PLAYA VIVA

2018 Report

SOCIAL IMPACT

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LETTER FROM
THE FOUNDERS
OF PLAYA VIVA

When we first embarked on Playa Viva, our goal from the start was to make a positive impact on the local ecosystem and communities. Now 10 years later, we can walk the land, point to trees we planted ten years that are now ten meters tall and too big to even wrap our hands around. This type of "impact" is easy to see, touch and experience. However, how can we measure the growth of our work with people and on the community? Unfortunately, 10 years ago, we did not conduct any type of analysis, evaluation or baseline study of the local communities in order to measure the growth and impact of our work. In order to improve, we must be able to measure.

Thank you to Melissa Luna, Social and Environmental Impact Manager at Playa Viva, plus all the volunteers who participated in undertaking this first Social Impact Evaluation. Although 10 years late, it is 100% necessary. From this point forward we have a baseline, a point of measuring impact.

The report did provide some key insights. Here is a quick list of some of the learnings:

1. **Communication is Key, Focus Internally as well as Externally** - Playa Viva is doing a pretty good job of communicating our commitment for social and environmental impact to the "outside world" but we are not communicating these same goals, activities and achievements with equal effectiveness with our team/staff and the local community.

2. **Focus On and Give Back to the Most Vulnerable** - Turns out the local turtle sanctuary volunteers who give the most are also the most needy in the community. We need to redouble our efforts for integrating them into the Playa Viva community, improve morale and improve their ability to gain financially from their role in conservation.

3. **Strong Sense of Community is Important** - "Social cohesion" is important, that is, the feeling of being part of a community is key to creating positive impact in the local community. This starts with getting our volunteers to spend more time in Juluchuca and Rancho Nuevo as well as engaging guests in the community.

4. **Listen More, Engage Deeper** - We tended to be tactical and responsive vs. strategic and engaging with our social impact work. Key learning is to host more "town halls" and listen to the needs of the community as we align volunteer efforts around agreed strategic goals of all.

5. **Train and Support our Employees, they are PV Ambassadors in the Local Community** - We need to spend more time training and supporting our employees. They are our best and strongest advocates. They are our ambassadors in promoting environmental and social consciousness, therefore it is essential they know and understand what we do.

6. **Leverage Collective Impact** - It is important to be a catalyst for change engaging a larger network of NGOs, educational institutions, government and for profit entities in our ecosystem to address the larger and more systemic issues.

7. **Impact takes time** - Enough said, so be patient and keep at it.

To the reader of this report, 10 years from now, hopefully you can easily see the positive impact we have made on the local community. May the strength of the community be as easily to visualize as the size of the trees, the denseness of the mangrove, the masses of baby turtles covering the beach. If it is not so evident, then I'm sure this report will have provided a measuring stick to perceive even the smallest of progress as we believe that while "the arc of history is long, it bends towards justice."

Thank you to all the guests, volunteers and team members who have passed through Playa Viva over the last 10 years and will pass through in the decades to come. Each and everyone one of you has been a part of transforming the community into a healthier, more educated and more economically prosperous community. Your work will have a lasting impact on generations to come.

Sincerely,

David Leventhal & Sandra Kahn
Playa Viva Principals/Owners/Stewards
A Regenerative Resort
"Where Your Vacation Meets Your Values"

ACKNOWLEDGEMENTS

EXECUTIVE SUMMARY

Background to the study

The goal of Playa Viva, a small boutique hotel in the Costa Grande region of Guerrero, Mexico, is to promote regenerative development in the ecosystem of which it is a part. Regenerative development is an alternative development model that seeks to restore the imbalance between people and nature through human development. The hotel's regenerative concept emerged in response to the area's degeneration. For decades, the Costa Grande region suffered from severe biodiversity loss and economic collapse through various boom-and-bust industries, namely industrial agriculture and mass coastal tourism. The Playa Viva founders believed that the Costa Grande, and more specifically the town of Juluchuca (where the hotel is located), could once again be known for its vitality and abundance. Through living-systems thinking and applied permaculture principles, Playa Viva's regenerative endeavor focused on both environmental and social impact, including estuary regeneration, regenerative agriculture, community development (health, education and economic development) and transformational guest experiences (tourism).

After more than 10 years since its inception and 9 hotel seasons in operation, this evaluation is the first of its kind to assess the social impact of the hotel in its stakeholder communities. The evaluation sought to determine the impact (or causal effect) of the Playa Viva hotel on the socioeconomic well-being, health and environmental conscientiousness of its staff, the members of La Tortuga Viva (LTV)[1] and the community members of Juluchuca and Rancho Nuevo.

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[1] La Tortuga Viva (LTV), legally registered as *Campamento Tortuguero Playa Icacos*, is a community-run sea turtle sanctuary (hatchery) and nonprofit located on Playa Viva's property. Since 2010, Playa Viva has supported La Tortuga Viva through its Regenerative Trust. The Regenerative Trust channels funds through a fiscal sponsor, The Ocean Foundation (TOF), via Playa Viva guests, partners and fellow conservation enthusiasts. Any extra expenditures the camp incurs to run basic operations is supported by hotel revenue.

Methods

A mixed method approach utilizing a variety of instruments was employed to triangulate findings. The methods employed include: (1) participant observation and document analysis, (2) household surveys, and (3) unstructured and semi-structured interviews. For the household surveys, dependent variables measuring perceptions of health and well-being, conservation attitudes, awareness of Playa Viva goals and activities, participation in Playa Viva activities, among others, were analyzed using SPSS [2] relative to hotel employee status and community (i.e. whether they were a current employee, a member of the turtle camp (LTV), part of the stakeholder community or the control), among other variables known to influence the dependent variables such as education and income. Additionally, other questions gauged beliefs and opinions about community dynamics.

Semi-structured interviews were recorded when permitted and transcribed using a naturalized transcription approach, but quotes were translated and lightly edited to improve reader comprehension while strictly maintaining their meaning. In instances when recording was not permitted, detailed notes were taken and subsequently coded. Qualitative interview data and any relative documents were coded and analyzed using NVivo software.

Results

Overall, it appears that Playa Viva hotel has had a positive economic impact on its employees, but this impact has not yet been observed in the stakeholder communities of Juluchuca and Rancho Nuevo. In comparison to ten years ago, 28 percent of survey respondents feel that the local economy has only slightly improved, while 70 percent perceive it to be the same or worse.

On measures related to education, environmental awareness, health and economic development, minimal to no impact was observed in the stakeholder communities. Residents in the stakeholder communities were no more economically well-off, more educated or more environmentally conscious than the control community. There were also no differences in levels of happiness, or how people rated their health, their community's health, or quality/availability of medical care, suggesting that the Playa Viva project has not had an effect on health and well-being. Additionally, it seemed that the stakeholder communities were very unaware of health problems in their community when compared to the control, suggesting a lack of health education and awareness.

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[2] IBM Statistical Package for the Social Sciences

The turtle camp volunteers' participation in the Playa Viva project has not resulted in improved economic or emotional well-being, nor increased their environmental awareness. The turtle camp volunteers experienced significantly lower levels of happiness, lower satisfaction in opportunities available to them (i.e. lower degree of place attachment), poorer economic conditions and are no more conservation-minded than their community counterparts. Yet, the volunteers feel that the work they do has a great deal of (positive) impact for the hotel and for the environment and generally feel their work to be at least somewhat valued by the hotel. These findings suggest that although these volunteers are providing a direct and valuable service for the hotel, their general well-being and quality of life still ranks much lower than the stakeholder communities'. That is, their participation in the Playa Viva project has not yet resulted in improved economic or emotional well-being, nor increased their environmental awareness.

Although Playa Viva's impact in the community has been limited, the hotel enjoys an overall positive reception among community members, with the majority of respondents being in favor of the hotel at its inception and today. Community members are pleased to see the hotel providing jobs for their friends, neighbors and loved ones and for providing support in the community. Moving forward, community members hope to see more communication between the hotel and the community, more involvement in education and a more concerted effort in economic development (more workshops, more jobs and more economic spending in the community).

The Playa Viva project had a demonstrable positive effect on measures related to education, environmental awareness, health and economic development with its employees. Playa Viva Season 8 staff had significantly higher levels of income, demonstrated higher levels of happiness, a greater awareness of healthy lifestyles, and exhibited higher levels of environmental conscientiousness than their community counterparts.

However, while the data illustrate that Playa Viva employees experience greater degrees of happiness and economic well-being, their level of satisfaction with their ability to meet basic needs remains low. Due to the area's depressed economy, a number of employees are the sole "breadwinners" in their families. The hotel starting salary of MXN$180 per day (average salary of MXN$200/day, comparable to salaries in the area) is an improvement for most who go to work for Playa Viva. However, even with this relatively steady and stable salary, the level of economic pressure felt by full-time employees suggests that their salaries are not sufficient to provide them with the means to pull themselves and their families out of poverty.

Season 8 employees also felt disconnected from the mission of the project, were generally dissatisfied by certain aspects of management (namely low levels of autonomy and a culture of favoritism) and felt that their opinions and ideas were not being heard. However, Paya Viva has already begun to make strides to improve the lack of connection employees feel with the mission and to help decentralize decision making. In Season 9, a group of consultants provided training and conducted team-building activities to ensure the Playa Viva mission and values are integrated into the hotel's operations.

Despite some management shortcomings, most employees (83%) feel fortunate to have a job with Playa Viva and feel they are learning new skills and that there are opportunities for advancement within the organization. Most employees would like to see management improved, fairer treatment of employees and see Playa Viva more involved with their communities.

Conclusion

Playa Viva faces great challenges in its development work with the community. Due to the larger system in which Playa Viva operates—a system rife with corruption, poverty and low-levels of education—the hotel will need to make a more concerted and strategic effort to leverage more resources in order for the hotel to fully comply with the components of regenerative development. To have sustained, long-term impact in education, health and economic development for the broader community, Playa Viva will need to shift its strategy of sporadic community projects to a more direct and strategic investment in the community.

The communities, hotel staff and turtle camp volunteers all greatly desire and need more economic stability and security. Promoting transformational change for other social and environmental issues will take more time and more resources, but first steps can be made. Community development begins with one's closest stakeholders: the hotel staff. Investing first in a healthy and prosperous work environment is a way to guarantee the start of a positive ripple effect into the community that supports regenerative development. With time, careful planning and longer-term investments, Playa Viva can begin to have more strategic involvement with and greater impact in the surrounding community.

INTRODUCTION

PLAYA VIVA AND REGENERATIVE DEVELOPMENT

In 2007, The Regenesis Group assisted Playa Viva founders and various other team members in developing a regenerative design plan for the hotel, which began operation in November of 2009. Early assessments by this development team revealed that the area surrounding the hotel once supported a population of 10,000 people and was known for its ecological richness and abundance.[3] Elders from the community spoke of the area as a place once rich in biodiversity, oceans and lagoons teeming with fish, dense forests and fertile soils.[4] However, beginning in the 1920s, the majority of Guerrero's coastline was slashed-and-burned into monoculture coconut, mango and tamarind groves and deforested for cattle ranching.

By the mid-twentieth century, many rural areas of Guerrero were suffering from poverty, land disputes, and hunger. In response, the Mexican government in partnership with the United States, launched the Mexican Agricultural Program in 1943, which aimed to combat rural poverty through the use of modern agricultural technology and expansion. Through financial and technical support from the Rockefeller Foundation, the program created fertilizer subsidies, promoted the use of herbicides and pesticides, and distributed new hybrid varieties of maize and wheat, and trained farmers how to use them.[5]

[3] Personal Communication; Odin Ruiz, former permaculture designer. October 2017.
[4] Personal Communication; David Leventhal, Playa Viva owner. December 2017.
[5] Fitzgerald, D. (1986). Exporting American Agriculture: The Rockefeller Foundation in Mexico, 1943-53. *Social Studies of Science 16(3):*457 - 483.

The new dependency on agrochemicals coupled with a booming tourism industry in the 1960s and 70s, caused a significant decrease in biodiversity. Uncontrolled coastal development, unbalanced crop nutrition and intensive use of agrochemicals have collectively led to soil degradation, declining yields, deforestation, declining water quality, foreign control of local businesses and have greatly altered the rural landscape.[6,7] Additionally, these boom-and-bust industries (e.g. monoculture coconut production) have had severe effects on the local economy. Over the last couple generations, young members of the community have been leaving in search of better economic opportunities and a better quality of life. Town elders expressed their concerns that their communities were dying (degenerating) as the younger generations moved to Zihuatanejo, Mexico City or to the United States to seek better lives.[8]

Playa Viva's regenerative concept emerged in response to this degeneration: the founders believed that this place could once again become the verdant, abundant and biodiverse ecosystem it was once by focusing on a systems approach to regenerating the natural systems. This regenerative endeavor was to focus on both environmental and social impact, which included estuary regeneration, regenerative agriculture, community development (health, education and economic development) and transformational guest experiences (tourism). Tourism was to be the mechanism for generating regeneration.

Regenerative development seeks to overcome the challenges of previous development approaches by focusing on manifesting potential, rather than solving problems. This form of development *restores* the imbalance between people and their environment through human development, as opposed to simply treating the symptoms of unsustainability and strive only for mitigating damage or doing less harm, which the sustainable development approach fosters.[9] The goal of regenerative development is to facilitate the transformation of social-ecological systems across scales into regeneratively sustainable states.[10] The regenerative model recognizes that humans have always developed their environment but they also have the potential

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[6] Ortiz-Lozano, L., Granados-Barba, A., Solís-Weiss, V., & García-Salgado, M. A. (2005). Environmental evaluation and development problems of the Mexican Coastal Zone. *Ocean & Coastal Management 48(2)*: 161-176.
[7] Kennett, D.J. et al. (2007). Human Impacts on Marine Ecosystems in Guerrero, Mexico. *In: Ancient Human Impacts on Marine Environments*, edited by T. C. Rick and J. M. Erlandson, University of California Press, Berkeley.
[8] Personal Communication; Juluchuca Town Commissioner. September 2017.
[9] Regenesis Group (2014). What is Regenerative Development? *The Regenerative Practitioner*.
[10] Gibbons, L. V., Cloutier, S. A., Coseo, P. J., & Barakat, A. (2018). Regenerative development as an integrative paradigm and methodology for landscape sustainability. *Sustainability* (Switzerland), 10(6), [1910].

for establishing symbiotic relationships with it, and the ability to create a future of ecosystem health, economic well-being, and human prosperity.[11,12]

Please see Appendix C for more information on regenerative development and its challenges.

SOCIOECONOMIC CONTEXT

Local Level

Juluchuca is a small rural town 47 km south of the city of Zihuatanejo in Guerrero on the Pacific Coast of Mexico with about roughly 350 inhabitants.[13] Agriculture and cattle ranching dominate the majority of the local economy, with some residents engaged in subsistence fishing and a few small industries (e.g. the coconut sweets factory and the salt flats). Like many rural areas of Mexico, Juluchuca has unfortunately suffered the consequences of the lack of a strong central government and misguided development. Most households live on about 7USD per day, equating to about $1.90 per day per person with average household size of 4 people.[14] Lack of reliable water service, waste management, quality education, few employment opportunities and health services have all taken its toll.

Rancho Nuevo, Playa Viva's other stakeholder community, has a similar profile to Juluchuca, located just 3 km north from Juluchuca towards the Sierra Madre mountain range. Rancho Nuevo is also predominantly a farming and cattle ranching community, with a population of about 100-150 people.[15] Low levels of income, few opportunities for employment, poor educational services, poor road access and the lack of a health center have similarly left Rancho Nuevo in a depressed economic state.

State Level

At the state level, Guerrero consistently ranks among Mexico's most poorest states with "very high" degrees of marginalization and high incidence of corruption.[16] Despite the investment

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[11] Mang, P. and Reed, B. (2011). Designing from place: a regenerative framework and methodology. *Building Research & Information 40(1)*: 23-38.
[12] Cole, R.J. (2012). Regenerative design and development: current theory and practice. *Building Research & Information* 40 (1).
[13] Personal communication; Juluchuca Town Commissioner. September 2017. There are no recent census records.
[14] Data pulled from results on survey questions about income
[15] Personal communication; Rancho Nuevo Town Commissioner. October 2017. There are no recent census records.
[16] CIMARES (2011). Política Nacional de Mares y Costas de México. GESTIÓN INTEGRAL DE LAS REGIONES MÁS DINÁMICAS DEL TERRITORIO NACIONAL. Propuesta de la Comisión Intersecretarial para el Manejo Sustentable de Mares y Costas (CIMARES)

into the well-developed tourism centers of Zihuatanejo-Ixtapa[17] and Acapulco, infrastructure across the vast majority of the state is poorly developed and maintained. More than half of the states' population resides across several thousand rural communities and many of them rely exclusively on subsistence farming and the sale of a small number of commodity products.[18] Due to poor infrastructure and disagreeable terrain, Guerrero has remained consistently vulnerable to the influx of drug cartels traditionally growing poppies (for heroin), cannabis and more recently setting up meth labs utilizing the long and underdeveloped coast for maintaining transportation routes. The cartels have also infiltrated state institutions and local policing authorities, creating a "shadow government" and further destabilizing the area as rival groups battle for turf and control of trade routes.

During the 1990s, Guerrero's rural economy was on the verge of collapse. Subsistence farmers were becoming increasingly reliant on government aid programs that were attempting to convert the rural landscape and subsistence-based life into more industrialized farms and urban settings. However, the drug trafficking organizations (DTOs) halted this process as they slowly infiltrated all levels of government and expanded poppy cultivation.[18]

Today, the DTOs hold strong control over local social and economic life. DTOs have taken over most local policing functions and competitions between the different DTOs has led to violence and dangerous buffer zones between territories. In urban settings, kidnapping, extortion and money laundering schemes are commonplace. The integration of DTO money into the local economy in the form of salaries, bribes, campaign contributions and direct investment has a reached level that would cause severe economic consequences if it were to suddenly disappear.[18]

The socioeconomic and political challenges in Guerrero are both plentiful and complex. It is obvious there exists a great need and desire for security and stability in the region. However, the solutions to combat and mitigate poverty and corruption, which together impede a sustainable and healthy way of life, are obvious yet extremely difficult. Functional political and judicial systems as well as substantial resources are required to build the institutional infrastructure for education, employment and other social services to address the depressed and corrupt economy.

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[17] World Bank Group (1971). Report and Recommendation of the President to the Executive Directors on a Proposed Loan to Nacional Financiera, S.A. of Mexico for the Zihuatanejo Tourism Project.
[18] Kyle, C. (2015). Violence and Insecurity in Guerrero. *In: Building Resilient Communities in Mexico: Civic Responses to Crime and Violence" Briefing Paper Series*. The Woodrow Wilson International Center for Scholars.

MAIN RESEARCH QUESTIONS

Background: This evaluation primarily sought to answer the question: what is the impact (or causal effect) of the Playa Viva hotel—a regenerative development model—on the socioeconomic well-being, health and environmental conscientiousness on its staff, the members of the turtle camp and the community members of Juluchuca and Rancho Nuevo?

