



Poverty in South Africa: Is Green Energy the Best Solution?

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ABSTRACT

Green energy refers to renewable energy that can be extracted from natural sources like the sun, water, and wind. It has lots of benefits such as a cheaper cost of electricity and sustainability. Lots of nations around the world have been doing the transition from fossil fuels to renewable energy. However, some developing countries in Africa are having a hard time going through this process. South Africa, for instance, is a nation with severe poverty and has not gone through much development. On the other hand, Sweden is known as a wealthy country that leads the global green energy transition. The study compares how the green energy transition method from Sweden, a European country, can help South Africa, an African country with a serious poverty issue. The study reveals that green energy, having various benefits such as creating jobs and affordable energy, is capable of alleviating poverty in South Africa if the nation follows Sweden's efficient methods. South Africa has plenty of potentials, receiving tremendous amounts of solar resources, for green energy. Though obtaining the potential, they are not getting the most out of their advantage in creating green energy. Sweden, on the other hand, has implemented its system effectively and has succeeded in the smooth transition, utilizing its landscape to extract lots of renewable energy. South Africa will be successful with the transition if the nation follows Sweden's efficient method.

Keywords: *Poverty, Renewable energy, South Africa, Sweden*

Subject: *Sociology*

INTRODUCTION

Green energy refers to renewable energy that can be extracted from natural sources like the sun, water, and wind. Since it has the ability to slow global warming by reducing greenhouse emissions, green energy is used globally. Lots of countries nowadays are going through the transition from non-renewable energy to green energy for its sustainability and economic benefits. However, there are some developing countries that are struggling with the transition. South Africa, for instance, is a nation with severe poverty and is so far unsuccessful in the implementation of renewable energy. On the other hand, Sweden is known as a wealthy country that is very accomplished in terms of green energy as well as economics. South Africa, with lots of green energy potential to help its poverty, is having a hard time overcoming poverty, but they have a lot of great examples to learn from. Green energy is capable of alleviating poverty in South Africa if South Africa follows Sweden's effective methods.

LITERATURE REVIEW

Poverty in South Africa

Poverty in South Africa is a serious issue. According to The Borgen Project: "Nearly half the adult population of South Africa lives in poverty" (Bittar, 2020). To elaborate, about 49.2% of the adult population falls below the upper-bound poverty line with an income lower than \$70.90 per month (Bittar, 2020). Without the money to afford life necessities, people lose their access to clean water, electricity, food, and even shelter. This causes a problematic phenomenon in society in general – half of the population in the condition falling below the poverty line. Covid has been another salt to the wound, making people even more vulnerable to their health as well as grounding their economic incomes (Bittar, 2020). The virus affects poor people to be even poorer with a lack of access to health care services and additionally

threatens people above the poverty line with recession. In addition to falling below the poverty line, nearly 4 million South Africans are in “multidimensional poverty” in which people are in “poor health, malnutrition, a lack of clean water, inadequate access to health care services and poor, if any, housing conditions (Mlaba, 2020). With numerous people living in poverty, the severity of poverty in South Africa came to the point where it should not be neglected. Innovative solutions, which, for instance, provide cheaper access to care services, are desperately needed to alleviate poverty in South Africa.

Green Energy Status in Sweden

Contrary to South Africa, Sweden is a wealthy country with massive amounts of green energy production. Sweden is a renowned leader in the green energy transition in the world. The nation has already reached the goal of 50% of energy production in green energy and is aiming for 100% renewable by 2040 (“Swedes use,” 2021). Sweden was able to accomplish this goal with active support from the government regarding the green energy industry. Sweden currently has about 8 major ways to produce green energy; wind, bioenergy, solar energy, wave power, heat pumps, ethanol, hydrogen, and body heat (“Swedes use,” 2021). Having various ways to produce green energy, Sweden is capable of maintaining a high consumption of energy while having a low emission rate. In addition, Sweden efficiently utilizes its geographical benefits. With a rich supply of moving water, 45% of energy production in Sweden comes from hydroelectric (“Swedes use,” 2021). Furthermore, Sweden produces a significant amount of bioenergy that regulates the heating system for the whole country from forests, which covers 63% of Swedish land (“Swedes use,” 2021). As Sweden has abundant energy sources from its nature and region, such as moving water and forests, the process of producing the energy is extremely efficient. As Sweden generates more green energy, the outcomes are beneficial to the everyday lives of Sweden’s citizens. As the goal of 100% green energy approaches, people are experiencing cheaper bills for their transportation and electricity (Swaray, 2021). The massive amounts of green energy production allow the use of energy at a cheap cost. This benefit can alleviate poverty by making energy an affordable cost so that more people can have access. With efficient ways to produce considerable amounts of green energy, Sweden has great conditions to prevent poverty.

