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ALLIANCE OF SMALL ISLAND STATES AND ITS ROLE IN SUSTAINABLE ENERGY DEVELOPMENT IN THE SMALL ISLAND DEVELOPING STATES

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Abstract

The small island developing states (SIDS) are among those nations which are the most underdeveloped and vulnerable in the world. The present climate change (CC) situation is at serious juncture. The amount of carbon and other greenhouse gases (GHG) in the atmosphere are way past the industrial levels ascertained by the United Nations Framework Convention for Climate Change (UNFCCC). It is proved that the developed nations like China, United Nations, Russia are responsible for the maximum emissions and the SIDS has little to no contribution in emissions but are the ones who are the worst affected by the negative effects of CC. As such these nations are very pro climate. They are repeatedly voicing their concerns and appealing the world community to wake up and take proper initiative to control the global warming through AOSIS which is an organizational tool for voicing concerns of the SIDS. The clean energy mechanism is one of the initiatives of the AOSIS which is expected to replace the carbon driven energy production and to sustain the states on their own clean energy and this will be the main key finding of this study along with the prospects of the Initiative for Renewable Island Energy (IRIE). The study will be based on a thorough analysis of the published works of climate experts and personal experience and studies as a climate doctoral scholar. A thorough analytical and

empirical process of the issue will be adopted in this study to answer the research questions arising in this study and in the conclusion finding a concrete solution to the problems cited will be attempted.

Keywords

Climate Change, Environment, Sustainable Energy, Organizations, Global Warming, Emissions

1. Introduction

According to the United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (UN-OHRLLS) there are fifty two countries which are designated as SIDS¹. These countries scattered over various regions of the world has similar characteristics irrespective of their geographical locations. The most glaring features of these states are low economic stability, weak political and social institutions, poor sustainable development, rapid growth of population, geographical remoteness, easily affected by natural disasters, dependent on foreign aid and others. The climate of these SIDS is largely influenced by the natural weather patterns pertaining to the oceans. They are El Nino flows, oceanic trade winds and monsoons and cyclones. At present geological developments due to the anthropogenic CC like sea-level rise, frequent and violent storm surges, shortage of drinking water due to ocean water intrusion in the groundwater levels, poor agricultural output due to salinity of the soil, rising temperature of the land and ocean surface have increased the vulnerability of these states to the maximum. With already weak socio-economic-politico situation the condition of the island states are officially into the danger zones susceptible of complete submerge and extinction. The situation stirs up concern and debate both as these nations have no contribution in global emissions of the GHGs (Sem, 2007).

¹ These SIDS constitute of the following regions of the world. They are the Caribbean, the Pacific and the Atlantic, Indian Ocean and Mediterranean and South China Sea. See more at “Small Island Developing States- Small islands Bigger Stakes”, UN SIDS Booklet, Office of UN-OHRLLS, Link- <http://unohrlls.org/customcontent/uploads/2013/08/SIDS-Small-Islands-Bigger-Stakes.pdf>

