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# **Creating a Culture of Transformation in Guatemala: One Fruit Tree at a Time**

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## **Abstract**

Community gardening and “green” ecologically-minded service programs have recently become popular areas of research addressing not only the benefits that are directly afforded to the community, but also towards those individuals who are involved in these projects (Shan & Walter, 2015). The current qualitative mixed-methods study addressed the impact of nine volunteers who participated in a fruit tree planting project in a rural Guatemalan community. Participants were interviewed after the project and surveyed regarding their subjective experiences as they relate to key domains in community service work. A significant correlation emerged between perceptions of the importance of community service work (CSW) activities ( $r = .948$ ;  $p < .01$ ) and perceptions of “connectedness” to one’s community and likelihood of participation in future CSW activities ( $r = .877$ ;  $p < .01$ ). Suggestions are offered for future research.

## **Introduction**

The overall positive therapeutic effects and healing qualities of community service activities (CSW) involving community gardens and urban forestry have recently received considerable attention given the increased popularity of volunteerism and stewardship programs throughout the United States (Okvat & Zautra, 2011; Schrieber, 1998; Stein, 2008). Community gardening initially developed as a practical approach to supplementing food supplies during times of war and natural disasters such as floods and hurricanes. “Victory Gardens” became very popular during the 1930-1940 era and reflected the strong patriotic ideology and sacrifices that civilians were willing to make in order to support troops that were fighting abroad. The United States Department of Agriculture estimated that during WWII over 20 million victory gardens helped produce 10 million tons of fresh vegetables (Reinhart, 2016).

More importantly, the psychological impact of neighborhoods cooperating towards a mutually beneficial cause, such as large-scale food production helped establish community solidarity, community development and social capital. Victory gardens not only provided healthier foods to community members but were also providing opportunities for individuals to engage, collaborate and understand each other. A contributing factor to the development and etiology of what is now referred to as “social capital” can be traced to the historical development of community gardening activities (i.e., “victory gardens”) as they provided opportunities for individuals to share ideas, socialize and work collaboratively as a way to help each other. Robert Putnam (2000) argues that one contributing factor to the deterioration of the concept “community” is the

lack of *interpersonal* (i.e., “face-to-face”) opportunities for community members to work together as a means of improving and empowering their neighborhoods. This phenomenon (in part) may also be attributed to the popular perception of the “disconnection” between users of social media and participation in traditional community service activities and civic engagement programs (Mihailidis, 2014).

More recently research has shown that community and “memorial” gardens not only provide healthier and more nutritious foods to community members but can also have similar positive psychological benefits to those participating in the development and maintenance of gardening activities, urban forests and fruit tree orchards (Tidball, Krasny, Svendsen, Campbell & Helphand, 2010; Hoffman, 2015). Memorial gardens and fruit tree orchards that have been created in the wake of a national disaster can provide family and community members with a public “healing” green environment that has been dedicated to the memories of victims of different types of tragedies and trauma (Helphand, 2006). Green civic ecology programs and community gardening activities can also provide important environmentally-related educational experiences for community members. Community gardens teach individuals the importance of environmentally responsible practices (i.e., recycling and sustainability programs) and can also provide healthy foods for low-income and underrepresented populations who are frequently deprived of these resources (Walter, 2013).

Community gardens have not only helped provide healthier foods for low income families, they have also been shown to be highly instrumental in facilitating interethnic communication and understanding of concepts relative to multiculturalism (Shan & Walter, 2015). When ethnically diverse individuals are provided with opportunities to collaborate and work towards superordinate goals in community gardens (healthy vegetables and fruits), negative ethnic stereotypes are debunked and “therapeutic landscapes” tend to flourish (Shinew, Glover, & Parry, 2004). More recently specific disciplines within the general field of psychology (i.e., environmental psychology) have provided important opportunities for research addressing the topics of sustainability and both mental and physical health (Pelletier, Lavergne, & Sharp, 2008). Researchers have also discovered when communities are more educated regarding the importance of responsible environmental practices, individuals subsequently become more motivated to participate and interact with a variety of “green” and ecologically-important activities, such as using public transportation, use recycled products more often and adopt to new behaviors that are “environmentally friendly” (Pelletier, Lavergne, & Sharp, 2008). Community gardens have been also identified as an important stimulus for the development of social capital within neighborhoods that may be negatively impacted through unemployment and crime (Alaimo, Reischl, & Allen, 2010). Community neighborhoods that help develop structured gardening programs and monthly meetings to help improve and beautify communities have been shown to increase resident perceptions of both empowerment and social capital (Alaimo, et al, 2010).