Potential of South Africa

South Africa possesses green energy potential and has the possibility of alleviating poverty by imitating what Sweden is doing. Currently, South Africa mostly relies on natural sources and fossil fuels, which are non-renewable and more expensive than renewable energy: “162 gigawatts (GW) or 62 per cent of total renewable power generation added last year had lower costs than the cheapest new fossil fuel option” (“Majority of,” 2021). Approximately 74% of the total energy supply comes from coal and other fossil fuels, while only about 6% of energy comes from renewable sources (“Energy Profile,” 2021). This data shows that, currently, energy production in South Africa induces a higher cost of electricity by supplying its energy through fossil fuels, an expensive option, rather than through renewable energy, a cheaper option. The high cost of energy makes it a barrier for general people to have access, worsening poverty. To do the transition from non-renewable energy production to renewable energy production, learning from Sweden is a gateway to many answers. South Africa has its own benefits from the regions: the nation receives about 2,500 hours of sunshine a year (Preyser, 2021). This is a significant figure of solar resources being unused in South Africa as among 6% of its green energy production, only 10% of the energy is produced from solar resources (“Energy Profile,” 2021). Similar to how Sweden uses the characteristics of its region to produce lots of green energy such as the rich supply of running water and forests, South Africa can obtain massive amounts of green energy from solar resources. Additionally, South Africa is going to receive about \$8.5 billion for the transition to green energy from the US, EU, UK, Germany, and France (Preyser, 2021). The support fund will help South Africa to establish more solar power plants such as the enormous solar plants in South Africa’s Northern Cape, which are able to power 73,000 homes in the surrounding communities (Preyser, 2021). With more establishment of solar plants, South Africa will be able to generate more renewable energy which people can easily access and afford. With great potential for green energy sources and sufficient funding, South Africa is capable of its stellar transformation.

Benefits of Green Energy

Green energy is a great option to alleviate poverty, creating economic and health benefits. Economic benefits, for example, include more job opportunities and more access to electricity at affordable costs. For instance, installing “the solar infrastructure could generate over 300,000 jobs in South Africa,” which is a vital solution to the employment issue in the nation where the rate of 34% of unemployment is happening (Preyser, 2021). This will significantly improve poverty by getting more people to work and enhance their life with a healthy amount of income. Furthermore, energy price has fallen substantially over the last decade: “wind energy prices have fallen 70% and solar photovoltaics have fallen 89% on average” (Marcacci, 2020). With massive production of green energy, the price of energy will drop significantly, and more people will be able to have access to electricity easily. In addition, green energy can assist in health care services. A great example is SELF, an organization that uses solar energy to alleviate poverty and has

powered over 150 medical clinics throughout the world (Wiggins, 2020). This suggests the effectiveness of green energy to improve the health care service in poverty and can be implemented in South Africa. Renewable energy is essential in South Africa as it solves poverty, and the nation has plenty of good examples to refer from.

MATERIALS AND METHODS

The purpose of the study is to figure out how green energy can help alleviate poverty in developing countries in Africa. The study compares one country from Africa, where the majority of people live under the poverty line, and one country from Europe, where green energy is widely used, and the majority of the population lives above the poverty line. The study specifically discusses South Africa and Sweden and provides how South Africa can overcome poverty by utilizing Sweden's method of green energy. The transition to green energy from fossil fuels or natural sources is important because South Africa has lots of potentials but struggles to gain benefits.

RESULTS & DISCUSSION

South Africa is suffering from severe poverty, but the nation has ways to alleviate the situation, such as having plenty of potential for green energy. Though South Africa obtains lots of solar resources throughout its regions, they are not getting the most out of its advantage in creating green energy. Sweden, on the other hand, has implemented its system effectively and has succeeded in the smooth transition, utilizing its landscape to extract lots of renewable energy. South Africa can learn from Sweden's effective method, and then, South Africa will be successful in overcoming poverty with vast amounts of green energy, bringing economic and healthy prosperity. If the transition to renewable energy succeeds, future developments such as new policies regarding green energy will be needed to bring further benefits.

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