This evaluation is the first attempt to measure the impact of the Playa VIva project on its main stakeholders: the hotel staff, the members of the turtle camp, and the communities of Juluchuca and Rancho Nuevo (where the majority of hotel staff live). Additionally, in Appendix F, findings on the impact on one of Playa Viva's partners, the Gutierrez family, are presented. The Gutierrez family lives in the watershed into the Sierra, the destination of one of Playa Viva's most popular excursions. They also provide the hotel with coffee and chocolate.

Playa Viva has five Core Values for their work in regenerative development (see Appendix A). Two of those values, *create meaningful community* and *promote transformational experiences*, correspond to Playa Viva's specific work in community development and social impact. Through these two values, Playa Viva's strategy is focused on three core areas: health, education (includes environmental awareness) and economic development.

The Research Questions: More specific research questions are detailed below and organized under the hotel's areas for community development.

Health
- What are the main health concerns (cited by community members) in the respective villages?
- What is the perception of personal health and social well-being?
- What is the perception of health and social well-being of town in which they live?
- How do residents feel about the quality and availability of health services?

Education
- What is the median level of education in the various communities and among hotel staff?
- How environmentally aware are community members, hotel staff, and turtle camp volunteers? Has participation in the Playa Viva project fostered environmental conscientiousness?
- How close do people feel to nature? (*Note*: individuals who include "nature" in their

representation of self are more inclined to pro-environmental attitudes. Therefore, the extent to which nature is included in the concept of self may speak to one's inclination toward behaviors that have long-term collective benefit, rather than individual self-benefit. This is explained in more detail in the results section.)

Economic Development

- Has Playa Viva impacted community vitality?
  - Before: Juluchuca was seen as a dying town, all the young people were leaving. Do they feel the town is being revived? Or is it still *dying*?
  - Place attachment level (the emotional bond between person and place)
- What impact has Playa Viva had on economic well-being?
  - Do Playa Viva employees tend to have a better economic situation than fellow members of their communities? (measured by material assets & income levels)
  - STAFF SURVEY: Do employees report that wages are fair & sufficient, that they are satisfied with their earnings and ability to feed their families?
- Has Playa Viva had an impact on the communities' and/or its employees' access to market and social capital?

Playa Viva - Community Relations

- Transformational experiences: What is the perception of Playa Viva's general impact at an individual/personal level? For the stakeholder community?
- What is the general opinion of Playa Viva?
- How aware are people of Playa Viva's vision, programs and activities?
- How much do people participate in Playa Viva activities?
- Opinions on how Playa Viva and their town can work together in the future: how would they like see the relationship between Playa Viva and their community move forward?

General Community Monitoring

The study also sought to capture data for general community monitoring purposes. These data will be analyzed and tracked over time.

- Level of education
- Job demographics
- Average household size
- What people like about their community
- Level of place attachment (social)

- Community relations
- Family relations
- Perception of health and well-being of self
- Perception of health and well-being of community
- General problems/needs in the community
- Well-being indicators for a healthy community
- Connection to nature
- Changes in the natural environment
- Changes recreational activities in nature

Impact on Playa Viva Staff

- What is the general level of satisfaction and pride in employees' work?
- How satisfied are employees with their earnings and work schedules?
- How likely are employees to stay working for Playa Viva if other options were available?
- Do employees feel their work is impactful?
- Do employees feel that they have been provided adequate training and opportunities for advancement?
- How aware are employees of the Playa Viva mission?
- How connected do employees' feel to that mission?

LIMITATIONS
TO THE STUDY

RETROSPECTIVE EVALUATIONS

The evaluation for this study is retrospective, a type of evaluation in which data are collected after program implementation and analyzed retrospectively.[19] The alternative, a prospective evaluation, was not possible due to the very limited baseline information available. Consequently, it is difficult to fully discern for what outcomes Playa Viva is responsible and whether its participants have benefited from the presence of the hotel.

Playa Viva founders were interested only in the impact of the hotel, that is, the effect on outcomes that the hotel directly has caused. Therefore, the impact evaluation looked for the changes in outcome that were directly attributable to the hotel's activities and programs. To do this, one must estimate what is known as the counterfactual, i.e. what the outcome would have been for program participants had there never been a Playa Viva hotel. The study compared data from the stakeholder communities to a similar community (in socioeconomics and population size) where no such programs have existed (i.e. a control).

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[19] To measure impact, one must compare how the project site was before intervention and then again after implementation. There are two types of impact assessments: prospective and retrospective. As their names suggest, *prospective* evaluations are developed at the *beginning* of a program (designed at the same time the program is being developed), while *retrospective* evaluations assess program impact *after* the program has already been implemented. Prospective evaluations are built into program implementation and baseline data are collected prior to implementation for both treatment and comparison (control) groups. Retrospective attempt to assess impact based on observed outcomes and identify treatment and control groups post-implementation. World Bank 2011: Impact Evaluation in Practice

However, due to the lack of baseline data (only anecdotal) for treatment groups and no data for a control, the evaluation employed quasi-experimental methods and therefore options to produce a valid estimate of the counterfactual were limited. These methods can reduce the study's internal validity as treatment and control groups may not have been comparable at baseline. Thus, impact is *estimated* and is unable to fully demonstrate a strong causal link between the targeted intervention and observed outcomes. Nevertheless, this study can serve as a partial baseline for the next 5 or even 10 years of targeted Playa Viva programs.

Please refer to Appendix G for more information on prospective versus retrospective evaluations and recommendations for future evaluations.

BIAS

A bias is a systematic error that can lead to deviation of a true score or valid results. Within social science, a number of biases can arise and skew results. Relevant biases are listed below and mediation of biases explained.

Response bias

Response bias (also known as survey bias) arises when subjects do not provide answers that accurately reflect their beliefs or feelings. When subjects are asked questions of a sensitive nature, they may feel pressured to give answers that are more socially acceptable or what they think the interviewer wants to hear, rather than what they truly feel, for fear of being judged by the interviewer. To minimize this bias, all surveys and interviews were anonymous and we reminded participants of anonymity when asked sensitive questions. Another tactic was to ask about other people's behaviors, rather than their own. For example, questions such as "do you know someone in the community who eats turtle eggs?"[20] were asked instead of "do you eat turtle eggs?".

Response bias also occurs when respondents tend to rate their own characteristics higher than those of the stakeholder population, known as the *illusory superiority or the above-average effect*[21]. When rating one's health, we mitigated this bias by first asking people about how they felt about their own health and then how they felt about the town's health. People's own

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[20] The practice of consuming turtle eggs is a long cultural tradition practiced by many coastal communities throughout Mexico. In 1991, after poaching reached unsustainable levels, the Mexican government banned the consumption and sale of turtle eggs and turtle meat and began the community sea turtle hatchery program (*campamentos tortugueros*) to combat this practice and promote conservation.

[21] Buunk, B. P. , & VanYperen, N. W. (1991). Referential comparisons, relational comparisons and exchange orientation: Their relation to marital satisfaction. Personality and Social Psychology Bulletin, 17, 710-718.

health was generally higher than the town's average health ("I'm fine but not everyone else is"), correcting for some bias.

Interviewer bias

Interviewer bias occurs when the interviewer unintentionally gives subtle cues with body language or tone of voice that influence the respondent and result in answers that are more in line with the interviewer's opinions, values and prejudices. Additionally, sometimes the interviewer's physical appearance or gender can render a different response from the respondent. A mixed-gender team, observation of survey enumerators and training on how to neutrally ask questions were employed to reduce this bias.

METHODS OVERVIEW

INSTRUMENTS

A mixed method approach utilizing a variety of instruments was employed to triangulate findings for this study. Information was collected from at least three sources (including from secondary data)—to allow information from one instrument to be confirmed, disproved, or investigated further. Using information from three distinct sources is intended to elicit robust, quantitative and qualitative data across a broad spectrum of human well-being metrics. The methods employed include: (1) participant observation and document analysis, (2) household surveys, and (3) unstructured and semi-structured interviews. Household surveys contained both open-ended and closed-ended questions. Interviews contained mostly open-ended questions. Document analysis, participant observation and informational interviews informed the development of surveys and interview guides. Indicators and metrics were selected and designed according to hotel goals and projects, and were guided by widely-used human well-being metrics[22,23,24,25] including the Socio-Economic Assessment Toolbox (SEAT), Socioeconomic Monitoring (SocMon) tool, and indicators from the UN Human Development Index, as well as through open-ended questions with the community residents themselves.

[22] Human Development Report (2010). United Nations Development Programme.
[23] UN Millennium Project (2005). *Investing in Development: A Practical Plan to Achieve the Millennium Development Goals.* Washington, D.C.: Communications Development Inc.
[24] Living Beyond Our Means: Natural Assets and Human Well-being. (2005). Millennium Ecosystem Assessment.
[25] Ecosystems and Human Well-being: A Framework for Assessment. (2003). Millennium Ecosystem Assessment.

INFORMANTS

Informants were sampled using random and purposive sampling, which depended on the type of informant. Informant types included: community members, community leaders, local level government officials, tourism partners, hotel founders, members of the turtle camp La Tortuga Viva and employees.

ANALYSIS

Quantitative data were analyzed using SPSS (Statistical Package for the Social Sciences). The dependent variables measuring perceptions of health and well-being, conservation beliefs, closeness to nature, awareness of Playa Viva goals and activities, participation in Playa Viva activities, among others, were analyzed relative to hotel employee status and community (i.e. whether they were a current employee, a member of the turtle camp, part of the stakeholder community or the control), among other variables known to influence the dependent variables such as education and occupation. Additionally, other questions gauged beliefs and opinions about community dynamics. Interviews were recorded (when permitted) and relevant portions were transcribed using a naturalized transcription approach.[26] Quotations were lightly edited to improve reader comprehension while strictly maintaining the meaning of quotes. In instances when recording was not permitted, detailed notes were taken. Qualitative interview data were analyzed using NVivo.[27] Study sites were determined by the Principal Investigator (PI) and the selection of a control site was made in consultation with local partners.

INDICATOR DEVELOPMENT

Goals and objectives of the organization were explicitly outlined and discussed with the hotel owner, David Leventhal, and revised by the permaculture designer, Odin Ruiz . After goals and objectives were reviewed by both parties, indicators were selected and/or designed accordingly using guidance from the Socio-Economic Assessment Toolbox (SEAT), Socioeconomic Monitoring (SocMon) tool, and indicators from the UN Human Development Index (please see Appendix A and B for a full list of goals, objectives and indicators).

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[26] Oliver, D. G., Serovich, J. M., Mason, T. L. 2005. Constraints and Opportunities with Interview Transcription: Towards Reflection in Qualitative Research. Social Forces 84 (2): 1273- 1289.
[27] NVivo is a qualitative data analysis software for researchers, particularly in social science.

QUESTIONNAIRE AND INTERVIEW DESIGN

Survey and interview questions were both developed solely for this study and also selected from relevant peer-reviewed research studies based on applicability to stated research questions and hypotheses. Questions developed were based on information gathered through extensive review of the origination documents and videos of the Playa Viva project and informational interviews with the hotel owner and permaculture designer.

RESEARCH SITES AND SAMPLE

Stakeholders and Control Group: The PI along with several Playa Viva volunteers conducted community-level (household) surveys in Playa Viva's two stakeholder communities—Juluchuca and Rancho Nuevo—as well as in one control community (Coyuquilla Sur). The control community was selected based on the following considerations: comparable economy and socioeconomics (outside of the hotel's or other tourism ventures' influence), time and accessibility, as well as security. Stakeholders beyond the two communities were selected through a rapid stakeholder mapping assessment. However, due to the limited resources available for the study, not all stakeholders were surveyed or interviewed.

In each site, at least 50 community members were randomly sampled, along with purposive sampling of at least one village official (i.e. *el comisario;* the town commissioner). The individual community member (which includes hotel staff and turtle camp volunteers) is the primary unit of analysis for this study. Field survey data were collected between August and October 2017.

Additionally, staff surveys were conducted with 18 (of the 22) staff members from the Season 8 team onsite (hotel). The hotel operates on a "seasonal" basis from October to July; Season 8 occurred between October 2016 to July 2017. This survey included the general community survey, but also contained an additional set of questions examining employee well-being, pride, awareness of hotel goals and mission, and their general opinions about the hotel and its impact in the community and on the environment. Similarly, the fourteen volunteers from Playa Viva's onsite turtle camp, La Tortuga Viva,[28] were also given the general community survey plus questions gauging their knowledge about sea turtle conservation, general environmental attitudes, opinions about turtle camp management, the value they feel their work has and the impact they have experienced in their lives from volunteering with the camp. More in-depth

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[28] La Tortuga Viva (LTV), known legally as *Campamento Tortuguero Playa Icacos*, is a community-run sea turtle sanctuary (hatchery) and nonprofit based in Juluchuca and located on hotel property. Since 2010, Playa Viva has supported La Tortuga Viva through its Regenerative Trust. The Regenerative Trust channels funds through a fiscal sponsor, The Ocean Foundation (TOF), via Playa Viva guests, partners and fellow conservation enthusiasts. Any extra expenditures the camp incurs to run basic operations is supported by hotel revenue.

results from the turtle camp survey can be found in the La Tortuga Viva 2017-2018 annual report.

Three key informant interviews from the Playa Viva executive team were conducted as well as with each town commissioner from Juluchuca, Rancho Nuevo and Control, the presiding doctor from the Juluchuca health clinic (which services both Juluchuca and Rancho Nuevo), and the Gutierrez family.

Sample size

Study Group	Number of informants
Juluchuca (stakeholder)	72
Rancho Nuevo (stakeholder)	49
Control	54
Playa Viva Season 8 Staff (stakeholder)	18
Turtle Camp Season 8 Volunteers (stakeholder)	14
Total	207

MEASUREMENT OF DEPENDENT VARIABLE INDICATORS

DEMOGRAPHICS

Demographic questions were asked for the purpose of informing future community development activities. Questions were asked to respondents about primary occupation, household expenses, income, material assets and from where the majority of household income comes.

- *What is your primary occupation?*
- *What is your marital status?*
- *Including yourself, how many people live in the household?*
- *Do you own or have any of the following:*
    - Home (or multiple homes)
    - Motorbike
    - ATV
    - Car or truck
    - Land or property
    - Farmland
    - Animals (pigs / cows / goats)
    - Chickens
    - Cellphone
- *Does the house in which you live have the following:*
    - Electricity
    - Garden
    - Fruit Trees
    - Bathroom inside the house

- - Flushing toilet
    - Shower
    - Refrigerator
    - Indoor stove-oven unite
    - Internet
    - TV
    - Radio
    - Telephone
    - Kitchen blender
  - *Approximately, how much do you earn in one week?*
    - Less than 100 pesos per week
    - 100-199
    - 200-399
    - 400-500
    - 501-700
    - 701-999
    - 1000-1499
    - 1500-2000
    - More than 2000
  - *From where does the majority of the household income come?*
  - *What is the largest household expenditure?*
  - *What is the second largest household expenditure?*

Levels of education

For decades, research has touted education as the fundamental building block of society, providing numerous social and economic benefits.[29] With more education, individuals are more inclined to take care of themselves and their communities, improve health and stimulate economic growth.[30],[31] In relation to environmental attitudes, there is a correlation between higher education levels and pro-environmental behaviors, however the causality of that linkage is uncertain due to the complexity of other variables that may steer individuals toward more pro-environmental behaviors.[32] While correlation analysis was not conducted for this study, education levels were still recorded for future monitoring purposes and observing educational levels at present.

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[29] Behrman, J. R. and Stacey, N. (1997). The social benefits of education. University of Michigan Press, Ann Arbor.

[30] Vila, L. (2000). The Non-Monetary Benefits of Education. *European Journal of Education, 35*(1), 21-32. Retrieved from http://www.jstor.org/stable/1503615

[31] Lochner, L. "Nonproduction Benefits of Education: Crime, Health, and Good Citizenship," in E. Hanushek, S. Machin, and L. Woessmann (eds.), *Handbook of the Economics of Education , Vol. 4*, Ch. 2, Amsterdam: Elsevier Science, 2011 .

[32] Meyer, A. (2015). Does education increase pro-environmental behavior? Evidence from Europe. *Ecological Economics 116*: 108-121.

- *What is the highest level of education you've completed?*
  - None
  - Some school, but didn't finish primary
  - Primaria /Primary
  - Secundaria /Secondary
  - Bachillerato / High school
  - Licenciatura /Bachelor's
  - Maestría /Master's
  - Doctorado o título profesional / Doctorate or professional degree (MD, JD, etc.)

HEALTH

Community health and well-being

To determine how individuals perceive the health and well-being of their communities, the following open-ended questions were asked. Each answer mentioned by respondents was entered into the mobile survey application and subsequently categorized to reflect commonly-cited answers. Answers that fell outside of common categories were recorded and treated as "other"but not analyzed in this study. These questions were asked to reflect the views, concerns and needs of the communities.

- *What are the most important things a community needs so that people live well and have a good quality of life?*
- *What are the biggest problems in your community? The problems that reduce that quality of life.*
- *What are the biggest health problems/illnesses in your community?*

To get a better sense of well-being and what people *enjoy* about their communities, respondents were asked what they like most about the town in which they live. Each answer to the open-ended question was entered into the mobile survey application and subsequently categorized to reflect commonly-cited answers. Answers that fell outside of common categories were recorded and treated as "other" but not analyzed in this study.

- *What do you like most about living in [town]?*
  [opened-ended]

To measure **how individuals perceive the physical health**, **quality of health services and social well-being** of and within their communities, respondents were asked to rank physical and social conditions on a scale of 1 to 5 (low to high).

- *In general, how would you rate the health of your community?*
  - Not at all healthy
  - Not very healthy
  - Somewhat healthy
  - Healthy
  - Very healthy
- *How would you rate the availability of the health services in your town (e.g. doctor/medical expertise, facilities, equipment)?*
  - Very poor
  - Poor
  - Neutral
  - Good
  - Very good
- *In general, how do you feel about the level of support within your community?*
  - People don't support each other at all
  - People support each other very little
  - People somewhat support one another
  - People mostly support one another
  - People completely support one another
- *My family gets along well with each other.*
  - Not at all
  - Very little
  - Somewhat
  - Mostly
  - Completely

Community Organization

To gauge the town's level of organization and participation in community groups, respondents were asked the following questions.

- *Are you part of any group, cooperative, or organization here?*
  - Yes
  - No
- *[IF YES] What is it called? How long have you been a member? How many people are in the group?*

- *Do you attend or have you attended any of your town's meetings?*
  - Yes, frequently
  - Yes, but only once in a while
  - Yes, I hardly attend
  - No, I've never been to one
  - No, I'm not aware of any town meetings
  - I don't know
- *[IF YES] How often do the meetings occur?*
  - Whenever there is something to discuss/There is no fixed schedule
  - Monthly
  - Every two weeks
  - Every six months
  - Other
- *[IF YES] Are they useful? Do they provide a space for community members to voice their concerns?*
  - Yes
  - No
  - Sometimes
  - Don't know
  - Comments [open-ended responses recorded]

Personal health and well-being

To measure **how individuals perceive their own physical, social and emotional health,** respondents were asked to rank physical, emotional and social conditions on different scales, 1 to 5 and 1 to 10 (low to high).