The social and community benefits of gardening programs and urban forestry programs not only benefit local neighborhoods through improved physical appearance but have also been shown to be highly instrumental in helping individuals with psychiatric disabilities via increased pride and self-esteem in garden vegetable growth (Myers, 1998). Additionally, more recent research has identified significant therapeutic benefits

to older adults suffering from age-related illnesses, including dementia and depression (Gonzalez & Kirkevold, 2013). Community gardening programs have also been instrumental in teaching underrepresented groups the benefits of healthier eating habits (i.e., Hispanic immigrant farm workers) who may experience food insecurity and suffer from several nutritional deficits. Carney, Hamada, Rdesinski, Sprager, Nichols, Liu, Pelayo, Sanchez and Shannon (2012) determined that healthy foods consumption (i.e., fresh vegetables) significantly increased (over 31.2%) when families were provided with opportunities to develop and maintain their own organic gardens in rural Oregon. Carney et al. also discovered that the communication and family relationship dynamics significantly improved when all members participate and contributed to the development of a community garden. These results are especially important when teaching children the benefits of healthier eating as the data suggests that when children are actively involved in a participatory role in the development of vegetable gardens they are more likely to consume the foods produced within those garden environments.

### **Planting Fruit Tree Orchards: Why Guatemala?**

Many families within the United States participate in community gardening programs for a variety of reasons. Some of the more popular reasons for participating and maintaining community gardens involves improved health, enhanced life satisfaction, improved social engagement and providing overall meaning to one's life (Mun Yee Tse, 2010). Others simply enjoy gardening as a hobby and a healthy activity to participate in with family members. However, from an international perspective, horticultural programs that produce healthy and sustainable foods (i.e., fruits and vegetables) have become a way of life in many cultures, and poor crop yields may result in malnutrition, illness and even death.

The population of Guatemala is very diverse (consisting primarily of Mestizos, Amerindians and European descent with Mayan and Spanish influences), and 39.8% are identified as indigenous (Demographics of Guatemala, 2017). The official language of Guatemala is Spanish, and over 60% of the inhabitants of Guatemala speak Spanish with the remainder population speaking a variety of Amerindian languages, including *Quiche*, *Cakchiquel*, *Kekchi* and *Xinca*. The inhabitants of the rural village Yalpemech spoke either Spanish or *Cakchiquel*. The population of Guatemala is also growing considerably (current estimates place the total population at 14,918,999) and Guatemala City is the largest of all Central American cities with over 3 million inhabitants (Lahmeyer, 2002). In the early 1960's through 1996, the country of Guatemala experienced tremendous strife and conflict that resulted in a civil war that resulted in the deaths of several thousand citizens (i.e., "forced disappearances"). While Roman Catholicism still remains one of the more widely practiced religions (47% self-identified as Catholic in 2013), a significant portion of the Guatemalan population identify themselves as either Evangelical or Protestant (38%) or Atheist (10%) (Demographics of Guatemala, 2017).

Interestingly, given the rich and diverse cultural backgrounds of the peoples of Guatemala it is not surprising that the culinary tastes and preferences of the indigenous

peoples living in rural areas (i.e., Yalpamech) preferred Mayan cuisine (i.e., predominantly corn, chili, and beans) that was flavored with citrus fruits (i.e., limes, oranges and lemons). Guatemalans still embrace many culinary traditions practiced centuries ago and prefer to eat specific foods (i.e., tamales) on specific days of the week (Sundays). The use of citrus fruits with many different types of staple foods (*arroz* or rice, *enchiladas* or tamales) resulted in the vast majority of the residents requesting specifically citrus trees (but not avocado trees) to be planted in their yards.

