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Echoes from the Shore: Small Islands Steering Climate Justice

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Abstract
Small islands are some of the most vulnerable to climate change and this has made them become some of the most prominent leaders in the fight against climate change. These islands are at the frontline of climate change experiencing threats of life extinction due to sea level rise, extreme weather conditions, and pollution among others which have adopted strategic adaptation measures that can be of significance to the global society. Some of these efforts include in the sphere of sustainable agriculture, the use of renewable energy sources and the provision of efficient and superior systems of water management, which, in addition to combating current effects of climate change, also offer examples to other areas of the world that are struggling with similar issues. Small Island states have also been active in the international climate policy where they have used the alliance of small island states AOSIS to demand for more aggressive climate change targets and adequate funding. Their contribution to the making of such agreements as the Paris Agreement explains their concern with resilience of the climate as well as justice. Thus, small islands never cease to demand accountability from large nations regarding their commitments and increased support to climate change mitigation and adaptation, which can be seen as their leadership and commitment to the climate change cause. The need for assistance to small islands is not limited to receiving help; it includes acknowledging their leadership in addressing climate change's impacts and promoting togetherness. The current endeavours of climate action show that climate actors are persistent and creative, indicating that there is hope for other climate undertakings in the future. It is possible to improve the global cooperation in the sphere of climate change and the subsequent positive impacts on the identified countries through active participation in and support of activities that build resilience against climate change.

Keywords: Shore, Small Islands, Climate Justice, leadership, Paris Agreement

I. Introduction

Small islands, painted as idyllic havens, face the worst of climate change effects as the territories of their respective countries render them a more sensitive position to the adverse effects of climate change such as the rising tides and natural calamities. These islands contain diverse and fragile biophysical environments and populations and are more vulnerable to climate change impacts than are continental territories. Regarding the sea, it poses a threat of encroaching on their territory and sources of fresh water, structures and productivity (Nunn, 2013). To worsen the problem, these communities are subjected to more frequent and intense hurricanes, cyclones and other disasters as temperatures rise in all parts of the globe. The effects of global climate change on the small islands are numerous and multifaceted; those particular states experience an array of issues. Coastal regions are experiencing inundation because of the melting of sea ice and through the warming of water through the increase in temperatures (Nurse et al., 2014). Tropical storms and hurricanes are intensified by changing

ocean conditions and therefore have a negative effect on structures and economies (Kelman, 2010). Furthermore, the escalation of pollution of the environment by human beings and climate change has negative impacts on the ecosystems and resources that support the population of island people. The coral reef which plays an important role in coastlines and marine life is bleaching and deteriorating. This loss does not only poses a danger to the scenic and ecological value of the islands but also impacts the fishery and tourist sectors that many small island development states rely on.

Nevertheless, the small islands are not only innocent victims of climate change effects, but they are also initiators of the combating processes worldwide. Small islands are now the leaders of the so-called climate revolution; they are the main promoters of the strict climate policies and have always been the leaders of the campaigns for the reduction of carbon emissions and the development of climate change mitigation and adaptation measures (Robinson, 2017). Small islands are demanding, promoting, modelling, and setting high targets for climate action on a global level. Groups such as the Alliance of Small Island States (AOSIS) which has been active in international climate change negotiations has been demanding for more ambition in emission reduction by countries, as well as for adaptation funding.

With the transparent presentation of their weaknesses and opportunities, small islands prove the need for collective response to climate change and its impact. The actions and the initiatives introduced by them are some of the indispensable examples of how people can prevent the climate crisis impacts. For instance, most of the small islands are focusing on the development of renewable electricity from solar and wind among others, to minimize the usage of fossil based electricity and therefore lowering their emission rates. Some are using ecological agriculture and rebuilding mangroves and coral reefs to provide natural protection from climate change effects. Thus, they are essential to the whole world's endeavour in the preservation of the planet referred to as the Earth by Nunn (2013). This article's suggestion is that small islands are not just passive victims or even active agents of climate change but active participants in the fight against it.

II. The Unique Vulnerability of Small Islands

Small islands are defined by their geographical and climatic conditions which make the effects of climate change to be most destructive on them. These are mainly small islands with large coastlines compared to the size of the land mass; therefore, are very vulnerable to rise in sea level and coastal erosion (Nurse et al. , 2014). Most of the small islands are faced with Coral reefs act as a barrier to the storm surges but are equally sensitive to the rising sea temperatures and changing acidity (Hoegh-Guldberg et al., 2007). Also, these islands consist of relatively small pieces of land that are lacking in fresh water and arable land in many cases, which increases the level of risk (Kelman, 2010). Small islands are also very isolated and this is a problem when it comes to disaster preparedness and response, and getting appropriate help and supplies when needed due to natural disasters.

