PROGRAM FOR THE NETWORK OF BIOCULTURAL EXCHANGE IN WIRIKUTA

SAN LUIS POTOSÍ, MEXICO

Agroecological corn plot or *milpa*, July 2021. Photograph courtesy of Joaquín Urrutia

General Objective:

To develop a multidisciplinary program whose main objective is the restoration of the Wirikuta biocultural region through the creation of community workshops, nurseries, and a community center that functions as an incubator for agroecological projects, solidarity economies and cultural production and exchange. Through planned phases and with the support of an interdisciplinary team, this program seeks to generate agroforestry and business models that promote an integrated agroecological management of farmland and the natural landscape and allows for the regeneration of ecosystem processes, increased productivity, improved soil conditions, and a betterment of the socioeconomic opportunities of the region's inhabitants.

Finally, this initiative promotes the management of projects that promote the participation and exchange of knowledge between two of the groups with the longest history in Wirikuta geography: the native peasants and the Wixáritari. Our ultimate goal is for aspects of this model to be implemented in other communities that seek to restore their ecologies and activate their cultures and regional economies in the face of the climate crisis and with viable alternatives from the grassroots level.

Old growth mesquite tree located in the corn plot near El Bernalejo, an altar to *Tamatsi Kauyumarie*, Our Elder Brother Fawn of the Sun. Photography courtesy of Joaquín Urrutia, 2021.

Specific objectives:

To develop a multidisciplinary space directed by young Wixaritari professionals and local small farmers in the communal lands or *ejido* of Las Margaritas, in the municipality of Catorce, San Luis Potosí. The space will include the following elements:

- Establish an ethnobotanical garden with endemic and native species of cultural and agro-ecological importance.
- Create an agroecology and permaculture educational center for training local small farmers and wixaritari as agroforestry technicians that include the following:
    - Demonstrative *milpa* or cornfield
    - Agroforestry garden of cacti, fruit, medicinal plants and vegetables
    - Agroforestry species propagation nursery
    - Beekeeping
    - Workshops for processing and "added-value" of products
- Establish a multidisciplinary *Escuela de la Tierra*/School of the Earth with a:
    - A biocultural exchange center
    - Multipurpose room for courses, workshops, retreats and conferences
    - Workshops for Wixaritari artists and artisans.
    - Training and education programs in: reproductive rights, water and land
- Incorporate Ecotourism and biocultural awareness center for visitors
    - Information center for visitors
    - Ecological cabins
    - Shop with local products and handicrafts under a collective brand.

Participants grinding maguey leaves to produce a fermented fodder for cattle as part of our July 31st agroecology workshop. Photography courtesy of Diana Negrín.

Geographical and cultural context:

Wirikuta is located in the high plateaus of the Chihuahuan Desert in what in Spanish is referred to as the Altiplano Potosino. It was declared a Natural Protected Area and Sacred Natural Site by the government of the state of San Luis Potosí. This territory is one of the most important natural sacred sites of the Wixárika indigenous people; it is here where the sun was born to illuminate the world. Since time immemorial, the Wixárika people have made their annual pilgrimage to Wirikuta as part of their agricultural and cosmogonic cycle, recreating the journey that their ancestors made and collecting the sacred peyote or hikuri plant. Wirikuta is one of the most important living biocultural treasures in Mexico and, according to the World Wildlife Fund, it is one of the three most biodiverse desert ecosystems on the planet.

The region's ecosystem is in a severe state of desertification, evidenced by the low percentage of plant coverage of the soils and erosion. In turn, desertification has deteriorated the ecosystem processes and the quality of life of the inhabitants of the region. Some of the main effects that can be observed in the region are: low fertility in agricultural soils, low production of pastures and forage species, reduction in the ability of soils to infiltrate and retain moisture, and loss of biodiversity of flora and fauna.

The negative effects of climate change as a global process that has modified the regularity of the rains is exacerbated by the model of continuous overgrazing of livestock and by intensive agricultural practices such as continuous tillage of the soils, the lack of reincorporation of organic matter, and the application of agrochemicals.

This situation has direct consequences for local inhabitants by significantly reducing the productivity and profitability of agricultural and grazing lands, putting at risk their food security and sources of income of the peasant families living in the region. Additionally, a water imbalance is generated that further aggravates the scarcity of water and generates a

negative impact on the health of the native fauna, by reducing the availability of food in the form of pastures and foraging plants. These processes, combined with changes to industrial land use and the overharvesting of peyote, has led to a precipitous decline in the population of this sacramental cactus for the Wixáritari, a deterioration of the sacred water springs, and a generalized reduction in the biodiversity of Wirikuta. All of this is of grave concern to the Wixárika people who have sought various strategies for the protection of Wirikuta. The current proposal focuses on the first few phases of a broader biocultural project that seeks to bring well-founded solutions for the defense of Wirikuta and that incorporates the most important actors for this region: small farmers and the Wixárika people.