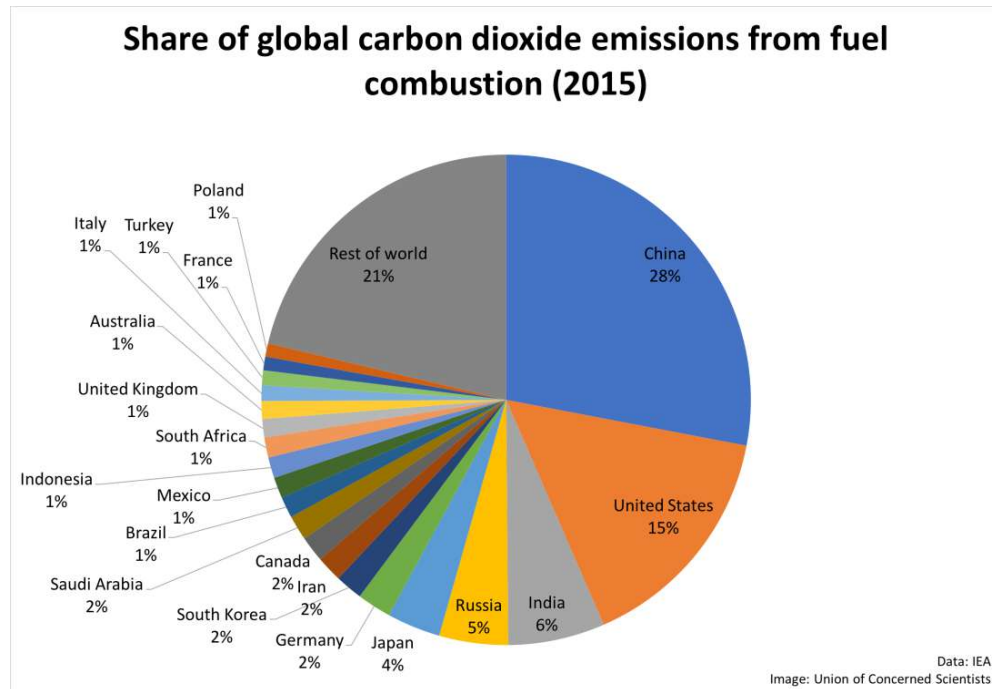


Figure 1: The Figure Shows about the How Much Contribution the SIDS have in the Global CO2 Emissions from Fuel Combustion Compared to other Big Economies
Source- <https://www.ucsusa.org/global-warming>

The SIDS contributes to almost zero percentage of GHG emission. But they are the ones who suffer from the negative effects of the CC the most. The natural disaster costs of the SIDS are very high. It is almost 90 percent of their GDPs. The IPCC has set that by the year 2100 on meter of sea level rise will occur if the temperature rises to 4 degrees centigrade. Almost 30 percent of the population of the SIDSs will be affected and will be forced to be displaced. When the Paris Agreement was signed and ratified it was hoped that the agreement will bring some relief to the SIDS and find a solution towards innovation and change. The SIDSs are drowned into deep debt servicing due to oil and other energy imports. The fuel price variations took a heavy toll on the economic state of these countries so as so that almost 20 percent of the Pacific household income is spent on energy. With such problems the SIDS are adapting themselves in the pursuit of renewable alternatives for energy sources which can be generated domestically such as solar, tide, wind and others. They are trying to replace fossil fuel generated power production for a more sustainable power production system. It is with this target that the SIDS they came up with the Sustainable Energy for All initiative. The SIDS under the Alliance of Small Island States are expanding the renewable energy production for which

they have set a goal by 2030 to increase the by technologies which are cost effective. In that way these renewable resources can be successfully implemented and deployed (Stiener, 2014).

Energy is something on which the world runs. Without it the civilization will fall. Right from the Industrial Revolution energy has been the fundamental requirement on which the development of the world was mounted on. When the issue of sustainable development arises, energy is one of the most critical factors that have to be explored. But the energy which is utilized here is generated from burning fossil fuels like oil, natural gas and coal. And this process causes heavy pollution and is degrading the environment causing anthropogenic CC. The world is now facing potential extinction due to this. The SIDS as a result has turned completely into renewable energy sustainability. Few of the most crucial technologies for sustainable development are energy technologies and the alternative renewable energy that are considered by the SIDSs are biomass, wind, solar, biomass and to a lesser extent there are ocean thermal energy conversion and mini-hydropower. However there is the fact that this process of making the renewable energy will need more improvisation so that all the alternatives of renewable energy sources are fully exploitable and economically viable. With these renewable options there can be an opportunity to practice more environmentally friendly and economically sustainable energy uses (World Meteorological Organization, 2005).

