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On Mapping Sustainable Development Goals in Africa

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Abstract

This research explains how African countries are doing in terms of achieving the Sustainable Development Goals (SDGs). To build databases on SDG scores and other chosen variables, secondary references are used. Examples of influential variables include unemployment rates, Global Hunger Index (GHI), Corruption Perceptions Index (CPI), and proportion of the world living in abject poverty. Graphical illustrations are applied to illustrate the relationship between the SDG scores and the chosen variables. The results could be further utilized to do more statistical analyses and create relationships between the variables.

Keywords—Sustainable development goals, unemployment, corruption perceptions index, global hunger index, extreme poverty

I. INTRODUCTION

Sustainability development has sparked fierce discussion among academics, policymakers, and other stakeholders [1-2]. It simply means development that can be sustained continuously or for a specific amount of time [3-6]. It has been described as an advancement that satisfies current basic needs without jeopardizing future generations' ability to fulfill their own, so it considers equity, development, and wellbeing of current and future generations [7-8]. It provides a means for civilization to engage with the environment without jeopardizing the resource's long-term viability. As a result, it is a development paradigm as well as a philosophy that calls for raising living standards without endangering the earth's ecosystems or producing environmental concerns like deforestation and water and air pollution, which can lead to issues like species extinction and climate change [9-10].

The Millennium Summit, held in September 2000, brought together the world's most powerful leaders for the first time. It developed and ratified the Millennium Declaration of the United Nations (UN). This international agreement formed a new global partnership to combat extreme poverty and set a number of time-bound goals that must be met by 2015. It addresses the way towards fighting poverty, disease, hunger, lack of adequate shelter and exclusion. Meanwhile, it focuses on promoting environmental sustainability, education, and gender equality. They are also basic human rights to shelter, health, security, and education for all people on the earth, as stated in the Universal Declaration of Human Rights and the UN Millennium Declaration [11].

The Millennium Development Goals (MDGs) are a set of poverty-reduction targets set by the UN. MDGs necessitated the need to create a new vision to drive global sustainable development [12-13]. Besides, many of the MDGs' development targets were not met in many developing countries [14]. The UN MDGs served as the foundation for the 2030 Agenda [15]. The 2030 Agenda realizes that eradicating poverty necessitates policies that promote economic prosperity while also addressing a variety of social needs such as gender equality, education, and health [16]. The main principles of this

Agenda are increasing the well-being of developing and developed countries, and ensuring sustainable environmental stability, sustained economic growth, social justice, and peace.

The Sustainable Development Goals (SDGs) comprise 17 goals and 169 specific targets. The agenda includes encouraging globally autonomous contributions and supporting countries with common targets for their sustainable development policies [17-20]. Poverty reduction, clean energy, health and nutrition, gender equity, hunger eradication, better education, renewable water, decent jobs and economic development, technological progress, reducing inequalities, healthy communities, climate action, and many other aspects have been defined for achieving sustainable development by 2030 [15].

II. SDG SITUATION IN AFRICA

The SDGs have a common vision and engagement for all aspects of sustainability, including economic, social, and environmental concerns. This is Africa's best chance to be one of the world's most prosperous continents. Despite its overarching existence, the 2030 Agenda is intended to be tailored to particular circumstances and goals, which differ by country. This transition requires political will and engagement, good governance, and responsible organizations driven by transparent policies and mechanisms to achieve long-term stability and development.

The SDG Dashboards for 2020 Africa offer a preview of the obstacles facing the continent in achieving the SDGs. The 2020 Africa SDG Index lists 52 African countries in all 17 targets based on 97 metrics. The SDG index score indicates where a country stands in relation to the worst (zero) and best (100) results. Surprisingly, an examination of SDG patterns in Africa shows a more complex and complicated view of the status of African countries in meeting the SDGs by 2030.