The effects of climate change on small islands are thus far-reaching and complex at the same time. Due to global warming and climate change, the levels of the sea are gradually increasing through the melting of the ice caps and thermal expansion of water and this poses a major threat to the island countries as large portions of these islands are likely to be flooded leading to displacement of people and disruption of the ecosystem (Nunn, 2013). Warming of sea temperatures and ocean acidification brings about coral bleaching that has a negative impact on marine species and fisheries which are basic food sources and sources of income for island

people (Hoegh-Guldberg et al., 2007). The rising rates and severity of natural disasters like hurricanes, cyclones, and typhoons wreak havoc and destroy properties, homes, and livelihood and engender long-term economic vulnerability and sometimes death (Pelling & Uitto, 2001). These climate-related events also amplify other problems such as lack of fresh water, and salty soils which poses a great challenge to inhabitants of island to engage in farming, and also to access clean and safe water for drinking (Nurse et al. , 2014)..

The impacts of climate change on economic and social structure for small islands and its inhabitants are colossal. Floods, hurricanes and earthquakes for instance disrupt infrastructures and homes that directly affect tourism, fisheries and agriculture that are the main source of economic income in those areas (Kelman, 2010). Coral reefs and coastal ecosystems loss has implication on the bio diversity and a vital economic activity of many islanders, which is tourism (Hoegh-Guldberg et al., 2007). Also, the negative impacts, such as the degradation of agricultural land and freshwater sources, makes communities rely on imports, which exerts high pressure on the expenditure and creates food insecurity (Nunn, 2013). Culturally, climate change especially in the aspects of rising sea levels, natural disasters, and other related calamities cause social problems like loss of traditional sites and identity, poverty, and health problems (Pelling & Uitto, 2001). They bring out the need and call for international cooperation and assistance to enable small island developing states to respond to and cope with effects of climate change.

III. Small Islands Leading the Way in Climate Action

Small islands are experimenting on new ways of adapting to climate change impacts that negatively affect the islands, displaying a high level of innovation under extreme conditions. Such sustainable agriculture practices are being implemented to improve on food security and embark on few imports. The approaches like; agroforestry is a practice of growing trees, crops, and livestock together which assists in sustaining the soil, water, and income (Nunn, 2013). Wind, solar, and tidal among other natural resources are being explored to replace fossil fuel based technologies to help minimize the emission of greenhouse gases (Kelman, 2010). The scarcity of fresh water is being solved through the use of supplementary water management technologies including rain water harvesting and desalination plants that will provide water to the respective communities (Nurse et al., 2014). These strategies are very effective in addressing the effects of climate change while at the same time advocating for sustainable development and energy security.

There are several small islands and island nations which are the models in the implementation of climate action activities. For instance, Maldives pledged to be carbon neutral by 2030 investing in solar energy projects and constructing floating platforms to deal with the rising sea level (Robinson, 2017). In the Pacific, Samoa has initiated community specific adaptation interventions that include; agricultural activities, coastal management and disaster preparedness (Nunn 2013). The island nation of Barbados in the Caribbean has been on the right track to renewable energy having set its goal to be a 100% renewable energy nation by the year 2030 and is planning to use solar, wind and bio energy (Kelman, 2010). These case studies show the preparedness that small islands are putting in place in order to mitigate the effects of climate change and this shows why small islands are important in climate change mitigation.

These adaptation strategies are therefore anchored on local and indigenous knowledge in the process of formulating and implementing the strategies. The indigenous people also have vast experience regarding the use of land and water and have a lot to offer when it comes to

sustainable use of natural resources (Mercer et al., 2010). For instance, paradoxical to PM, indigenous climate knowledge systems have been combined with formal climate change risk reduction in many Pacific islands to improve the effectiveness and acceptability of the strategies (Nunn, 2013). In the Caribbean, people's understanding of coastal environment systems has been utilized in the use of nature-based solutions like mangroves to counteract effects of storm surges and coastal erosion (Pelling & Uitto, 2001). Taking into consideration the existing cultural practices and incorporating the modern scientific methods small islands are developing viable effective and culturally sensitive strategies towards climate change and its effects and thus are making the efforts sustainable and strong.

IV. The Role of Small Islands in International Climate Policy

Small island states continue to play an important role in climate change policy as protagonists that use their sensitivity and authority to call for more effective actions to address the climate crisis. These countries that are often referred to as 'small island states' have been able to present their common front through such forums as the Alliance of Small Island States (AOSIS), demand higher and stringent climate change goals, and stronger measures of adaptation (Robinson, 2017). AOSIS comprising forty- four island and coastal states has been very useful in bringing to the international community's notice the dangers of climate change to their countries and the need for more vigorous actions. The leadership of the group has played a critical role in influencing climate negotiations particularly at UNFCCC talks to steer the global climate agendas and raise awareness on the adverse effects of climate change on vulnerable populations (Betzold, 2015).

