Sustainable development goals as the basis of university management towards global competitiveness

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Abstract. Sustainable Development Goals are international agreements of many countries under UN initiation that have certain goals and targets. Achieving these goals and targets of the SDG requires a broad and focused effort from various sectors including higher education. Some of the goals associated with higher education are education, sanitation, innovation and global partnership. Given that higher education is one of the main drivers of the progress of a country, it gives university opportunities to play a bigger role. In addition, the rapid development and changes that occur today also require universities to respond quickly and appropriately. This can be done by developing university management based on the principle of SDG. This paper provides a brief description of the strategies that higher education institutions can take, particularly in responding to the changing world and in achieving the target of the SDGs. Five strategis for the university to encourage faster achievement of the targeted SDGs are proposed, i.e. Improvement of higher education quality, improvement of sanitarian and environment, improvement of research and innovation, and global partnership.

Keywords: sustainable development goals, higher education, university management, and global competitiveness

1. Introduction

Today the world is undergoing rapid changes in many aspects. The industrial revolution 4.0 which is a rapid development of science and technology has and will change the pattern of community life [1]. Similarly, changes in other aspects such as social, economic, political, defense and culture, will also change the world order. Interconnectivity between countries is a phenomenon that is unavoidable [2]; [3]. Developments and changes in one country will easily affect others, resulting in interdependence among them.

Sustainable Development Goals (SDGs), which is currently one of the international issues, is a follow up of the Millennium Development Goals (MDGs) [4];[5]. The existing agreement is 17 goals, each containing several targets to be achieved by 2030. In total there are 169 targets that raise issues ranging from poverty, environment, health, sanitation to education. The Government of Indonesia through Presidential Regulation No. 59 of 2017 on the Implementation of Sustainable Development Objectives (Perpres for SDGs) was issued on 4 July 2017, as a guideline for sustainable development.
Rapid changes that occur require rapid response and appropriate, including by higher education institutions. A waiver of the above condition may result in weakening the Institution and it may be left behind by other countries and lose in competition and fail to help build nation. Universities as the main pillars of the higher education process must be able and play an important role in responding to these changes. This is considering that education is the main foundation of the progress of a nation [6]. The success of the education process will improve the capability and capacity of the population, as well as nation competitiveness. This is significantly influenced by management of the education [7]. Therefore, various efforts to achieve sustainable university must be done by every higher education institution through the development of SDG principle-based management.

2. SDGs Issues in Higher Education Institutions
The main issues in higher education related to SDGs are not only education, but also sanitation and environment, innovation, and global partnership. Various other related issues are also often a problem both in the process and management in many institutions of higher education.

The world is now facing rapid population growth and it becomes one of fundamental problems [8]. Currently the world population has reached more than 7 billion [9];[10]. It has been predicted to increase up to 10 billion in 2050 and in 2150 will reach 30 billion. This population growth will raise educational issues particularly related to the 4th goals of SDGs i.e. Education: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. The high population growth not only requires an increase in primary needs such as clothing, food and housing, but also raises other problems such as education, health, as well as environmental related issues [11];[12];[13].

Differences in development between countries and their economic capabilities will create differences in the ability to develop good educational institutions. This will lead to an unfavorable system of higher education. Therefore, the desire to provide "good education for all" is difficult to achieve.

The increase in world population will also lead to deterioration of sanitation and the environment [14], especially in densely populated areas. Limited government capability, in general, can not provide minimal requirements for the community. Utilization of natural resources as well as a low level of awareness of environmental health also led to the increase of this problem. Such problems are ultimately faced by higher education institutions.

The ability to innovate a society depends on their level of education. Therefore, higher education institutions have an important role in generating innovation. On the other hand, higher education institutions are known as major source of innovation [15]. The problem is the ability of institutions of higher education today is very diverse both between countries at international and national level, which affects innovation success [16]. Such diversity is reflected not only in economic capabilities and the advancement of science and technology, but also of culture and other factors. Given that the objectives of SDGs are universal, there is a need for global collaboration to achieve the target of SDGs.

3. SDGs Based University Management
Various SDGs issues mentioned above, can be addressed through the application of appropriate management. Given that education is closely related to development [17], special attention is needed to change management through appropriate strategies. An important role of higher education institutions to support the achievement of SDGs is through the education process that becomes the core business of the institution. Some of the strategies that can be undertaken through the management of higher education related to the target of Sustainable Development Goals are as follows:

1. Improvement of higher education quality
   The quality of higher education, will greatly affect the progress of a nation, through knowledge-based economy and competitiveness [18]. The low quality of education will produce graduates who do not have sufficient capacity and competency. This condition will affect the successful implementation of programs that run with low performance. Therefore a strategy is needed to
improve the quality of higher education so that it will produce a good graduate competence. This can be done by improving the curriculum in accordance with market / community demands [19] as well as adjusting to the progress of science and technology. Special consideration should be given in regard to 4.0 industrial revolution [20]. For example, the use of the Internet of Things (IoT) and artificial intelligent (AI) will change not only the delivery of courses but also the wider management.

2. Improvement of higher education equity
   Educational process in one country is greatly influenced by government policy. The success of a government in directing the development of higher education through a variety of policies will provide benefits for the government and the nation. The availability of higher education institutions greatly affects the opportunity of the community to be able to obtain an adequate education. But with the development of science and technology, for example through IoT, the educational process can be massive, such as through the Massive Open Online Courses (MOOCs). Even the future education process can be done anytime and anywhere by anyone. The administrative processes and constraints associated with the conventional education process will change completely. Required government policy in supporting the provision of facilities so that the progress of science and technology for the improvement of education can be done.

3. Improvement of sanitation and environment
   There is a need for awareness of all unit in higher education institutions on the importance of a clean and healthy environment. The education process will be better in a comfortable environment [21]. Strategies that can be undertaken, besides the need for special funding allocations to improve campus environmental conditions, other efforts are also needed such as issuing various rules related to environmental improvement. Various international standards are available and can be followed to develop better campus environmental management.

4. Improvement of research and innovation
   Innovation cannot be done without good research. To be able to do good research, not only required the funding and availability of adequate facilities, but also excellent human resources. Therefore, the strategy that can be done is to improve the ability of all components of universities to be able to do research well [22]. Adequate allocation of research funding and good laboratory facilities should be balanced with capacity building of human resources through training and postgraduate education.

5. Global partnership
   Global partnership which is one of the goals of SDGs, will increasingly play important role in the future development of the world. This is not only because all targets of SDGs are based on international agreement, but also diversity reasons in many different aspects such as economic, cultural, science and technology capability and the existing problems. At university level partnership in higher education greatly influences its development and sustainability [23]. Global partnership will bring an enormous impact to the institutions and its stakeholders. Partnership programs like student mobility, joint research, joint publication, staff exchange, etc., will provide a good experience for students and staff, as well as increased capacity and research results. This can be enhanced by having industrial partnership [24]. These experiences will gives opportunity to all institutions involves in improving their programs.

4. Conclusion
   The role of higher education institutions in achieving the target of SDGs is enormous. Not only related to the 4th goal of education, but also with other goals such as sanitation and environment, innovation, and global partnership. Therefore, great efforts are required by all institutions of higher education through the development of SDG-based management with various strategies. The five strategies above provide an overview of what programs the university can undertake to encourage faster achievement of the targeted SDGs.
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