- *In general, how would you rate your own personal health?*
  - Not at all healthy
  - Not very healthy
  - Somewhat healthy
  - Healthy
  - Very healthy
- *I don't have problems with my health*
  - Strongly disagree: I have many problems that really worry me
  - Disagree: I have some problems that worry me
  - Neutral: I have some problems but they don't really affect me
  - Agree: I have very few problems
  - Strongly agree: I don't have any problems

To measure the **level of control people feel they have over their health**, respondents were asked to rate personal access to quality medical care and confidence to improve their health. If confidence was low, a follow-up open-ended question was asked about their limitations.

> - *How would you rate YOUR access to quality medical services? (Consider whether you have the means to access services outside of your area.)*
>   - Very poor
>   - Poor
>   - Neutral
>   - Good
>   - Very good
> - *I feel confident in my ability to improve my own health.*
>   - Not at all
>   - Very little
>   - Somewhat
>   - Mostly
>   - Completely
> - *[If less than completely] What are your limitations?*
>   - [Open-ended responses]

To measure **emotional well-being**, people were asked to rate their level of happiness on a scale from 1 to 10.

> - *On a scale of 1 to 10, how happy do you feel? 1 represents not at all happy and 10 represents completely happy.*

ENVIRONMENTAL AWARENESS

Conservation Beliefs

To determine whether participation in the Playa Viva project had an impact on conservation mindedness (i.e. environmental awareness) the six following statements were read to respondents, who then determined their degree of agreement according to the following options:

Strongly Disagree (1) | Disagree (2) | Indifferent (3) | Agree (4) | Strongly Agree (5)

Answers were ranked from 1 to 5, where 1 implied a negative or 'incorrect' conservation believe, and 5 implied a positive or 'correct' conservation belief (transformations were employed in analysis to reflect the scale appropriately). Respondents' answers were scored and ranked according to how closely they identify with the 'positive' conservation belief. A modified version of this scale had been successfully used previously in Indonesia to determine conservation beliefs.[33] The scale was modified to reflect appropriate local context in this region of Mexico.

- *Human activities do not affect the number of plants of animals.*
- *We do not have to worry about the environment, God will take care of it for us.*
- *We have to take care of the land and the sea, or it will not provide for us in the future.*
- *Farming in the village/town can have an effect on the animals in the sea.*
- *If we throw our trash on the beach, in the river, or in the lagoon, the sea takes it away and causes no harm.*
- *If we burn our trash, it causes no harm to the environment.*

Closeness to Nature

Pro- or positive environmental attitudes tend to entail personal sacrifice for long-term environmental and collective benefit.[34] Cultural values that promote social or group benefit are therefore found to promote more positive environmental behaviors than cultural values that tend to support more individual self-benefit.[34] Additionally, research also suggests that individuals who tend to include "nature" in their representation of self are more inclined to pro-environmental attitudes.[35] Thus, as a way to examine more variables that may affect pro-environmental behaviors, we examined the extent to which nature is included in the concept of the self.

The diagram (Figure 1) used to determine overlap of self and nature was adapted from a diagram developed and used previously by Davis et al. (2009).

[33] Pollnac, R.B. & Crawford, B.R., 2000. Assessing Behavior Aspects of Coastal Resource Use Proyek Pes., *Coastal Resources Center Coastal Management Report* #2226. Coastal Resources Center, University of Rhode Island, Narragansett, Rhode Island.
[34] Price, J.C., Walker, I. a. & Boschetti, F., 2014. Measuring cultural values and beliefs about environment to identify their role in climate change responses. *Journal of Environmental Psychology, 37*, pp.8–20
[35] Davis, J.L., Green, J.D. & Reed, A., 2009. Interdependence with the environment: Commitment, interconnectedness, and environmental behavior. *Journal of Environmental Psychology, 29(2)*, pp.173–180.

Please circle the image that best describes your relationship with the environment.
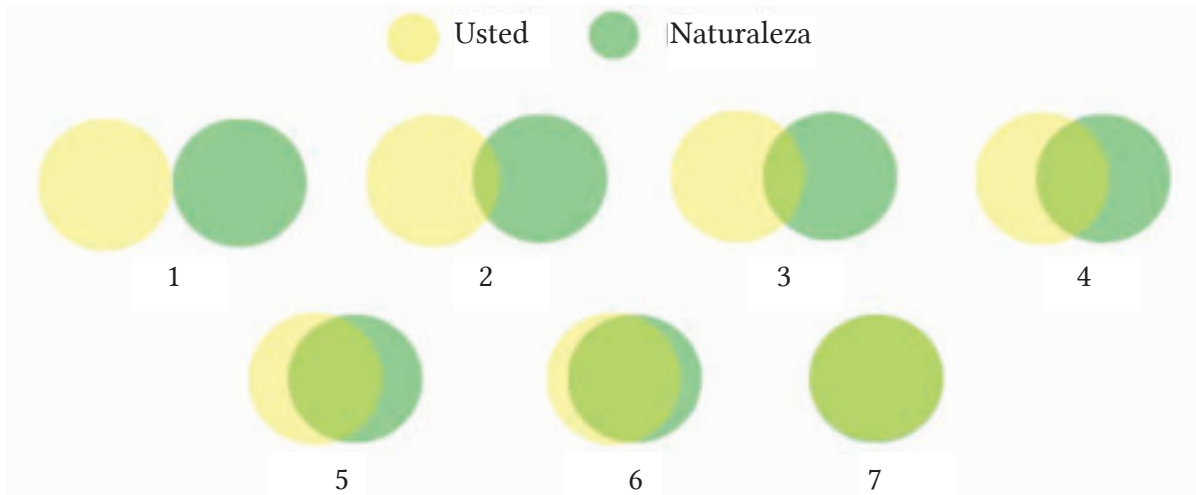
Figure 1. Diagram and instructions to identify connection to the environment, measured as the inclusion of the 'environment' in concepts of 'self.' The first picture represents no overlap, and the last represents complete overlap between self and the environment.

Environmental Changes

This social impact study does not measure the impacts of Playa Viva's ecological restoration efforts; it measures the perceptions of changing social-ecological conditions. To measure perceptions of changes in ecosystem conditions, respondents were asked the following questions.

- *There are _____ plants and animals than there were before.*
  - A lot less / Less / The same / More / A lot more
- *What changes have you observed in the environment/nature throughout your life? (dependent on age and years lived in town)*
  - OPEN-ENDED

Each answer to the open-ended question was entered into the mobile survey application and subsequently categorized to reflect commonly-cited answers. Answers that fell outside of common categories were recorded and treated as "other" but not analyzed in this study. These questions were asked to reflect the perceptions regarding environmental change.

ECONOMIC DEVELOPMENT AND WELL-BEING

Place Attachment

Assessing the degree of place attachment (the emotional bond between person and place[36]) and community organization is highly relevant for designing community development projects. Research has demonstrated that fostering a greater degree of place attachment may lead to more environmentally responsible and socially cohesive behaviors.[37,38,39,40] When people develop an emotional bond to their natural environment, people tend to want to protect it, engaging in pro-environmental activities, as their self-identity (emotional) and daily lives depend on it (functional).[37,38] Furthermore, individuals who report greater degrees of attachment to their communities tend to exhibit higher levels of social cohesion and social control, express less fear of crime, and contribute to community vitality.[40]

To determine whether the Playa Viva project had an impact on place attachment, respondents were asked to state their degree of agreement according to the following six statements. The answers to these statements were then compared to the answers of the control community.

Strongly disagree 1 / Disagree 2 / Neutral 3 / Agree 4 / Strongly Agree 5

- *I feel safe and secure living here.*
- *I have good memories from living in this area.*
- *I'm satisfied with the amount of opportunities available to me here*
- *I feel very connected to my community.*
- *If I didn't have my family here, I would probably move.*
- *The future of [town] is important to me.*

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[36]   Shumaker, S.A., and R.B. Taylor. 1983. Toward a Clarification of People-Place Relationships: A Model of Attachment to Place. In Feimer, N.R. and Geller, E S. (Eds.). *Environmental Psychology: Directions and Perspectives.* New York: Praeger.

[37]   Hartig, T., F. Kaiser, and P. Bowler. 2001. Psychological Restoration in Nature as a Positive Motivation for Ecological Behavior. *Environment and Behavior* 33:590-607.

[38]   Vaske, J.J., and K.C. Kobrin. 2001. Place Attachment and Environmentally Responsible Behavior. *The Journal of Environmental Education* 32, 4:16–21.

[39]   Manzo, L.C., and D.D. Perkins. 2006. Finding Common Ground: The Importance of Place Attachment to Community Participation and Planning. *Journal of Planning Literature* 20:335.

[40]   Brown, B., D.D. Perkins, and G. Brown. 2003. Place Attachment in Revitalizing Neighborhoods: Individual and Block Level Analysis. *Journal of Environmental Psychology* 23, 3:259-271.

Community Vitality

The impact the Playa Viva project has had on community vitality was assessed through the following question. If answered positively (positive change in community vitality), a follow up question was employed to ask respondents if they felt Playa Viva was responsible for that change.

- *It was expressed at the beginning of Playa Viva's establishment that Juluchuca and Rancho Nuevo were dying town --that youth were leaving , that there weren't a lot of opportunities. Would you say that has changed?*
  - Yes, it's better
  - Yes, but only a little better
  - Yes, it's worse
  - Yes, but only a little worse
  - No, it's the same
  - I don't know
- *Has PV played a role in that change ?*
  - Yes
  - No
  - Al little
  - Don't know
- *Comments [open-ended comments were recorded]*

Economic Differences

To determine the impact of the Playa Viva project on economic well-being, comparisons were made between Playa Viva employees and their community counterparts on income levels and material assets. Comparisons were also made between the stakeholder population and the control community.

COMMUNITY FEEDBACK

General Opinion of Playa Viva Hotel

To determine how the Playa Viva project has been received in the community (tied to the hotel's goal to *promote transformational experiences*) and among staff, the following questions were asked. Respondents were both given scalar and open-ended questions. Each answer to the open-ended question was entered into the mobile survey application and subsequently categorized to reflect commonly-cited answers. Answers that fell outside of common categories were recorded and treated as "other" but not analyzed in this study.

- *What is your general opinion about Playa Viva Hotel? [open-ended]*
- *How supportive were you when you first heard of this hotel?*
  - Totally against / Against / Indifferent / In favor / Very in favor / N/A
- *Why or why not? [open-ended]*
- *How supportive of this hotel are you now?*
  - Less in favor / Hasn't changed (still support or are against) / More in favor
- *Why or why not? [open-ended]*

Awareness of and Participation in Playa Viva Activities

To determine the extent of Playa Viva's outreach efforts, respondents were asked open-ended and nominal questions about their awareness of the Playa Viva mission. Each answer to the open-ended question was entered into the mobile survey application and subsequently categorized to reflect commonly-mentioned answers. Answers that fell outside of common categories were recorded and treated as "other" but not analyzed in this study.

- *You already know PV is a hotel, but apart from being a hotel, can you tell me what their vision is or what they focus on? [open-ended, subsequently 'scored']*
  - Complete answer (supports environmental regeneration & community development)
  - Partial answer (either mentions environmental protection, organic ag OR community support)
  - No/Not sure (can only say it's a hotel)
- *Are you aware of any education, health, economic development, or infrastructure projects or any services that PV is providing in your village?*
  - Yes
  - No
  - Unsure
- *[IF YES] Which ones? [open-ended]*
- *Thinking over the last 10 years, have you ever participated in a course, workshop, or educational event organized by PV?*
  - Yes
  - No
  - Unsure
- *Has PV ever helped you make connections (e.g. provide a training, sent you to courses, brought people to your community, or helped you set up a business, etc.)?*
  - Yes
  - No
  - Unsure
  - [Comments recorded]

Impact on Livelihoods and Conflict

To determine the impact of the Playa Viva project on livelihood and culture and any potential negative impacts, respondents were asked the following questions. Most questions were scalar in nature, but comments were recorded and any open-ended responses were categorized to reflect commonly-mentioned answers and analyzed.

- *Has the establishment of the hotel and the presence of its guests affected your livelihood in any way?*
  - Yes (positive)
  - No (neutral impact)
  - Unsure
- *[IF YES] How? [open-ended, then subsequently coded]*
  - Positive, unspecified
  - Positive, hotel has supported the local communities
  - Positive, guests interacting with the local communities and supporting the local economy
  - Positive, provides work for the local communities
  - Negative, can no longer fish in the lake next to the property
- *Do you feel PV respects the culture of your community?*
  - Not at all / Very little / Some / Moderate / A lot
  - Unsure
  - Comments
- *Has there ever been conflict or complaints surrounding PV in the community?*
  - Yes
  - No
  - Unsure
- *[Follow up questions, open-ended]*

Involvement in the Community

To determine how community members' interpret and view Playa Viva's presence and involvement in the community, respondents were asked the following questions. Respondents were both given scalar and open-ended questions and results were compared across groups. Answers to the open-ended questions were entered into the mobile survey application and subsequently categorized to reflect commonly-mentioned answers. Answers that fell outside of common categories were recorded and treated as "other"but not analyzed in this study.

- *How would your rate PV's involvement in the community?*
  - Not involved / Very minimally involved / Somewhat involved / Moderately involved / Involved
- *Do you feel PV should be involved in the community?*
  - Yes
  - No
  - Unsure
- *[IF YES] In what ways? [open-ended]*
- *Do you like having tourists visit your community?*
  - Yes
  - No
  - Indifferent
  - N/A - They hardly come here
- *Would you like more to visit?*
  - Yes
  - No
  - Indifferent
- *Why or why not? [open-ended]*

Moving Forward

To determine how community members' would like to see Playa Viva's presence and involvement in their communities grow and evolve, respondents were asked the following open-ended questions. Each answer was entered into the mobile survey application and subsequently categorized to reflect commonly-mentioned answers. Answers that fell outside of common categories were recorded and treated as "other" but not analyzed in this study.

- *In the future, what could PV do to improve its relationship with the community?*
- *How would you like to see the relationship between Playa Viva and [community] move forward/evolve?*

PLAYA VIVA STAFF SURVEY

Playa Viva employees were asked an additional set of questions regarding their job satisfaction, growth opportunities in the workplace, awareness of the Playa Viva mission, opinions on management, equity in the workplace, and team collaboration. The latter three categories were asked as an internal audit and to assess the degree to which the Playa Viva Code of Conduct

and mission has been integrated into operations. The results from these questions are analyzed and presented in Appendix E.

Job Satisfaction

Job satisfaction is an important component relating to regenerative capacity and manifestation of potential. Degree of job satisfaction reveals the psycho-cultural adaptations of individuals in communities.[41] Numerous studies have linked high job satisfaction with psychological health and longevity and conversely low job satisfaction with social problems including domestic violence, absenteeism and job performance.[42] Consequently, job satisfaction is a critical component to social and physical well-being and, as it relates to occupation, can be directly affected by changes caused by development or management.

To determine the degree of job satisfaction, employees were both given scalar and open-ended questions on topics related to satisfaction, job retention, pride in work and sustainability of career. Answers to the open-ended questions were entered into the mobile survey application and subsequently categorized to reflect commonly-mentioned answers. Answers that fell outside of common categories were recorded and treated as "other" but not analyzed in this study. Scalar questions were ranked from 1 to 5 and the means were analyzed.

- *Overall, how satisfied or dissatisfied would you say you are with your job at Playa Viva?*
  - Very dissatisfied
  - Dissatisfied
  - Somewhat dissatisfied
  - Neutral
  - Somewhat satisfied
  - Satisfied
  - Very satisfied
- *Comments [OPEN-ENDED]*
- *How satisfied are you with...*
  - *How much you earn*
  - *Your financial ability to feed your family*
  - *The level of health and safety of your job (e.g. working with chemicals/heavy physical labor)*
  - *The number of hours you work per week*
  - *The free time you have available to spend with family and friends*

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[41] Pollnac RB, Poggie Jr JJ. (2006). Job Satisfaction in the Fishery in Two Southeast Alaskan Towns. *Human Organization 65(3)* 329-339.

[42] Pollnac RB, Poggie Jr JJ. (1988). The structure of job satisfaction among New England fishermen and its application to fisheries management policy. *American Anthropologist 90(4)*: 888–901.

- *Do you consider yourself fortunate to have this job?*
  - No
  - Somewhat
  - Yes
- *Why or why not? [OPEN-ENDED]*
- *Do you take pride in your work?*
  - Not at all
  - A little
  - Somewhat
  - Mostly
  - Completely
  - Unsure
  - *Why or why not? [OPEN-ENDED]*

Employees were asked if they would change occupations if an alternative were available and how sustainable they feel the type of work they do is.

- *If you had the option, would you look for work outside of PV?*
  - Yes
  - No
  - Unsure
- *Why or why not? [OPEN-ENDED]*
- *Would you advise a young person to follow this line of work?*
  - Yes
  - No
  - Maybe
  - Unsure
- *Why or why not?*

Empowerment & Opportunities

Community development begins with employees. To determine whether employees perceive their work to be meaningful and whether they are provided with opportunities for advancement, the following questions were asked. Average responses are presented in the results section.

- *How much impact do you think your work has... ?*
  No impact / Minimal impact / Some impact / Moderate impact / A lot of impact
  - *For the community*
  - *For the hotel*
  - *For the environment*
- *Have you learned new skills at your job?*
  - Yes
  - No
- *[IF YES]: Do you see these new skills as being applicable to other areas of your life?*
  - Yes
  - No
  - Unsure
- *Do you feel there is room for growth in your position or within Playa Viva?*
  - Yes
  - No
  - Unsure
- *Have you received any training or participated in any courses related to your work [organized/ facilitated by PV]? (workshops, courses, exchanges, etc.)*
  - Yes
  - No
  - Unsure
- *Follow up questions [open-ended]*

Awareness of Playa Viva mission

To ensure the Playa Viva project manifests potential and supports mutually beneficial and co-evolutionary relationships, employees should be aware of and feel connected to the mission of the organization. Employees were asked to state the organization's mission in their own words and asked whether they feel they are supporting that mission in their daily work.

