GUIDING PACKAGE
ECOSOC: SCIENCE AND TECHNOLOGY

THE MODERNISATION AND DEVELOPMENT OF EMERGING COUNTRIES THROUGH SCIENTIFIC AND TECHNOLOGICAL INNOVATIONS

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Abstract:

Throughout history, technology has gained prominence and now plays a quintessential role in our day-to-day lives. Human beings have developed sophisticated methods to construct and maintain infrastructures such as train stations, power plants, and a clean water source. However, not everybody, and not all countries have access to the technological advancements and have not been economically stable enough to further enhance and develop public infrastructures. Moreover, taking into account the worsening state of the environment, more developed governments have started to build their infrastructures in a way to elongate their use, make them more reliable, and promote sustainability. Therefore, the emerging countries who do

not have access to such advancements are in desperate need of aid from other governments and organizations, because global budget for developing infrastructures has proven to be quite costly. Thus, solutions based on scientific and technological research need to be reached quickly in order to preserve the world's resources for future generations to come.

Introduction:

The scientific and technological field has been making outstanding development in the 21st century. However, this rapid surge in scientific and technological innovation has triggered a large gap between developed countries and emerging countries. As of 2015, the UN has been working to decrease that gap completely by 2030, as per the Sustainable Development Agenda.[1] Emerging countries have minimal to no access to the advanced technology and infrastructure that developed countries have had for years now, which is exactly why the UN is exerting a very large effort to make sure that by 2030 all sovereign states progress at a similar rate.

Definition of key terms:

- *Sustainable development:* Economic development conducted without depleting natural resources

[1] http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

- *Sustainable Development Goals (SDG)*: 17 goals with 169 targets that aimed to end poverty, protect the environment and eliminate injustices and inequalities by the year 2030.
- *Emerging countries:* Countries that are seeking to attain a more advanced economic and social status.
- *Technological innovation:* Bringing new or developed technologies to mainstream use, particularly in emerging countries.
- STI : Science, Technology and Innovation
- GDP (Gross Domestic Product): "Gross domestic product (GDP) is the monetary value of all the finished goods and services produced within a country's borders in a specific time period. Though GDP is usually calculated on an annual basis, it can be calculated on a quarterly basis as well"[2]
- Infrastructure: The basic equipment and structures (i.e. electricity, water, sewage, etc) that are needed for a country, region, or organization to function properly.
- Sustainable: Able to be used without being completely used up or destroyed

Background information:

The need for the development of infrastructure is a commonly shared issue between all countries of the world. New and emerging economies are in desperate need of more qualified infrastructures. In addition, many of the world's infrastructures have been affected by age, therefore making them unstable and unsafe to use by citizens and needing. Thus, they need to be replaced by more efficient, reliable and innovative infrastructures so as to promote sustainability. Railways, schools, hospitals, energy-creating farms (such as wind and solar farms) and many other types of infrastructure need to be replaced with newer ones in order to decrease the overall consumption of energy and therefore favoring sustainable development. It is crucial to note that investing in such projects is costly, yet paramount for economic and social growth. It is estimated that around $40tn is needed globally to fund such projects just to keep up with the continually rising demand. This hereby gives us all the more reason to find new ways of constructing and organizing infrastructures which can used by many future generations to come.

[2] http://www.investopedia.com/terms/g/gdp.asp

However, a great number of the countries of the world were not affected by industrialization and industrial methods of production, such as industrial agricultural methods of harvesting De facto, there are still countries to this day that lack in human resources and knowledge on how to efficiently build and maintain public infrastructures. Part of this is due to lack of funding but also lack of education in emerging countries. This therefore means that emerging countries should be a priority for funding organisations such as the World Bank and the IMF (International Monetary Fund) in order to encourage citizens to learn about the construction of reliable, sustainable, innovative and qualified infrastructure, seeing as stems and strategies that governments use to develop infrastructure are underdeveloped. The level of infrastructure of a country/ government can be deduced by that country's GDP and Poverty rate. For instance, a country without clean water or sanitary conditions can not move forward as these are basic human rights that make lives easier. Quality infrastructure is one of the principal pillars of ocial, economic and political development.