The progress of Middle East and North African countries on the SDGs differs greatly. Conflicts in some countries result in deteriorating progress on most SDGs, particularly SDG 2 (Zero Hunger), SDG 3 (Good Health and Well-Being), and SDG 16 (Peace, Justice and Strong Institutions). Conflict-free countries score well on SDG 1 (No Poverty) and SDG 17 (Partnerships for the Goals). Nonetheless, due to undernourishment, stunting, or problems related to agriculture and sustainable land use, all countries in the region face significant difficulties in achieving SDG 2 (Zero Hunger). Infrastructure access, which is largely covered by SDG 6 (Clean Water and Sanitation) and SDG 7 (Affordable and Clean Energy), is relatively good or rapidly improving. However, under SDG 8 (Decent Work and Economic Growth), further measures are required to improve domestic labor rights and standards, as well as to address negative spillovers. Besides, efforts are needed to improve freedom of expression and resolve high levels of alleged corruption under SDG 16 (Peace, Justice, and Strong Institutions) and to move to more circular and ecological economies (SDGs 12 to 15). High CO2 emissions expressed in fossil-fuel exports negatively impact most countries in the region with respect to SDG 13 (Climate Action).

Since 2015, the average SDG Index score for Sub-Saharan African countries has increased dramatically. Nonetheless, reaching the SDGs remains a big obstacle for all countries in Sub-Saharan Africa. In comparison to other world regions, the region's success on socio-economic targets and access to social services and facilities (SDGs 1 to 9) is low. Countries must reinforce their structures and increase domestic capital mobilization to boost their poor performance on SDG 17 (Partnerships for the Goals). While emission patterns in urban environments, covered by SDG 11 (Sustainable Cities and Communities), and forest depletion and biodiversity conservation, covered by SDG 15 (Life on Land), are steady for the country as a whole and going in the wrong direction for some countries, relatively low consumption levels contribute to better performances on SDGs 12 to 15 on climate mitigation and biodiversity protection.

In this article, the author compares the relationship between SDG scores and unemployment rates [21], Global Hunger Index (GHI) [22], Corruption Perceptions Index (CPI) [23], and extreme poverty [24] across Africa. Since there was inadequate or insufficient data for all metrics, certain African countries were not included in Table 1. Cape Verde, Sao Tome and Principe, Eswatini, Libya, Burundi,

Eritrea, Somalia, and South Sudan are among them. Furthermore, the progress towards achieving the SDGs in Africa has been examined.

A. Sustainable Development and Unemployment

In general, the unemployment rate is seen as one of the reasons exacerbating Africa's sustainable development. Table 1 displays 2020 SDG scores and unemployment rates of African countries, while a scatter chart with a regression line between the two parameters is seen in Fig. 1. The R-coefficient of 0.24 indicates that the two factors have a very weak negative correlation. Any countries with high SDG ratings do not have correspondingly high unemployment rates; rather, unemployment rates in those countries are slightly lower. For example, Tunisia with a 2020 SDG score of 67.1 has an unemployment rate of 16.2%; Niger with an SDG score of 50.47 has an unemployment rate of 0.3%. As a result, in most African countries, unemployment and sustainable development might not be related.

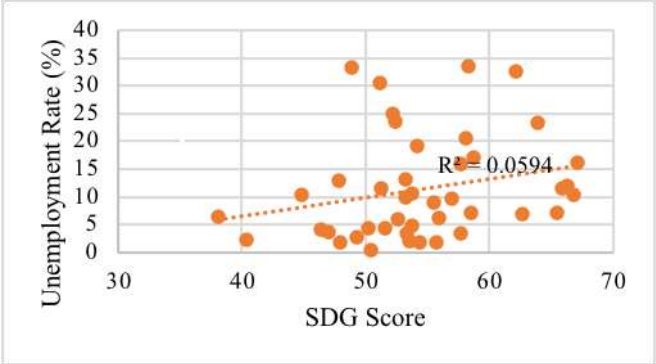

Fig. 1. Relationship between 2020 SDG scores and unemployment rates in African countries.