In 1970 Colonel Carlos Manuel Arana Osorio became the first of several militant dictators that ordered the removal of peasant farmers and rural families as a means of “purging” the country of residents living in poverty and neglect. Several thousand residents of the war-torn Guatemala escaped to nearby Honduras and lived there temporarily until the government in Guatemala became more stable. In 1997, the government of Guatemala became more stabilized and the new government had provided refugees with parcels of land for development through the work with missionaries and international support agencies.

The current (mixed methods) study examines how 400 refugee families relocated to a small rural village (Yalpamech) in central Guatemala (San Jose El Tesoro) and participated with student volunteers in the development of a fruit tree orchard to help supplement dietary and nutritional needs as well as provide a small economic income to family members. An important component of the study was to explore and identify the actual experiences and perceptions of the of community service work activities among nine student volunteers who participated in a community development (tree planting) project in Yalpamech (a very small and underdeveloped rural town in central Guatemala).

An important component of the current study was in determining how individuals participating in a CSW tree planting project would be able to engage with and develop a sense of “connectedness” with community residents in a foreign rural village. Measuring and assessing the qualitative experiences and psychological dynamics of community service projects is an essential component of research in that it helps us to better understand why some individuals are motivated to participate in future projects and why others lose interest and become apathetic to the needs of community development. Interview questions used in this study were based from the *Community Service Attitudes Scale* (CSAS) (Shiarella, McCarthy, & Tucker, 2000) and explored four primary community service domains: Perceptions of the need and importance of the community service work activities, Perceptions of feelings of “connected to” to community and residents of the diverse community; Perceptions of the investment (i.e., emotional and economic) to one’s community, and Perceptions of future intent to engage in similar community service activities. The CSAS is a very useful and frequently used tool in assessing how students experience the relevance and needs of community service and engagement work, and has reported strong reliability coefficients ( $r = .72 - .93$ ) that ensures construct validity is attained.

Participants and community residents were interviewed at the end of the project and completed a short questionnaire that explored a variety of questions pertaining to their subjective experiences while completing community service work activities: Perceptions

regarding the overall importance of their community service work activity; Experiences in working with ethnically diverse populations; Willingness to engage in future community service activities; Participating in community service activities is something that all persons should be involved in and feelings of “connectedness” or belonging to the community in which they volunteering in. A Pearson Correlation test was run to determine if any significant correlation existed among these five key domains of community service and suggestions are made for future research. Additionally, a frequency distribution and thematic analysis are presented that summarizes the results of the qualitative interviews of the participants and how these experiences relate to the key domains of community service work.

## **Methodology**

### *Participants*

Nine undergraduate students (five women, four men, age range 19 – 57 years) at a Midwestern university volunteered to participate in a 10-day tree fruit planting community development project in a rural village located in Yalpemech, Guatemala. Student participants helped organize the project by meeting with Guatemalan village residents and assisted them in planting over 1000 trees (variety of citrus, avocado, and leech). The trees were provided through donations among local churches and through a non-profit agency (*The Fruit Tree Planting Foundation*, <http://www.ftpf.org/>).

### *Materials and Procedure*

Community leaders worked with the student volunteers to help distribute the trees to each of the families that comprised the community of Yalpemech. There were four groups (approximately 100 individuals per group) who received trees with the planting instructions. Families were provided with three (3) trees per household. Residents were provided with a choice of three different varieties of trees that thrive in a tropical (zone 9) environment: Citrus (lemon, lime and orange); avocado and lychee fruit. Residents were distributed the trees by a community leaders and charged a nominal fee of 7 *quetzales* (approximately \$1.00 dollar). Community leaders felt that charging a nominal fee for the trees (approximately \$1.00 for three trees) was important in that the residents would value and take ownership of their trees more if they were paying a very small amount of money. The money from the trees was collected by the community treasurer and saved as a general fund for future community improvement projects. Student volunteers worked with village residents in providing instructions in planting the trees and general maintenance as well as helped plant trees for older residents who were physically unable to plant their own trees. The entire tree distribution process took approximately four (4) hours to all families of the village and the student volunteers then helped some of the families plant the trees if they needed assistance. Tools were provided for residents if they did not have any shovels or equipment and then the trees were irrigated with water that was available in local ponds. At the completion of the tree planting project participants and community residents were surveyed and interviewed regarding their experiences in the tree planting project.