Despite their small size, small islands have played a crucial role in shaping global climate change negotiations and more especially the Paris Agreement. Their continuing fight for the increase in global temperature to be kept at 1. 5°C above pre-industrial levels was important in formulation of this more ambitious target within the agreement (Robinson & Dornan, 2017). This target is perhaps the most important to save the small islands from rising sea-level and calamities of severe nature if the limit is crossed. Small island states did not rest in Paris; they went out and insisted on ambitious measures and demanded more of other nations. For example, the small island states throughout the COP, meetings urge the international community to provide more financial resources for adaptation and mitigation stating that climate justice is their right.

Therefore, regional and international support, cooperation, and partnerships can play a crucial role in boosting climate efforts of small islands. These nations have low capacity and inadequate resource endowment to undertake big climate interventions on their own and therefore require outside help (Betzold, 2015). Major sources of funding and technical expertise are attained through cooperation with the United Nations, and the Green Climate Fund particularly. International cooperation includes bilateral and multilateral cooperation, which also improves the prospects of climate change adaptation and mitigation. Furthermore, partnership with other non-governmental organizations and research institutions assists small islands to come up with new approaches of solving problems facing those (Robinson & Dornan, 2017). Through these partnerships, small islands also not only improve the ability of communities adapt to climatic shocks but also share valuable lessons and experiences to the rest of the world.

V. Challenges and Barriers to Effective Climate Action

Small island nations have limited funds and resources, which present major challenges to the execution of large-scale climate action projects. Many of these nations are poor and, therefore,

they depend on donors' support and international financial institutions to finance adaptation and mitigation measures (Kelman, 2015). Some of the measures required for infrastructure development like seawalls, flood defence, renewable energy installations more than most small island's governments' capacity hence the vulnerability to climate change impacts (Nurse et al. , 2014). Also, the impotence of technical skills and the capacity to organize and implement sophisticated climate projects aggravates the situation. However, the funds from such sources such as Green Climate Fund are readily available but accessing them is not easy as it comes with many procedures and conditions that take a lot of time to be met and, sometimes when they are met, the time taken means that they become a hindrance to implementation of the project (Robinson, 2017).

Legal barriers both at the national and global level present another challenge to the implementation of climate change interventions in SIDAs. On a domestic level, political instability, bad governance and lack of coordination at different tiers of the government affect formulation and implementation of coherent climate policies (Pelling & Uitto, 2001). Globally, Small Island LDCs face challenges in exercising leadership in climate change negotiations due to small membership presence and less economic might compared to dominate players in the internationals politics (Betzold, 2015). Furthermore, larger countries' self-interests influenced by global politics and economics could lead to concessions or delays in formal international partnerships and thus influence the level of recognition and assistance that small island nations receive (Robinson & Dornan, 2017). Such political and institutional hurdles can offset the efforts in climate change action and continue to expose the small islands' populations to this fate.

Managing adaptation and mitigation with regards to the climate change is a juggling act for small islands as they have to focus on the future and present times. Thus, the adaptation strategies to climate change effects incorporate constructive measures like constructing sea barriers, better water experience and practices in order to save islanders from the first climate change effects (Nurse et al., 2014). However, such steps can as well be costly and need lots of resources so that they can be implemented. For the long-term climate change stability, there is a need to curb greenhouse gas emission together with the phasing out of fossil energy and reliance on renewable energy; on the flip side, they may not serve the purpose of offering quick remedy to these threatened communities. Achieving harmony between these two objectives is sometimes challenging, but needs to be planned and best resources directed towards it with international backing if both near-term and long-term climate objectives are to be met (Robinson & Dornan, 2017).

VI. The Global Significance of Small Island Climate Action

The lessons that can be learned from small islands and their climate action include community resilience, sustainability practices, and adaptation measures. Small islands are usually vulnerable to climate change impacts like increased sea level and frequent fluctuating weather conditions; hence, they are compelled to come up with effective adaptation strategies. Such initiatives as disaster preparedness by communities and measures on sustainable use of land show that relevant and contextually appropriate interventions are effective (Mastrorillo et al., 2016). Small islands' measures, such as the use of renewable energy sources, ecosystem-based adaptation, present examples for other areas with similar concerns, proving that even the most threatened communities can be pioneers in the climate change adaptation and sustainability (Howe et al. , 2014).

Developed countries should ensure they support the small island nations and help them fight climate change as it is a serious issue that needs the attention of the world. Small island states are even less contributors to global greenhouse gas emissions but they suffer from climate change effects and are usually unable to raise enough money and technical support for adaptation (Mastrorillo et al., 2016). Besides finance, international support is imperative to support these nations to take part in climate change negotiation and decision-making successfully. It is argued that for small islands to remain a resilient system against climate impacts more climate finance, technology transfer, and capacity building efforts that are global in cooperation need to be scaled up (Howe et al., 2014).

