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"Adopt-a-Sonoran-Desert-Crop" Project: Preserving agro-biodiversity through citizen participation Ajo Center for Sustainable Agriculture

Project Summary Part I. Description

Participating organizations

- Ajo Community Garden,
- Loma Bonita Orchards and Garden,
- International Sonoran Desert Alliance,
- Desert Senita Community Health Center,
- Edible Ajo Schoolyard Program,
- Ajo Unified School District,
- Tohono O'odham High School,
- Ajo Botanical Company,
- Pima County Ajo Salazar Library,
- Pima County Seed Library,
- 100 Estrella Restaurant,
- Organ Pipe Cactus National Monument,
- Cabeza Prieta Natural Wildlife Refuge,
- Kawyu Apedag Wapkiial Oidagkam,
- Tohono O'odham Community College,
- Tohono O'odham Community Action,
- Tohono O'odham Youth Council,
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- San Xavier Co-op Farms,
- Ramona Farms,
- Gila River Senior Services,
- Local Frist Arizona,
- Prescott Farmers Market,
- Natural Resources Conservation Service - Sells,
- Native Seeds SEARCH,
- Bisbee Community Gardens,
- Bisbee City Council,
- University of Arizona,
- University of Arizona Extension Services,
- Tucson Mission Garden,
- Sonora-Arizona Desert Museum,
- Iskashita Refugee Network,
- COBAH High School (Sonoyta, Mexico).
- Communities directly affected by the project

Background or problem statement

Sonoran Desert is considered to be one of the harshest environments in the world for human habitation and agriculture. However, thousands of years ago, the people of the Sonoran Desert began to understand how to harvest the monsoon rains and sustain themselves on plants that were highly nutritious and thrived in extreme desert conditions. In the 17th century, the Spanish missionaries introduced more desert-adapted crop which through the centuries got incorporated into diets and the local Traditional Environmental Knowledge (TEK). With the social and economic changes affecting the region, both sets of crops started disappearing from tables and fields in the 19th and 20th century. With the recent boom of gardening and local food systems, home and market gardeners often choose species and varieties they are familiar with but unlike the desert-adapted crops, these crops use more water, require higher level of soil inputs and upkeep, and have more pests as well as diseases. Incorporating Sonoran Desert crops is not only beneficial for the today's grower but also helps the conservation of land and water resources, and improve the long-term health and sustainability of the communities and local food systems.

General description of the project

1. Community Outreach and Education

- 275 Gardening and cooking workshops, demos, tastings
- 800 hours of Individual TA to gardeners
- Newsletters, handouts, social media
- Community food events (Ajo Food Festival - 800 visitors, Baja Arizona Pomegranate Festival – 300 visitors)

2. Organizational Outreach and Education (“Train-the-Trainer”) to 32 organizations

- tours, trainings, workshops, conferences

3. Collection and Distribution of seeds/cuttings

We selected, acquired and catalogued 15 desert crops, and prepared seeds and record-keeping forms for the distribution to gardeners. We prepared 1,120 cuttings from the 15 varieties in the experimental pomegranate orchard and other prospective local sources for the distribution. We recruited 75 gardeners and 7 organizations to participate in the crop preservation program. We collected, catalogued and analyzed the results.

4. Creation of a Physical and Virtual Learning Space

- Parallel growing trials at Many Hands Urban Farm and Learning Center
- Installation of raised beds, pomegranate nursery and interpretative signs
- Installation of 2 dry-land “ak chin” (“mouth-of-the-wash) fields in Ajo, AZ and New Fields, AZ (on the Tohono O’odham Nation)
- Creation of ajocsa.com.

5. Established Learning Communities

- Consultations, tours, presentations for 20 communities
- Arizona Small Scale Producers Forum and Celebration of Sonoran Desert Crops (2-day networking, best-practices-sharing event in November of 2016, 170 participants).

Description of outcomes and follow-up

By providing outreach to 10,000 participants and 32 organizations, offering 275 educational opportunities and 800 hours of individual consultations, and recruiting 75 gardeners and 7 organizations to participate in the growing trials, the project established a vital, diversified community-based seed bank, an agricultural learning center, 2 dry-land fields, and substantially increased awareness of and capacity about desert-adapted crops, sustainable agriculture methods and environmental action. The project shared best practices with 20 other borderlands communities through conferences and individual tours and consultations.

The 15 crops preserved include:

- Tohono O’odham Squash, Tohono O’odham 60-day Corn, Tohono O’odham June Corn, Brown Tepary Beans, White Tepary Beans, Tohono O’odham Black and White Cowpeas, Bisbee Red Cowpeas, Tohono O’odham Yellow Watermelon, Tohono O’odham Melon, Tohono O’odham Sugarcane, Magdalena Big Cheese Squash, l’ittoi Onions, Tohono O’odham Peas, White Sonora Wheat, Magdalena Chard
- Perennial: Pomegranates (15 varieties of white and pink pomegranates) Seeds, cuttings and information about history, growing and consuming these crops can be obtained for free by contacting us at ajocsa@hotmail.com, or project director Nina Sajovec at nina@ajocsa.com. Visit our Many Hands Learning Center and Urban Farm, our website (Resources section) at ajocsa.com, or look for vides on YouTube) or follow us on Facebook (Ajo Center for Sustainable Agriculture).

