaskarapurbaningrat@gmail.com¹, nengah9627@yahoo.com², georgeroykedeksino@gmail.com³

Abstract

In the coming years, Indonesia will experience a Demographic Bonus, with the fourth largest population in the world. This phenomenon provides great opportunities for economic growth and social progress. However, the advent of the Industrial Revolution 4.0 brings new challenges related to the changing landscape of work and automation that could potentially pose a threat to the sovereignty and integrity of the Unitary State of the Republic of Indonesia. This research evaluates strategies for managing the Demographic Bonus in Indonesia by considering the implications of the Industrial Revolution 4.0 from the perspective of defense science and state defense. The method used in this research is qualitative with descriptive analysis, Data collection in this research uses a literature study, The results showed that in facing and maximizing the demographic bonus, the right strategy is needed. The government has prepared a strategy to face the demographic bonus, namely by improving the quality of human resources such as reducing the stunting rate; increasing the human development index; increasing the gender empowerment index, then adjusting the education curriculum to the needs of industry 4.0, and preparing jobs by making downstream industrial policies and carrying out infrastructure development and access to technology, especially in 3T areas, is also an important focus. From the perspective of defense science and state defense, its role has increased in identifying threats, formulating defense policies, and protecting infrastructure. Implementation evaluations show that collaboration across sectors and governments is essential. Community empowerment, family planning, and controlled population growth are also key factors. With synergy between the government, private sector, and society, Indonesia is expected to reap maximum benefits from the Demographic Bonus while managing the impact of the Industrial Revolution 4.0, promoting sustainable growth and national prosperity.

Keywords: *Defense Science, State Defense, Industrial Revolution 4.0, Demographic Bonus*

INTRODUCTION

Indonesia is the 4th most populous country in the world. Based on data released by the Central Bureau of Statistics (BPS) together with the Ministry of Home Affairs (Kemendagri), the 2020 Population Census (SP2020) data, Indonesia's population reached 270.2 million people. This is very beneficial for Indonesia because Indonesia's productive age population (15-64 years) has the largest number compared to the proportion of the non-productive age population, in demography, this condition is called Demographic Bonus.

Bonus Demographic is one of the phenomena of changes in demographic dynamics that occur due to changes in population by age, this transition phenomenon can occur due to a decrease in the birth rate accompanied by a high mortality rate in the long term. (Aprianti, Suyanto, & Sugeng, 2022). The decline in the young population (<15 years old) is the result of a long-term decline in the birth rate. On the other hand, the number of people of productive age (15-64 years) will increase significantly due to the high birth rate in the past. The dependency ratio is a parameter commonly used to assess the demographic bonus phenomenon, which describes the ratio of the productive age population (16-64 years old) to the non-productive age population (less than 15 years old and over 64 years old). The figure shown in this ratio is the dependency burden of the productive-age population on the nonproductive-age population. If the dependency ratio is low, it indicates that the productive-age population is supporting only a small

nonproductive-age population. Indonesia experienced a Demographic Bonus in 2020-2035 (Sutikno, 2020). This Demographic Bonus can be a hope and opportunity for Indonesia to prosper the community if human resources at a productive age can provide and contribute to the development of the country.

According to (Ghufron, 2018) the demographic bonus phenomenon that Indonesia will experience in the future, will be accompanied by the development of the industrial revolution 4.0 where all business processes, professions, and jobs will experience digital automation or in other words will be replaced by artificial intelligence machines and robots, this can cause new problems for the country, such as reduced employment, mass layoffs, and increased unemployment. According to Khan (Rahmalia, 2019) high unemployment rates in any country reduce income opportunities and can force individuals to adopt criminal behavior. According to Priatna (in Rahmalia 2019), unemployment is caused by a person's low-income level. Sustained low income will lead to poverty. Poor can be defined as someone who has less income than the income needed to live properly. Economic hardship can cause people to engage in criminal behavior to meet their basic needs. Economic depression leads to increased crime while economic prosperity decreases criminal activity (Rahmalia, 2019). These problems can be an internal threat to the state and can cause instability in the economic life and sovereignty of the nation. To maintain stability, economic life, and national sovereignty, the community must be nurtured with awareness of the science of defense and state defense. The implementation of strategic achievements on the values of state defense can be seen through the awareness and ability of state defense by every citizen. The national defense system will be stronger in line with the value of the quality of state defense owned by citizens (Kementerian Pertahanan RI, 2015).