A Likert scale ranking was used with scores of “1” = Absolutely Untrue; “2” = Somewhat Untrue; “3” = Not Sure / Don’t Know; “4” = Somewhat True; and “5” = Absolutely True (see Appendix A):

1. I feel that my participation in community service activities is important for all communities and that I have made an important contribution to the Guatemalan community \_\_\_\_;
2. I feel more motivated to participate in future community service work activities \_\_\_\_;
3. I feel more connected and a stronger sense of belonging to the Guatemalan community \_\_\_\_;
4. I feel that the Guatemalan tree planting project has allowed me to better understand the needs of ethnically diverse groups: \_\_\_\_; and
5. I feel that participating in volunteer or community work is an important activity that all people should be involved in.

In addition to the specific questions asking participants about their experiences pertaining to the tree planting project, three open-ended questions were asked to each participant that explored what specific characteristics of the project was rewarding or challenging to them:

- What was the most rewarding aspect of your community service activity?
- In what ways has this community service activity shaped your views regarding your future participation in community service activities? And
- What challenges did you encounter in your community service work activity? What might be some suggestions that you have for future community service activities?

## **Results**

A Pearson Correlation test determined a significant correlation between perceptions of CSW as important activities for all communities with participation in future CSW activities ( $r = .948, p < .01$ ). Additionally, a highly significant correlation ( $r = .877, p < .01$ ) between perceptions of feeling connected to the community and participation in future CSW activities. A frequency distribution provides a summary of the range of scores that reflect the overall perceptions of the importance of community service work activities.

### Correlations

		CSW important for all communities	Motivated Future CSW	Stronger Connectedness
CSW important for all communities	Pearson Correlation	1	<b>.948**</b>	<b>.854**</b>
	Sig. (2-tailed)		.000	.003
	N	9	9	9
Motivated Future CSW	Pearson Correlation	.948**	1	<b>.877**</b>
	Sig. (2-tailed)	.000		.002
	N	9	9	9
Stronger Connectedness	Pearson Correlation	.854**	.877**	1
	Sig. (2-tailed)	.003	.002	
	N	9	9	9

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CSW important for all communities	9	1.00	5.00	3.8889	1.36423
Motivated Future CSW	9	1.00	5.00	4.1111	1.36423
Stronger Connectedness	9	1.00	5.00	4.3333	1.32288
Improved Ethnic Diversity	9	1.00	5.00	4.0000	1.41421
CSW Important For All People	9	2.00	5.00	4.1111	1.16667
Valid N (listwise)	9				

### Discussion

The current study explored the interpretive value and subjective experiences among nine student participants at they completed a ten-day fruit tree planting project in a rural



village located in Yalpemech, Guatemala. The purpose of this qualitative study was to individually measure the experiences and individual perceptions of the overall importance and value of an international community service work project and to determine how these experiences influenced participant attitudes towards future involvement in community service work activities. The results of the study suggest that important correlations exist with respect to key domains of community service work activities. For example, a highly significant correlation ( $r = .948$ ) between perceptions of the overall importance of community service work activities with likelihood of engaging in future community service work programs. Stated another way, communities need to provide ample opportunities to community residents as a means of increasing participation and awareness of the value and importance of community service activities and civic engagement programs.



Fruit Tree Distribution to Guatemalan Residents

One of the more important findings of the study was the highly significant correlation between “feelings of connectedness” and belonging to one’s community with the perception of community service work as an important activity for all persons to participate in ( $r = .854, p < .01$ ).