TABLE I. SDG SCORES AND ASSOCIATED VARIABLES FOR AFRICAN COUNTRIES

Country	Sustainable Development Goal (SDG) Score	Unemployment Rate (%)	Global Hunger Index (GHI)	Corruption Perceptions Index (CPI)	Population in Extreme Poverty (%)
Tunisia	67.10	16.2	7.9	73	0.3
Mauritius	66.79	10.4	11.0	56	0.2
Morocco	66.30	11.9	10.4	73	0.2
Algeria	65.90	11.4	9.4	105	0.3
Egypt	65.44	7.2	14.8	105	0.5
Botswana	63.93	23.3	25.5	34	15.9
Ghana	62.69	6.8	15.2	78	12.2
South Africa	62.20	32.5	14.5	73	24.5
Senegal	58.69	17	17.2	67	29.1
Kenya	58.54	7.2	23.2	144	16.9
Namibia	58.31	33.4	24.3	52	19.6
Gabon	58.07	20.5	15.4	124	2.5
Cote d'Ivoire	57.67	3.5	25.9	105	20.5
Rwanda	57.65	16	28.7	48	39.9
Tanzania	57.00	9.6	29.5	99	30.5
Burkina Faso	55.90	6.1	27.7	78	37.5

Country	Sustainable Development Goal (SDG) Score	Unemployment Rate (%)	Global Hunger Index (GHI)	Corruption Perceptions Index (CPI)	Population in Extreme Poverty (%)
Uganda	55.71	1.8	31.2	149	31.8
Gambia	55.53	8.9	22.3	93	9.3
Togo	54.41	1.7	24.3	129	45.8
Ethiopia	54.15	19.1	29.1	114	25
Zimbabwe	53.79	4.9	32.9	160	25.8
Mauritania	53.78	10.7	27.3	144	3.7
Benin	53.53	2	24.3	85	46.4
Cameroon	53.37	3.4	21.1	152	21
Zambia	53.25	13.2	37.6	105	52.5
Mali	53.22	9.8	27.8	120	37.4
Malawi	52.64	6	26.5	120	70.9
Lesotho	52.43	23.5	23.7	78	53.9
Mozambique	52.17	25.04	30.9	158	56.9
Sierra Leone	51.59	4.3	35.4	129	36.9
Djibouti	51.30	11.6	30.1	124	14
Angola	51.18	30.6	29.5	165	5.5
Niger	50.47	0.3	30.4	114	37.5
Guinea	50.20	4.3	28.9	138	76.7
Liberia	49.33	2.7	33.3	120	36.4
Nigeria	48.84	33.3	31.1	144	46.5
Madagascar	47.94	1.9	38.0	152	77
Sudan	47.85	13	34.8	172	22
Comoros	46.98	3.7	30.8	144	20.7
Guinea-Bissau	46.37	4.1	29.1	172	56.1
Congo	44.83	10.4	30.4	165	42.1
Chad	40.34	2.3	45.4	165	38.5
Central African Republic	38.05	6.5	53.7	149	72.9

B. Sustainable Development and Hunger

Poverty due to unemployment, disputes, wars, poor climatic conditions, and corruption are the main causes of hunger in Africa. Table 1 displays 2020 SDG scores and 2018 GHI of African countries, while Fig. 2 shows a scatter chart with a regression line between the two parameters. The R-coefficient of 0.88 indicates that the two factors have a strong correlation. As a result, in most African countries, hunger and sustainable development might be related. Besides, the two variables are inversely proportional to each other because the increase in GHI implies a decrease in the SDG score and vice versa.

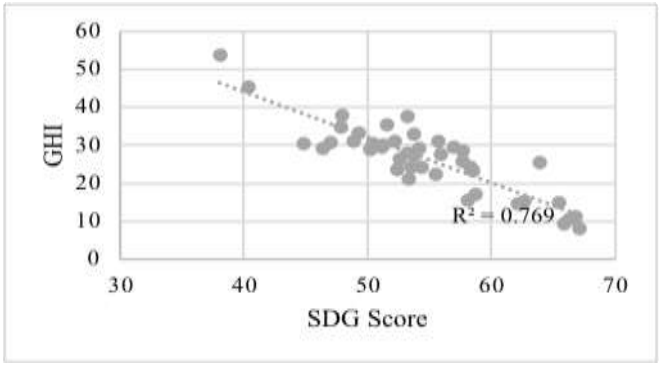

Fig. 2. Relationship between 2020 SDG scores and 2018 GHI in African countries.