- *In your own words, what is the vision/mission of Playa Viva? (Scored 0, 1, 2 3 if they can name none, one, two or all three items)*
  - Grow in size and economically
  - 100% Sustainability (food, energy, water) + Ecological Regeneration
  - Serve/Help the community (Social Regeneration)

- *Do you feel that you are supporting or realizing this vision in your daily duties?*
  - Not at all
  - A little
  - Somewhat
  - Mostly
  - Completely
  - Unsure
- *Playa Viva's goals are [read to respondent]. Do you think Playa Viva is realizing these goals? Why or why not? [open-ended]*

DEMOGRAPHICS

Primary Occupation

Agriculture dominates the local economy in both the stakeholder and control communities (Figure 2) (24.7% working in agriculture and 34%, respectively). Juluchuca and Rancho Nuevo enjoy slightly more job diversity, evident in the percentage of employees in tourism (10.4%) and the factory industries in Juluchuca (11.7%). We also see that the level of unemployment is slightly lower for the stakeholder communities (4.5%) than the control (5.7%). Nearly one-quarter (23.4%) and nearly one-third (35.8%) of respondents in the stakeholder and control communities do not participate in the formal economy (housewives).[43]

Stakeholder Population

Tradesman/worker 4.5%
Unemployed 4.5%
Student 9.7%
Tourism 10.4%
Factory worker 11.7%
Agriculture 24.7%
Fishing 1.3%
Housewife 23.4%

Control

Other 3.8%
Unemployed 5.7%
Factory worker 9.4%
Agriculture 34.0%
Housewife 35.8%
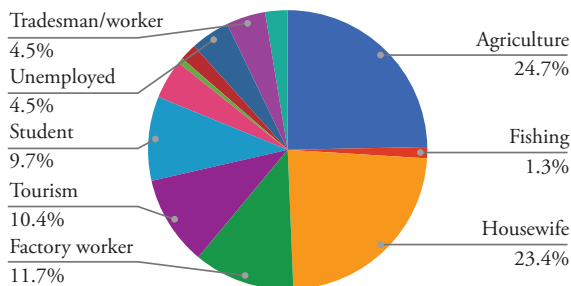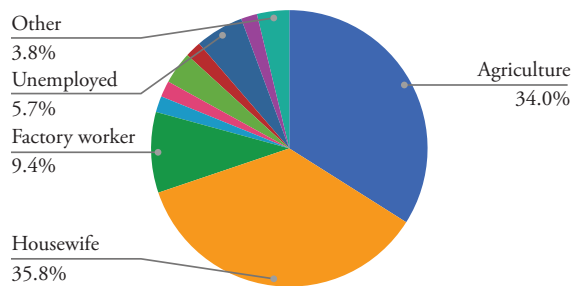
Figure 2. Pie chart occupation breakdown by stakeholder and control groups

[43] Whole communities were not surveyed. Although a representative sample was attempted, results may be slightly skewed as nearly all PV employees were surveyed, but not every household. This may skew results to a slightly higher percentage of tourism for employment.

Marital Status and Household Information

About half the population in both the stakeholder and control communities are married (53.59% and 53.70%, respectively) with a median household size of 4 and 3 persons, respectively. There is a higher percentage of single individuals in the stakeholder population (30.1%) than the control (18.5%), as well as a lower widowed/widowered population in the stakeholder population (3.3% versus 13.0%). This trend may be explained by the median age of respondents for each population: 38 years for the stakeholder and 44 for the control (respondents were slightly older in the control). Survey enumerators attempted to obtain a representative sample by surveying a mixture of old and young, men and women, but given that there were no recent census records to determine the actual demographics of the communities, the representativeness of the sample cannot be confirmed with certainty.

Stakeholder (General) Population

Widowed/widower
3.3%
Domestic
10.5%

Single
30.1%

Married
53.6%

Control

Widowed/widower
13.0%

Divorced
3.7%

Domestic
11.1%

Single
18.5%

Married
53.7%
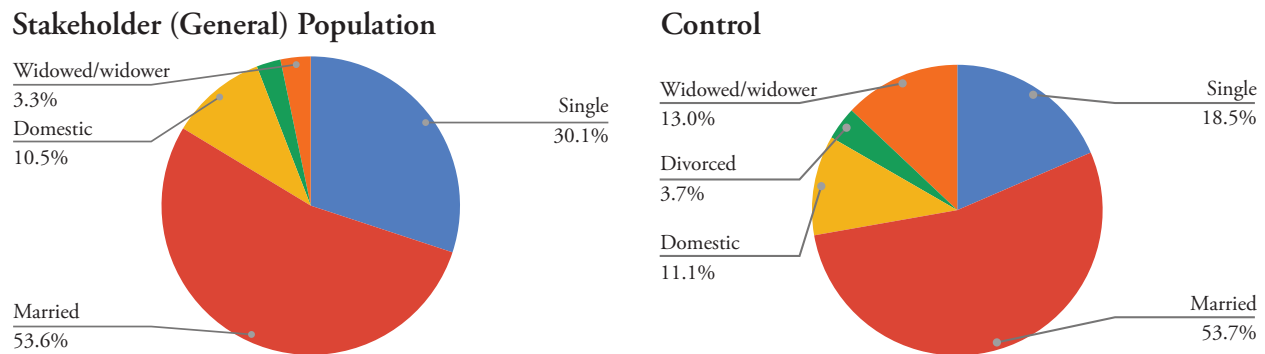
Figure 3. Pie chart breakdown of marital status by stakeholder and control communities

Education

The stakeholder population's mean value for level of education was 3.570 (between completion of primary and secondary school) and a median value of 4.00 (completion of secondary school). Figure 4 displays differences between the different study groups. Juluchuca experiences the highest levels of education, with an average and median closer to "completion of secondary education" (3.873 and 4, respectively, Figure 4). Rancho Nuevo has the lowest levels of education, with a mean of 3.122 and median of 3.00 (completion of primary).

Levels of education
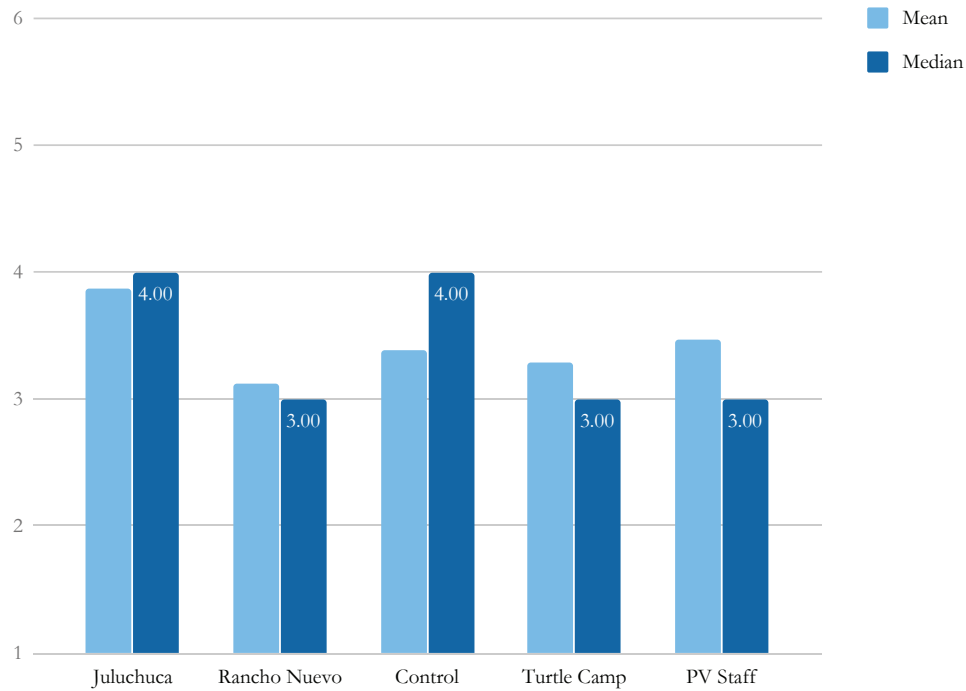
Figure 4. Distribution of mean and median values for level of education. See table 1 for code.

Table 1 - Levels of education code key

	Levels of Education
1	None
2	Some school, but didn't finish primary
3	Primary
4	Secondary
5	High school
6	Bachelor's Degree
7	Master's
8	Doctorate or professional degree (MD, JD, etc.)

The mean (3.389) and median (4.00) levels of education for the control community fell between those of Juluchuca and Rancho Nuevo. The Playa Viva staff had levels of education similar to their community counterparts, Juluchuca and Rancho Nuevo (mean=3.471, median=3.00), from where most of them were born and reside.

Income

The median monthly household income for respondents in the stakeholder and control communities was between 4000 and 5996 MXN, with averages slightly lower for the stakeholder (see table 2a). Playa Viva employees have an average household monthly income between 6000 MN and 8000 MXN. Turtle camp volunteers have a monthly income between 2000 and 2800 MXN and a median income between 4000 and 5996 MXN.

Table 2a. Median and average incomes by group

	Income scale	Stakeholder Pop	
1	Less than 100 pesos *per week*	Median response	Average response
2	100-199	7.00	6.36
3	200-399	Control	
4	400-500	Median response	Average response
5	501-700	7.00	6.91
6	701-999	PV S8 Staff	
7	1000-1499	Median response	Average response
8	1500-2000	8.00	8.11
9	More than 2000	Turtle Camp	
		Median response	Average response
		7.00	5.25

Sources of income

The main source of income for both the stakeholder and control communities is agriculture (35.63% and 55.00%, respectively), with the private sector (e.g. factory work, salt flats, etc.) as the second main source for both communities (18.75% and 16.67%, respectively). Interestingly, in the stakeholder communities, the third main source of income was split between tourism (14.38%) and remittances (14.38% of responses, i.e. money sent from relatives). Remittances only accounted for 5% of responses as a main source of income for households in the control community (table 2b).

Table 2b. Income sources in the stakeholder and control communities

Sources of income (% responses)		
	Stakeholder Population	Control Community
Fishing	3.13%	8.33%
Agriculture	35.63%	55.00%
Tourism	14.38%	1.67%
Private sector	18.75%	16.67%
Remittances	**14.38%**	**5.00%**
Other	13.73%	13.33%

Household expenditures

The highest household expenditure was food for both the stakeholder and control communities (52.98% and 48.15% of responses, respectively). The second greatest household expenditure in the stakeholder community was electricity and internet (41.22% of responses) and food in the control community (30.19% of responses). Electricity and internet was the third highest expenditure (22.64%) in the control. Education was also another high expenditure in both communities.

Table 3. Household expenditures

	Stakeholder Community		Control Community	
	First expenditure	**Second expenditure**	**First expenditure**	**Second expenditure**
Food	**52.98%**	18.92%	**48.15%**	**30.19%**
Education	17.88%	12.16%	14.81%	15.09%
Electricity/Internet	15.23%	**41.22%**	18.52%	22.64%
Medicine	6.62%	10.81%	11.11%	15.09%
Other	7.29%	16.89%	7.41%	16.99%

HEALTH

Community health and well-being

Attributes of a healthy community

Across all groups, the most frequently mentioned attribute for a healthy community was *social cohesion, communication and unity* (24.5% of mentions, Table 4). The second and third most frequent responses were *access to medical services* (13.99%) and *employment opportunities* (13.64%). The most frequently mentioned attribute for Juluchuca and Rancho Nuevo was *access to medical services* (21.8%) and *social cohesion* (43.42%), respectively. Turtle Camp volunteers equally mentioned *access to medical services* (22.37%) and *employment opportunities* (22.73%) as the most important attribute, and for Playa Viva staff, *social cohesion* (20.55%). Interestingly, Juluchuca was the only group to mention *low levels of pollution/contamination* as important (17% of mentions, 2nd after *health services*), whereas for all other groups, this attribute constituted less than 5% of total mentions (see Figure 5 for more details).

Table 4. Attributes of a healthy community (% of mentions), organized by group. The top three mentions are emboldened. Top response is emboldened in green.

Attribute	Control	Rancho Nuevo	Juluchuca	Turtle Camp	PV Staff	All (no control)
Access to medical services/ medical attention	**29.27%**	3.95%	**21.82%**	**22.73%**	**9.59%**	**13.99%**
Employment opportunities & a healthy economy	**21.95%**	**21.05%**	3.64%	**22.73%**	**17.81%**	**13.64%**
Social cohesion, communication, unity	**18.29%**	**43.42%**	**16.36%**	**13.64%**	**20.55%**	**24.48%**
Education	8.54%	**6.58%**	8.18%	**13.64%**	10.96%	9.09%
Infrastructure (good roads, sewage & waste management system)	6.10%	5.26%	3.64%	4.55%	8.22%	5.59%
Clean water	2.44%	1.32%	4.55%	**13.64%**	8.22%	5.24%
Access to healthy food/nutrition	4.88%	1.32%	11.82%	4.55%	4.11%	6.29%
Low levels of pollution/ contamination & taking care of environment	1.22%	2.63%	**17.27%**	4.55%	4.11%	8.74%
Low crime/safe neighborhood	1.22%	3.95%	3.64%	0.00%	1.37%	2.80%
Recreation space/green space, exercise	2.44%	0.00%	3.64%	0.00%	2.74%	2.10%

Religious presence	0.00%	0.00%	0.00%	0.00%	1.37%	0.35%
Government support	2.44%	**6.58%**	1.82%	0.00%	4.11%	3.50%
Strong family relations	0.00%	2.63%	0.00%	0.00%	2.74%	1.40%
Other	1.22%	1.32%	3.64%	0.00%	4.11%	2.80%

Attributes of a healthy community: Top responses
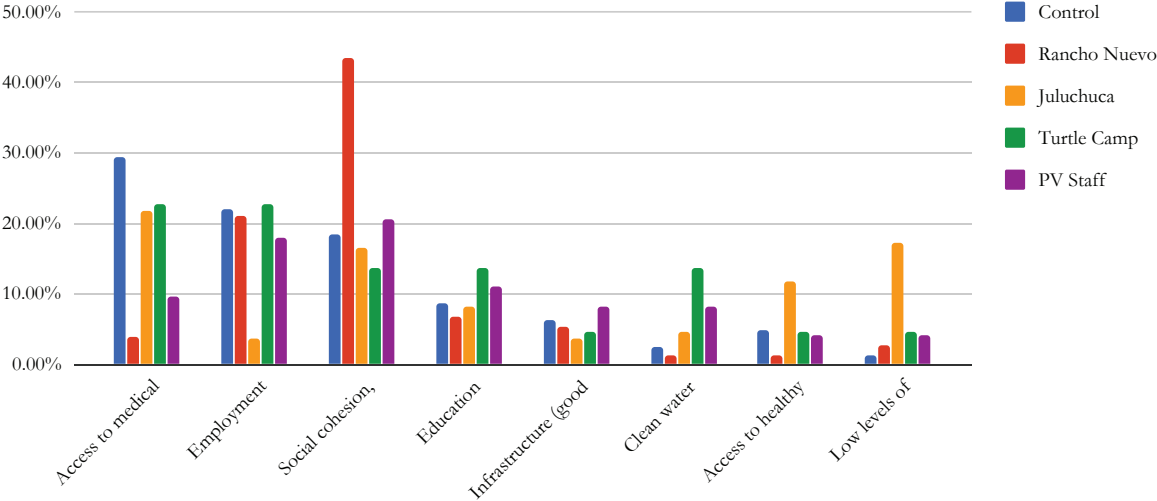
Figure 5: Distribution of mentions of "attributes of a healthy community". Juluchuca experiences a spike at "low levels of pollution". For Rancho Nuevans, social cohesion is the most important attribute.

Initially, the question was not well understood in Juluchuca. The investigation team believed respondents were taking the wording of the question too literally. When using the term "a healthy community" (*una comunidad saludable*) -- interviewers meant all factors (social, physical health, and economic well-being), but respondents seemed to take it as more physical health, which could have triggered the strong '*access to medical services'* response in Juluchuca.

Interviewers clarified the question for respondents and on subsequent versions of the survey wording was changed to, "what are the most important things a community needs so people live well? (*¿cuales son las cosas más importantes que se necesita una comunidad para que la gente viva bien?*).

Using the phrase *para que la gente viva bien* could have triggered a stronger *social cohesion* response due to the focus on *gente*, which is evident in the Rancho Nuevo responses (43% of mentions, table 4). However, although using the same wording, the control community most

frequently cited *access to medical services* (29% of mentions), with *social cohesion* constituting 18% of mentions.

Gender Differences and Similarities

Men and women cited community relations and social cohesion as the most important attribute for a healthy community (27.5% and 24.4% of mentions, respectively, Figure 6 and table 5), emphasizing that men and women feel similarly about the importance of having a unified community.

As the second most important attribute of a healthy community, men cited employment opportunities more than women (16% versus 12% of mentions, table 2). This is most likely explained by the fact that men are the traditional financial providers in their communities, so securing steady employment is at the forefront of their mind.

The third most important attribute for men was access to medical care, which was the second most important attribute for women. Women's relative closeness to family matters and issues concerning the health of their children, childbirth and child rearing could explain why this was more heavily weighted among women.

Men and Women: attributes of a healthy community
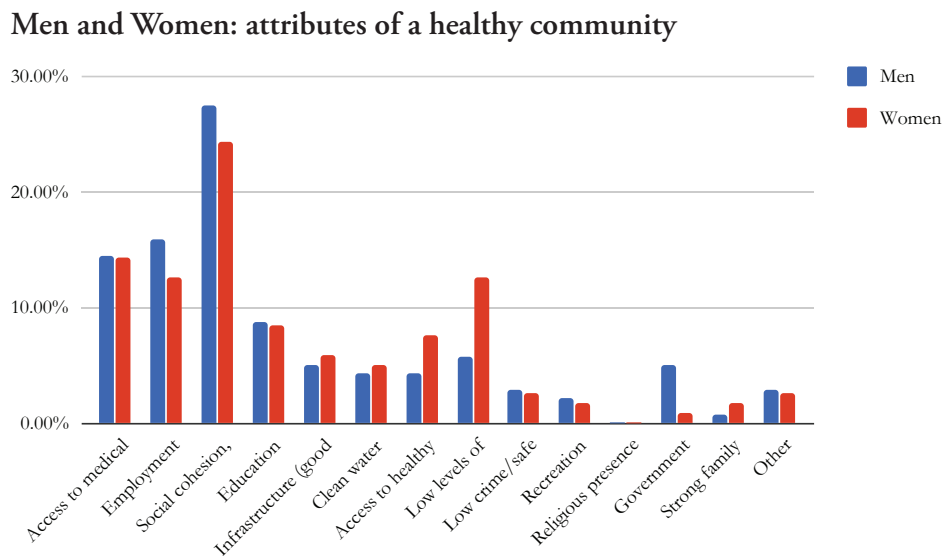
Figure 6. Distribution of mentions of "attributes of a healthy community" by gender.

Interestingly for women, having a clean environment was just as important as employment opportunities (12.6%, 3rd most-mentioned, table 2). Whereas for men, having a clean environment

was mentioned much less often than employment (5.8% versus 15.4%, respectively, table 2). This is an important finding for the Playa Viva project given that this could inform future environmental programming work in the community.

RECOMMENDATION - Environmental awareness and education initiatives should be designed to be inclusive of men, as having a clean environment seemed to not constitute their view of a healthy community as much as women. Notwithstanding, Playa Viva project staff should remain sensitive to the issue that employment is the one of the most important issues for men.

Table 5. Top attributes of a healthy community by gender

	Men	Women
1	Social cohesion & unity (27.5%)	Social cohesion & unity (24.4%)
2	Employment opportunities (15.9%)	Access to medical care (14.2%)
3	Access to medical care (14.5%)	Employment opportunities (12.6%) & A clean environment (12.6%)
4	Good schools (8.7%)	Good schools (8.4%)
5	A clean environment (5.8%)	Access to healthy food (7.6%)

Another notable finding is that women tended to cite access to healthy food more than men (7.6% versus 4.35%, respectively). Again, women's role as providing nutritional sustenance for their families could explain why this was more frequently mentioned as important among women versus men. Furthermore, while the data show that access to medical care and having medical attention is important, it is uncertain whether people make the link between nutrition and health. That is, the data demonstrate that healthcare is important for men and for women, yet nutrition and access to healthy food is seldom mentioned as an important attribute of a healthy, thriving community.

