Food System Informatics Program

Agricultural Sustainability Institute at UC Davis (ASI)

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Sustainable Sourcing:
Our research includes critical review of sustainability issues, best practices and indicators of key dimensions of food system sustainability for specific cases at various scales.

Funded work: *Benchmarking Sustainability for the Banana Industry in Ecuador (AGROBAN)*

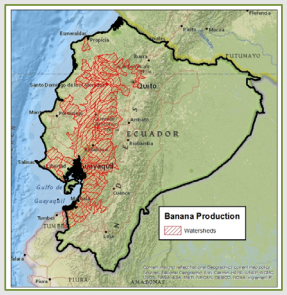


Figure 1. Ecuador watersheds with banana production

Working Landscapes:
This work area entails detailed assessment of sustainability attributes tied to specific landscapes or regions, providing information to enable informed decision-making.

Funded work: *Human Health, Ecosystem Services, and Their Economic Value as Part of a Sustainability Assessment for the Sacramento Region (US EPA)*

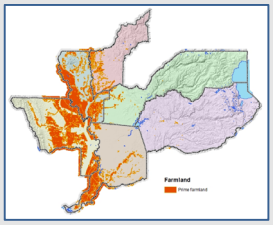


Figure 2. Example of input data

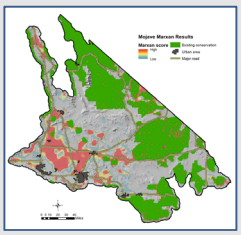


Figure 3. Marxan software as an integrative land planning tool

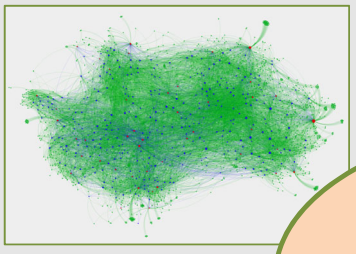
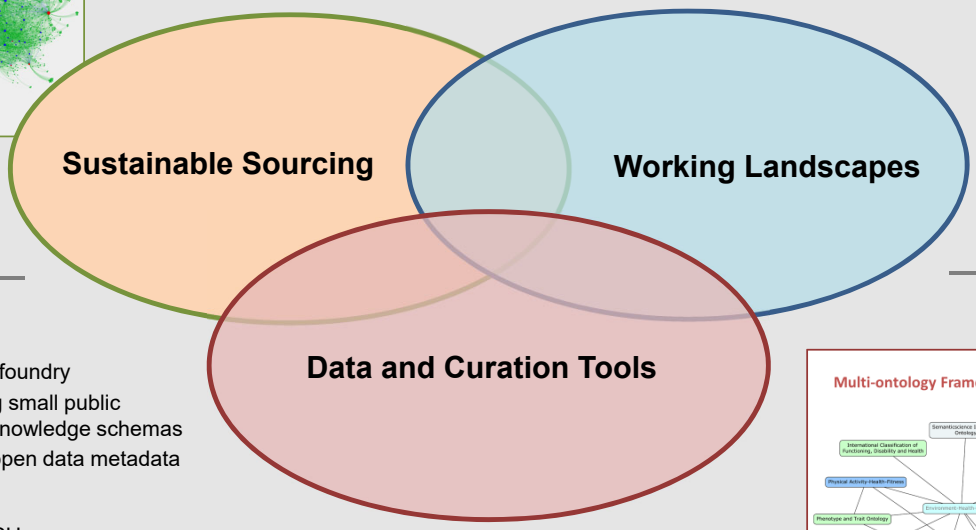


Figure 4. Visualization of our graph database containing sustainability issues linked with indicators

Core Research Areas



Data Management:

Data Curation
- IC-FOODS ontology foundry
- GitHub for versioning small public datasets, code and knowledge schemas
- Omeka S for linked open data metadata

Data Storage
- Data commons at OSU
- GLOBUS via Midwest Big Data Hub
- UC Davis box.com

Data Use Agreements (DUAs)
- Utilize OSU and UCD protocols for data sharing and transfer agreements
- Educating data providers about DUAs

Privacy
- HIPAA, PHI, PII and publicly available data
- Commercial data is a possibility

Data and Curation Tools:
We are using a linked open data approach to improve information connectivity among complex webs of challenges, data, and actors across food systems to better characterize and operationalize sustainability.

Funded work: *Developing an Informational Infrastructure for Building Smart Regional Foodsheds (NSF Award SCC.RCN.1737573)*

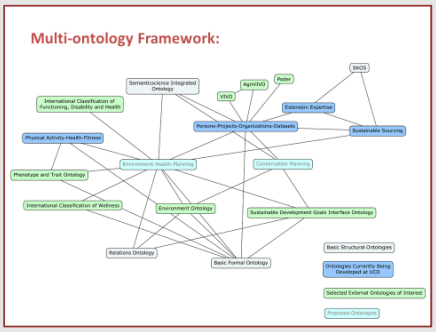


Figure 5. Multi-ontology Framework, including the People-Projects-Organizations-Data ontology (PPOD)

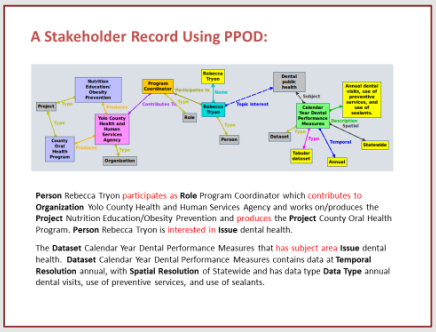


Figure 6. A detailed stakeholder record using the People-Projects-Organizations-Data ontology (PPOD)

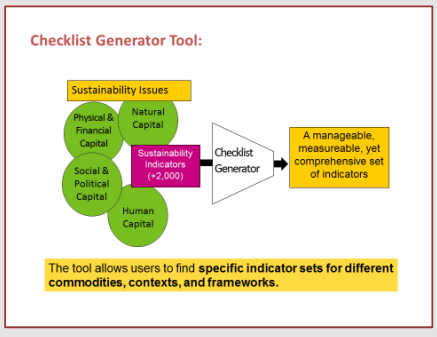


Figure 7. Checklist generator tool process

Funding and support
Current work
National Science Foundation, US Environmental Protection Agency, US Department of Agriculture, The Nature Conservancy, AGROBAN, Fruta Rica

Previous work:
Mars Corporation, Kraft Foods, Sacramento Area Council of Governments (SACOG), Capital SouthEast Connector JPA; Strategic Growth Council, Barilla, eXtension

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