Coastal communities in the Circumpolar North and the need for sustainable climate adaptation approaches

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Climate change is a global issue that presents complex challenges for society. In the Arctic, climate impacts are felt with more immediate and severe consequences, than in other parts of the world. Northern coastal locations in particular, are highly vulnerable to climate impacts that include rising sea levels and more extreme and variable weather events. Further, in the Circumpolar North, small coastal communities are challenged in their ability to respond to accentuated climate stress, as a result of a lack of capacity and awareness along with institutional constraints. Because continued climate change is locked in despite the level of mitigation efforts, adaptation is a necessity.

Adaptation planning is already being employed by many small coastal communities in the Circumpolar North in response to the worsening climate stressors. These efforts are characterized by prevalent structural (or hard) adaptation approaches across the sensitive coastline. However, structural adaptations, such as sea walls and shoreline armouring, are often associated with several drawbacks. Moreover, these structural efforts may not be a suitable adaptation approach for communities in the Arctic as this region is experiencing rapid rates of warming, enhanced exposures, and significant environmental and socioeconomic constraints. In an effort to build their resilience to climate stressors, small northern coastal communities should pursue a diverse portfolio of adaptation initiatives by incorporating and utilizing more sustainable non-structural and ecosystem-based (or soft) adaptation approaches.

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