2. Alliance of Small Island States (AOSIS) and Sustainable Energy Development

The SIDSs are trying to switch and adopt clean renewable energy options to avoid the untimely destruction of the environment and the negative effects of CC. The island states on their own do not stand a chance to voice out their opinions and grievances on the global platform of the United Nations Organization. As such like various regional organization the AOSIS was formed as an international organization exclusively for the SIDSs from all over the world. It is an international coalition of low-lying coastal countries which bears the same kind of characteristics like the development challenges, poor and weak institutions and administration, concerns about the environment, the consequences of the negative impacts of global CC. “AOSIS is an organization with a membership of 43 States and Territories. These members belong from various parts of the world namely Africa, Caribbean, Indian Ocean, Mediterranean, Pacific and South China Sea. Among them 37 are members of the United

Nations which is close to 28 percent of developing countries and 20 percent of the UN's total membership. Together the SIDS communities constitute some 5 percent of the global population.”²

As mentioned earlier, energy (use of fossil fuels) is the key to the development of any country. So the SIDSs are no exception in this regard. But the situation in this regard is a bit tricky. SIDSs are characteristically isolated and are surrounded by the ocean. They are mostly island nations. As such the generation and use of energy resources are two very important aspects for the development of SIDS. The SIDSs most of the time cannot afford to cope up with the import of fossil fuels due to fluctuations of the market prices. Moreover some SIDSs are so remote that they cannot even access energy resources properly while there are other states which face energy security issues. Since the transportation of the costs high for the SIDSs because of the remoteness than the non-island countries the nations have to deal with several socio-economic challenges (Wolf, Surroop, Singh and Leal, 2015).

These challenges can be dealt with basically three courses of actions and the fossil fuel dependency of the SIDSs can be reduced significantly. They are as follows.

- a. Decreasing demand for transportation fuels
- b. Increasing energy efficiency
- c. Building renewable energy capacity to scale

However the geographical locations of the SIDS' are quite favourable to harness the renewable energy sources like the solar, wind, tidal, biomass etc. Countries like the Bahamas, Grenada, St, Kitts and Nevis, Antigua and Barbuda, St Vincent, St.Lucia and several others are all projected to have 10-100MW potential capacity for solar, ocean and wind. According to the International Renewable Energy Agency (IRENA) the SIDSs in the Indian Ocean, Pacific, Atlantic and South China Sea has similar scope for renewable energy production. There is a Renewable Energy Country Profile³ where the lists of renewable energy potential countries are listed. Even before the U.N. Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP21) in Paris which took place in the year 2015 the SIDS countries submitted a proposal to launch climate actions which will facilitate to develop renewable energy so that it will add to the existing efforts to keep the global CC in check by keeping the temperature below 2 degree centigrade. 23 countries of the SIDS signed this initiative which is known as the Nationally Determined Contributions (INDCs) (Gardner, 2011).

² Alliance of Small Islands States (AOSIS), Regional Intergovernmental Organization, Link- <https://www.preventionweb.net/organizations/389/view>

³ Link- <https://public.tableau.com/views/IRENAREsourceREBalancesCountryProfiles/Map>

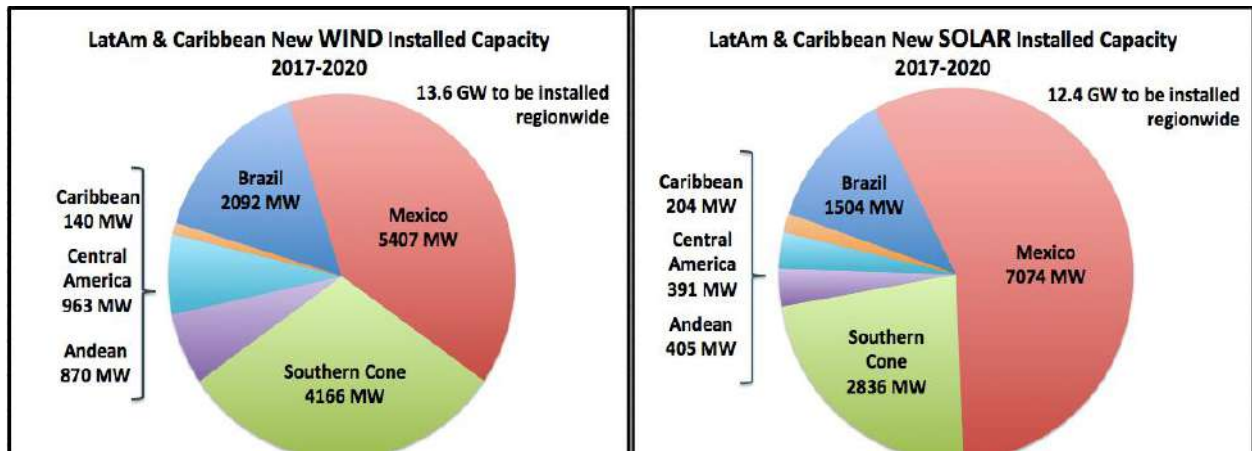


Figure 2: An Example of the Latin American and Caribbean Wind and Solar Power Generation till 2020