RESEARCH METHODS

The method used in this research is qualitative with descriptive analysis, according to Creswell (2014) qualitative is a method used to understand and explore the meaning of an individual or several groups of people who can be considered and sourced from social or humanitarian problems that occur. Data collection in this study uses a literature study, which according to Sugiyono (in Yunanda, et.al 2022) is to examine socially moderate values, norms, and culture in data collection using materials in books, online newspapers, journals, articles, and other documents relevant to the topic of the article.

RESULT AND DISCUSSION

Demographic Bonus Management Strategy

The demographic bonus is an opportunity that requires careful preparation and design. The successful realization of the demographic bonus requires the participation of all stakeholders (OCBC, 2022). The following are some of the government's strategies and policies undertaken to welcome the demographic bonus:

1. Improving the Quality of Human Resources

The government has prepared a strategy for preparing the quality of human resources, namely by preparing a social protection budget of Rp. 3,212 trillion for 8 years from 2015 to 2023 to subsidize the Healthy Indonesia Card (KIS), Smart Indonesia Card (KIP), Family Hope Program (PKH), Basic Food Card, as well as protection for the elderly, people with disabilities, and other vulnerable groups, as well as reskilling and upskilling the workforce through the Job Training Center and the Pre-Employment Card Program.

From the strategies that have been carried out by this government, it has succeeded in reducing the stunting rate to 21.6 percent increasing the Human Development Index to 72.9 percent, and increasing the Gender Empowerment Index to 76.5 percent (Sekretariat Kabinet, 2023).

2. Curriculum Adjustment to Industry 4.0 Needs

Curriculum adjustment in the era of the Industrial Revolution 4.0 is very important to improve the quality of Human Resources to have competitiveness, the relevant thing to do is to reconstruct the curriculum by equipping students with (1) Broader and new skills such as coding, big data, artificial intelligence; (2) Using new formats of learning processes such as a combination of face-to-face and online (blended learning) offline face to face, online with full online learning; and (3) understanding and mastering competencies 4.0 by carrying out literacy movements such as data literacy, technology literacy and human literacy (Unung, J, & Lise, 2019).

3. Preparing Job Opportunities

In facing the demographic bonus, the government is also preparing jobs by making a policy of industrial downstream. Transfer of Technology, utilizing new and renewable energy sources, and minimizing environmental impacts are the main focus of the concept of downstream carried out in Indonesia, downstreaming is not only carried out on mineral commodities but also non-mineral commodities such as oil palm plantations, seaweed, and other potential commodities. With this downstream policy, it is expected to create as many jobs as possible (Sekretariat Kabinet, 2023).

4. Infrastructure Development and Technology Access

The Ministry of Communication and Information (Rudiantara, 2018) stated that the government with a policy of partiality will build internet access for all citizens in Indonesia. The following are the steps taken by the government in building infrastructure and access to technology in Indonesia :

a. Telecommunication Infrastructure Development

The government has undertaken massive telecommunications infrastructure development, including the development of telecommunications networks in Eastern Indonesia. One of the ongoing infrastructure projects is the construction of the Palapa Ring, which involves the construction of a 250-kilometer sea cable network and more than 1000 kilometers of land cables, including microwave. Telecommunications infrastructure development is also being carried out through the construction of five BTS (Base Transceiver Station) towers at various strategic points.

b. Equitable Internet Access

The government is committed to ensuring equitable internet access throughout Indonesia, especially in non-commercial or 3T (underdeveloped, frontier, and outermost) areas. Currently, there are 2700 internet access points, especially in schools, but there are still more than 80 thousand schools that have not been connected. The government also plans to connect 20 thousand villages that are currently not connected to the internet by 2020.

c. Improving the Speed and Quality of Internet Access

The government is working to improve the speed and quality of internet access in Indonesia. One of the steps taken is to use telecommunication satellites with new technology, which is expected to increase the speed of internet access up to five times the current one. The government is also collaborating with technology companies such as Cisco, Microsoft, and Google to organize skills courses for high school and vocational graduates so that they can have the skills needed by technology companies.

