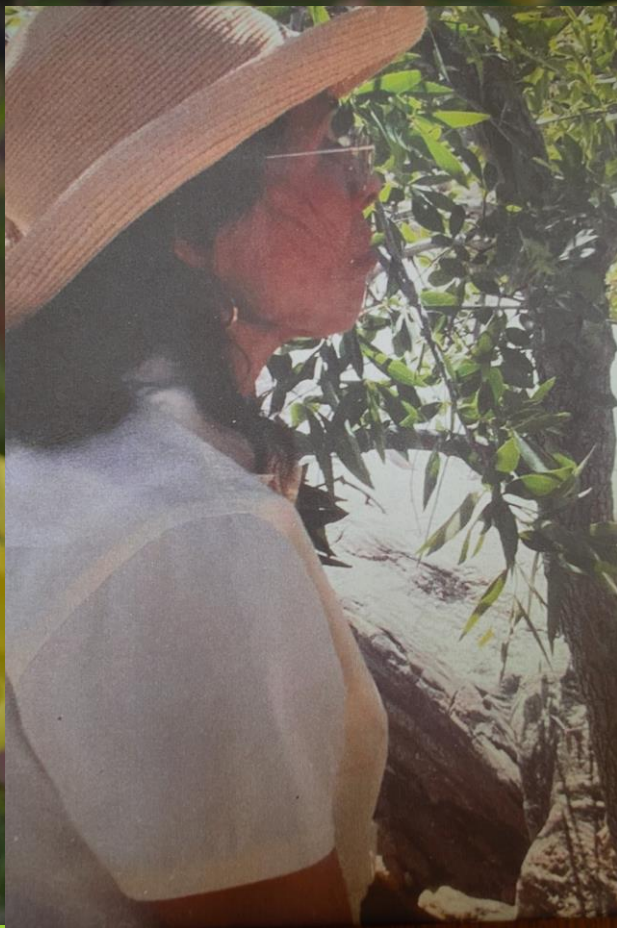




At the Crossroads: Climate Change, Indigenous Perspectives and Sustainable Family Farming

- Ruben P. Viramontez Anguiano, PhD
University of Colorado Denver
- Mark Guttridge
- Ana Eugenia “Kena” Guttridge Cordero
- Olin Harrison Anguiano
Ollin Farms, Colorado



Eloisa Viramontez Anguiano 1933-2021

My Mother and Mentor

Gratitude

To the United Nations, Division for Inclusive Social Development (DISD)
Department of Economic and Social Affairs (DESA)

To our Indigenous and Mestizo roots from our parents and ancestors who passed on their IFP to future generations

To the families and youth who volunteered Ollin Farms

To Dr. Sarah M. Harrison University of Colorado Denver for helping with editing the paper and presentation

To the University of Colorado Denver School of Education and Human Development Dean's Office for helping fund the opportunity to present today





The Authors

Mark Guttridge raised on a small family farm in Longmont, Colorado. He is an environmental engineer and has worked with the EPA. He started Ollin Farms a regenerative farm 17 years ago.

Ana Eugenia “Kena” Guttridge Cordero, a mestiza raised and educated in Mexico started Ollin Farms a regenerative farm 17 years ago. She promotes the importance of the balance of nature and humans.

Olin Harrison Anguiano, is the Esperanza Youth Group Leader at Ollin Farms, a youth group focused on families and youth of color. He is a mestizo and is the descent of Mexican ancestry. He will be pursuing a *Natural Resources* degree at the university.

Ruben P. Viramontez Anguiano a mestizo raised by immigrant parents from Mexico on a sustainable/regenerative farm in Southeastern New Mexico. Has continued to work on farms and with rural families and youth of color for over 30 years.

Paper Explores



This paper explores Indigenous farming practices (IFP) and the case study of *Ollin Farms*, a small family farm in Colorado providing opportunities for families of color and youth to be part of the planetary healing.



The purpose of this paper was threefold: to understand the role of Indigenous farming practices in offsetting climate change; to explore how Indigenous farming practices inform regenerative/sustainable family farming efforts to steward the land; and finally, to examine the role of youth of color and their families in climate justice.

Background

For centuries, Indigenous Farming Practices (IFP), ecosystem management and climate health techniques were passed through storytelling, native wisdom and hands-on learning from the elders to the youth, from generation to generation.

The age of colonialism, both political and corporate, set up land management systems focused on extraction from nature rather than a partnership with nature (Sands et. al., 2023).



Indigenous Farming Practices

Indigenous farming practices (IFP) also referred to as traditional ecological knowledge (TEK) have served as a resilient mechanism towards climate change because of adaptivity in different conditions, shaping landscapes, natural environments, biodiversity, and agriculture (Gadgil et al., 2021).

IFP/TEK provides an in-depth ecological intelligence related to ecosystems that have been passed on over generations they are the found for modern regenerative sustainable farms (Hosen et al., 2020; Ingty, 2017; Wyllie de Echeverria and Thorton, 2019).