Source- The Latin American Energy Review (link- <https://carlosstjames.com/>)

2.1 Main Functions of AOSIS Towards Renewable Energy

The SIDSs comprise of those crucial regions of the world which are subjected to severe vulnerability due to CC. It is due to this reason a transition from expensive and pollution causing fossil fuel to clean and renewable energy supply is the foremost necessity to safeguard the existence of the small islands. Luckily these regions are adorned by extensive and endless access to the natural and clean energy resources of air, ocean current, wind and sun. Island Renewable Energy Initiative (IRIE) was recently held in Malé, Maldives, by AOSIS in partnership with the International Renewable Energy Agency (IRENA)⁴ in the year 2017 which aimed at successful transition which was proved according to the IRNEA as viable and cost effective alternative. The meeting was participated by 30 different countries that pulled in their opinions and knowledge to discuss ways in which this initiative can be included as a part of Clean Development Mechanism (CDM)⁵ against CC. In this context the mechanism has been already set in motion and more than 2 gigawatts (GW) of renewables capacity has

⁴ "It is and intergovernmental organization which was established in the year 2009 with the aim of supporting countries which are transitioning into a sustainable energy future. It is a platform of international cooperation on attaining renewable energy through a repository policy, knowledge in finance, technology, resource."- See more at <https://www.irena.org/aboutirena>

⁵ It is a mechanism enumerated in Article 12 of the Kyoto Protocol which involves developed countries or the Annex I nations to engage in several projects which involves in tackling CC within the non-Annex I nations or developing countries, or non-Annex I countries. This is one of the flexibility mechanisms of the Kyoto protocol by which developed nations and economies in transition can meet their GHG emission targets. See more at An Implementation Guide to the Clean Development Mechanism, United Nations, New York and Geneva, 2003, Link- [www.https://unctad.org/en/Docs/ditcted20031_en.pdf](https://unctad.org/en/Docs/ditcted20031_en.pdf)

already been deployed in SIDS, with a further 6 GW and more production of energy projects are planned in the future (Ayre, 2017).

As such the targets pledged by AOSIS pertaining to renewable and clean technology in the SIDSs can be broadly discussed as in the following.

- i) AOSIS has put an effort to maximize SIDS easy availability of the uses of the CDM which will promote renewable energy sources and energy efficiency in order to achieve substantial technology transfer.
- ii) The organization also stressed on the importance on achievable emissions reductions by removing any hindrances towards its implementation.
- iii) Several new strategies are formulated and are being to overcome the deterrents like finance and technology which is required to achieve the transition. These are dealt with policy and debates and discussions with the developed nations through aid which is enumerated by UNFCCC.
- iv) An effort towards the initiation for Renewable Island Energy was taken during the COP22 Climate Conference which included the increasing of already existing supports and program for -mainly financing resources.

The tempo has taken up pace for the SIDSs to convert into clean energy supported nations. Under the umbrella of AOSIS many island nations have resorted to renewables. Examples can be given of Samoa and Cook Islands in the Pacific region which have pledged to convert into 100 percent renewable energy dependent by 2020. Similarly Barbuda and Antigua of the Caribbean region have targeted to generate 20 percent of their national power supply from solar energy. This initiative by the countries got support from an energy provider which is based in United Kingdom. The initiative is of clean energy and a unit of 10 MWP has been agreed. Apart from this there will be large-scale facilities constructed along with that solar power harnessing systems will be constructed like rooftop solar panels and the portable solar power and storage systems which will be all government owned (Meeco Group, 2016).