RECOMMENDATION By nature of the project, Playa Viva hotel will not single-handedly be able to change quality of medical services or access to quality services overnight. However, given their role in promotion of healthy living, they can continue promoting healthy eating and nutrition and reinforce the importance of healthy lifestyles so that less medical attention is needed (i.e. help prevent the onset of diet-related diseases such as diabetes and high blood pressure). Continuation of the Juluchuca Garden and Nutrition Project is encouraged, as well as Pato's Juluchuca Limpio project (recycling project).

Greatest problems in the community
The top three most frequently mentioned problems across all groups (Juluchuca, Rancho Nuevo, Turtle Camp and Playa Viva staff) were 1) *water access* (18.58%), 2) *infrastructure issues* (17.39%, lack of passable bridge) and 3) *lack of employment opportunities* (17.00%) (table 6). The most frequently mentioned problems in the control community were 1) *poor or lack of medical care* (28.9% of mentions, table 6), 2) *lack of employment opportunities* (20.2%), and 3) *infrastructure issues* (14.4%).

During the time surveys were conducted, Juluchuca was suffering through a water crisis: the town had been without running water for at least a month, explaining why water resources were at the forefront of people's minds (*clean water/water access*: 28.3% of mentions, table 6). Similarly for Rancho Nuevo, the surveys were conducted during the rainy season, a time of the year when access to and from the highway is difficult and unreliable, explaining the strong *infrastructure issues* response (37% of mentions). Consequently, the problems most commonly stated were lack of reliable water access and lack of infrastructure (specifically "el puente") for Juluchucans and Rancho Nuevans, respectively.

Table 6. Community problems (counts and % of mentions), organized by group. The top three mentions are emboldened. Top response is highlighted in green.

Problem	Control		Juluchuca		Rancho Nuevo		Turtle Camp		Playa Viva Staff		All (no control)	
Poor or lack of medical care	30	**28.85%**	4	3.77%	12	**16.00%**	3	**14.29%**	6	**11.76%**	25	9.88%
Lack of jobs	21	**20.19%**	17	**16.04%**	13	**17.33%**	4	**19.05%**	9	**17.65%**	43	**17.00%**
Lack of social cohesion and/or organization	3	2.88%	9	**8.49%**	8	10.67%	3	**14.29%**	3	5.88%	23	9.09%
Poor educational services/low levels of education	8	7.69%	5	4.72%	6	8.00%	0	0.00%	9	**17.65%**	20	7.91%
Infrastructure issues (no bridge, no sewage or waste treatment, poor roads, electricity)	15	**14.42%**	6	5.66%	28	**37.33%**	1	4.76%	9	**17.65%**	44	**17.39%**
Clean water/water access	3	2.88%	30	**28.30%**	3	4.00%	7	**33.33%**	7	13.73%	47	**18.58%**
Poor food access	4	3.85%	2	1.89%	0	0.00%	0	0.00%	1	1.96%	3	1.19%
Contamination/pollution/litter	6	5.77%	7	6.60%	1	1.33%	1	4.76%	2	3.92%	11	4.35%
Corruption/safety issues/cartels	4	3.85%	8	7.55%	0	0.00%	2	9.52%	1	1.96%	11	4.35%
No recreation space/ green space, exercise	0	0.00%	1	0.94%	2	2.67%	0	0.00%	0	0.00%	3	1.19%
No environmental awareness	2	1.92%	2	1.89%	0	0.00%	0	0.00%	2	3.92%	4	1.58%
Poverty	4	3.85%	5	4.72%	2	2.67%	0	0.00%	2	3.92%	9	3.56%
Low levels of nutrition/diet-related issues	2	1.92%	6	5.66%	0	0.00%	0	0.00%	0	0.00%	6	2.37%
Other	2	1.92%	4	3.77%	0	0.00%	0	0.00%	0	0.00%	4	1.58%

KEY FINDING While the problems in Juluchuca and Ranch Nuevo are on opposite ends of the spectrum—no water to drink and too much water causing flash-flooding in towns that are 3 km away from one another—the infrastructure-related problems symbolize the underlying crumbling social infrastructure in both towns to come together and solve an issue that affects everyone.

What are the biggest problems in your community? Problems that reduce the quality of life.
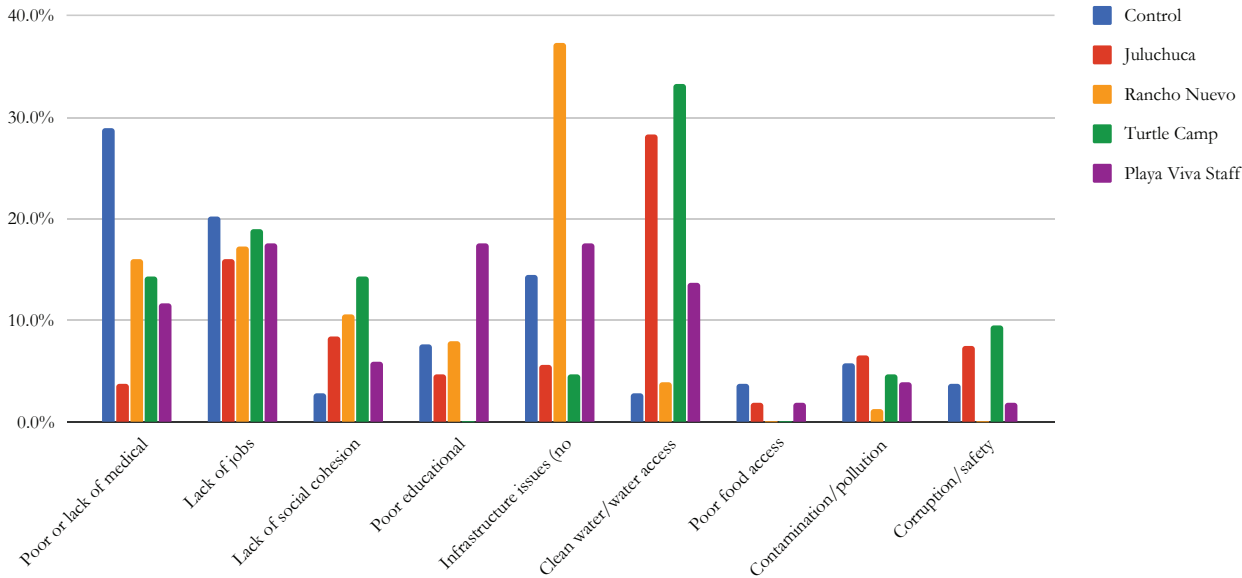
Figure 7: Distribution of "biggest problems in your community" by group

The high concern over the lack of employment opportunities across all groups, including the control, suggests that even though Playa Viva has provided some relief for a number of families, the problem is greater than the Playa Viva project alone can solve.

KEY FINDING: One noteworthy difference among groups is that Playa Viva employees cite the *lack of education/poor educational services* just as often as *infrastructure issues* and *lack of employment* as the biggest problems their communities face (17.65%). For the other study groups, they mentioned *lack of education* as a problem less than 10% of the time. This finding may suggest that through employees' experience working for Playa Viva, they are learning the importance of education.

Positive Attributes

The most common response (>40% of mentions) for what people enjoy about living in their communities was the tranquility, closely followed by the natural beauty of the area. Playa Viva staff also mentioned family and friends (12.50% of mentions) as an important part of their enjoyment living in their town. After tranquility, turtle camp volunteers mentioned the beach (23.52% of mentions), as well as the freedom (*la libertad,* 17.65%) they experience living in Juluchuca as what they enjoy about their town. The control had similar responses, citing tranquility and natural beauty/nature as the most attractive qualities of living in their town (table 7, figure 8).

What do you like most about living in your town?
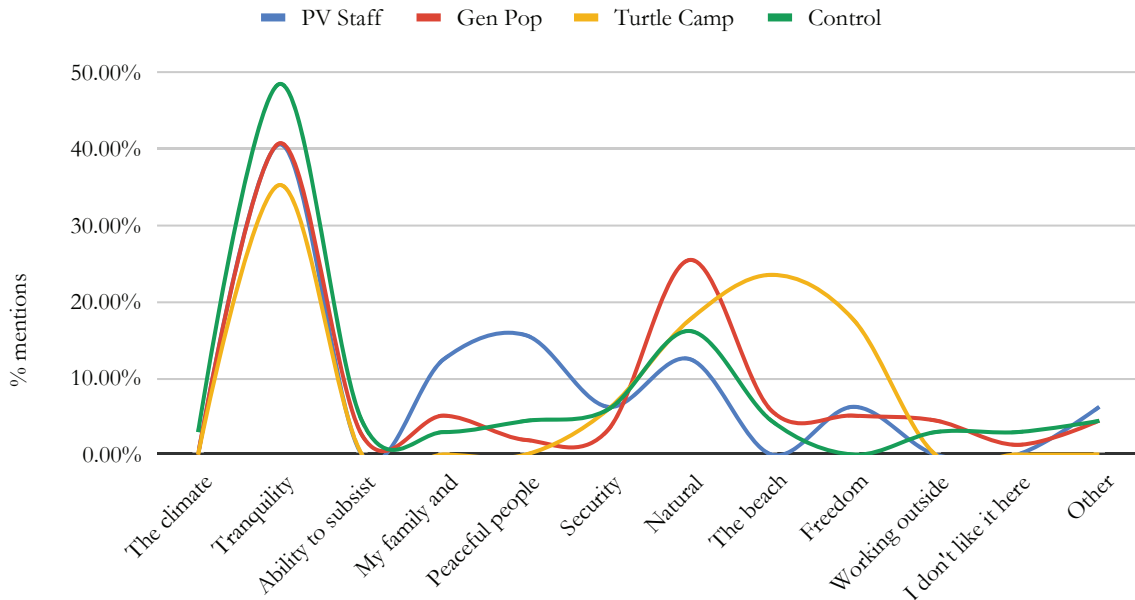
Figure 8. Enjoyable attributes of living in respondents' respective towns.

Table 7. Breakdown of enjoyable attributes of living in respondents' respective towns.

What do you like most about living in your town?				
	PV Staff	**Gen Pop**	**Turtle Camp**	**Control**
Tranquility	40.63%	40.76%	35.29%	48.53%
Natural beauty/nature	12.50%	25.48%	17.65%	16.18%
The beach	0.00%	5.73%	23.53%	4.41%
My family and friends	12.50%	5.10%	0.00%	2.94%
Freedom (self-determination)	6.25%	5.10%	17.65%	0.00%
Peaceful people	15.63%	1.91%	0.00%	4.41%
Security	6.25%	3.18%	5.88%	5.88%
Ability to subsist and forage	0.00%	2.55%	0.00%	4.41%
The climate	0.00%	0.00%	0.00%	2.94%
Working outside	0.00%	4.46%	0.00%	2.94%
I don't like it here	0.00%	1.27%	0.00%	2.94%
Other	6.25%	4.46%	0.00%	4.41%

Main health concerns

The communities of Juluchuca and Rancho Nuevo, including hotel staff and the turtle camp, most frequently stated mosquito-borne illnesses (24.3% of mentions, table 8, Figure 9), closely followed by diabetes (23.9%) and in third, cancer (14.9%) as the greatest health concerns in their communities. The mosquito-borne illness was seldom mentioned and/or recorded as an illness or health problem in the control group. Initially in the stakeholder communities the enumerator teams were not recording mosquito-borne illness as an *enfermedad* response, but responses became so numerous and common, that they began to record these early on in the survey. It is possible that for the control community mosquito-borne illness responses were not always recorded, resulting in a lower count of mentions.

Percent Distribution of Illness Mentioned
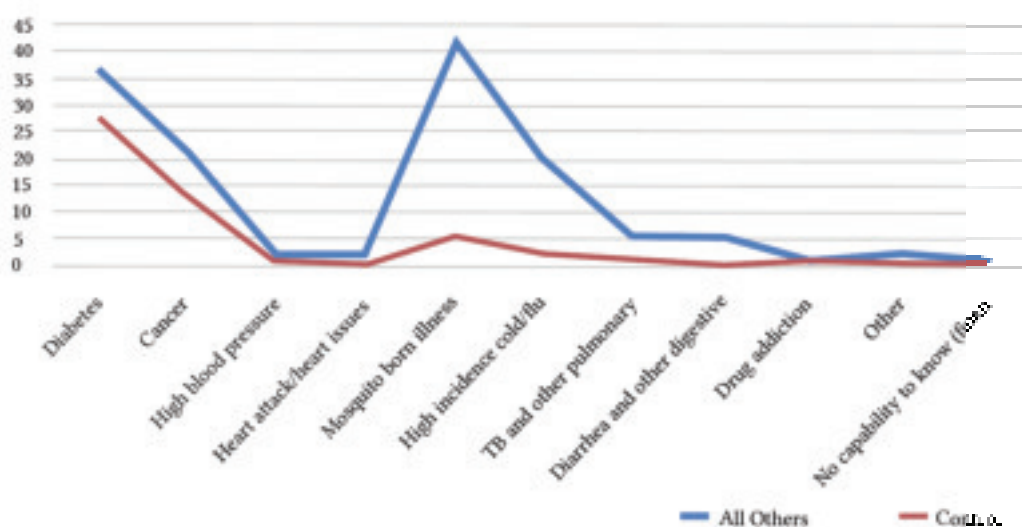
Figure 9: Percent distribution of illness mentioned

Nevertheless, diabetes was still a frequently stated illness, congruent to the medical professional's opinion in the health center of Juluchuca. The resident doctor stated diabetes, hypertension and malnutrition as the greatest health concerns in the community.[44] During household surveys in the stakeholder community, health problems such as diabetes or hypertension were often the second, third or fourth problem mentioned, while health issues such as the common cold and flu, chikungunya and dengue (things affecting them in real time with obvious symptoms) were the first *illnesses* to come to mind. While these are definitely health issues of con-

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[44] Resident Doctor, Centro de Salud. *Personal communication November 2017*. Juluchuca, GRO, Mexico.

cern, it was initially surprising that people living with diabetes were not mentioning diabetes as a health problem in their community.

During the interview with the resident doctor, she stated that people do not view diabetes as an *illness* or health problem as it is now so commonplace. Other informal interviews during household surveys also reinforced her claim. Many people suffer from diabetes, yet it is no longer viewed as an illness although health education intervention programs from the government are actively educating people otherwise and how it is preventable.

RECOMMENDATION Respondents in the control community more frequently mentioned diabetes (34.4% versus 24.3%) as one of the greatest health problems in their community (followed by cancer and hypertension). Some respondents in the control community reported having received government-sponsored trainings in their village on "healthy living". These trainings could explain why respondents in the control community are more quick to view and identify diabetes and hypertension as health problems than the stakeholder community. It is recommended to speak with the health clinic in the control community to learn more about these trainings (when they were conducted, why their community was selected, etc.).

Table 8. Summary illness table for all stakeholder groups and control

Illness/Health Problem	Total mentions (all*)	Percent (all*)	Total mentions (control)	Percent (control)
Mosquito-borne illnesses (chikungunya, dengue)	54	**24.3**	6	6.4
Diabetes	53	**23.9**	32	**34.4**
Cancer	33	**14.9**	23	**24.7**
High incidence of cold/flu	30	13.5	3	3.2
High blood pressure	13	5.9	18	**19.4**
Diarrhea and other digestive issues	9	4.1	3	3.2
TB and other pulmonary issues	8	3.6	2	2.2
Heart attack/heart issues	6	2.7	3	3.2
High Cholesterol	3	1.4	3	3.2
Drug addiction	3	1.4	0	0
Mental health issues	3	1.4	0	0

Community health rating and health services

The stakeholder population's mean response for "how would you rate the health of your community" was 2.87 out of 5, between "not very healthy (*muy poco saludable*)" and "somewhat healthy (*algo saludable*)" (N=119). Playa Viva staff rated the health of their communities slightly lower (2.56) than their community counterparts, but this difference was not significant. In fact, there were no differences found among groups on the community health rating variable (table 9).

If Playa Viva's presence and health-related interventions were successful, it was hypothesized that the stakeholder community and/or hotel staff would be more aware of health issues and problems, which would result in a lower community health rating than the control (those health problems may not have been resolved yet due to timescale). Alternatively, if Playa Viva's health interventions have led to healthier lifestyles among the stakeholder communities and staff, it was hypothesized that the stakeholder communities/staff would rate the health of their communities higher than the control. Because there were no significant differences between the stakeholder population and the control group on the community health rating variable, Playa Viva's impact is concluded to be neutral.

The stakeholder population's mean response for "how would you rate the availability and quality of medical services in your town" was 1.950 out of 5, a rating between "very poor (1)" and "poor (2)". The stakeholder population tended to rate the availability and quality of health services slightly higher than the control community (1.950 vs 1.648 out of 5; U=3,768.5, p<0.05, one-tailed). Playa Viva staff tended to rate the availability and quality of medical services in their town lower than the rest of the population at 1.33 versus 1.95 out of 5, a statistically significant finding (U=1,490.0, p<0.01, table 9).

Playa Viva staff do not feel that their personal access to quality medical services is any better than their community counterparts (2.56 versus 2.58 out of 5). However, the turtle camp rated their personal access to quality health services slightly lower (2.14 out of 5) than their community counterparts (2.67 out of 5) (U=729.0, p<0.05, one-tailed). Playa Viva employees frequent the same medical facilities as their community counterparts (Juluchuca health center, the hospital in Petatlán and occasional visits to Zihuatanejo when affordable). Additionally, the services available to them in nearby Petatlán (11 km) are also not excellent medical care according to respondents (lack of supplies, medicine, relevant medical professionals), explaining the

poor-neutral (2.576) rating for personal access to quality medical services. Similarly the control community is also disillusioned by the medical service available in their town (1.648 out of 5) and feel that their access to quality medical care is also poor-neutral (2.537). Similar to Petatlán, they have a hospital and more doctors available in nearby Papanoa (5 km).[45]

"Availability/quality of health services" and "Personal access to quality health services" (scale 1-5 with 1-very poor, 3-neutral, 5-very good)
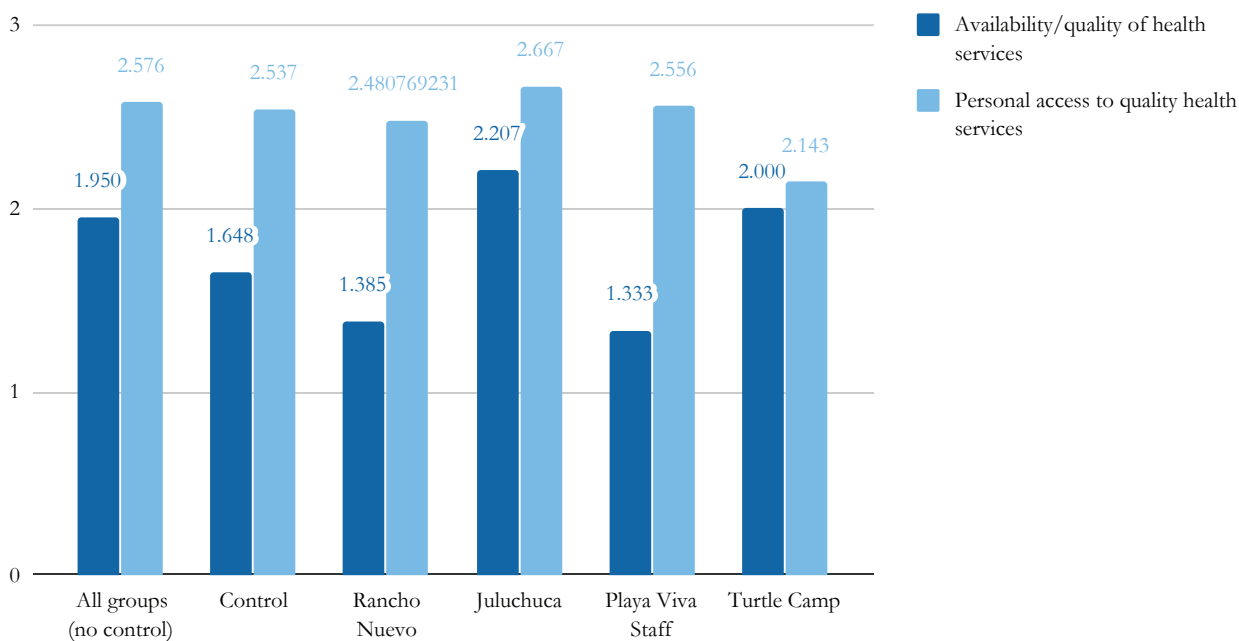
Figure 10: Differences between personal access to quality health services and the quality of medical services in their town.

