causal maps

fire adaptive ecosystem-->more useful causal mapping

coupling variables (socio-ecol system)

**writing assignment:**

preliminary motivation for model (will go into purpose statement)

why building, what want to explain

what are research qeustions

why ABM approp?

|  |
| --- |
| Short writing assignment (1-2 paragraphs): Provide a preliminary motivation for your model by answering the following questions: |
| a. What is the overall purpose of your model? Do not describe anything about how the model will work here, only for what the model will be used. |
| b. What is (are) the main research question(s) you seek to answer? |
| c. Why (or why not) is ABM the most appropriate modeling approach to answer your research question(s)? |

Increasingly, cities are working to address food waste through prevention, redistributing edible food to humans or animals, and capturing inedible food for processing into compost or biogas. This model will help cities make decisions about selecting and implementing alternative approaches to closing the food systems loop.

Some key research questions are:

* How do different approaches to closing the food systems loop influence social and ecological outcomes?
  + What are the most important state variables in determining which approach will result in the best socio-ecological outcomes?
* How do infrastructure investment decisions or exclusive waste hauling contracts effect the ability for alternative, decentralized systems to emerge?
  + How do changes in food waste generation,

Key considerations might pertain to the processing technology itself (e.g., level of processing capacity, level of centralization, and type of technology), diffusion of innovation (i.e., small-scale biogas, home /community composting), agent composition (e.g., objectives? hippy town?, values as well as contextual factors (e.g., climate, water availability, soil quality, available green space, population density [critical mass?])

city decision-making shapes context -->

**in which agents** (e.g., households, restaurants, grocers, industry, and institutions)

**generate and direct flows of food waste**

**to be transformed** (e.g., by pantry's, composters, biogas, curbside)--person-to-person?

**into new system inputs**

high HETEROGENEITY among agent behavior

ADAPTATIVE BEHAVIOR /

agent interactions lead to larger system effects

not much data

There are many different processing technologies and scales to consider, each with different social and environmental outcomes.

what food system components they should target first to and what sorts of food waste processing systems are best-suited to their context?