The Initiative for Renewable Island Energy (IRIE) was undertaken during the AOSIS meeting and was announced at the 22nd Conference of the Parties (COP 22) in Marrakech in 2016. The initiative is about transitioning from high to low emission renewable energy. This initiative had the support of 39 members of AOSIS. They have accepted it as a part of their Nationally Determined Contributions (NDCs) under the Paris Agreement.

The UN climate agreement in Paris in the year 2016 completed a staggering 20 years of continuous effort towards limitation of the GHG emissions. Paris Agreement has managed to focus on the fact about which nations are primarily responsible in contributing to the global warming and it will be their responsibility to spearhead action implementation to deal with the worst impacts of the CC. This has been the primary task for the negotiators to implement climate solution schemes as soon as possible to avert the worst and most dangerous CC effects. In the 2019 UN Bonn Climate Change Conference (SB50) has shed light on the fact that an onslaught of extreme climate impacts in Europe. This is just a small glance of the possible future of planet earth if a strong and bold action is failed to be taken soon. The recent Bonn Conference is all about action and prevention of any 'old-tradition' of carrying out business (Ibrahim, 2016).

Barbados Programme of Action (BPOA) and the Mauritius Strategy of Implementation (MSI) are the two schemes approved and put to action by the AOSIS in order to address the much needed sustainable development of the SIDS. Among these the transition from fossil fuel energy to clean renewable energy services is one of the main targets for the AOSIS. The aim is to provide household of the countries with the access to clean, cheap energy option in a bid to eradicate poverty and safeguarding the environment as well. What is the issue with renewable energy for the SIDS is that there are endless source and opportunities but they lack the appropriate finance and technology to harness energy and use for present and future needs. If successful the SIDS will be the potential exporter of clean energy to the world. The collective endeavor of the SIDS through AOSIS can drive the economic development and save the islands from the untimely destruction from the negative effects of the CC. But at present the SIDS needs to progress in this action plan as soon as possible. Also this step requires great commitment in the way to continue the development and implementation of the different policies and action plans in order to successfully put them into action for convert the fossil fuel based energy sector into a modern, cheaper and more efficient renewable energy sector. The AOSIS has called out the global community including regional and international organizations, banks to provide adequate monetary base and financial investments along with technological transfer and capacity building for ensuring a successful endeavor towards the achievement of the commitments which have been promised (Sustainable Energy for All News, 2012).

Table 1: Shows the Targets set by the Pacific Islands Countries in Achieving Clean Renewable Energies in Future which serve as an example as to in what way the SIDS are Tackling the Transition

Country	Target	Target Date	Current Renewable Share of Power Generation
Cook Islands	100%	2020	0
Fiji	81%	2020	45%
Kiribati	45% urban, 60% rural	2025	0
Marshal Islands	20%	2020	0
FSM	10% urban, 50% rural	2020	28%
Nauru	50%	2020	0
Niue	100%	2020	0
Papua New Guinea	50% GHG emission reduction	2030	Above 40 %
Palau	20%	2020	12 %
Samoa	10%	2016	30%-40%
Solomon Islands	50%	2015	0%
Tonga	50%	2020	4%
Tuvalu	100%	2020	5%
Vanuatu	65%	2020	15%

Source- https://www.researchgate.net/figure/Renewable-Energy-Targets-among-Small-Island-Developing-States-in-the-Pacific_tbl1_281704017

3. Conclusion

The need for affordable and clean energy is very much crucial for the betterment of the economic and social conditions of the SIDS. Access to sustainable clean energy for the SIDS happens to be a priority and AOSIS dedicated its actions towards this very notion. As discussed above with the help of several schemes and policies the AOSIS have managed to make quite an impressive progress in generating clean energy. But the progress is moderate compared to what is actually required to make the world carbon free. There has to be access to sustainable energy and the need to create long-lasting partnerships is a high priority for this group of countries. Since most of the renewable energy potential in SIDS remains untapped the purpose is officially unfulfilled. In 2017, 17.6% of the electricity in

SIDS came from renewable sources particularly from hydropower. Now this endeavor will also require a global support. Since the SIDS represents a minuscule part of the world the achievements regarding clean energy against CC effects won't be fruitful until the whole world stands up to it.

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