The case of Arctic char land based aquaculture production in Iceland

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Problem Statement

• There is a need to find a way to enhance aquaculture production while reducing its environmental impact.

• Land based aquaculture has been identified as a potentially more environmentally friendly alternative to marine aquaculture. It is however not economically competitive when compared to marine aquaculture as it needs a lot of water, electricity and land area which are generally scarce resources. More importantly land based operations are very capital intensive.

• We plan to construct a system dynamics model of the Arctic char industry in Iceland in an effort to identify policy interventions that can enhance its competitiveness.
Approach or Dynamic Hypothesis

Diagram showing relationships between various factors such as farming capacity, juveniles, energy use, water use, feed use, negative environmental impact, mitigation, farming cost, water price, energy price, disposable capital, capital investment, increase capacity, technological innovation, license availability, waste, max biomass, gap, harvest, available for sale, supply to market, market, price, take from market, modified demand, demand, customer stock.
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