For the future, it is possible to expect that small islands can remain the leaders of climate initiatives that can affect the entire world. These pro-active measures, and the strategies, which have been devised and implemented by these nations, can prove very useful for other threatened areas of the world and go a long way in helping to build more effective climate change resilience for the entire world (Baker et al. , 2016). Thus, the leadership and commitment of small islands can be continued in the framework of international climate policies and increase people's awareness of the necessity to act in this direction. It is their constant work that shows that climate change knows no borders and, therefore, requires global cooperation; at the same time, their activities emphasize that every nation and every community must be an active participant in the process of constructing the world that will be more prepared for climate change.

VII. Recommendations

For further strengthening of the small islands to address and counter climate change, it becomes necessary to adopt sustainable water management practices that are compatible with their physical environment. This include rainwater collection, efficient use of water in irrigating crops and the conservation of fresh water. Rainwater harvesting can be used specifically to give water during dry months and decrease reliance on freshwater. Drip irrigation and other effective water delivery methods can help prevent wastage of water and increase production, therefore, feeding the people of island nations. Also, the exploration of renewable energy sources like solar, wind, or tidal energy can decrease the dependence on fossil energy, and reduce the emissions of greenhouse gases, and provide steady energy supply to islands. These renewable energy solutions address climate change, at the same time improve energy security and develop local employment (Kelman & West, 2009). Also, the conservation and protection of valuable habitats, including mangroves and corals, can provide natural barriers to climate effects while promoting conservation and use of natural resources for income-generating activities. Both mangrove forests, which provide protection from storm surges and coast erosion and coral reefs, which offer shelter to marine life and break waves, (Nurse et al., 2014).

It is, therefore, apparent that technology is critical in increasing the resilience of small islands to climate change impacts. Forecasting systems and climate prediction instruments can help in offering timely alerts of such elements and help reduce the impact on people, property, and the environment. By virtue of these systems timely evacuations and other necessary measures that can reduce the effects of a disaster can be accomplished. Implicit strategies include climate-proof structures, icons, and formations, including raised buildings, seawalls, and flood-immune roads. Raised structures and sea walls can shield from flood and storm surges, and flood immune roads allow movement during natural disasters (Barnett & Waters, 2016). Further, investment in research and development on climate-smart agriculture and fisheries

for food and economic securities for any changing climatic conditions is also important. Measures like the cultivation of crops that are less sensitive to droughts and the use of proper fishing methods, should help to continue feeding the nation regardless of the climate (Betzold, 2015).

Climate change policy, and development of better governance structures is key to the successful implementation of climate action in small islands. The reinforcement of institutions and the improvement of the cooperation between local, national, and international organizations can avoid the duplication of processes and the ineffective use of resources. This includes coming up with clear policies and regulations which act as a framework for the sustainable practices and climate change. This means that adoption of environmentally friendly policies, offering of funds for adaptation projects as well as putting in place legal measures to ensure that companies adhere to environmentally friendly practices would go a long way in creating the necessary changes. Education and involvement of the public and communities are also very important since people must own the climate change causes and solutions. Integrated approaches that involve the citizens in management of resources as well as involvement in disaster preparedness can improve the outcomes and guarantee that the measures developed suit the citizens' needs. In addition, international support and partnership especially for access to climate finance and technology are crucial in supporting the small islands to be at the forefront of climate change mitigation. External assistance from international bodies and developed countries can avail the requisite funding and information about how to implement functional climate policies and assure the small island can sustain the climate adversities (Kelman & West, 2009; UNFCCC, 2017).

VIII. Conclusion

Therefore, one can conclude that small island nations are placed at the intersection of powerlessness and leadership with regard to climate change. The article has described how, due to their geographical and environmental setting, these islands are profoundly affected by climate change, and effects such as the rise in sea levels, increase in the numbers and intensity of natural disasters, and degradation of the environment. Nevertheless, small islands today are among the most proactive nations in the world in applying creative approaches to adapt to adverse effects and demanding global climate policies. They are equally informative regarding the importance of rising and sustaining organisations as well as the necessity of international cooperation and assistance. Assisting small islands is not charity but part of the world's duty and responsibility for combating climate change. These nations provide best practices and prove that climate change may be addressed even in the context of considerable limitations. Thanks to their leadership and commitment to the cause, people are reminded of the necessity of collective international efforts in combating climate change and constructing the better future. It is crucial for all of us to participate in and contribute to endeavours helping small islands with their climate actions. In our roles as advocates, donors or partners, our work can improve their ability to learn and grow. Supporting these islands, we make the world a better place, where island states carry on the fight for climate justice and the future of the climate change agenda.

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