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TOPICS: Effects of Ocean Acidification on Coastal Communities, Urban Sprawl in Sub-Saharan Africa

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Effects of Ocean Acidification on Coastal Communities; Recent Updates

In recent years, the severity of ocean acidification has drastically increased. To combat this issue, international organizations such as the International Atomic Energy Agency have taken extensive measures to stop the carbon dioxide from absorbing into the ocean. In doing so, they created an organization relating to the issue of ocean acidification, entitled the Ocean Acidification International Coordination Centre (OA-ICC). The OA-ICC has implemented training courses in Member States, supplied access to data and resources in order to advance in ocean acidification research, and raises awareness through numerous international partners¹. One region of the world that has been affected significantly by ocean acidification is West Africa. More specifically, the West African Canary Current is a major spot for climate-related changes. Due to ocean acidification, shellfish growers worldwide suffer economically. Considering that shellfish rich ecosystems provide a major food source for the coastal communities, reducing the amount of shellfish present means that these communities will suffer economically.

However, there still have been instances where successful monitoring of climate change is present. Nations such as Chile have stopped the decline of shellfish species through the use of systems that are tolerant to ocean acidification. Governmental agencies such as the National Oceanic and Atmospheric Association have shown strong interest in preventing climate change from harming the ocean. The NOAA recently announced a contribution of “\$18.9 million in funding for harmful algal bloom (HAB) research projects and monitoring activities throughout

¹ “Ocean Acidification International Coordination Centre (OA-ICC).” *IAEA*, IAEA, 5 Feb. 2018, <https://www.iaea.org/services/oa-icc>.

U.S. coastal and Great Lakes waters.”² If governmental organizations and nations can provide economic benefits to groups to encourage a reduction in ocean acidification, ocean acidification will become less severe globally.

² “NOAA Awards \$18.9m for Harmful Algal Bloom Research, Monitoring.” *National Oceanic and Atmospheric Administration*, <https://www.noaa.gov/news-release/noaa-awards-189m-for-harmful-algal-bloom-research-monitoring>.

Urban Sprawl in Sub-Saharan Africa; Recent Updates

In Sub-Saharan Africa, urban sprawl will continue to worsen as the population grows; in mid-November the world population hit eight billion, and Africa is set to boost that number to 10 billion by 2050. In regions like Sub-Saharan Africa, this growth is unsustainable and uncontrollable. For example, in Tanzania, the population has increased by “37% over the past decade to almost 63 million.”³ Sub-Saharan African states have experienced the worst urban sprawl due to their poor economic conditions and sharp increase in population. Many nations have already executed plans to stop urban sprawl and they have proven to be successful. For example, in Canada, urban planners have worked to prevent urban sprawl in big cities emphasizing “15-minute cit[ies], where everything is accessible by foot, by bike, or by public transport. The strategy intends to cut greenhouse gasses by 80% by 2050.”⁴ If nations in Sub-Saharan Africa would implement similar plans, urban sprawl would decrease.

In Sub-Saharan Africa, slums and shanty towns were one of the outcomes caused by urban sprawl. Almost 75% of Sub-Saharan Africa’s population lives under these slum conditions that are vulnerable to diseases and health problems.⁵ Covid-19 has been the most significant disease devastating slums and shanty towns, which are already highly susceptible to the spread of illnesses. In Nigeria, floods destroyed these areas and hundreds of thousands of houses as well

³ “Sub-Saharan Africa’s Population Will Nearly Double to More than 2 Billion by Mid-Century.” *Africa.com*, 16 Nov. 2022, <https://www.africa.com/sub-saharan-africas-population-will-nearly-double-to-more-than-2-billion-by-mid-century/>.

⁴ Pittis, Don. “Analysis | Partly to Avoid Bankruptcy, Places like Halifax and Waterloo Are Leading the Way to Climate-Friendly Cities | CBC News.” *CBCnews*, CBC/Radio Canada, 21 Nov. 2022, <https://www.cbc.ca/news/business/evs-cities-climate-column-don-pittis-1.6654675>.

⁵ Llesan, Olayinka. “The urban slums: Potential source of COVID-19 spikes in Africa.” *NCBI*, 11 November 2020, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7656999/>.

as large amounts of farmland, which further affects urban migration.⁶ This is caused by the poor living conditions and how the increasing population rate outpaces the country's support.⁷

However, in the 27th United Nations climate change conference, there were multiple efforts regarding aid for less developed nations. At the conference, a new global agreement was created which established a fund relating to climate change effects on communities like extreme weather as well as forced migration. It also created an international organization tasked with identifying nations capable of contributing to the fund, which lesser developed nations can utilize the fund, as well as the organization of the fund itself.⁸

⁶ Akinpelu, Yusuf. "Nigeria floods: 'I have nowhere to go.'" *BBC*, 31 October 2022, <https://www.bbc.com/news/world-africa-63411446>.

⁷ Akinwale, Olaoluwa Pheabian. "Urban Health in Lagos' Slums: Ensuring Healthy Living Conditions." *Urbanet*, 18 August 2021, <https://www.urbanet.info/nigeria-lagos-slums-urban-health/>.

⁸ Sadasivam, Naveena, and Blanca Begert. "Inside the COP27 fight to get wealthy nations to pay climate reparations." *Grist*, 22 November 2022, <https://grist.org/cop27/inside-the-cop27-fight-to-get-wealthy-nations-to-pay-climate-reparations/>

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