We interpret these robust findings to mean that *active involvement* with community service activities is one essential way to help people find a connection to their community and feel a greater sense of belonging and unity. Contributing and helping communities grow (especially after a crisis such as an earthquake, flood or hurricane) helps individuals feel as though their communities can be stable and that their lives may once more resume a sense of “normalcy.”

Additionally, an important aspect of the study was to help create and establish meaningful relationships with individuals from diverse cultures and understand key principles of multiculturalism. A highly significant correlation emerged between the CSW domains of feelings of “connectedness” and motivation to participate in future CSW activities. Stated more simply, when participants are afforded ample opportunities to

engage in different CSW activities they are more likely to feel a sense of connectedness to that particular community, and more importantly, they are more likely to engage in future CSW activities based on their direct interpersonal experiences with community members. Some of the comments from the student participants emphasized their appreciation with the direct contact that they had with community members while completing the tree planting project:

- “Participating in community service [in Guatemala] is super important . . . I think we need to help those who are less fortunate than you.”;
- “I wanted to gain an understanding of people from a different culture . . . “
- “It was important to me to make a lasting difference to the people of San Jose . . . Very important to see a community come together as it did here.”
- “It was most rewarding to be able to see as well as feel the strong connections with community members . . . This has given me a more meaningful and broader view of life in general.”

Similarly, the village residents who worked with the participants also expressed their gratitude and solidarity with the group members and indicated that the trees planted within the community represented “life and nutrition to our children”:

- Miguel B.: “*Mas Comida para mi familia y ninos*” [“More food for my family”];
- Maria G.: “*Me gusta la comida y los arboles por que . . . esta mas bueno y salubria comida para mi familia*” [“I like the food that the trees produce . . . it is better healthier food for my family”];
- Juan R.: “*Me gusta mucho los arbolitos por que estan la sombra y comida para muchos anos in el future*” [“I like the little trees very much because in the future they will provide much shade and food for years to come.”];
- “*Yo creo esta muy importante aprender que los ninos sabe que plantar natural plantas y arbolitos in la tierra*” [“I think that it is very important to teach younger people the importance of nature and how to plant trees in the ground”].

In summary, the overall majority (88%) of the participants indicated that their primary motivating reason in participating in the project was simply a desire to help others in need: “the most rewarding part of this trip was to see a community that has people of need doing the best with what they have . . . material items now mean very little to me.” Virtually all of the participants indicated that helping to plant the trees to the families of Yalpemech was a valuable experience because it helped them to understand and appreciate “a way of life so different from our own.” One respondent indicated that it was very rewarding to see the village members “faces light up when they saw the trees and helped us to plant them in their yards.” Others (44%) indicated that they felt more of a “spiritual calling” to engage in community service and stewardship activities, and “wanted to help improve living conditions for groups that were living in poverty.” Perhaps more importantly was the fact that the majority of participants (over 88%) indicated that because of these positive experiences that they had in helping the village residents they are significantly more likely to engage in future volunteer and community service-related projects.”

Regarding some of the challenges of the project as described in the surveys, most of the participants (88.88%) indicated that the oppressive heat while planting trees and the communication (language) problems posed problems for them during the project. Several of the participants indicated a desire to speak directly with village residents but were unable to do so: "I would very much like to improve on my language for future community projects that may be outside my 'comfort zone.'" Additionally, virtually all of the nine participants (100%) indicated that the heat was "oppressive and took some time getting used to." Related to the extreme temperature issues was the question whether or not the newly planted trees would survive during the first year because of the drought: "Physical heat . . . not sure if the villagers would care to help with the trees." Another participant indicated that they had wanted to make sure that the trees would survive despite the challenges of the environment: "How are the trees going to survive? How can we ensure that the people will take care of them and more importantly how can be sure that our work five or ten years later will not be wasted?" Finally, three (33%) of the comments regarding challenges of the project addressed the personal difficulty in experiencing children living in poverty. Several of the participants indicated that this project was indeed a very "humbling" experience for them and now can certainly appreciate what many Americans take for granted (i.e., clean potable water, healthy diets, education, etc.).