Table 9. Perceptions of community health compared across groups

Variable	Groups	N	Mean	t-value	df	U-test
Community health rating	Stakeholder Population	119.000	2.874	1.247	135	1,271.0
	Current PV Staff	18.000	2.556			
Availability of health services	**Stakeholder Population**	**119.000**	**1.950**	**2.610***	**135**	**1,490.0****
	Current PV Staff	**18.000**	**1.333**			

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[45] Comisario, Coyuquilla Sur (Control). *Personal communication August 2017*. Coyuquilla Sur, GRO, Mexico.

Personal access to quality health services	Stakeholder Population	118.000	2.576	0.076	134	1,068.0
	Current PV Staff	18.000	2.556			
Community health rating	All groups	152.000	2.854	-	-	-
	Stakeholder Population	119.000	2.874	0.730	171	3,459.0
	Control	54.000	2.759			
Availability of health services	**Stakeholder Population**	**119.000**	**1.950**	**2.002***	**171**	**3,768.51**
	Control	**54.000**	**1.648**			
Personal access to quality health services	Stakeholder Population	118.000	2.576	0.226	170	3,218.0
	Control	54.000	2.537			
Community health rating	Juluchuca	82.000	2.817	-0.935	94	472.0
	Turtle Camp	14.000	3.071			
Availability of health services	Juluchuca	82.000	2.207	0.743	94	626.0
	Turtle Camp	14.000	2.000			
Personal access to quality health services	**Juluchuca**	**81.000**	**2.667**	**1.7661**	**93**	**729.01**
	Turtle Camp	**14.000**	**2.143**			

*=p<0.05 **p<0.01 ***p<0.001 1p<0.05 one-tail test

Social cohesion and family relations

The mean value for the level of support among the community for the stakeholder population was 2.198 out of 5, rendering a rating of "very little support" (table 10). Another option available to respondents was "it depends: it is more selective (not community-wide, only between groups or within families)" -- among the stakeholder population, this was the second most frequently selected answer (Figure 11).

Table 10. Level of Social Cohesion

	Level of support within community	N
All groups (no control)	2.198	1190
Control	3.114	53
Rancho Nuevo	2.386	50
Juluchuca	2.082	72
Playa Viva Staff	2.133	17
Turtle Camp	2.385	14

KEY FINDING: The control community rated the level of social cohesion in their community higher than the stakeholder population, a statistically significant finding (U=1,134.0, p<0.001). The differences in distributions of responses for this question can be seen in figure 6. Residents from Juluchuca rated the level of social cohesion lower than their neighbors from Rancho Nuevo, a statistically significant finding (U=1,319.5, p=0.027).

Level of support within your community
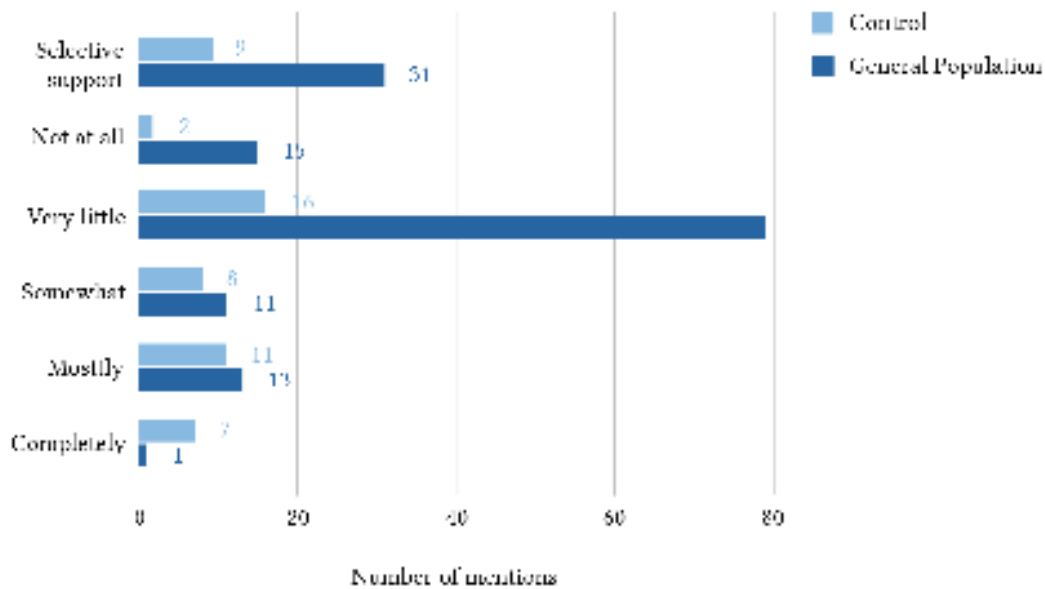
Figure 11. Displaying the comparison between the control community and the stakeholder (general) population on perceived levels of support within your community

The stakeholder population mean value for "how well does your family get along" was 4.317 out of 5, falling between "mostly" and "completely", suggesting a high occurrence of good familial relations despite low levels of social cohesion in the community. The differences in distributions of responses between this question and the social cohesion question can be seen in figure 12.

Inter and Intra community and familial relations
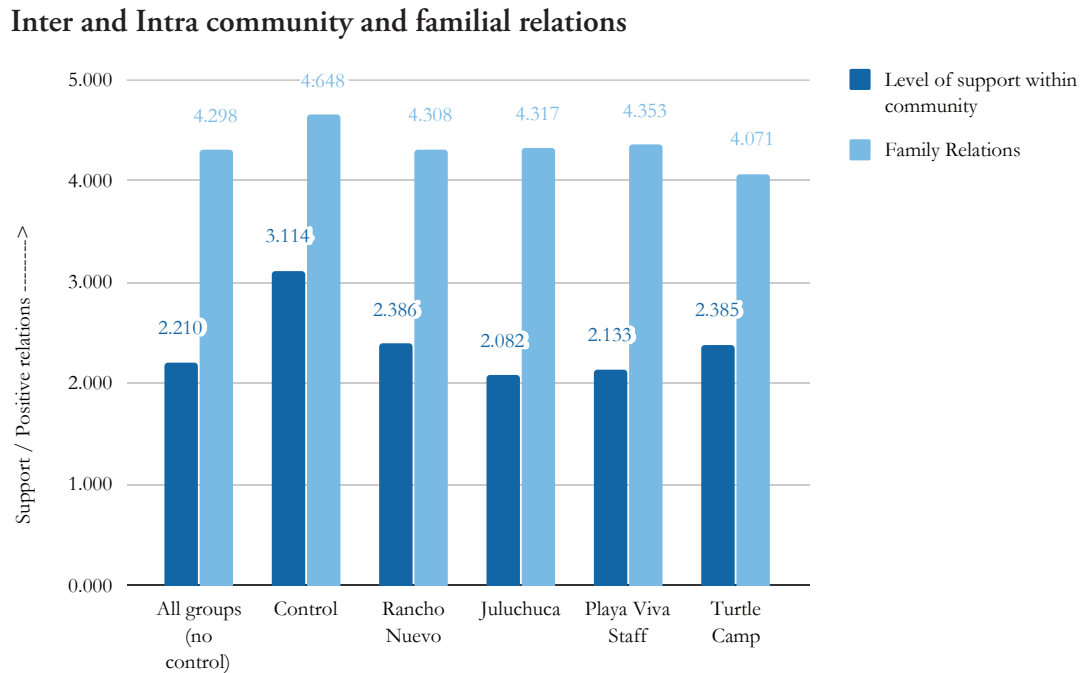
Figure 12: How would you rate the level of support within your community? Do people support one another? // How well do your family get along? 1- not at all, 2 - very little, 3 - somewhat, 4- mostly, 5- completely

KEY FINDING: Although the stakeholder population reported high rates of familial conviviality, the control still tended to rate higher how well their families get along (statistically significant, U=2,517.50, p<0.01). While intra-familial relations are strong in both communities, the significant difference in social cohesion (inter-familial relations) between Playa Viva's stakeholder communities and the control presents a significant obstacle for Playa Viva's work in community development.

RECOMMENDATION: Due to the fractured nature of their stakeholder communities, Playa Viva's work in the community and among staff should entail community- and team-building projects. It is also recommended to follow up with certain stakeholders in the community to better understand the differences in social cohesion between the stakeholder communities and the control. This is further discussed in the recommendations section.

Community Organization

Social organization is low in both communities, with roughly 80% of the respective populations not involved in any particular group or organization. Participation in community groups was greater in the stakeholder community than the control (19.01% of respondents versus 14.81%, respectively, table 11). The Playa Viva staff participate in community groups slightly more than their community counterparts, but this difference is not statistically significant.

Table 11. Level of community organization

Are you part of a community group?		
Group	**Yes**	**No**
Gen Pop	19.01%	80.99%
Control	14.81%	85.19%
PV Staff	22.22%	77.78%
Turtle Camp	100.00%	0.00%

All groups tend to follow a similar trend in occasionally attending town meetings (table 12 figure 13). Playa Viva staff members reported slightly higher levels of participation: 44.44 percent of staff reported attending town meetings frequently, compared to 35 percent in the stakeholder population.

Table 12. Participation in town meetings

How often do you attend meetings?				
	Gen Pop	**Control**	**PV Staff**	**Turtle Camp**
Frequently	35.83%	38.89%	44.44%	35.71%
Occasionally	45.83%	40.74%	27.78%	42.86%
Rarely	4.17%	12.96%	16.67%	7.14%
Never	13.33%	5.56%	11.11%	14.29%
I'm not aware of any meetings	0.83%	1.85%	0.00%	0.00%

How often do you attend town meetings?
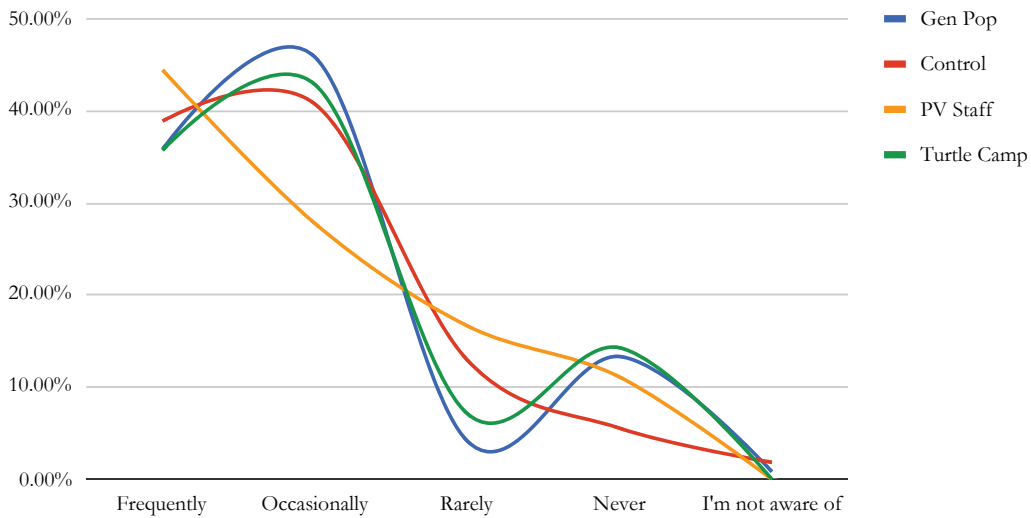
Figure 13. Participation in town meetings curve by group

Community meetings in both the control and stakeholder communities seem to occur either without much regularity (i.e. whenever there is something to discuss) or about once per month, with large spikes at "every six months" and "don't know", respectively (figure 14). In the respective communities there did not seem to be much community planning; therefore the monthly meetings may be the frequency at which issues arise.

How often are community meetings held?
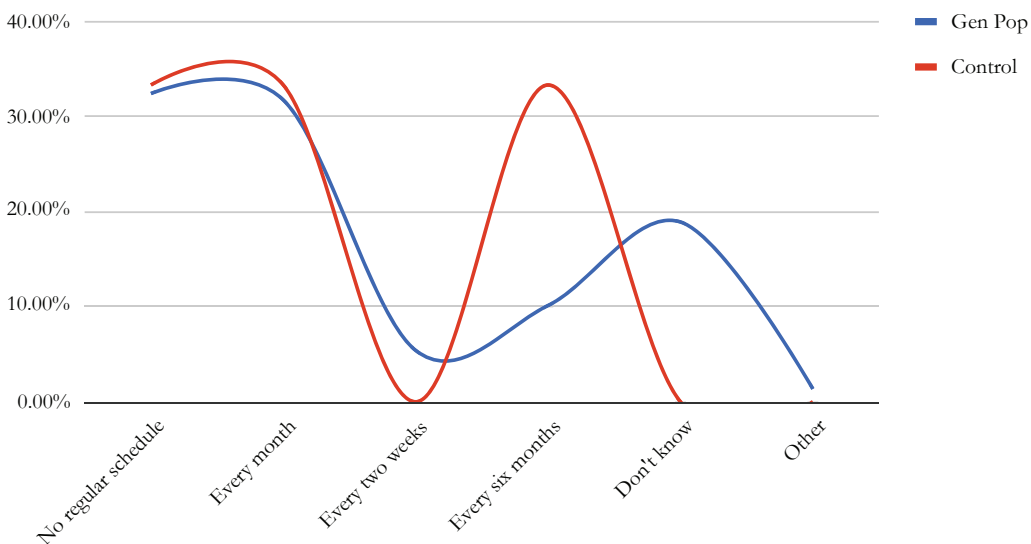
Figure 14. Frequency of town meetings

In both the stakeholder and control communities, respondents reported that community members are provided a space to voice concerns (79.31% and 77.68%, respectively, table 13). There were no significant differences between the groups, suggesting that communication within community-wide meetings in both communities is reasonably effective.

Table 13: Expression within meetings

Can respondents voice their concerns?		
	Gen Pop	**Control**
Yes	79.31%	77.78%
No	6.90%	13.33%
Sometimes	12.93%	6.67%
Don't know	0.86%	2.22%

Can members express their concerns during community meetings?
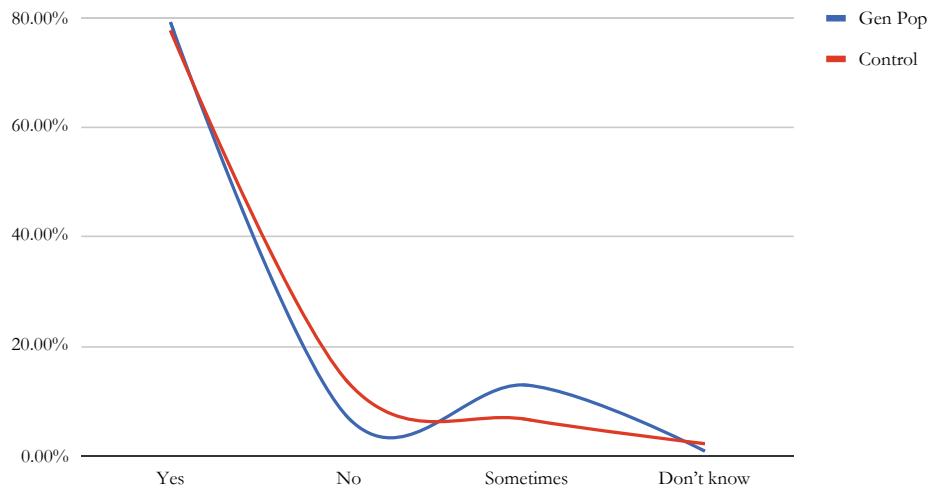
Figure 15. Graphical representation of communities' ability to voice concerns

Personal health and social well-being

Personal health

The mean response for personal health rating for the stakeholder population, including Playa Viva staff, was 3.39 out of 5, falling between somewhat healthy and healthy (table 14, figure 16). There were no significant differences in how people rate their health between the stakeholder population and the control, nor between the Playa Viva staff and the stakeholder

population. In other words, the stakeholder communities are no more likely to rate their personal health higher (or lower) than the control community and the Playa Viva staff are no more likely to rate their health higher (or lower) than the stakeholder population.