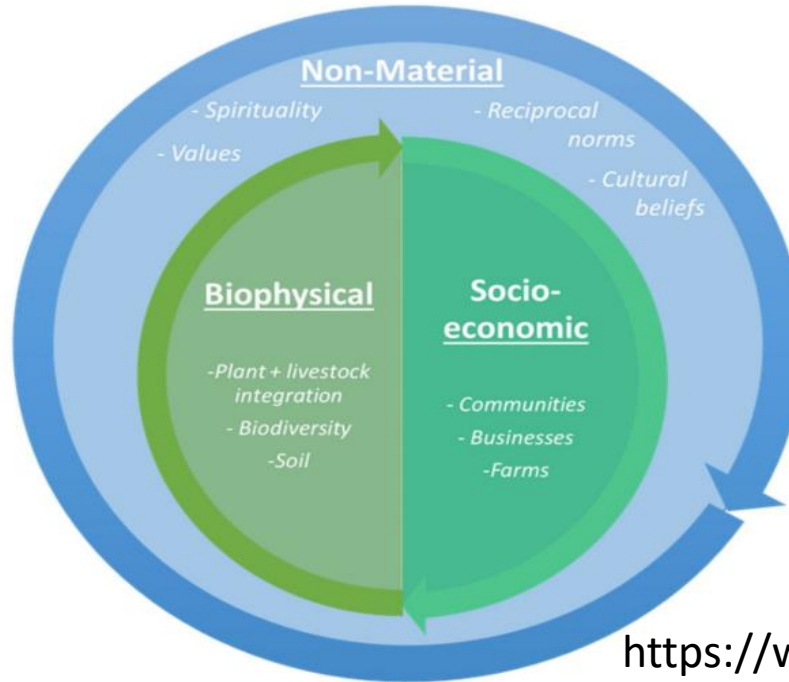


Examples of IFP: Three Sisters and More

- Agroforestry
- Companion Planting
- Crop Rotation
- Rotational Grazing
- Burns
- Water Preservation
- Composting
- Biochar

Regenerative Farming Models

6 Core Principles of REGENERATIVE AGRICULTURE



<https://www.urbanvine.co/blog/what-is-regenerative-agriculture>



History and Key Moments:

Ollin is an *Aztec* word meaning constant motion or constant change, which was chosen to reflect the cycling of the farm

Observing the patterns of nature and mimicking those processes.

The farm has faced major challenges from Mother Nature including a 500-year flood, multiple hailstorms and weather challenges.



IFP Examples on the Farm

- Ollin Farms has utilized shrub species that can also produce food or medicine, including bushes with indigenous cultural significance.
- Spent bags of fruited mycelium are brought to the farm and combined with wood chips to allow the mycelium to continue to spread and eventually turn the wood chips into soil.
- Rotational grazing allows plants and animals to do the work of sequestering carbon and growing topsoil.
- Cover cropping is a practice of growing diversified crops primarily to benefit the soil rather than for harvest.



Generations of Color at the Farm




- Youth from different cultures and backgrounds come with their natural curiosity, their energy and their happiness when connecting with Mother Nature and La Tierra.
- For Ollin Farms, teaching the next generations through an Indigenous lens about the importance of the land, nature and climate change has become a priority
- Esperanza a youth group of color has learned about their indigenous farming heritage.



Recommendations and Conclusions

- Government agencies should identify local regenerative family farms and Indigenous communities focused on ecosystem health and engage them when writing policy to ensure that subsidies, insurance policies, grant opportunities, and sales channels are supporting a regenerative local food system.
- Government agencies should identify opportunities to educate and engage families in their local communities to be active participants in ecological land management. Local farms interested in engaging the public can host the families for educational workdays or engagement opportunities can be organized on public lands.

Recommendations(Cont.)

- Leaders and land managers at the local, regional, and national level should include youth and families of color as they can be important climate advocates at the leadership table.
 - That youth of color and their families who are Indigenous and of mestizo background who have indigenous farming heritage should be invited to learn about their farming ancestry and to have a voice.
 - Biodiversity is key to climate resilience, whether in our agricultural fields or in our communities.
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Conclusion

- In closing, as stated by Kena Guttridge-Cordero, *Mixteca* mother and co-owner of Ollin Farms, referring to youth and climate change. “*Yes, we need to leave a better planet for our children, but equally important is to leave better humans for our planet.*”

References

Gadgil, M., Berkes, F., & Folke, C. (2021). Indigenous knowledge: From local to global. *Ambio*, 50, 967–969. <https://doi.org/10.1007/s13280-020-01478-7>.

Hosen, N., Nakamura, H., Amran, & Hamzah (2020). Adaptation to climate change: Does traditional ecological knowledge hold the key? *Sustainability* 12, 676. <https://doi.org/10.3390/su12020676>.

Ingty, T. (2017). High mountain communities and climate change: Adaptation, traditional ecological knowledge, and institutions. *Climatic Change*, 145, 41–55. <https://doi.org/10.1007/s10584-017-2080-3>.

Sands, B., Machado, M.R. White, A., Zent, E., Gould, R. (2023). Moving towards an anti-colonial definition for regenerative agriculture. *Agriculture and Human Values*, 40, 1697–1716.

What is Regenerative Agriculture? Urban Vine.
<https://www.urbanvine.co/blog/what-is-regenerative-agriculture>

Wyllie de Echeverria, V. R., & Thornton, T. F. (2019). Using traditional ecological knowledge to understand and adapt to climate and biodiversity change on the Pacific coast of North America. *Ambio*, 48, 1447– 1469. <https://doi.org/10.1007/s13280-019-01218-6>.