Perspectives on Defense Science and State Defense

Defense science is part of a general or universal social science family, defense science is needed by the military and civil society to protect against all forms of threats in the life of the state (Yunanda, N, & Nadia, 2022). Law of the Republic of Indonesia No. 3 of 2002 Article 1 paragraphs (1) and (2) concerning national defense, states that: "(1) National defense is all efforts to defend the sovereignty of the state, the territorial integrity of the unitary state of the Republic of Indonesia, and the safety of the entire nation from threats and disturbances to the integrity of the nation and state", (2) "The national defense system is a universal defense system that involves all citizens, territories, and other national resources, and is prepared early by the government and organized in a total, integrated, directed and continuous manner to uphold the sovereignty of the state, territorial integrity, and the safety of the entire nation from all threats".

In any condition, both war and peace, every citizen is obliged to participate in state defense, thus it can always remind the public that the nation and state to always prioritize national interests. State defense is not always related to carrying weapons, but having awareness, love for the country, and always being vigilant in all forms of threats both internal and external is a form of state defense. In a broader context, the State has established a universal defense system, where all mechanisms of roles, duties, and responsibilities in various components (main, reserve, and supporting components) have been established by law. The rights and obligations of all citizens in national defense are explained in Article 9 paragraph 1 of Law No. 3 of 2002 concerning national defense as follows: "Every citizen has the right and obligation to participate in national defense efforts which are manifested in the form of organizing national defense".

A. The Role of Defense Science and State Defense in Facing the Industrial Revolution 4.0

According to Irhas, (Ritta, 2020) in this millennial, digital, disruption, and industrial revolution era, open thinking is needed. In this era of information openness, the role of identity is very important as a filter. One of them is that the values of State Defense must be strong, otherwise, it is very dangerous for the Sustainability of the Indonesian nation. Therefore, the science of defense and state defense plays a role in ensuring state security and protecting the public from threats that arise due to technological developments. First, the science of defense and state defense plays a role in identifying and analyzing threats that arise due to the Industrial Revolution 4.0. In this digital era, there are new threats such as cyber-attacks, information warfare, and cybercrime. Defense science helps the government to understand these threats in depth so that effective protective measures can be taken. Second, the science of defense and national defense helps in formulating defense policies that are in line with the development of the Industrial Revolution 4.0. Rapid technological changes affect a country's defense strategy. Defense science provides knowledge about technological developments and how they can be used to improve a country's defense capabilities. Third, the science of defense and national defense also plays a role in protecting critical infrastructure from cyber-attacks. Critical infrastructure such as communications, energy, and transportation systems are particularly vulnerable to cyberattacks. It helps in developing robust defense systems to protect these infrastructures from emerging threats. Fourth, defense and defense science also play a role in training and preparing a competent workforce in the face of the Industrial Revolution 4.0. Technological developments affect the demands of the future workforce. The science of defense and national defense works closely with the education and industry sectors to develop a curriculum that suits the needs of the security and defense-related job market. Fifth, defense and national defense science plays a role in building public awareness about the importance of security in the era of the Industrial Revolution 4.0. People need to be given an understanding of the threats that arise due to technological developments and how to protect themselves and the country from these threats.