How do you rate your personal health?
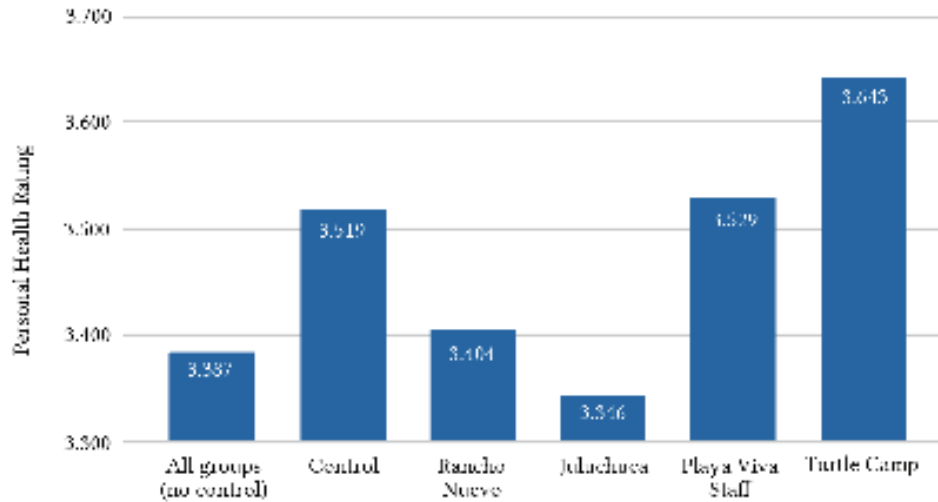
Figure 16: 1- not at all healthy, 2- not very healthy, 3- somewhat healthy, 4- healthy, 5- very healthy

Table 14. Perceptions of personal health compared across groups

Variable	Groups	N	Mean	t-value	df	U-test
Degree of health problems	Stakeholder Population	118.000	3.542	0.561	133	1082.0
	Current PV Staff	17.000	3.353			
Rating of personal health	Stakeholder Population	119.000	3.336	-0.712	134	953.5
	Current PV Staff	17.000	3.529			
Confidence in ability to improve health	Stakeholder Population	121.000	3.983	-0.500	136	953.0
	Current PV Staff	17.000	4.118			
Degree of health problems	Stakeholder Population	118.000	3.542	1.123	170	3,493.0
	Control	54.000	3.296			

Rating of personal health	Stakeholder Population	119.000	3.336	-1.060	171	2,980.0
	Control	54.000	3.519			
Confidence in ability to improve health	Stakeholder Population	121.000	3.983	-1.144	168	2,613.0
	Control	49.000	4.184			
Degree of happiness	Stakeholder Population	120.000	8.767	-0.264	172	2,948.5
	Control	54.000	8.852			
Degree of health problems	Juluchuca	81.000	3.568	-0.194	93	545.0
	Turtle Camp	14.000	3.643			
Rating of personal health	Juluchuca	81.000	3.346	-0.992	93	490.0
	Turtle Camp	14.000	3.643			
Confidence in ability to improve health	**Juluchuca**	82.000	3.915	1.7851	94	**760.0***
	Turtle Camp	14.000	3.357			
Degree of happiness	**Juluchuca**	72.000	8.792	2.037*	84	**679.0***
	Turtle Camp	14.000	7.571			
Degree of health problems	**Male**	105.000	3.705	2.660**	201	**6,219.0****
	Female	98.000	3.214			
Rating of personal health	**Male**	106.000	3.547	1.8651	202	**5,945.51**
	Female	98.000	3.286			
Confidence in ability to improve health	Male	104.000	4.067	0.951	199	5,594.0
	Female	97.000	3.928			
Degree of happiness	Male	96.000	8.885	1.268	186	4,640.5
	Female	92.000	8.511			

*=p<0.05 **p<0.01 ***p<0.001 1p<0.05 one-tail test

However, respondents tended to rate their personal health higher than their community counterparts (Figure 17). This is a commonly observed behavior in psychology, known as *illusory superiority*, in which participants tend to rate their own behaviors healthier than their peers.[46]

Personal Health vs. Community Health: 1- Not at all healthy, 2- not very healthy, 3- somewhat healthy, 4- healthy, 5- very healthy
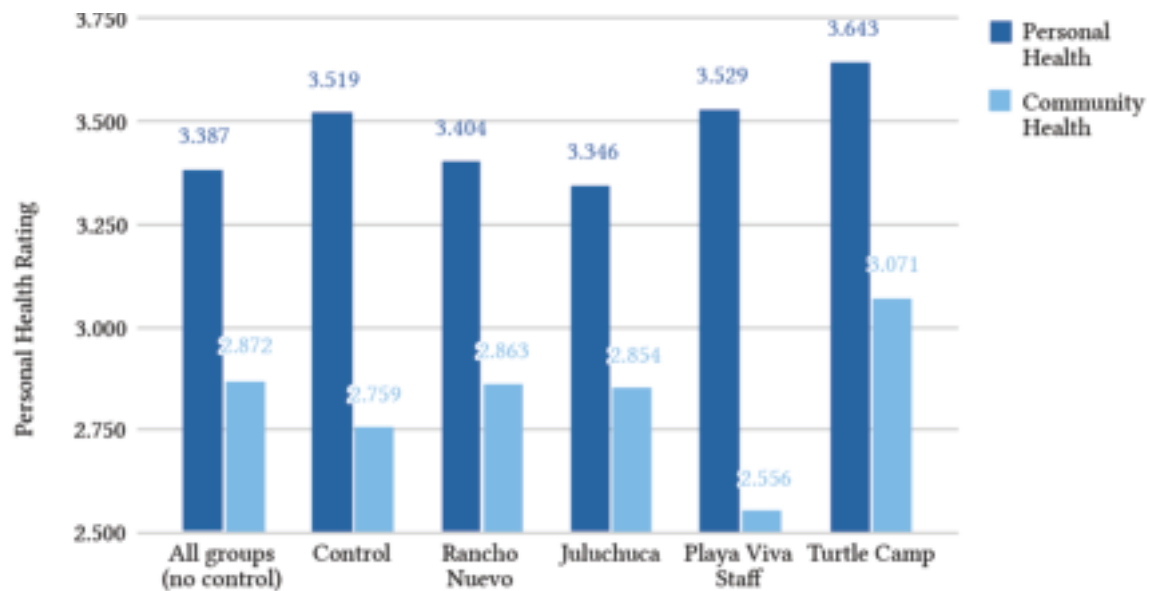
Figure 17: Comparisons between personal health and community health

Playa Viva staff evaluate their personal health higher than they evaluate the health of other community members (means = 3.529 and 2.556 respectively, T=2.985, df =16, p<0.01, Wilcoxon signed-rank test Z=2.514, p=0.012). Although not statistically proven, graphically this difference appears greater than other study groups. This difference could suggest that employees notice or are more aware of the health problems in their community than their community counterparts (a positive impact from working at the hotel) and a have a greater knowledge of health and nutrition. However, this trend could also simply be due to *illusory superiority*.[47] More statistical analyses are recommended to determine if this difference is significant.

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[46] Hoorens, V. & Harris, P. (1998). Distortions in reports of health behaviors: The time span effect and illusory superiority. *Psychology and Health (13):* 451- 466.
[47] *Illusory superiority* is a psychological phenomenon whereby a person overestimates their own qualities and abilities--in this instance overestimates healthy behaviors--in relation to the same qualities and abilities of others. (*Van Yperen and Buunk, 1991*)

Problems with my health

The mean value for "I don't have problems with my health" was 3.54 out of 5 (falling between "I have some problems but they don't really affect me" and "I have very few health problems" (Figure 18). There were no significant differences in how people rate their degree of health problems between the stakeholder population and the control, nor between the Playa Viva staff and the stakeholder population. These results suggest that the Playa Viva project has not had a significant effect on how people feel about their health and well-being.

I don't have problems with my health
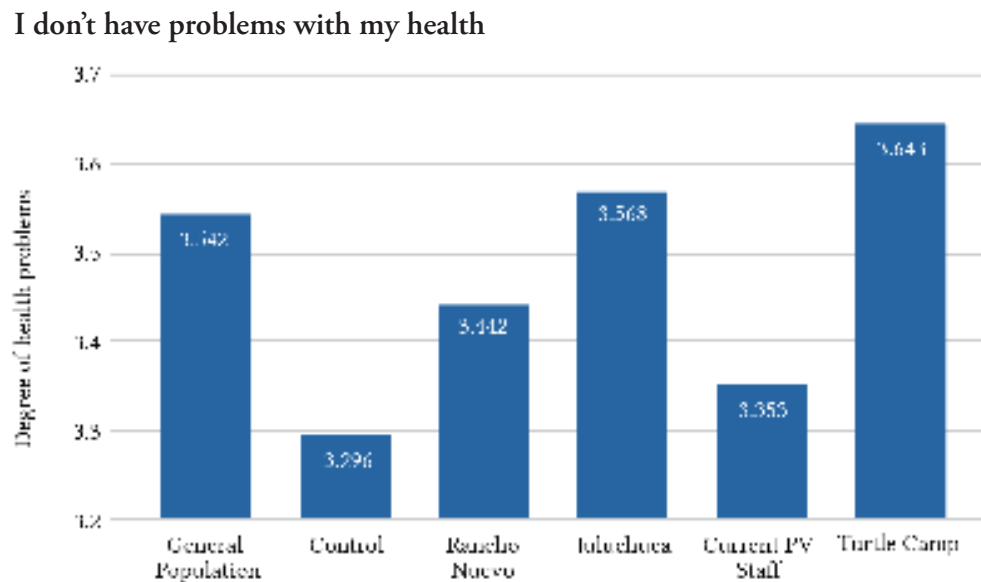
Figure 18: 1- Strongly Disagree (I have a lot of health problems), 3- Neutral (I have some problems but they don't affect me much, 4 - Agree (I have very few problems), 5- Strongly Agree (I don't have any problems)

RECOMMENDATION: If possible, work with local health clinic to obtain data on the physical health of residents. Additionally, hotel staff could be required to have a yearly physical and results shared and analyzed (anonymously).

Gender differences

Men tended to report less health problems than women, a statistically significant finding (U=6,219.0, p<0.01). Males also tended to rate their personal health higher than women (U=5,945.5, p<0.05, one-tailed; Figure 11). Currently, we do not have data on the actual physical health of men versus women in the stakeholder communities. Therefore, we are unable to dis-

cern whether this gender difference is not only perceived but congruent to their actual state of health. Men and women could have the same level of health problems and incidence of disease, but men may either be more confident in their health, less aware or less worried about their health than women.

Men versus Women
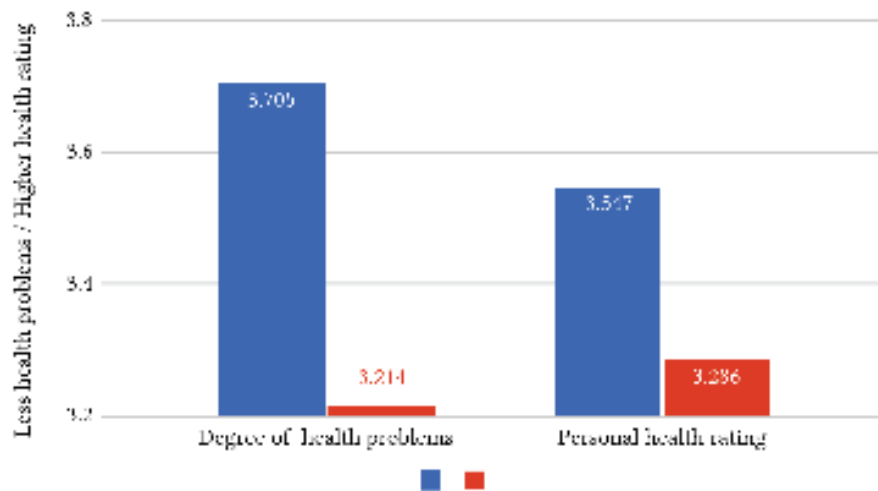
Figure 11: Men in BLUE, women in RED. Men report *less* health problems than women; thus, the *higher* the number, the *less* problems they have and the higher the health rating.

During the interview with the resident doctor at the Juluchuca health center, it was mentioned that men seldom frequent the health center and are generally less connected to issues regarding personal and familial health (most often only elderly men come to the clinic).[48] Therefore, the hypothesis that women are more aware of/connected to issues regarding personal health due to their presence at the health center and thus tend to rate their personal health lower and cite more health problems than men may explain the significant gender difference (i.e. men are less aware about their actual physical health). Additionally, the *illusory superiority* effect could be occurring due to the *machista*[49] culture prevalent in these rural communities.

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[48] Personal communication, health center resident doctor, November 2017.
[49] Machismo is the universal phenomenon of gender ideology in which males exert behaviors associated with exaggerated masculinity (pride, assertion, physical strength, aggressiveness, etc.). Stevens, E. P. (1973a). Machismo and marianismo. Society, 10(6), 57–63.

RECOMMENDATION Follow-up consultation with the health center staff is advised in order to determine whether health education initiatives should focus on targeting and/or including men (and how best to implement these initiatives).

Confidence to improve personal health

The stakeholder population's mean value for "I have confidence in my ability to improve my health" was 3.983 out of 5 (falling closely toward "mostly" (figure 12). There were no significant differences in how people rate their degree of confidence to improve their health between the stakeholder population and the control, nor between the Playa Viva staff and the stakeholder population. However, while turtle camp volunteers rated their personal health relatively high (3.643 out of 5), they rated their level of confidence to improve their health significantly lower than their community counterparts (3.357 vs 3.915, U=760.0, p<0.05). This finding was hypothesized given that turtle camp volunteers are some of the poorest and most under-resourced members of the community. With less resources, one would predict that one would feel less confident in his/her ability to improve one's health.

How confident are you in your ability to improve your personal health?
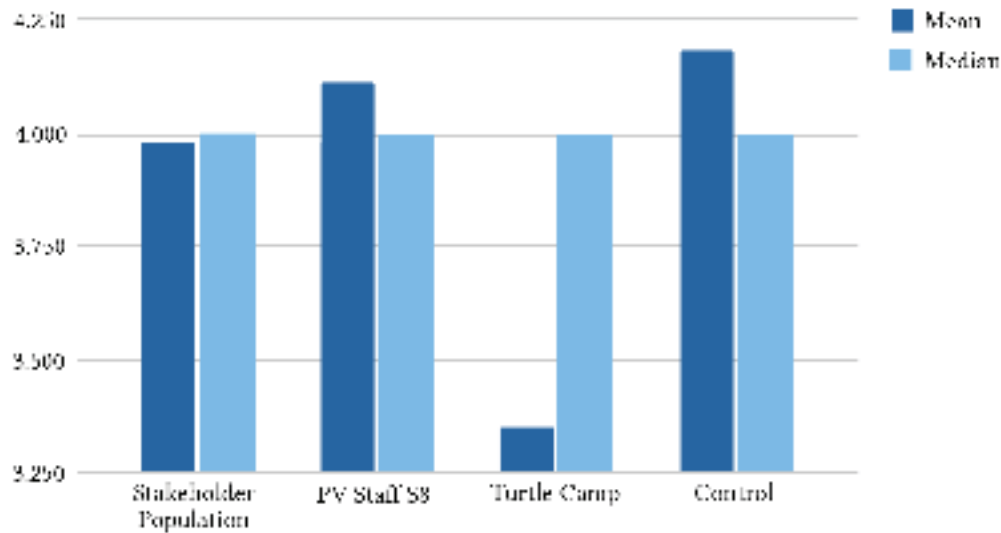
Figure 12. Confidence to improve health: 1 - not at all confident, 5 - very confident.

Degree of happiness

The stakeholder population enjoys relatively high degrees of happiness. The mean value for "how happy do you feel" for the stakeholder population was 8.767 out of 10. There were no significant differences between the stakeholder population and the control group on levels of happiness. However, there were statistically significant differences between the Playa Viva staff and the stakeholder population, as well as between the turtle camp volunteers and the stakeholder population. The differences in means are displayed in Figure 13. Playa Viva staff rate their level of happiness higher than the stakeholder population (9.411 versus 8.767, respectively; t-test=-2.361, p=0.023). An opposite effect occurred among turtle camp volunteers; the mean value for level of happiness among turtle camp volunteers was statistically significantly lower at 7.571 versus 8.792, the average response for their community counterparts (U=679.0, p<0.05).

Happiness scale: How happy do you feel on a scale of 1 to 10?
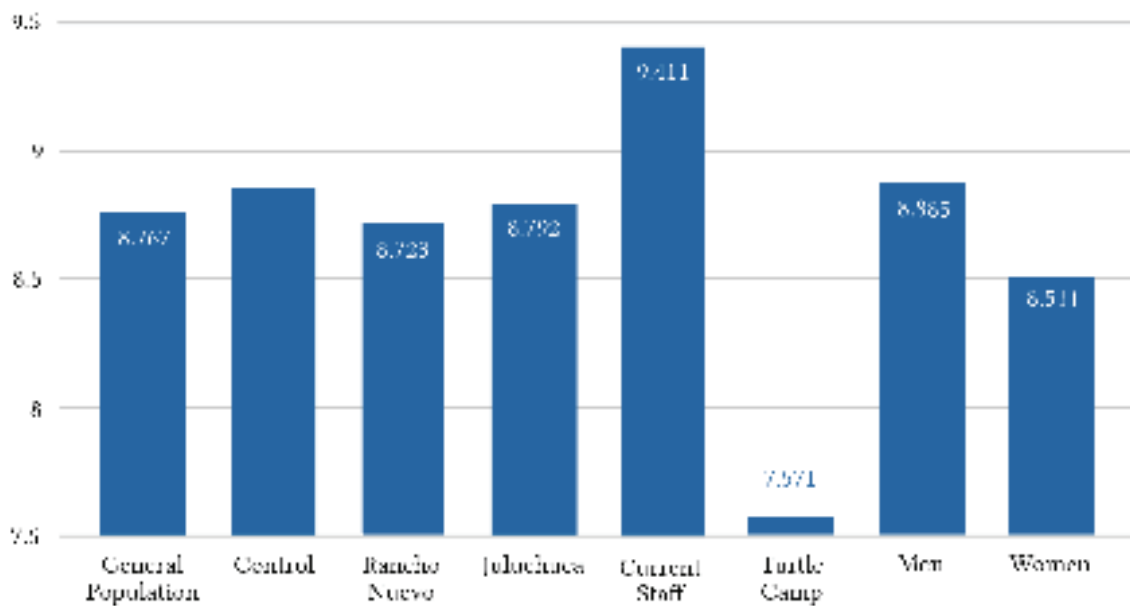
Figure 13: (1-10, 1- not at all happy, 10-completely happy)

Pearson's correlation test demonstrated a positive correlation between levels of happiness and income (r=0.214). Therefore, the higher degree of happiness experienced among Playa Viva staff may be explained by their more steady and regular incomes. Similarly, the lower levels of happiness reported by turtle camp volunteers may be explained by their lower mean household income.

