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I chose the multifunctional agroforestry system where forestry and agricultural activities are combined in a way that helps build both environmental sustainability and economic resilience for farmers. Not only helping farmers to increase incomes as well as to gain diversity and stability in their crops, agroforestry also help to increase carbon sequestration, better soil health, promote species diversity, better water quality and help to provide wildlife habitat. (J.Fike) Agroforestry is a prime example for the interplay between traditional ecological knowledge and modern practices. Agroforestry practices involve a process called alley cropping or intercropping where farmers can plant profitable crops such as fruits, vegetables, grains, flowers, herbs in between rows of trees. (USDA). It can also involve forest farming where the growing of vegetables and other crops are done righter under the forest canopy that provide prime shade. Another method of agroforestry is silvopasture where people can combine forestry with livestock foraging area. This practice is designed to help provide shade to the foraging livestocks as well as forestry products including nuts and timber.

This method specifically addresses the harmful effects of modern agriculture setting, especially the practice of monoculture that severely damages soil health, increasing carbon dioxide released into the atmosphere as well as decreasing biodiversity and crop resilience.

Agroforestry can be integrated into many existing agricultural or forestry systems, especially systems that are community-based. Agroforestry systems can also be integrated with many other location prime for landscape such as farming fields, pastures, forest patches, wild areas (page 9, forest restoration by interfaith rainforest initiative)

According to a presentation on “implementing agroforestry practices in Virginia, USA” by John Fike and others, 2725 farms across 11 states in the United States which equate to around 12% of the farm in the country.

The blend of agroforestry and TEK can be seen in the example of the Tehuacán Valley region, one of the earliest areas of agriculture of the New World that have been heavily influenced by traditional ecological knowledge. The diversity in the existing landscape made possible by TEK increased the resilience of agroforestry systems in the region. For example, a research paper outlining the influences of TEK on biodiversity of the agroforestry system in the area shown that

locals understand the useful properties of nearly 2000 species documented by the researcher and even know the “distribution, abundance, interactions with other plants and animals” (11). They also already understood the “germination, growth and phenology” of the plants there and this makes integrating agroforestry much easier and effective. In addition, agroforestry can help locals to apply their knowledge in a way that helps them build resilience in an ever-changing world.

Resources:

- U.S. Department of Agriculture article on agroforestry:
<https://www.usda.gov/topics/forestry/agroforestry>
- Report on FOREST RESTORATION by Interfaith Rainforest Initiative:
<https://www.interfaithrainforest.org/wp-content/uploads/2021/06/IRI-forest-restoration-primer-Final.pdf>
- presentation on “implementing agroforestry practices in Virginia, USA” by John Fike, John Fike, John Munsell, Adam Downing, Tim Mize, J.B. Daniel, Jacob Johnson, and Chris Teutsch: https://euraf.isa.utl.pt/sites/default/files/pub/docs/development_7_fike.pdf
- Vallejo, Mariana & Moreno Calles, Ana & Casas, Alejandro. (2016). TEK and biodiversity management in agroforestry systems of different socioecological contexts of the Tehuacán Valley. *Journal of Ethnobiology and Ethnomedicine*. 12. 1-15. 10.1186/s13002-016-0102-2.

Visual Story:

PGC
2022



TEK & Agroforestry Relationship

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Before scientists were able to develop methods to for reforestation, indigenous communities have deeply understood nature and found ways to harmoniously coexist and preserve the natural resources around them. Their knowledge is now referred to as "traditional ecological knowledge" (TEK) and it is a powerful basis for scientific and modern reforestation methods.



Learn more about the interaction of TEK and agroforestry.

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FIRST, WHAT IS AGROFORESTRY?


the multifunctional agroforestry is a system where forestry and agricultural activities are combined in a way that helps build both environmental sustainability and economic resilience for farmers.



