

Assessing the Rock Island Community Garden Program

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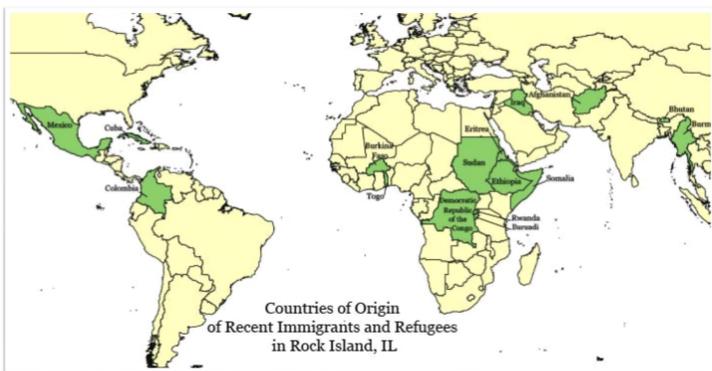
Introduction

- As part of the Sustainable Working Landscapes Initiative with Augustana College's Upper Mississippi Center, students in Urban Design and Environmental Justice (Geography 325) conducted research on Rock Island's community garden program this fall.
- The City of Rock Island currently has 21 vacant-lot community gardens and plans to expand the program to 24 gardens in 2019.
- The purpose of this project was to develop an initial assessment of the community garden program and provide general information about the benefits of urban gardens.
- Students worked with Dr. Strunk to conduct a survey with current garden program participants and tested soil from 14 gardens for lead contamination. Students collected 3 soil samples from 3 different sections of most gardens (north, middle, south sections). The soil tests showed that sections of 5 different gardens (#3N, #10M, #11N, #11M, #11S, #15N, and #21) have elevated lead levels above the EPA standard of 400 parts per million. The remaining 8 gardens will be tested for soil lead contamination in 2019.
- Students also created informational resources about the health benefits of gardens, conducted research about features of successful after-school gardening programs to be discussed with Rock Island and Milan school officials, and developed a proposal for a recipe book that can be used to raise awareness about the diversity of cultural practices in gardens and raise money for small-scale garden grants. Finally, students developed a proposal for a rainwater harvesting system, planned an outreach program for the creation of a future community garden, and created designs for a sign for Rock Island Urban Farms and a future community garden site on city property.



Gardener survey results

- Dr. Chris Strunk and students conducted a survey and 30-minute interview with 12 gardeners in the program in the fall of 2018.
- Most gardeners in the program have leased land from the City of Rock Island for 3-5 years and were farmers previously in their countries of origin.
- Most gardeners in the program work at least 3-5 days each week in their gardens.
- All gardeners described using produce from their gardens to provide food for their families and share with neighbors, and a number of gardeners expressed interest in selling excess produce.
- Gardeners were most concerned about water access, especially in the hot months of June and July, when many resort to bringing water from home for irrigation.



Recipe book project

- Students envision this project as hybrid recipe/story book designed to connect immigrant and refugee gardeners to long-time Quad Cities community residents, diminish xenophobia, and inform both groups about the City of Rock Island's garden program.
- The book would include photographs, gardener recipes that use garden produce, the cultural significance of those recipes and produce grown in their gardens ("plant stories"), information on World Relief and the refugee process, a map depicting gardener/plant countries of origin, and information on Rock Island's garden program.
- The book could be sold as a fundraiser for a local nonprofit organization like World Relief, and function as an education tool for schools.
- Students produced two recipe pages for the initial stage of this project using information and photographs obtained through interviews with refugee and immigrant gardeners.

Rice Curry with Pork

A traditional Karen Burmese recipe, To-Ka-Paw Submitted by Father Samuel



Ready in about 5-10 minutes after cooking pork to your liking.

Tips

Father Samuel warns you to not eat the hot Thai peppers in your soup, unless you really want to challenge your senses! These peppers are typically just for seasoning. His wife can eat them though!

Ingredients

- (1/4 tsp) Turmeric Powder
- (1) Cup of white rice (long grain)
- (2) Stalk of lemongrass
- (2) Cup of chopped mustard greens
- (3) Chopped bamboo shoots
- (3) Shallots (whole)
- (3) Small halved red onions
- (3) tsp Salt
- (1 1/2) Hot Thai chili peppers
- (3 tsp) Squid/Fish Oil
- Pork (on-bone)

Preparation

- Soak rice for 10 minutes, then drain
- Crush rice using mortar and pestle
- Boil pork (on bone) in a saucepan with water
- Add boiling water to the crushed rice, then pour into the saucepan - spread with a spoon so mixture does not stick together
- Bring pork back to boil
- Add bamboo shoots, onions, chilies, salt, fish/squid sauce, and turmeric powder to make the curry yellow in color
- Cover and cook mixture for 5 minutes on medium heat
- Add lemongrass, cover for one minute
- Add mustard greens to the curry and serve



Figure 1: (above) Students taste Father Samuel's rice curry after interviewing the Burmese immigrant for the recipe book project.