C. Sustainable Development and Corruption

Corruption is a significant cause exacerbating poverty and hunger [25-26]. The CPI is the most commonly used index for calculating corruption perception on a country-by-country basis using annual statistics. The index is based on a scale of zero (extremely corrupt) to 100 (extremely clean) [23]. Table 1 indicates 2020 SDG ratings and their corresponding 2018 CPI rankings. Fig. 3 shows a scatter chart of 2020 SDG scores against 2018 CPI rankings for African countries, with an r =0.71 correlation coefficient. This demonstrates that the two factors have a good relationship, supporting the assertion that corruption and sustainable development are linked in most African countries.

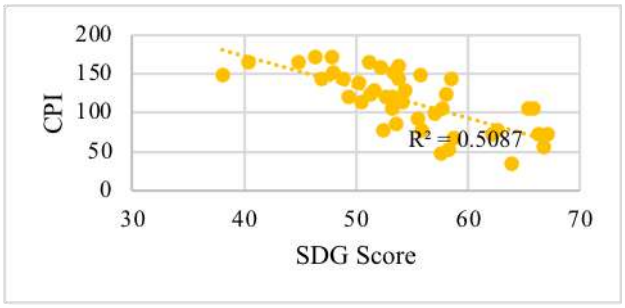

Fig. 3. Relationship between 2020 SDG scores and 2018 CPI of African countries.

D. Sustainable Development and Extreme Poverty

In many African countries, a large proportion of the population lives in abject poverty [24]. Table 1 shows African countries' 2020 SDG scores and the proportion of their population living in abject poverty, while Fig. 4 shows a scatter chart with a regression line between the two parameters. The correlation coefficient r=0.66 indicates that the two variables have a positive relationship, implying that poverty and sustainable development are closely linked in Africa. Despite having high SDGs, most African countries also have a large proportion of their population living in severe poverty. For example, Guinea has an SDG score of 50.2 and its population lives in extreme poverty at 76.7% while Nigeria has an SDG score of 48.84 and its population lives in extreme poverty at 46.5%.

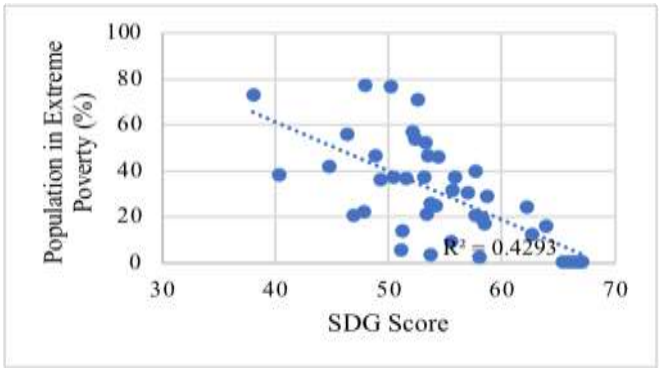

Fig. 4. Relationship between 2020 SDGI and percentage of the population in severe poverty in African countries.

III. SDG Progress in Africa

Apart from the 2030 agenda, African countries have agreed to adopt the African Union (AU) agenda 2063, which is both a vision and a blueprint for a more stable Africa in the next 50 years. The AU agenda 2063 is recognized as essential in the 2030 agenda for sustainable development, and it is considered an integral part of it.

Africa has made substantial progress against the MDGs, including raising primary school enrollment, especially among girls, increasing women's representation in legislative bodies, and lowering infant and maternal mortality rates and the proportion of Human Immunodeficiency Virus (HIV)-positive people.

