RESILIENCE

THE ABILITY OF A SYSTEM TO EXPERIENCE MILD TO SEVERE DISRUPTION & REMAIN WHOLLY ITSELF, SUSTAINING ITS CORE IDENTITY, RELATIONSHIPS, & FUNCTIONS
PROBLEM DEFINITION

- Staff and managers responsible for legacy drainage, wastewater, and drinking water systems on Oahu have insufficient resources to proactively operate and renew these systems to keep pace with the changing needs and conditions presented by major drivers such as:
  - climate disruption
  - development pressure
  - Federal regulation
  - economic drivers
  - evolving public consciousness and political imperatives around the health of the natural systems and social/racial equity

- Paramount water-system concern
  - future drinking water security in a context of decreased rainfall and aquifer recharge and increasing population pressure

- Other key concerns
  - increased flooding and associated property loss and/or infrastructure damage
  - new NPDES permit requirements
  - the threat of a wastewater-related consent decree
  - nearshore water quality vulnerability (bedrock of tourism and hospitality economy)
  - historic social inequities that would be exacerbated by climate-related crises

- Appropriate city-scale precedents are difficult to find. Mainland models of water-related utilities (drinking water, wastewater, stormwater/drainage) center on single-purpose systems, operated largely in parallel with one another and independently of related systems such as transportation. These large, centralized, stand-alone built and organizational systems are now also struggling to keep pace with: the ‘new normal’ presented by climate change (150 years of climate data are no longer predictive of future conditions); the scale of solutions are not commensurate with the scale of water pollution challenges caused by 150 years of unmitigated or under-mitigated land development: changing regulations; development pressure and associated affordability challenges, long-standing environmental injustice, etc.

UNIQUE (and potentially catalytic) LOCAL ASSETS

- Strong alliances and engagement on this problem set already from academia, community foundations, local and national-scale non-profit organizations, local-state-Federal government officials, elected officials, local design professionals, and likely many other sectors

- Deep culture of care for the land and water, and deep sense of belonging and pride of place

- Equally strong current of community self-sufficiency and DIY mentality
• An emerging community-held vision around TOD and a recognition that land use decisions are water decisions

• Legislative authority to create a rate-funded stormwater utility

• Broad network of people (visitors, part-time residents, tour companies, U.S. military...) outside Oahu/Hawaii who have a vested interest in a thriving and resilient Oahu into the future

BIG PICTURE OPPORTUNITIES

• Set community resiliency as a top tier goal and hold green infrastructure (together with other multi-purpose, integrated water system solutions... like district-scale graywater and wastewater reuse) as a robust toolset to build out a framework to get there.

• For example, use this inflection point, complex of issues, and suite of local assets to imagine and outline a draft consensus vision for an integrated and secure water future for Oahu. Ground visioning work in current best available climate predictions, readily available water resources data and state-of-the-current-infrastructure data, available and emerging water-resources technology, planning projections for regulation, population growth and land use changes, and inter-disciplinary + local knowledge of community priorities and community assets.

• Query/engage key sectors and demographics in the process -- public health/health care professionals and institutions, students and teachers, tourism industry leaders, unions/building trades, elected officials, planning and design professionals, Native Hawaiian leaders, land developers, engaged civil society organizations (environmental orgs, water recreation groups, climate change activists, social justice organizations...), locally-based corporate leaders, farmers... What are your water-related concerns and priorities? What does a “Water Secure Oahu” mean to you? What would it look like? What are the benchmarks?

• Build on the multiple definitions for/images of/needs for a ‘Water-Secure Oahu’ gleaned during visioning process to develop a framework for an integrated Utility that could conceivable deliver that future and be supported by disparate perspectives within the community, despite the known reality of associated fees/added cost.

• In the near-term, use the community vision to fundraise around a key set of small-scale (maybe district-scale... maybe TOD-oriented) demonstration projects that show the efficacy of the types of integrated/resilient next-generation water systems than could/would become commonplace in a water-secure future with an appropriately equipped Utility at the helm.

• Frame fundraising and demonstration projects as options testing for next generation water security strategies in Hawaii – with the explicit intent of assessing the strengths of a variety of approaches before building out at scale on Oahu and/or outer islands.

• Consider the role of convener/leader of a broader community of practice across/among other Pacific island communities and/or coastal regions facing similar community resilience (or ‘climate adaptation’) challenges.

REFLECTIONS ON THE 2016 OAHU GREEN INFRASTRUCTURE SUMMIT
Pam Emerson, Green Infrastructure Policy & Planning Advisor, City of Seattle
FODDER + INSPIRATION

Like-minded foundations/funders
www.davidsuzuki.org/about/declaration/
http://piscesfoundation.org/our-focus/water-resources/
www.surdna.org/what-we-fund/funding-overview.html
www.nsf.gov/funding/pgm_summ.jsp?pims_id=501027
www.fundersnetwork.org/blog/investing-in-water-resilience-confluence-philanthropy...

Climate adaptation
www.spur.org/sites/default/files/publications_pdfs/SPUR%27s_Agenda_for_Change_2016.pdf#page=14
https://insideclimatenews.org/news/20130620/6-worlds-most-extensive-climate-adaptation-plans
www.seattle.gov/environment/climate-change/planning-for-climate-impacts

Urban renewal approaches (El Paso is pretty interesting! Voters passed a ‘$400M+ quality of life’ bond)
www.socialworkdegreeguide.com/30-inspiring-urban-renewal-projects/

Integrated water system approaches + Eco-District concept
http://seradesign.com/2014/03/ecodistricts-developing-sustainable-systems-at-scales...
www.werf.org/i/c/Decentralizedproject/When_to_Consider_Dis.aspx
https://americanrivers.org/conservation-resources/integrated-water-management/

Green Infrastructure/High Performance Landscapes Case Studies
http://landscapeperformance.org/case-study-briefs

Networking
http://gsihub.thetactilegroup.com/
(This is just starting!! I think it is in beta right now. A great new collaboration space.)