The Role of Citizen Science in Climate Change Research for Community Resilience

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Abstract

The devastating impacts resulting from extreme climate change events such as sea level rise, floods, droughts, desertification, heat waves, cyclones, water shortages, and spread of tropical and water borne diseases are expected to negatively reduce the resilience of vulnerable societies and limit their progress towards achieving the sustainable development goals by 2030 . There is urgent need to find new technological solutions for reducing risks and building resilient communities. Experts identified Citizen Science as the new approach to research which involves the participation of non scientists (general public volunteers) in the generation of new scientific knowledge through observation, data collection, analysis and monitoring using modern technology. It combines the use of internet, smart phones, social media and low cost censor networks and often works in collaboration with professional scientists or under the direction of scientific institutions. It is the most reliable method of gaining new knowledge,it motivates citizens who participate to improve their science literacy, develop increased understanding of environmental issues that affect them directly and readily accept to take positive personal risk reduction measures. Data sources included literature review from text books, journals and reports, evaluating sustainable development goals targets on education, climate change and inclusivity, attended an online course on "transforming our world; Achieving sustainable development goals' and participating as a Panelist in Geneva on "The role of science, technology and innovation in building resilient communities, including through the contribution of citizen science" It was established that the climate change caused risks are expected to worse their impacts, that some of the successful citizen science projects include the Nganyi rainmakers, AgroClimate Impact Reporter and the YouthMappers. Citizen science bridges the knowledge gap in research by using citizens themselves, it encourages people to take responsibility of their environment and creates science knowledgeable societies who can build resilient strategies using innovative local tools, it does not take time, therefore easy to participate. Global communities are encouraged to embrace science, technology and innovation in the education systems in order to empower citizen 'participation.

Key words: citizen science, risks, resilience, climate change..

Biography:

Prof Josephine Ngaira completed her PhD in Climatology at the age of 39 years from Moi University Kenya. She has 3 postgraduate certificates from Stockholm University, Columbia State University and World Bank Institute. She has published 3 university level text books, 35 papers in reputed journals, and given 12 keynote speeches in International conferences. She has served as Deputy Vice Chancellor, Academic and Students Affairs at Masinde Muliro University of Science and Technology, as Director, School of Environment and Earth Sciences at Maseno University, as a Board of Governors Vice Chairperson at Sang'alo Institute of Science and Technology. She is a serving Hon. Treasurer, Kenya National Academy of Science, Country Co-coordinator, International Geographical Union, Kenya and a Full Member Sigma XI. Her most cited publication is "The Impact of Climate Change on Agriculture in Africa by 2030".

Speaker Publications:

5th World Summit Climate Change and Global Warming; Amsterdam, Netherlands- February17-18, 2020.

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