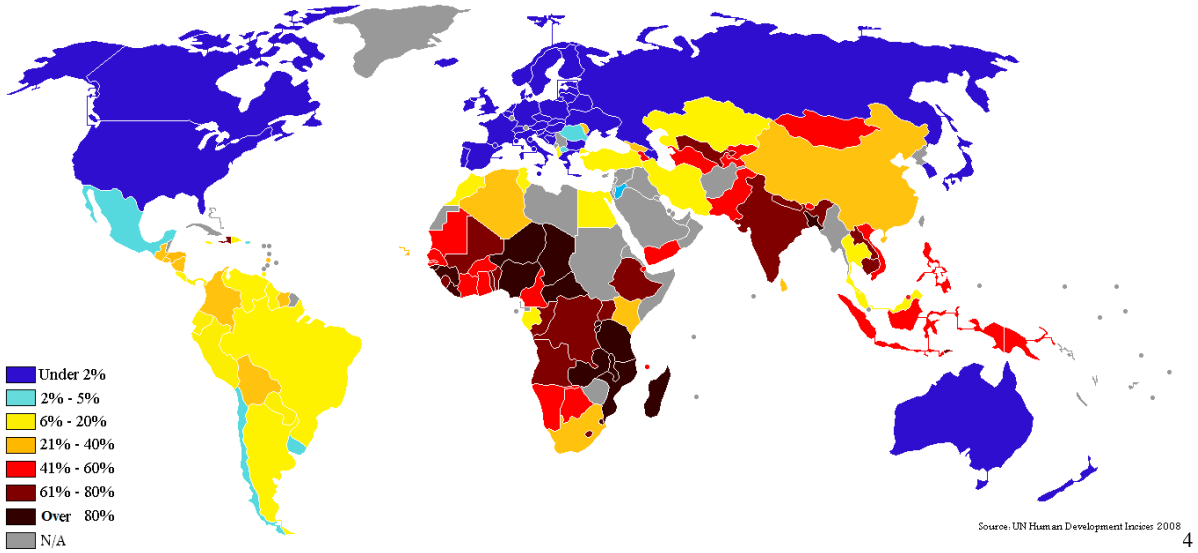
The following graphs present the GDP and poverty rates in the world. It

[3]

1) World GDP map in 2014

[3] ANONYMOUS, *Statistics Times*. Available at http://statisticstimes.com/economy/world-gdp-ranking.php, consulted on: 11/08/2016

As it is presented on the previous map, we can extrapolate that most African countries are not even listed in the top 50 countries in the world GDP rankings, which means that these countries do not produce enough products to export, and the reason is due to extreme poverty.



[4]

2) Poverty Map of the World

As in map 2, it is visible that the African continent and the South-East Asian region are the most impoverished economically speaking. This therefore means that they should be a priority to funding organizations such as the World Bank and the IMF (International Monetary Fund).

"43) *We underscore that broad public participation and access to information and judicial and administrative proceedings are essential to the promotion of sustainable development. Sustainable development requires the meaningful involvement and active participation of regional, national and subnational legislatures and judiciaries, and all major groups: women, children and youth, indigenous peoples, non-governmental organizations, local authorities, workers and trade unions, business and industry, the scientific and technological community, and farmers, as well as other stakeholders, including local communities, volunteer groups and foundations, migrants and families as well as older persons and persons with disabilities. In this regard, we agree to work more closely with the major groups and other stakeholders and encourage their active participation, as appropriate, in processes that contribute to decision-*

[4] ANONYMOUS, *Wikipedia*. Available at https://en.wikipedia.org/wiki/Poverty_in_India, consulted on: 11/08/2016

making, planning and implementation of policies and programmes for sustainable development at all levels"- **Clause 43, A/RES/66/288**[5]

Building sustainable and resilient infrastructure and housing is also a very important issue that must be addressed. As per the ninth goal in the SDGs, all countries must work to implement resilient infrastructure in its country. Many countries, such as Japan, have been building resilient infrastructure and offering support and aid to other countries in need of this technology. Examples of such technology could be housing built to sustain earthquakes, tsunamis, hurricanes and other natural disasters. Unfortunately, a lot of countries that are prone to natural disasters, such as countries located in the Pacific Ring of Fire[6], still do not have the means nor the knowledge to implement such technology in its construction. A lot of countries also lack the technology needed to construct sustainable and eco friendly infrastructure. In the long run, the lack of eco friendly housing and construction could have potentially disastrous ramifications on the environment, which is why it is essential to implement these technologies in emerging countries.