Building on this progress, many countries are now taking action to transform the 2030 Agenda's goals into concrete results for their citizens, starting by incorporating the SDGs into their national visions and plans [27]:

- United Nations Development Programme (UNDP) has given funding to raise a concern about the SDGs among government officials, members of parliaments, civil society, and private sector players in Angola, Ethiopia, and South Africa, in collaboration with UN Country Teams.
- Uganda was one of the first countries to align its national development strategy for 2015/16–2019/20 with the SDGs. According to the government, 76% of the SDG goals are embodied in the programme and have been tailored to the national context. In accordance with the national strategy, the UN Country Team (UNCT) has assisted the government in incorporating the SDGs into sub-national growth plans.
- Sierra Leone, Uganda, Madagascar, and Togo have also agreed to execute national assessments of their 2030 Agenda execution. They obtained UNDP assistance in drafting their respective findings. The Forum is the UN global outlet for monitoring and reviewing the 2030 Agenda and the SDGs, as well as providing policy advice to countries on how to achieve the targets.
- In Liberia, UNDP aided the government in developing a roadmap for incorporating the 2030 agenda and the AU agenda 2063 into the country's growth strategy. The roadmap details the main steps for translating the SDGs and agenda 2063 into strategies, laws, and programmes, while still taking into account Liberia's fragility and applying the new deal principles.
- In June 2015, UNDP assisted the Cabo Verde government in organizing an international conference on the SDGs, which sparked global debates regarding the needs of Small Island Developing States in light of the new universal agenda on sustainable growth. Besides, UNDP aided the government in creating a strategy to position the SDGs at the forefront of its national growth planning processes.
- In Mauritania, UNDP assisted the Ministry of Economy and Finance in convening stakeholders from Non-Governmental Organizations (NGOs), the private sector, other ministries, and government agencies to address the implementation of the SDGs in the form of the UNCT. UNDP has sponsored a national workshop to include the tools and methodology for Mauritania's latest approach to incorporate the SDGs.

IV. Conclusion

This research studied the current status and progress toward achieving the Sustainable Development Goals (SDGs) in Africa. External sources were used to gather data on forty-three African countries. In each country, the percentage of the total unemployed population and those living in extreme poverty was determined. Moreover, the Global Hunger Index (GHI) and Corruption Perceptions Index (CPI) were collected in each of these countries. The relationship that existed

between the SDG scores and each of the selected variables was illustrated graphically. Finally, the major progress towards achieving SDGs in Africa has been tracked.

The main findings of this research could be summarized as follows:

- Tunisia had the best SDG score of 67.1 and was the top scorer in Africa in all SDG targets. Meanwhile, the Central African Republic was ranked 51st in Africa, with the lowest SDG score of 38.05, and was the worst scorer on all SDG targets. Nigeria, Angola, Algeria, Egypt, and South Africa were ranked 42nd, 36th, 4th, 6th, and 9th respectively.
- North African countries (Tunisia (1st), Morocco (3rd), and Algeria (4th)) were among the top five ranked countries. These top performers, on the other hand, were already at least 35 percent away from meeting the SDGs by 2030.
- Chad and Central African Republic which scored 40.34 and 38.05, and ranked 50th and 5lst respectively, were all vulnerable countries with high levels of poverty and instability.
- Due to a lack of data, Cape Verde, Sao Tome and Principe, Eswatini, Libya, Burundi, Eritrea, Somalia, and South Sudan were omitted.
- Any countries with high SDG ratings did not have correspondingly high unemployment rates. As a result, in most African countries, unemployment and sustainable development are not related.
- In most African countries, hunger and sustainable development might be related. Besides, the two variables were inversely proportional to each other because the increase in GHI implied a decrease in the SDG score and vice versa.
- Sustainable development and corruption had a strong relationship, indicating that the two variables were linked in most African countries.
- Most African countries with high SDG still had a high proportion of their citizens residing in severe poverty. For example, Guinea had an SDG score of 50.2 and its population lived in extreme poverty at 76.7% while Nigeria had an SDG score of 48.84 and its population lived in extreme poverty at 46.5%.

The SDGs explicitly described the challenges that arise from declining economic circumstances and environmental deterioration. This will necessitate a stronger relationship between the national government and its people, as well as greater coordination through government departments. In order to meet the development goals and raise the standard of life for all African countries, there must be synergy between government activities and the contributions of local communities.

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