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The role of social institutions in the resolution of international conflicts over shared fishing resources

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Abstract: International conflicts over shared fishing resources may rise in numbers in the context of climate change, which has lead, and will continue to lead, to changes in behavior patterns and geographic distribution of fish and other marine resources of interest to the fishing industry. Under these circumstances, being able to quickly adapt to unexpected changes becomes a very desirable trait for the fishing industry. Unfortunately, the current conflict resolution processes are often difficult, time consuming and sometimes not maintained.

We are interested in whether more sustainable mechanisms, that act from the bottom up and are easier to enforce by the countries involved, would prove a more efficient alternative. Since the parties involved lack the oversight of a higher authority, these situations are within the realm of self-governing commons. Thus, using Elinor Ostrom's work on self-governing commons as a starting point, we intend to study these international conflicts with the help of agent based models, emphasizing the role social institutions play in the rise and resolutions of such conflicts.

The first such conflict to be modelled will be the last "mackerel war" between the EU, Norway, Iceland and the Faroes, and the general aim of the project is to develop an agent-based model that can be used to simulate a variety of international conflicts involving marine resources. The purpose of the simulations is to gain a better understanding of the dynamics of such conflicts, as well as which resolution strategies are feasible and resilient given the context of the conflict. This includes local informal institutions that govern the fishers' behavior, as well as formal institutions enforced by governing bodies, both of which can vary widely from country to country and influence the conflict resolution strategy.

Keywords: *ABM, fisheries, social institutions, commons, sustainability*