UN Involvement:

The UN has been doing its best to implement scientific and technological development in emerging countries, especially under the roof of the 2030 SDG (Sustainable Development Goals) Agenda. Many of the UN-related organizations have been working hard to make sure that the scientific and technological development goals are met by 2030. These organizations include but are not limited to:

- UNDP (United Nations Development Programme)
- UN-Habitat
- UN-DESA (United Nations Department of Economic and Social Affairs)

Related SDGs:

[5] ANONYMOUS, UN *Sustainable Development*. Available at: https://sustainabledevelopment.un.org/futurewewant.html, consulted on: 11/08/2016

[6] "The Ring of Fire is a tectonic plate in the Pacific Basin that is known for strong and frequent earthquakes and volcanic activity.

Possible Solutions:

1. Implement a STEM (Science Technology Engineering Mathematics) program in your country's educational program
2. Consider starting an awareness program to let people know the importance of the STEM subjects in today's developing world.
3. Integrate technological interfaces in public transportation and public areas, such as smart screens displaying the map of a park and autonomous underground metro trains.

Guiding questions:

1. What is modernisation?
2. What has my country done so far to implement and promote science and technology and in which area/ domain?

3. What resources are needed in order to implement scientific and technological development in emerging countries?
4. What emerging countries should be targeted first?
5. What can my country supply in order to help achieve this goal?
6. What obstacles may hinder scientific and technological development in emerging countries?
7. Does my country care about the STEM subjects and their affiliates?
8. Is there anything my country can do to promote STI (look in key terms) in other countries?

Useful links:

1) http://www.un.org/en/development/desa/policy/untaskteam_undf/thinkpieces/28_thinkpiece_science.pdf (Important)
2) http://www.un.org/en/development/desa/news/ecosoc/innovation-for-development.html
3) http://www.un.org/press/en/2009/gaef3258.doc.htm
4) https://sustainabledevelopment.un.org/futurewewant.html (Recommended)
5) http://www.studylecturenotes.com/political-philosophy/what-is-modernization-and-different-aspects-of-modernization
6) http://unctad.org/en/Pages/DTL/Science-Technology-and-ICT-Branch.aspx
7) http://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=1177&Sitemap_x0020_Taxonomy=UNCTAD%20Home;#1450;#Technology and Logistics;#1570;#
8) http://unctad.org/en/pages/PublicationWebflyer.aspx?publicationid=1227

Bibliography:

- http://www.undp.org/content/undp/en/home/sdgoverview/post-2015-development-agenda.html, consulted on: 11/08/2016
- https://www.un.org/development/desa/en/, consulted on: 11/08/2016
- http://unhabitat.org, consulted on: 11/08/2016
- http://unctad.org/en/Pages/DTL/Science-Technology-and-ICT-Branch.aspx, consulted on: 11/08/2016
- ANONYMOUS, *Study Lecture Notes*. Available at: http://www.studylecturenotes.com/political-philosophy/what-is-modernization-and-different-aspects-of-modernization, consulted on: 11/08/2016
- ANONYMOUS, *The Imperfect Planet Tripod*. Available at: http://the_imperfect_planet.tripod.com/sorensenportfolio/id10.html, consulted on: 11/08/2016
- ANONYMOUS, *History*. Available at: http://www.history.com/topics/industrial-revolution, consulted on: 11/08/2016
- ANONYMOUS, *STEM Women*. Available at: http://www.stemwomen.net/, consulted on: 21/09/2016
- ANONYMOUS, *UNCTAD*. Available at: http://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=1186&Sitemap_x0020_Taxonomy=UNCTAD%20Home;#1929;#UNCTAD, consulted on: 21/09/2016
- ANONYMOUS, *The Guardian*. Available at: https://www.theguardian.com/global-development-professionals-network/adam-smith-international-partner-zone/tackling-poor-infrastructure-developing-countries, consulted on: 21/09/2016