Justification:

Agriculture depends largely on biodiversity and ecosystem services, as such, it is vitally important to generate strategies for a semi-arid region that allows for proper grazing management and comprehensive agroecological practices that reverse the processes of desertification and restore ecosystem functions, while increasing the productive capacity and profitability of these agricultural systems.

Agroforestry systems allow the strategic introduction of trees, shrubs and other multifunctional perennials to agricultural lands. These systems can be integrated into the cornfield plots that exist in the region under a technique known as alley cropping where agroforestry rows of trees and perennials are interspersed with strips of annual crops such as corn, beans and squash. The presence of trees and perennials increases resilience and the ability to adapt to climate change as they help to stop soil erosion, increase natural fertility, protect crops from climatic extremes, improve rainwater retention in the subsoil, increase biodiversity, and sequester atmospheric carbon dioxide as a climate change mitigation strategy.

Additionally, it is possible to integrate tree and perennial plant species with economic value that generate additional products such as food, medicine, firewood and animal fodder. This brings direct benefits to the local population and reduces pressure on the uncultivated natural ecosystem, including the sacred pilgrimage places of the Wixárika people.

Wixarika and non-Wixarika women during the July 31st workshop in Las Margaritas.
Photograph by Carlos Carrillo, 2021.

SCHEDULE

Timeline	Activities
First stage - carried out from May to August, 2021	• Design of a demonstration and educational plot of agroforestry milpa in the ejido of Las Margaritas • Practical training with ejidatarios from the Altiplano and Wixáritari university students on the planning and agroecological management of agroforestry milpas with hydrological design, regenerative management of grazing, and comprehensive use of mesquite, maguey and cactus as sources of food, fodder and firewood • Promotion of the restoration and care of the sacred territory of Wixárika and the Altiplano with regional groups and associations, and with organizations and Wixárika authorities.
Second stage - November 2021-April 2022	• Place stakes, clean, winter work in the milpa, tractor to integrate organic matter for next planting • Develop workshops and program of events for late spring and summer months • Planning and design of the center • Land preparations for the next planting and for the nursery
Third stage - May-August 2022	• Mesquite harvest activity • Escuela de la tierra - program of workshops and cultural activities for 3 days

Gerardo Ruiz Smith leads workshop in agroecological corn plot or milpa.
Photograph courtesy of Joaquín Urrutia, 2021.

PROJECT TEAM:

Carlos Carrillo López—A native of Nueva Colonia in the Wixárika community of Tuapurie, he received his bachelor's degree in Education with a focus on natural sciences from the University of Baja California in 2021. For several years he has participated in agroecological traninings, including a residency with Vía Orgánica in Guanajuato. He has acted as director and currently teaches at the autonomous community high school of Nueva Colonia, *Tamatsi Paritsika*.

Eduardo Guzmán Chávez—As a sociologist, poet and community activist, he has carried out productive, cultural, traditional alternative medicine and permaculture projects in the Sierra Wixárika and in Wirikuta for 29 years. He is an ejidatario or communal landholder in Las Margaritas and participates in the proposed Life Agreement in Wirikuta that aims to integrate local knowledge and alternative technologies to honor life in that sacred territory.

Isaías Navarrete Chino-A native of the Wixárika community of Muyewe Kuruwe, Tuxpán de Bolaños, he received his bachelor's degree in Agroforestry Engineering from the Autonomous University of Chapingo in 2022. He has dedicated several years to forestry management and participated in cultural exchanges and hands-on workshops in New Mexico, Michoacán and Jalisco.

Diana Negrín—She is an independent scholar, writer, curator and doctor in geography from the University of California, Berkeley, she is the president of the board of directors of the Wixarika Research Center. She teaches courses in geography, ethnic studies and urban and public affairs at the University of California, Berkeley and at the University of San Francisco.

Yvonne Negrín—Director of the non-profit foundation, Wixarika Research Center, founded in 2001 with the aim of promoting the study and defense of Wixárika culture and territory. She has more than 49 years of work with Wixárika communities, including

initiatives in art and design, health, and ecological rescue through productive projects in various locations in the Western Sierra Madre.

Gerardo Ruiz Smith—Consultant in the planning, design, and management of agroecological landscapes resilient to climatic extremes that allow for the regeneration of ecosystem processes, produce healthy food, and revitalize local economies. Since 2015 he has worked in the propagation, sowing, harvesting, processing and promotion of the mesquite tree as a strategic food crop for dry climates, in addition to its integration into agroforestry polycultures in combination with agaves, cacti, perennial grasses and grazing systems.

Mariola Sánchez Hernández—A native of Colonia Rivera Aceves, part of the community Wautɨa, San Sebastián Teponahuaxtlán, she received her bachelor's degree in Agribusiness with a specialty in the "Interinstitutional Program in Food Sovereignty and Strategic Local Management (PIES-AGILES)". She served as a local secretary for the traditional government of Wautɨa in 2021 and recently completed a course on permaculture in the state of Querétaro.

FOR MORE INFORMATION AND DONATIONS:

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