B. The Integrity and Sovereignty of the Unitary State of the Republic of Indonesia

The concept of national sovereignty refers to the right of a nation to determine its destiny, including the right to govern itself in political, economic, social, and cultural matters. National sovereignty is a fundamental principle in the modern state system that emphasizes the importance of freedom and autonomy for every nation. It also involves principles such as territorial integrity, international recognition, and the right to self-defense. This principle guarantees that states have the right to maintain their territorial integrity and protect their national interests from foreign interference. The integrity of a unitary state refers to a state in which a country's territory remains intact and is not divided into smaller or separate entities. In this context, the concept of unitary state integrity emphasizes the importance of maintaining a state's geographical boundaries as well as political, legal, and administrative unity throughout the territory. The principles of national sovereignty and unitary state integrity are often intertwined. National sovereignty provides the legal basis for a state to maintain its territorial integrity and govern itself without interference from outside parties. Conversely, the integrity of the unitary state is a form of international recognition of a country's national sovereignty.

Implementation of Demographic Bonus Management Strategy in Indonesia

A. Successes and Challenges of Implementation

According to the Coordinating Minister for Human Development and Culture Muhadjir Effendy, (Ramadhan, 2021) the government has implemented five strategies to take advantage of the demographic bonus, including:

- 1) **Improving the Quality of the Population:** The Indonesian government has implemented a strategy to improve the quality of the population through interventions in health and education. Health intervention programs are carried out since the child is still in the mother's womb, including nutritional intervention programs for pregnant women, and the first 1,000 days of life for children, and toddlers. In addition, the government also prioritizes education programs in early childhood and character education.
- 2) **Improving Access to Education:** Another strategy undertaken by the government is to improve access to education for children. The government seeks to ensure that children undergo a minimum of 12 years of education. Efforts to equalize access to education are carried out through the 12-year compulsory education program, the Smart Indonesia Card, school BOS, curriculum revitalization, and SMK accreditation.
- 3) **Increasing Access to Higher Education:** The government also focuses on increasing access for high school graduates and equivalent schools to pursue higher education. The KIP Kuliah program and the revitalization of vocational-based universities are part of this strategy to form a work-ready workforce.
- 4) **Helping College Graduates Get Jobs:** The government is also making efforts to help college graduates find jobs through the Pre-Employment Card program. Pre-Employment Card program. In addition, premarital education programs are also conducted to provide preparation to prospective couples in entering family life.
- 5) **Social Protection and Welfare of Senior Citizens:** The government also pays attention to social protection, health, security, and comfort to realize the welfare of senior citizens. This is important to ensure that all levels of society can enjoy the benefits of the demographic bonus.

B. Evaluation and Recommendations

According to (Setiawan, 2018) In implementing the demographic bonus management strategy, collaboration, coordination, and synchronization between ministries and institutions, central and local governments, business actors, academics, and the community are very important. With good collaboration, programs to improve the quality of the population can run well. In addition, the management of population growth also needs to be considered. The

government needs to develop policies that encourage responsible family planning and provide better access to reproductive health services, and the government needs to continue to develop human quality through education and training. Education and training programs that are relevant to labor market needs should be improved to enhance the skills and expertise of the population.

CONCLUSION

Indonesia is experiencing a Demographic Bonus based on the 2020 Population Census data, with the number of productive age population (15-64 years old) dominating. This phenomenon provides a great opportunity for the welfare of society, but is faced with the challenges of the Industrial Revolution 4.0 which can result in digital automation and potential labor problems. In facing the Demographic Bonus and the Industrial Revolution 4.0, the Indonesian government has formulated a management strategy, including improving the quality of human resources such as reducing the stunting rate; increasing the human development index; increasing the gender empowerment index, then adjusting the education curriculum to the needs of industry 4.0, and preparing jobs by making downstream industrial policies and carrying out infrastructure development and access to technology, especially in the 3T (Disadvantaged, Frontier and Outermost) areas is also an important focus. However, the implementation of this strategy requires strong collaboration between various parties, including the government, the industrial sector, and the community. In addition, it is also important to maintain the integrity and sovereignty of the country by incorporating the perspective of defense science and state defense in facing the challenges of the Industrial Revolution 4.0. The evaluation and recommendations involve special attention to cross-sector collaboration, strengthening family planning programs, and improving relevant education and training programs. With a holistic approach, Indonesia can optimally utilize the Demographic Bonus while managing the impact of the Industrial Revolution 4.0 to achieve sustainable progress and improve people's welfare.

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