

A Floating Farm for Hydroponic Crop Cultivation in Small Island
Developing States
(Technical Report)

Thirsty California: The Fight for Water Resources
(STS Research Paper)

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by

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Preface

How can we manage water resources to mitigate food insecurity? Water scarcity stresses diverse necessities, including food production. Hydroponics can reduce water consumption for food without reducing food production. Where demands exceed supply, however, social groups compete to justify the share of the water supply they seek.

How can the performance of an existing hydroponic crop cultivation system be improved? Many Small Island Developing States (SIDS) endure food insecurity due to environmental and economic factors; half import at least 80 percent of their food. Households practice traditional farming, which is unreliable due to natural disasters. The “Fold-out-Farm” is a self-protecting, solar-powered, buoyant crop cultivation system. The team installed a rainwater harvesting system, found an optimal nutrient solution, validated the unit's structural integrity with computer-aided design (CAD), and expanded the market niche through expert surveys. The results of this experiment were [results unknown]. Success is determined by plant growth and market feasibility. Further research should study the unit's socioeconomic implications.

How do interest groups in California compete for the share of the water supply that they seek? California's droughts impose stresses on agriculture and the environment, and exacerbate problems of social equity. Interest groups employ education, alliances, political influence, grassroots movements, and fundraising to influence water allocation while defending their positions as just. Social groups compete to protect their access to scarce water supplies. In so doing, they demonstrate organizational and social learning, seek political influence, and promote grassroots mobilization. To promote their interests, agricultural, environmental, and community advocacies employ various publicity strategies, as evidenced by blogs, interviews, and letters. They thereby demonstrate not just how interest groups in California compete for water, but how social groups in much of the world struggle for access to vital but scarce resources.