### **Limitations of the Study**

The current study identified the importance and utilitarian value of green environmental community service projects (i.e., planting fruit trees) within underdeveloped international regions. The humanitarian value and importance of teaching sustainable health and horticultural practices to families suffering from malnutrition was of significant importance and rewarding value to all of the participants. One significant limitation of the study addresses the small number of participants. Low participant numbers are problematic in that it is difficult to draw significant conclusions from the data, however robust data is possible through qualitative interviews with the participants. The current study was challenged with few student participants ( $n = 9$ ) due to logistical issues in the ability to organize an international trip from the United States (i.e., six months of planning, medical clearances, passport issues, and economic factors). One suggestion to help increase the number of future participants within international areas would be to organize the project in such a way where students may actually earn credits through their university and use the experiences as an experiential learning process. Another suggestion may also include planning ahead to write grants that may help defray travelling costs for students.

Suggestions for future research include using a significantly larger sample size ( $n = 100$ ) to better assess and measure the positive and therapeutic effects of green community service activities. Providing community members with greater opportunities to participate in a wide and diverse range of green and ecologically-sensitive CSW activities will not only help educate individuals of the positive effects of community work but can also help teach individuals about responsible and sustainable environmental practices to within the environment. Additionally, future

studies addressing the utilitarian value and impact of a community service tree planting project may wish to explore long term effects on the community members as well student participants. As the trees mature and develop a variety of different healthy fruits for the community residents may be influenced to participate in future community development projects and increase their awareness of the importance of future work involving green sustainable projects.

### **Conclusion**

The current study identified how individual volunteers helped participate in a community development fruit tree planting project. The study itself provided an enormous benefit to the student volunteers in better understanding the unique culture and lifestyles of Guatemalan residents and how a connection to their environment and sustainability were essential to their very survival and existence. Indeed, several student participants commented how their participation in the current study was a “once in a lifetime experience” that helped them to see how their own “privileged lifestyles” had taken such basic resources (i.e., potable water) for granted.

The overall value of the current project not only helped underserved refugee families in Guatemala achieve a healthier and more sustained way of life within their rural village, but also numerous benefits were served to the student volunteers in understanding a culture that was vastly different from their own and that these experiences contributed to a greater sense of togetherness and connectedness with all members of the community. Planting the fruit trees with the village residents helped the student participants understand the unique value that horticulture and sustainable green practices have with indigenous Guatemalan cultures and how something as simple as two or three citrus trees can result in nutrition and health for a family. Additionally, the student volunteers learned about the value of shared community experiences, understanding cultural diversity by living with families that had far fewer possessions than their own. Finally, our student volunteers reported a significantly greater likelihood of participating in future community service projects as a means of helping others and valuing the experiences of community engagement and reduced self-entitlement.

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## **Appendix 1**

### Guatemala Community Service Questionnaire

Please answer the following questions where a score of:

1 = Absolutely Untrue

2 = Somewhat Untrue

3 - Undecided

4 = Somewhat True

5 - Absolutely True

1. I feel that my participation in community service activities is important for all communities and that I have made an important contribution to the Guatemala community: \_\_\_\_\_;
2. I feel more motivated to participate in future community service activities: \_\_\_\_\_;
3. I feel more connected and a stronger sense of belonging to the Guatemalan community: \_\_\_\_\_
4. I feel that my participation in the Guatemala Tree Planting Project has allowed me to better understand the needs of ethnically diverse groups: \_\_\_\_\_;
5. I feel that participating in volunteer or community work is an important activity that all people should be involved in \_\_\_\_\_;

### **Open-Ended Questions – Please Respond Briefly:**

- What was the most rewarding aspect of your community service activity?

- In what ways has this community service project shaped your views regarding the future participation in community service work activities:
- What challenges did you encounter in your community service work activity?  
What might be suggestions for future community service work activities?

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*Declaration of Conflicting Interests*

The author declares no potential conflict of interest with respect to the current study.

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