Project Summary

Part II. Analysis

Successes

Overall, the project not only met but exceeded project goals.

1. Community outreach and education: We organized 275 workshops, demos, tastings and other community events, including Ajo Food Festival, San Isidro Festival, Community Planting at Many Hands Learning Center, Baja Arizona Pomegranate Festival, and the AZ Small Scale Producers Forum and Celebration of Sonoran Desert Crops. We offered 800 hours of technical assistance. We had a total of 10,000 participants, including 100 households who are members of Ajo Gardeners Network. We also developed whole new programming for kids and youth, held on and off school campuses.
2. Train-the-Trainer: trainings and/or consultations to 31 organizations.
3. Collection and Distribution of seeds/cuttings: We selected and regrew 15 annual crops and 15 varieties of heirloom pomegranates, and recruited 75 gardeners from Ajo, Tohono O’odham Nation,

Tucson, Phoenix, Gila River Indian Community and other borderlands communities to grow them and report on them. We also recruited 7 organizations including schools in Ajo and in San Simon (Tohono O'odham Nation).

4. Physical and virtual learning space: We designed growing areas at the Many Hands Urban Farm and Learning Center (1/2 acre), as well as installed 2 dry-land fields (1/2 acre). We installed raised beds, pomegranate nursery and interpretative signs. We filmed and posted short instructional videos on the crops (can be found on Facebook and YouTube) in addition to written handouts. We created ajocsa.com website, including Resources section.
5. Sharing with other communities: We shared our program and experience with 20 other communities mostly from the US/Mexico borderlands. We experienced larger than expected interest by Native American communities. The project was also featured on Female Farmer project, Cook's Science, Tucson NPR, Pima County Seed Library's Gardening Q & A blog, and our social media posts continue to reach audience beyond our local and immediate reach.

Challenges

There were many challenges we encountered during the implementation, ranging from the appropriate personnel recruitment issues (with Ajo Center for Sustainable Agriculture as well as other rural organizations) to extreme weather conditions (one of the driest summers and least amount of monsoon summer rains needed for crops), however, most challenging was the realization how little knowledge there is (still) available on the Sonoran Desert crops and traditional Tohono O'odham agricultural practices, and how low the general awareness was, i.e. the starting point for the project was even lower than expected. We therefore added several more aspects to the already multi-tiered approach, stretching our resources and staff.

Lessons Learned

It was striking to find how few people really have any knowledge about these crops and old growing practices, and second, were excited to try to grow them. We therefore decided to add a strong tasting component to our programming "if they eat it, they will grow it" To appeal to larger audience, we also needed to slightly reduce the formality of the program (e.g. the reporting requirements) and design the program to be more flexible and "fun". We also realized that more technical assistance and educational opportunities will be required as initially planned. We have learned how crucial the role the weather plays in our program, as well as growing food in general. We were once again reminded how food is a complex topic - it is not just about nutrition, seed preservation or environmental education – it has to do with history of the place, social justice, class and race, and everything else that makes us human. We also realized that especially younger generations do not want to read (old) books or handouts, but instead take their information much better from cell phones and/or social media. We therefore decided to shift the weight of the cataloguing and educating about the crops from written records into videos and photos (with also corresponds with the indigenous people's focus on oral history vs. written record), which also represented a steep learning curve for the staff.

We are continuing to learn the power of partnerships, not only in preserving the biological diversity but also community outreach – our partners helped us reach populations that otherwise we would not. Relationships and partnerships, however, take time, finesse and patience Overall, we realized pretty early on that we embarked on a very long-term process – it will take more than one growing season to reintroduce the people to these plants, so we started looking for funding to support the project beyond its original one year scope.

What Next? What will you do and what should others do?

Ajo Center for Sustainable Agriculture will continue the program in all of its five components. We were lucky to secure funding for 2017 by Pima County, and from AZ Department of Agriculture and United States Agricultural Marketing Services for 2018 and 2019. We will further develop youth-focused programming for Ajo school and other regional schools, as well as John O'Mailey program at the Ajo Unified School District and "Kids at the Farm" after-school activities as well as agricultural careers club at Ajo High School (Ag Club) and our work with the Culinary Arts classes. We will continue to offer paid agricultural internships and apprenticeships, and also install a new incubator farm in Ajo, AZ which will be another growing site for the crops of the program. We will partner with other local, regional and international indigenous and other organizations (Native American Food Sovereignty Alliance,

International Intertribal Treaty Council, Native American Farmers Association, Local Organic Crops and Other Stuff Cooperative, Local First Arizona and others) to expand the 2-day best-practices sharing event into a 4-day event in 2017 (and take the event to other local indigenous communities in 2018 and beyond). We will also work specifically with other local and indigenous growers to rejuvenate the production of these crops for sale, and increase income of local farmers.

Other participating organizations will continue to partner and increase their own capacity, and spread the knowledge in their own communities. Also, 95% of participating organizations committed to incorporate at least one of the elements of the taught sustainable agriculture methods into their operations and/or educational efforts.

For more information about the project please contact:

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