Figure 2: (left) An example recipe page from the planned book. Burmese recipes are typically conveyed orally and don't include exact amounts, so students spoke with Father Samuel and took notes as he cooked. The lemongrass, mustard greens, shallots, onions, and hot Thai chili peppers all came from Father Samuel's garden, which he rents through the Rock Island Community garden program.

Soils tests

- Most of the community garden plots in the program are located on vacant lots where old homes once stood. Many houses were painted using lead (Pb) paint before 1970. When such houses are demolished or simply age, Pb paint can chip off enter the soil.
- Many of the Rock Island garden spaces have Pb contamination in their soils. This becomes a social justice issue for the City of Rock Island when Pb contamination levels reach above the EPA safety standard of 400 ppm and threaten the health of gardeners and their families.
- Students in Geography 325 collected soil samples from the gardens, analyzed the samples at Augustana's lab, georeferenced the raw data, and used ArcGIS software to create maps using GIS analysis methods.
- Analysis showed elevated Pb concentrations in soil around gardens 3, 10, 11, and 15

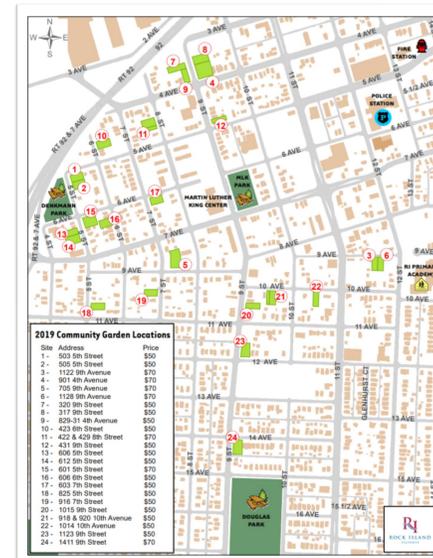
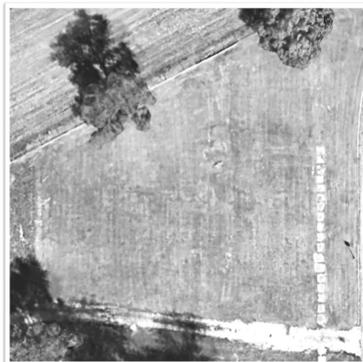


Figure 4: Map of vacant lots currently (as of 2019) rented as part of the Rock Island Community garden program.



Figure 5: Basic overview map of Rock Island's West End community garden parcels. Symbolizes gardens which have been tested for Pb contamination, gardens that still need to be tested, and gardens which the city of Rock Island plans to use as future garden parcels. Pb contamination levels in tested gardens are symbolized with graduated circles.

Community outreach plan



This is the open plot on 9th St between 3rd and 4th. The city is hoping to turn it into a new community garden and would like to see what your ideal garden looks like. Feel free to use our index as a guide and add anything else you would like.

Esta es la parcela vacía en 9th St entre 3er y 4th. La ciudad espera abrir una huerta comunitaria y le gustaría saber como es su huerta ideal. Utiliza el índice como guía y agrega otras cosas que desees.

Rock Island wants your help in designing your community garden

Index guide:

- Path
- Garden bed
- Rain shelter
- Water access
- Bench

Rock Island quiere tu ayuda diseñando tu huerta comunitaria!

Guía al índice:

- Camino
- Huerto
- Refugio de lluvia
- Acceso a agua
- Banco

Figure 3: Students created an outreach document printed in English and Spanish to be distributed to houses in a neighborhood where the city of Rock Island plans to create a true community garden. Community members would be able to use the document to design their own garden by drawing on blank maps using the index for reference. The goal of this project is to involve potential users of the future garden to participate in a bottom-up, community-led design process.

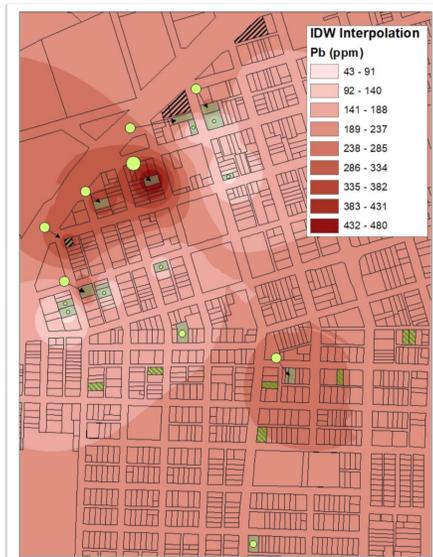


Figure 6: IDW Interpolation method in the full extent of Rock Island's community gardens. Interpolation predicts Pb contamination levels based on average Pb levels found in 16 tested community gardens.



Students from GEOG 325 conduct soil tests on samples collected at Rock Island gardens

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