Plan of Work – CSA-ES Database

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Context

The City and County of Honolulu's Office of Climate Resilience has contracted OACA to produce a Climate Smart Agriculture database intended to inform food system professionals and policy makers on the potential ecosystem service impacts of CSA activities. The consultant (MK Lau) has been sub-contracted by OACA to complete the deliverables listed below in partial fulfillment of the larger contracted deliverable to HC&C.

Key Personnel

Dr. Matthew Kekoa Lau, PhD. – will combine his expertise in ecological systems theory and big data analysis with the practice of sustainable agriculture to produce the contracted deliverables.

Primary Deliverables

- CSA-ES Resource Database
- Web-hosted Database Interface
- CSA-ES literature synthesis

Milestones

- Feb 28, 2024
  - Submit Plan of Work to OACA
- Mar 4, 2024
  - Initiate Reviews
  - Finalize database structure
- Mar 15, 2024
  - Compile academic literature search
  - Initiate Web Resource Search
- Mar 22, 2024
  - Synthesize academic literature search
  - Compile Web Resource Search
  - Initiate Policy Search
- Apr 1, 2024
  - Synthesize Web Resource Search
  - Synthesize Policy Search
  - Plan Web Product
- Apr 8, 2024
  - Present preliminary literature search results
- Apr 15, 2024
  - Present Web Product concept for review
  - Present initial database content
- Apr 27, 2024

  - Present web tool with integrated database for review
- Apr 29, 2024
  - Submit revised draft of web-hosted tool
  - Assess needs for policy database integration into web tool
  - COMPLETE: CSA-ES Resource Database
- May 30, 2024
  - Present draft of policy database integration
- Jun 15, 2024
  - Present integrated web tool with policy for review
  - Present formalized academic literature synthesis
  - COMPLETE: Web-hosted Database Interface
- Jun 30, 2024
  - Submit revised web-hosted tool with policy integration
  - COMPLETE: CSA-ES literature synthesis

Communication and Feedback

Personnel will be in weekly communications by email.

Evaluation

Activities and deliverables will be managed via Trello (https://trello.com/b/LuQFu1sI/hawaii-climate-smart-agriculture) and GitHub (https://github.com/ecoFw/hi-csa-es) and evaluation feedback will be recorded in meeting notes and emails and integrated into activity management systems.

Deliverable Project Details

The primary goal of the project is to create tools to facilitate the adoption and spread of Climate Smart Agricultural practices. Three key types of people have been identified who's inter-connectivity would be facilitated by accessing CSA information:

1. Practitioners: food producers, such as farmers, that have practices that they currently use that they would like to support or are looking to implement new practices and need knowledge or other resources, such as financial support.
2. Providers: people who's primary role is to develop and provide training for techniques, such as extension agents.
3. Connectors: people who are embedded in practitioner communities and are positioned to facilitate access to resources through providers or directly through access to financial support.

Conceptually, we link Providers and Connectors together under the term *Activators*, as they serve to provide Practitioners with the means to enact CSA practices. Within this typology, our framework that we are using to develop the HI CSA ES database is to provide a set of tools that integrates information at the intersection of resources and practices that Activators can identify as relevant to them and the Practitioner community.

CSA-ES Resource Database

- *Summary*: to produce relevant tools for Activators, information on resources, including relevant information about agricultural practices that they relate to, needs to be compiled so that it can be analyzed.
- *Activities*
  - Webcrawl web resources for CSA practitioner resources
  - Integrate previously assembled databases for agricultural activators
  - Assist in the assembly of policy activator data

  - Integrate policy activator data
- *Deliverable* will be a data pipeline management program that collects data from key resources and compiles them into a versioned, human-readable database.

Web-hosted Database Interface

- *Summary*: we envision that Activators, particularly Connectors, will be the primary audience for the CSA-ES Resource data. To facilitate the legibility of relevant information, we are creating a web interface for sorting and limiting the data.
- *Activities*
  - Design the interface
  - Connect the database
  - Create unit tests to check for issues in the database and interface
  - Create an interface to submit user issues
- *Deliverable* will be a web hosted interface where Activators and possibly Practitioners can identify resources for relevant CSA practices.

CSA-ES literature synthesis

- *Summary*: many practices may not be immediately available in the web resources that are used to construct the CSA-ES Database. To check for other key practices, we are conducting a literature search and synthesis/analysis.
- *Activities*
  - Create a bibliographic search program
  - Generate a set of recent (5 years or less) articles on CSA
  - Search the records for keywords contained in the CSA-ES Database
  - Search the records for keywords not-contained in the CSA-ES Database
- *Deliverable* will be a document summarizing the set of practices that are not represented in the CSA-ES Database and links to resources that can inform them.