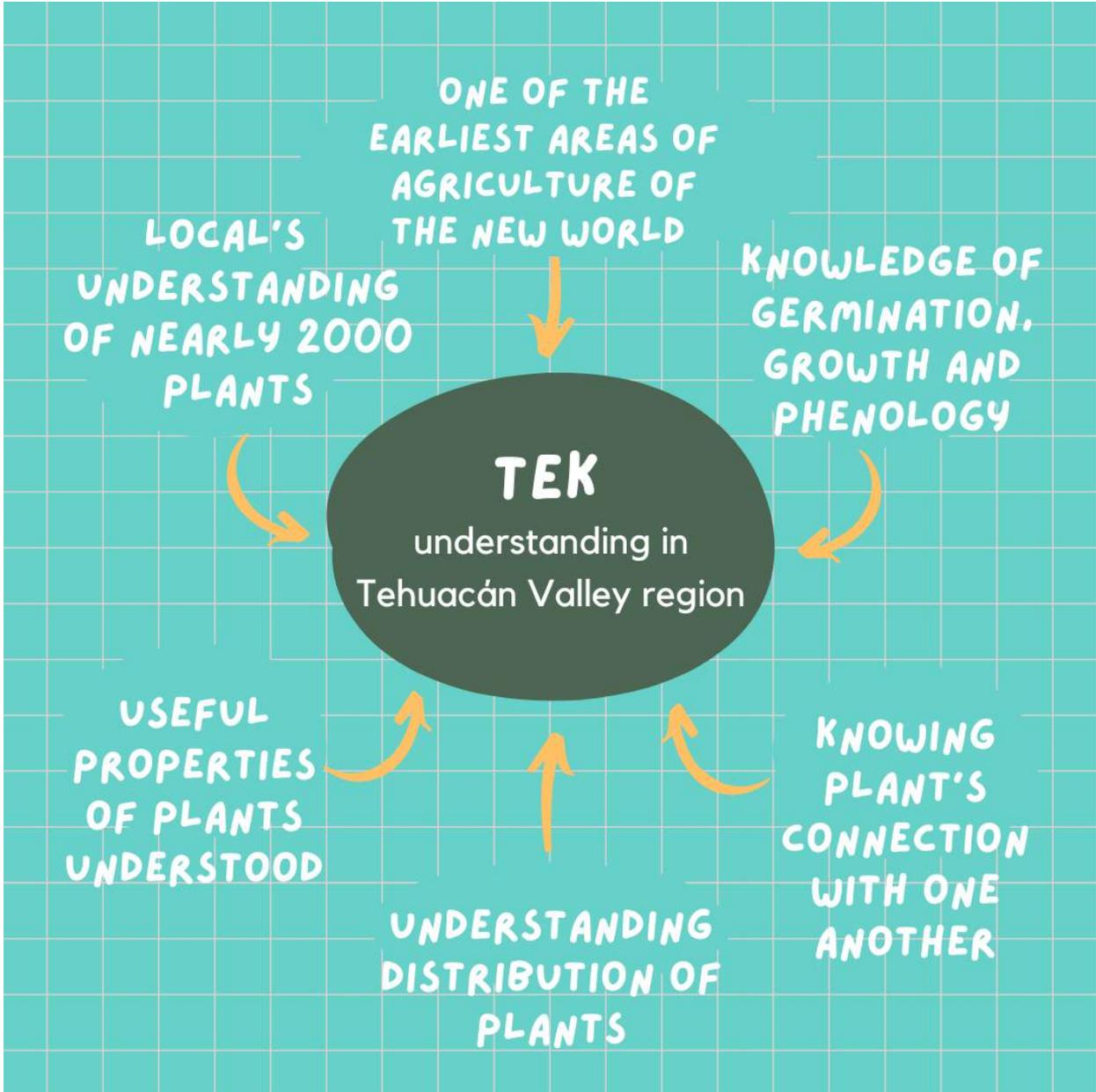
image: the Conversation

IMPORTANCE OF AGROFORESTRY

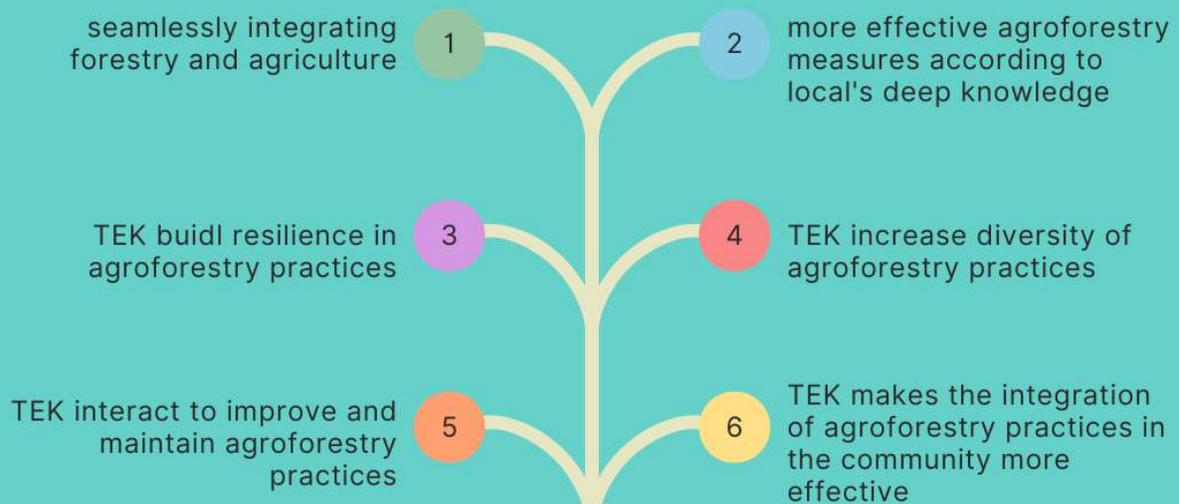
Not only helping farmers to increase incomes as well as to gain diversity and stability in their crops, agroforestry also help to increase carbon sequestration, better soil health, promote species diversity, better water quality and help to provide wildlife habitat. (J.Fike)



image: the Conversation



TEK APPLICATION OF TEK IN Agroforestry



Instagram Post:



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