## SCALING UP LOCAL VEGETABLE AND FRUIT PRODUCTION IN THE INLAND NORTHWEST: OVERCOMING CONSTRAINTS FOR SUSTAINABLE AGRICULTURAL DEVELOPMENT

### A USDA AFRI-FUNDED PROJECT OF THE UNIVERSITY OF IDAHO

THE PURPOSE OF THIS USDA AGRICULTURE & FOOD RESEARCH INITIATIVE (AFRI) FUNDED PROJECT is to support scaling up small-farm production to increase farmfamily income, improve family and community well-being, and build more resilient and robust food systems in rural areas. Our **PROJECT GOAL** is to help small-acreage farmers overcome constraints to increasing production and produce more vegetables and fruits for local and regional markets.

### **OVERALL RESEARCH OBJECTIVES**

- Identify suitable land for small-acreage farms to grow fruits and vegetables
- Understand interests, opportunities, motivations, and constraints of small-acreage producers, policy makers, and other key informants in the region
- Engage stakeholders to help develop scale-up strategy scenarios, refine and validate resulting landscape planning and economic models, and interpret research findings
- Evaluate strategies to overcome physical constraints, such as water scarcity and soil degradation, when converting land to vegetable and fruit production

## **PROJECT COMPONENTS**

- Sociological research
- Geospatial, demographical and economic analysis
- Water and soil impact assessments
- Stakeholder engagement
- Extension and outreach



Spring

2019



For project updates and more information www.IDAHOFOODWORKS.ORG

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# **OVERALL OBJECTIVES**

- Increase producer skills, knowledge, and success
- Increase agricultural landowners' ability to assess land suitability
- Increase community stakeholder knowledge

## **Sociological Research**

Our **RESEARCH OBJECTIVES** are to understand interests, opportunities, motivations, and constraints to scaling up production from the perspective of small-acreage producers, policy makers, and other key informants in the region. Our **Sociological Research Team** is conducting a series of interviews and surveys with small-acreage vegetable and fruit farmers, food buyers and distributors, agricultural landowners, and key stakeholders in the Palouse and Inland Northwest region. Interviews will help facilitate focus groups with planners, policy makers, community-based organizations, agency representatives, and stakeholders.

# **Economic Analysis**

Our Economic Analysis Team will build an economic model of the region and identify the key economic drivers of the economy using region-specific small-scale agriculture crop budgets to distinguish between small local producers and traditional agriculture revenue and expenditure patterns, and include an economic impact forecast of scaling up vegetable and fruit production over time. We will evaluate the economic tradeoffs of regional water use and identify the opportunity cost of alternative water uses. EMSI and government databases will be used to assess the impacts of the regional economy and the agricultural sector. Data collected from the **Sociological Research Team** will be integrated into a custom IMPLAN economic input-output model of the regional economy, which will estimate the economic impacts of scaling up small-scale agriculture. A spreadsheet model will help to evaluate the opportunity costs of water uses across alternative household, industry, and commercial uses with input from the Geospatial Analysis Team.



# **ACTIVITIES & PRODUCTS**

Producer Education, Landowner Education (workshops, farm walks, videos, bulletins, & courses)

- Outreach to Policy Makers, Agencies, and Resource Managers (factsheets & presentations)
- Landowner Education (workshops, Idaho Farm Link website, Land Access pilot course in spring 2019)
- Outreach to Stakeholders (Palouse Water Basin Summit and the Palouse Clearwater Food Summit )



### Geospatial Analysis RESEARCH OBJECTIVES

- I. Quantify the potential supply of vegetables and fruits and land requirements
- 2. Identify suitable land for small-acreage farms to grow fruits and vegetables
- 3. Explore spatial allocation strategies that can help convert land into vegetable and fruit production
- 4. Evaluate environmental impacts, economic contributions, and trade-offs of different spatial allocation strategies/scenarios

### **RESEARCH METHODS**

- Demographic analysis and demand estimation
- Land requirement analysis
- Land suitability analysis
- Spatial allocation & optimization
- Participatory mapping
- Geo-design & planning



### Watershed and Soil Impact RESEARCH OBJECTIVES

- 1. Identify environmental impacts and land use implications of scaling up production
- 2. Research best practices for soil management and water conservation on new and converted lands

### **RESEARCH METHODS**

- 1. Evaluate strategies to overcome physical constraints, such as water scarcity and soil degradation, when converting land to vegetable and fruit production
- 2. Estimate future agricultural demand for groundwater use under different scenarios of irrigated vegetable and fruit production
  - Spatial variability in aquifer storage on the water balance will be incorporated into the analysis.
  - Annual water requirements for individual varieties grown on the Palouse and the effects of alternative water-saving applications on irrigated water usage will be estimated

## **Extension & Outreach**

- 1. Increase **producer** skills, knowledge, and success in addressing constraints for scaling up vegetable and fruit production for local and regional markets
- 2. Increase ability of **policy makers, agency personnel, and resource managers** to evaluate sustainable land allocations by providing research-based information on the costs and benefits of allocating land for fruit and vegetable production on the Palouse
- 3. Increase the ability of **agricultural landowners** to assess land suitability for fruit and vegetable production and increase their understanding of resource allocations, infrastructure for sustainable production, and equitable land-lease arrangements with small-acreage farmers
- 4. Increase **community stakeholder** knowledge of sustainable fruit and vegetable production, alternate land allocations, and implications of meeting consumer demand for local food
- 5. Share project findings, outreach materials, and curriculum with **Extension and other agricultural** educators nationally to increase the resources, curricula, and training tools available for farmers to scale up fruit and vegetable production



## STAKEHOLDER ADVISORY COMMITTEE

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