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The Disappearing Art of Yola Fishing: Challenges of an Artisanal Fishing Community in Northeast Puerto Rico

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Abstract:

Yolas are indigenous fishing boats constructed by specific members of coastal communities in Puerto Rico⁵. The knowledge of how to build and fish with yolas is passed down through generations and is considered traditional knowledge. The yola has formed an important part of the culture in Aguadilla and Rincón, Puerto Rico, but this piece of culture is being lost as younger generations are not using these boats. Youth in these communities are using larger fishing boats, which can go faster and farther out, but in turn they are not learning how to build traditional boats. In addition, these fishing communities are facing various challenges including coastal erosion, over-development of the coast, and fish migration away from the shoreline. These challenges are adversely affecting the elders of the fishing community, and contributing to a loss of knowledge by deterring youth from using traditional boats.

For my project, I created a multimedia storymap utilizing pictures, audio, and video in order to tell the story of the 'yolero' community in Aguadilla and Rincón, Puerto Rico. In order to better understand the needs of the community, I conducted interviews with people who build and use yolas. I also filmed them engaging in the process of fishing and interacting with their boats. My storymap helps to show the struggles these fishermen are facing and provides recommendations for how they can be supported by the government. This project is important because it is giving a voice to coastal communities who are struggling and are not able to get their needs met. It is also providing video footage of indigenous knowledge which is becoming extinct.

Background:

Yolas are fishing boats made from wood and usually constructed from memory by 'yoleros' in coastal communities of Puerto Rico. The dimensions and shapes of the yola differ depending on the community due to varying environmental conditions. A study on yolas conducted in 1997 noted that compared to a few decades ago, there were fewer boat builders on the island, but the general way that boat builders learn and practice construction remained the same. The yolas from Aguadilla are generally shaped in the form of a plantain with a flat bottom and no keel⁵. Yolas can be used with paddles or a motor, and they are used to fish a few miles off shore.

The knowledge of indigenous boat building can be considered local ecological knowledge (LEK). The cultural, economic, and environmental changes happening throughout the world are contributing to the weakening of the base of local and ecological knowledge for many communities. A study by Aswani et. Al showed that 77% of papers analyzed reported a loss of knowledge due to globalization, modernization, and market integration¹. The interconnected nature of biological and cultural diversity means that the loss of LEK will reduce community resilience against changing environmental factors. It is important that the LEK of Puerto Rican fishermen be sustained in order to ensure the resilience of coastal communities and effective conservation of cultural and biological diversity¹.

Coastal erosion and over-development of the coast are two issues which can effect local fishermen by making their day to day operations increasingly difficult. After Hurricane María, many beaches started to disappear due to erosion. Specifically, 35% of the beaches in Rincón and 39% of the beaches in Aguadilla suffered the effects of erosion². Since fishermen store their

boats on the beach, the loss of sand makes it so that they must store their boats further away from shore. This makes it increasingly difficult to go fishing since yolas are heavy and require a large amount of effort to push into the water. In addition, an increase in coastal development makes it challenging for fishermen to access the shore with their boats. The increase in coastal construction has been synonymous with an rise in population living in coastal towns. The percentage of people in Puerto Rico living in coastal towns increased from 34% in 1950 to 67% in 2012³. The population increase combined with a lack of land use regulations have affected fishermen because structures are being built which hinder or block their access to the beach.

In addition, based off anecdotal data, fish seem to be migrating away from shore. Since yolas fish a few miles offshore this lowers the amount of fish they catch and hinders their ability to make a living. In Northeast Puerto Rico it was found that fishermen routes changed between 2002 and 2012 as the routes moved further away from shore⁴. Since yolas cannot go very far from shore (maximum 15 miles), they are unable to move routes in order to catch more fish.

Methodology:

A set of interview questions for boat builders and fishermen who use yolas were created. These questions were aimed at understanding how traditional knowledge is passed down, and how the community of 'yoleros' has changed over time. The questions included:

- *How did you learn how to build or use a yola?*
- *How have the types of boats used for fishing changed since you were young?*
- *How are 'yoleros' seen by the community?*
- *How can the knowledge of boat building be passed on to the next generation?*
- *How can the government help the 'yoleros'?*

Participants for the interviews were found by word of mouth and by visiting the local fish market. Five fishermen and boat builders were formally interviewed, and they agreed to be filmed taking out and bringing in their boats as well as processing the fish they caught.

Interviews and footage were analyzed for common themes and short videos were created based on the four main issues most commonly spoken about by the participants. A storymap was then created with these videos along with pictures, text, and audio in order to effectively communicate the main challenges faced by the community.

Storymap:

The storymap is centered around four main difficulties facing the 'yolero' community at this moment. The general ideology surrounding these issues is discussed in the text, and then the voices of the fishermen are shown through videos put together based on each topic. GIS maps and statistical data are also used to concretize the problems the fishermen are speaking about. The main topics explored throughout the storymap are the following:

1. The loss of traditional knowledge due to a lack of youth learning how to build and fish with yolas.
2. The increase in development on the coast, and the construction of a boardwalk which is hindering the fishermen's ability to access the beach.
3. The effects of coastal erosion have diminished the size of beaches used by community fishermen resulting in inadequate space on the beach to store their boats.

4. Fishermen are finding a decrease in the abundance of catch near the shore. Fishing routes in certain areas of Puerto Rico are moving seaward⁴, but since yolas do not have the ability to fish far from shore they are being impacted economically.

The storymap raises awareness of these issues and provides recommendations for addressing them. The first recommendation suggests constructing a ramp in the town of Aguadilla to improve shore access for fishermen. The second recommendation states that the government should support workshops between local boat builders and local youth in order to transmit traditional knowledge on boat building and fishing methods.

Next Steps:

The project will be shared with the Mayor of Aguadilla and media outlets in Puerto Rico. Additionally, it will be disseminated through social media and the UCSD Human Ecology Lab website. The objective is to gain attention for this topic and connect with individuals who can contribute to resolving the challenges faced by the community.

References:

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