

Examples of Additional Comments from Farmers in Interviews

- “In Petén when no chemicals were used, mushrooms, sweet cherry tomatoes, and chipilín would grow and were natural here. These aren’t seen as much anymore with the use of chemicals...Chemicals can have negative impacts and the worst thing is the loss of natural seeds... People are now buying varietes from companies like Monsanto and there have been a lot of negative impacts...Those that use chemicals have plants that change forms and then they have to use more chemicals...the price raises with each new chemical.” (Rony, 2013)
- “If possible I would like to use less chemicals but I would have to know how.” (Maric 2013)
- “In the past years I’ve seen changes in the crop yields. A lot of the land is like a savanna and there are areas that have basically no nutrients. The land isn’t sufficient for crop rotation because there isn’t enough room...What’s most important is producing food that is the healthiest to consume...I’ve observed over time other people in the community have used increasing levels of chemicals.” (Victor, 2013)
- “In general the community of Nuevo Horizonte needs information and education about agriculture. One of the greatest problems in Nuevo Horizonte is that we need information if we are going to grow other things. If we are going to grow other things where are we going to sell it?” (Tono, 2014)
- “The use of transgenics here is not a good idea because they are only for producing huge quantities for big markets and to sell. I understand the consequences of transgenics...it’s really expensive and you have to pay the price Monsanto has...[in Nuevo Horizonte] if you use transgenics, you’re never going to have food.” (Fernandez, 2014)
- (In reference to the use of transgenics) “The companies are trying to confuse the campesinos. They are trying to change our traditions and customs.” (Juan, 2014)
- Using transgenics creates a dependence on companies like Monsanto and we don’t want to have that; I only want to use the native seeds that you can use many times. I don’t like transgenics because I don’t know them...we don’t have that scientific information...with transgenics, you need to buy the seed which is very expensive. You need to buy other things from the companies to harvest it-it’s very expensive. Many in Nuevo Horizonte don’t use the transgenic seeds because it’s a dependence on Monsanto”. (Tono, 2014)

Appendix III: Recommendations for Nuevo Horizonte

Based on the results of this study, various recommendations have been developed in order to promote agricultural sustainability in the community of Nuevo Horizonte and improve the overall health and wellbeing of the community. These recommendations aim to act as a basis for improving agricultural sustainability in similar communities in countries around the world. These recommendations were developed with the understanding that communities in many low-income countries face various economic, political, and cultural barriers and often have limited access to resources and thus rely upon the suitable use of natural resources and innovation of community members.

I. Composting

Composting is often seen as a natural fertilizer that provides essential nutrients and organic matter to crops and improves overall soil health by enhancing soil texture. Compost has been used both as an alternative and in addition to commonly used synthetic fertilizers. The implementation of composting in Nuevo Horizonte would pose essentially no burdens on community members, as natural components of compost such as grass clippings, eggshells, and food scraps are readily available and the warm, moist climate is ideal for the rapid decomposition of the materials. Minor economic costs would be required for materials such as wood in order to build a receptacle in which to maintain the compost. Using compost aligns with the ideals and teachings of Nuevo Horizonte, in which community members work together to support each other and make as little impact on the Earth as possible. The implementation of compost in Nuevo Horizonte could be used both as a hands-on educational activity and community endeavor that supports and enhances the foundations upon which the community was built.

II. Community Agriculture

Community gardens are commonly implemented in countries such as the United States in which groups of people in urban settings or areas without farmland maintain small gardens in shared areas of land. A similar idea could be implemented in Nuevo Horizonte in which two or more farmers share a “milpa” in order to more successfully implement crop rotation and intercropping methods. A common concern among farmers interested in implementing crop rotation or intercropping is that their small milpa does not provide adequate room to allow these practices. One farmer suggested that he would ideally like to divide his land into four sections and rotate producing land in each section, while he lets the other three sections “rest”, however he does not have enough space to do this. Two or more farmers who have land adjacent to each other may be able to implement a form of this crop rotation so that not all of the land is being used to grow crops at the same time and it is allowed to rest so that soil quality can be improved. It is important to understand that there could be some economic impacts of implementing such techniques if the crop yield for each farmer is not equivalent to what he would receive by himself. Detailed planning would need to take place in order to understand the total amount of land that could be used and the expected crop yield for each farmer in each harvest.

III. Education and Training

While many of the farmers revealed an overall concern regarding the lack of agricultural education in the community, few actions have been taken at a community level in order to increase the understanding of sustainable agricultural practices. While some farmers have taken it upon themselves to learn more about and experiment with various agricultural techniques, factors such as lack of resources and illiteracy act as barriers to many farmers gaining more agricultural knowledge. Furthermore, there is a disconnect between the efforts and understandings of the few farmers who are literate and have seen success in various experimental agricultural techniques and the rest of the community. While interviews with farmers did reveal that lack of knowledge of the environmental impacts of various farming methods is a barrier to the overall community implementing more sustainable agricultural techniques, there are some farmers who have been able to begin to practice more sustainable agriculture. Furthermore, many farmers who have not had access to agricultural education or experimented with more sustainable agricultural methods seemed very interested in learning more and have the determination work ethic to alter the status quo. Access to resources act as a large barrier to increasing agricultural education in Nuevo Horizonte, however in a small, close-knit community, efforts could be made to spread the knowledge of sustainable that some farmers have gained to more members of the community. Examples of ways in which to go about increasing agricultural education include holding small workshops or seminars, ideally with local students studying agriculture or when professors and students with environmental and agricultural backgrounds from Carthage visit the community.