ENVIRONMENTAL AWARENESS

Conservation Beliefs

Measurement of "conservation mindedness" using the scale described in the methods section found that the stakeholder communities (Juluchuca and Rancho Nuevo) did not differ from the control community with regard to positive conservation attitudes and beliefs (t=0.399 df=168, p=0.691). However, measurement of "conservation mindedness" among hotel staff demonstrated that staff had more positive conservation attitudes and beliefs than the stakeholder population (t=-5.623, df=134, p<0.001).[50]

Conservation Attitudes
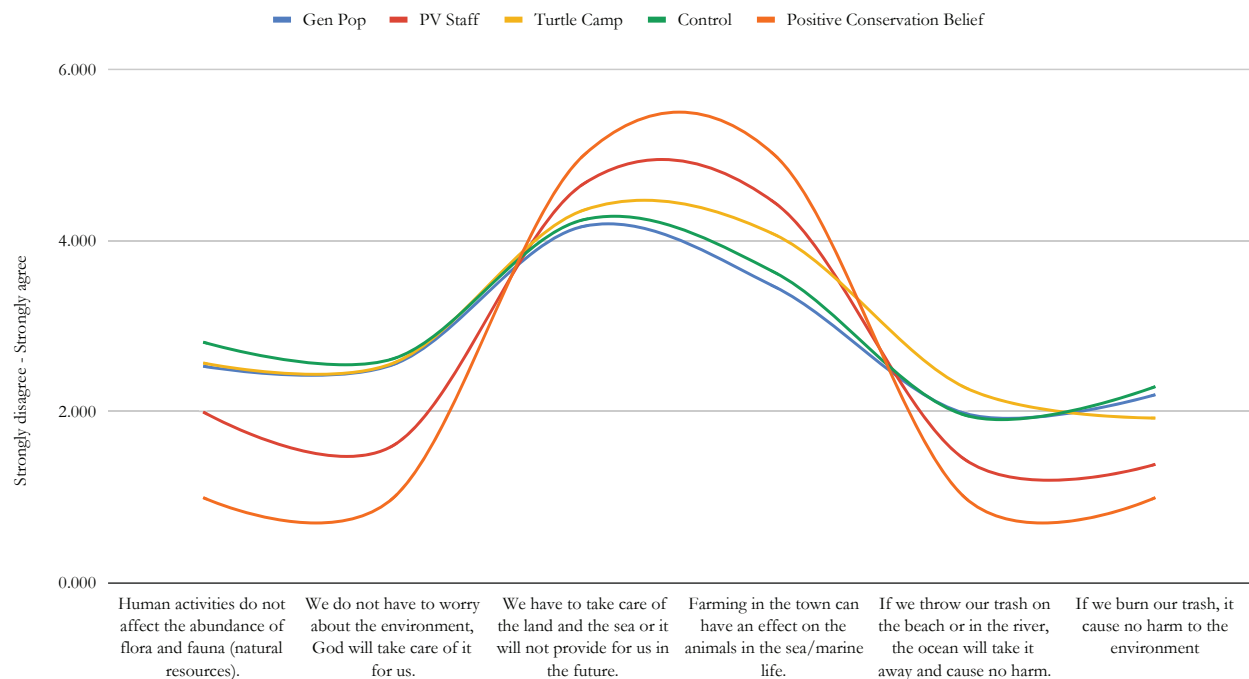
Figure 14: Distribution of conservation attitudes or "belief" by study group

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KEY FINDING Playa Viva has had a positive impact on environmental conscientiousness for its employees but this effect has not been transmitted to the stakeholder population.

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[50] *Note on interviewer bias: the staff were interviewed solely by Melissa Luna, where as the general stakeholder population and turtle camp volunteers were surveyed by a mixture of different enumerators. Melissa's prior relationship with the staff may have had an effect on how the staff responded to those questions; i.e. her tone and the nature of the survey could have produced slightly higher positive conservation attitudes.*

Furthermore, analysis revealed that the turtle camp volunteers are no more conservation minded than their community counterparts (t=-0.062, df=93, p=0.951). This is an important yet contradictory finding given that the turtle camp volunteers are direct stakeholders in the Playa Viva regenerative project and run a community-based sea turtle conservation operation.

KEY FINDING & RECOMMENDATION Turtle camp volunteers are no more conservation minded than their community counterparts, although they are direct stakeholders in the Playa Viva regenerative project and run a community-based sea turtle conservation operation. It is recommended that more resources should be channeled to increase environmental awareness.

Closeness to Nature

The mean value for the stakeholder stakeholder population was 5.25 out of 7, suggesting a relatively high degree of integration of nature into the concept of self (Figure 15). The Playa Viva employees scored slightly higher on the Closeness to Nature Scale than the stakeholder population; however, the slight difference in scores is not statistically significant (Figure 15, t-value 0.524, df = 122, p>0.05; Mann-Whitney U=650.5, p>0.05, alpha level 0.050). Rancho Nuevo scored highest on the Closeness to Nature Scale, suggesting a relatively high degree of integration of nature into the concept of the self, possibly explained by the remote nature of the village. As previously mentioned, research suggests that individuals who tend to include "nature" in their representation of self are more inclined to pro-environmental attitudes.[51]

[51] Davis, J.L., Green, J.D. & Reed, A., 2009. Interdependence with the environment: Commitment, interconnectedness, and environmental behavior. *Journal of Environmental Psychology, 29(2)*, pp.173–180.

Mean value distribution: Closeness to nature
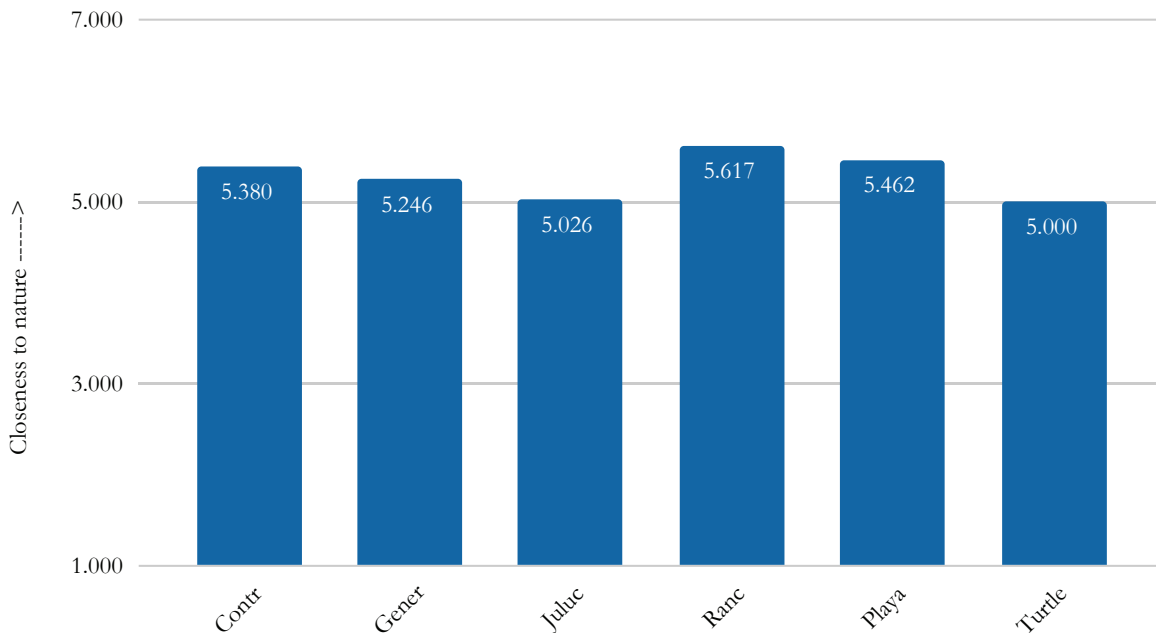
Figure 15: Distribution of mean responses by group for "closeness to nature"

KEY FINDING & RECOMMENDATION These results suggest that where respondents live rather than where they work (e.g. Playa Viva) is a greater determinant for how people self-identify with nature. Monitoring how "closeness to nature" changes overtime both in the stakeholder community and among staff is recommended. Monitoring this variable could reveal whether in the future working for Playa Viva becomes the greater determinant for how people self-identify with nature. Additionally, the lower level of closeness to nature in Juluchuca suggest that more environmental education initiatives should be further promoted.

Environmental Changes

The most commonly observed environmental change across the control and stakeholder groups was deforestation, followed by the "climate is hotter and/or the seasons have changed." In Rancho Nuevo, these climatic changes were further specified with 15 percent of responses noting the change in rain (less rain over their lifetimes). This change was also noted in Juluchuca and represented nearly 11 percent of responses. Across the groups, control and stakeholder, have seen a general decrease in animal populations, particularly for species such as the white tailed deer (*venado*), wild boar (*jabalí*), iguana, and various birds. For the more populated communities of Juluchuca and the control, increases in contamination and pollution were observed. Results to environmental change questions can be found in tables 15 and 16.

Table 15. Changes in animal and plant populations

There are _____ plants and animals than there were before.			
Group	Juluchuca	Rancho Nuevo	Control
Rating classification*	Less	Less	Less
Mean	2.281	2.208	2.296

* 1 - A lot less; 2 - Less, 3 - The same, 4 - More, 5 - A lot more

Table 16. Observed environmental changes in respondents' lifetime

	Juluchuca		Rancho Nuevo		All Responses		Control	
	Cts	*%*	*Cts*	*%*	*Cts*	*%*	*Cts*	*%*
Less trees (deforestation)	19	**20.21%**	12	**22.64%**	32	**21.33%**	13	**24.07%**
The climate is hotter and/or the seasons have changed	14	**14.89%**	6	**11.32%**	21	**14.00%**	6	**11.11%**
There is less rain/water, more drought, changes in water flows	10	**10.64%**	8	**15.09%**	18	**12.00%**	2	3.70%
Fewer animals (in particular: venado, jabalí, tortugas, iguanas, pájaros)	12	**12.77%**	6	**11.32%**	18	**12.00%**	6	**11.11%**
More contamination (air, water, litter)	10	10.64%	2	3.77%	12	8.00%	4	7.41%
(General) Reduction in biodiversity	2	2.13%	6	11.32%	8	5.33%	3	5.56%
The weather is less predictable	1	1.06%	2	3.77%	4	2.67%	2	3.70%
There are less fish (sea)	4	4.26%	1	1.89%	5	3.33%	1	1.85%
There are less shrimp in the river	0	0.00%	5	9.43%	5	3.33%	0	0.00%
Increase in population	10	10.64%	0	0.00%	10	6.67%	0	0.00%
Increase use in pesticides (causing damage to crops, animals, land & water)	2	2.13%	0	0.00%	2	1.33%	2	3.70%
Changes in land fertility/ harvest/planting season. Harder to produce crops	2	2.13%	0	0.00%	2	1.33%	2	3.70%
(General) Increase in biodiversity	2	2.13%	0	0.00%	2	1.33%	2	3.70%

Increase in earthquakes	1	1.06%	0	0.00%	1	0.67%	1	1.85%
No change or no observations	4	4.26%	5	9.43%	9	6.00%	8	14.81%
Other	1	1.06%	0	0.00%	1	0.67%	2	3.70%
Total counts	94		53		150		54	

Generally, respondents seem to feel connected and attached to their environments, observed in the closeness to nature scale and also in the results of the following questions. Most respondents enjoy spending time out in nature and feel attached to their environments should it change.

Table 17. Enjoyment of nature

I like to spend time in nature (the rivers/campo/beaches of this area)*				
Group	Stakeholder	PV S8 Staff	Turtle Camp	Control
Mean response	4.149	4.556	4.3571	4.130

* 1 - strongly disagree, 2 - disagree, 3 - indifferent, 4 - agree, 5 - strongly agree

Table 18. Nature attachment

I wouldn't care if the native plants and animals that live here disappeared.				
Group	Stakeholder	PV S8 Staff	Turtle Camp	Control
Mean response	1.958	1.389	2.000	1.944

*1 - strongly disagree, 2 - disagree, 3 - indifferent, 4 - agree, 5 - strongly agree

ECONOMIC DEVELOPMENT AND WELL-BEING

Place Attachment

Measurement of place attachment found that there were two different dimensions of analysis.[52] These dimensions were termed "stability" and "security".

Table 19.Principal component analysis (varimax rotation) of attachment to place items.

Place Attachment Items	Stability	Security
Future of town important	0.834	-0.073
Good memories of area	0.772	0.175

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[52] Cronbach's alpha was not acceptable, indicating that there was more than one dimension of meaning in the data. Principal component analysis (PCA) was applied to search for underlying dimensions in the set of items and revealed two dimensions of attachment (scree test used to select number of components).

Satisfied with opportunities	-0.282	0.752
Without family here I'd move	-0.169	-0.66
Feel safe & secure here	0.402	0.562
Percent total variance	*31.253*	*27.069*

The items loading highest on dimension 1 deal with satisfaction with the past and hopes for the future—a process through time indicated as "STABILITY". Items loading highest on the 2nd component suggest a context that is a good place to live, as it is safe with (economic) opportunity and was named "SECURITY" accordingly. The high negative loading indicates response to an insecure environment without opportunity.

Analysis of the place attachment scale revealed that most groups feel "stability" in the attachment to place variable; no statistically significant differences were found between groups for *Stability* (F Ratio = 1.349, df=3 200, p>0.050). However, between group differences were found between Playa Viva staff and the general stakeholder community and the Turtle Camp volunteer and Juluchuca for *Security* (F Ratio: 4.530, df=3 200, p<0.005). Turtle Camp volunteers feel less secure than their community counterparts in regard to the amount of opportunities available to them (table 20, figure 16), while Playa Viva staff reported they would move away from their town if it were not for their families (i.e. the town alone is not enough for them to stay). This suggests that Playa Viva staff feel the town in which they live to be an insecure environment. These findings imply that Playa Viva has not yet had a strong effect on increasing attachment to place.

Table 20. Means for place attachment variable by group.

Place attachment statement	Control	Gen Pop	PV Staff	Turtle Camp	High Place Attachment Score
I feel safe and secure living here.	4.226	4.000	3.722	4.357	5
I have good memories from living in this area.	4.151	4.165	4.611	4.429	5
I'm satisfied with the amount of opportunities available to me here	3.500	3.355	3.444	2.857	5
I feel very connected to my community.	3.944	3.725	3.944	3.929	5
If I didn't have my family here, I would probably move.	3.259	2.901	4.278	3.000	1

| The future of [town] is important to me. | 4.167 | 4.124 | 4.444 | 4.500 | 5 |
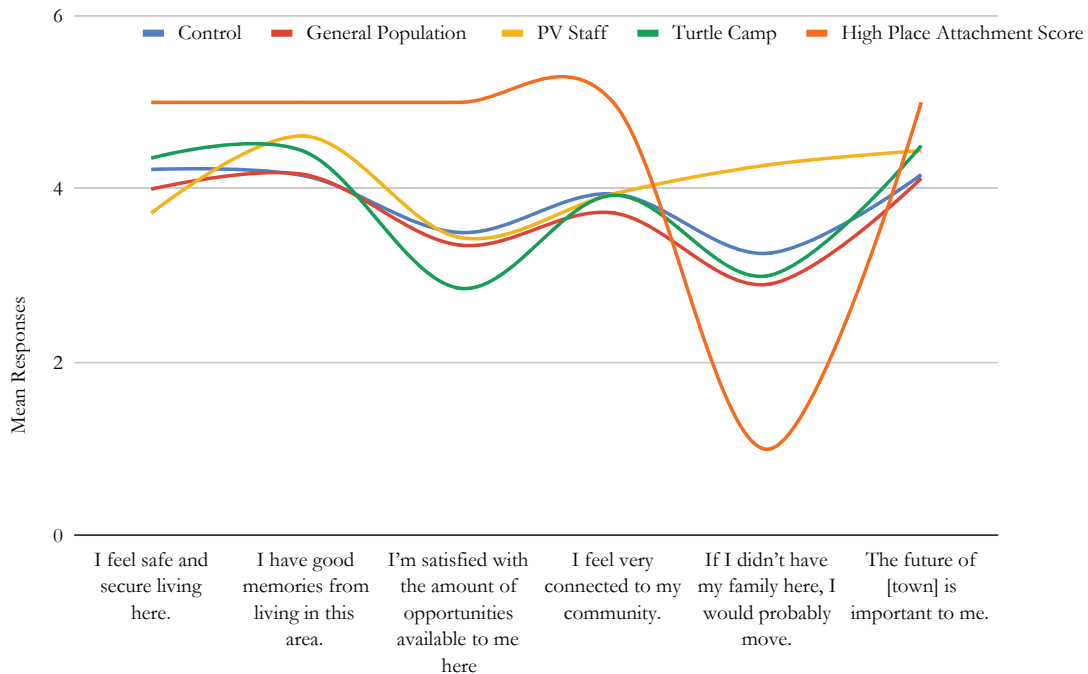
Figure 16. Placement attachment mean response by group: 1= strongly disagree, 5= strongly agree

Community Vitality

Roughly 47 percent of respondents reported that economic conditions are the same as they were ten years ago; 28 percent reported that economic conditions are a little better and 23 percent reported conditions as worse (Table 21/Figure 17). Only 2 percent of respondents stated that conditions have gotten *better*. There were no significant differences between the stakeholder population and the Playa Viva staff on how people perceived changes in community vitality ($x^2=1.669$, df=3.000, p=0.644). There were, however, significant differences between the Juluchuca population and the turtle camp volunteers ($x^2=18.194$, df=4.000, p=0.001). Half of turtle camp volunteers stated that conditions are worse, while only 26% of Juluchucans reported conditions as worse. Differences are noted in table 21 and figure 17.

Table 21. Change in economic conditions

	Current PV Staff	Turtle Camp	Juluchuca	Rancho Nuevo	All Responses
Worse	29.41%	**50.00%**	26.39%	9.09%	23.45%

The same	52.94%	8.33%	47.22%	54.55%	46.90%
A little better	17.65%	41.67%	25.00%	31.82%	27.59%
Better	0.00%	0.00%	1.39%	4.55%	2.07%
Don't know	0.00%	16.67%	0.00%	6.82%	3.45%
Total # Responses	17	12	72	44	145
N	17	14	71	47	149

How have economic conditions changed over the last 10 years? (N=149)
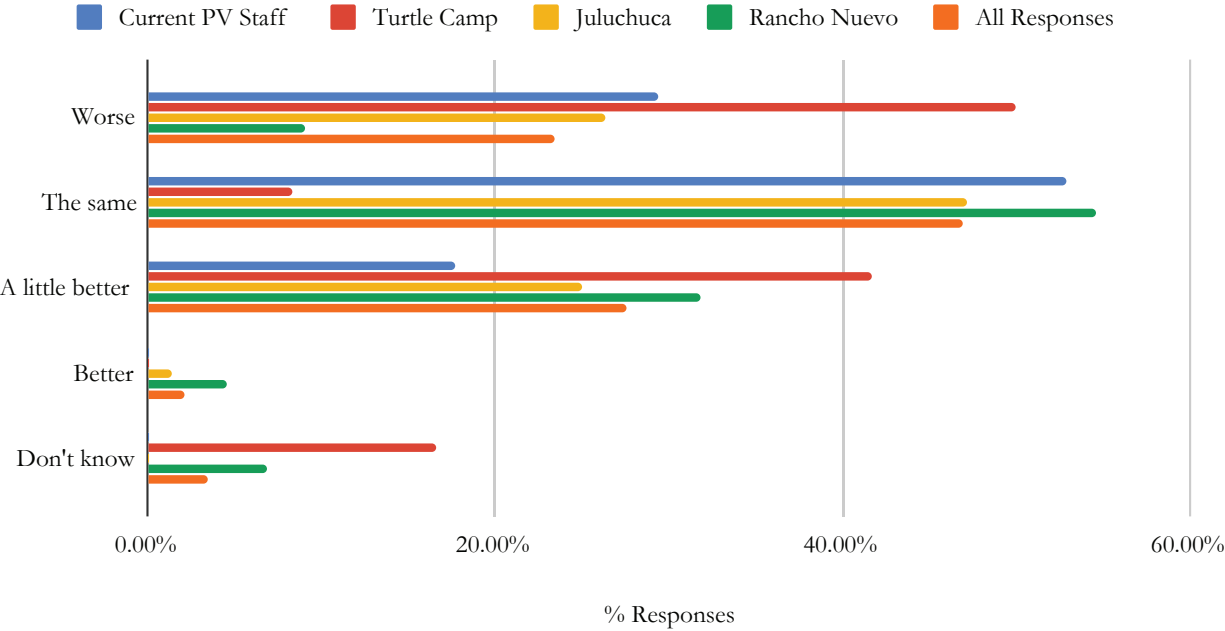
Figure 17. Percent responses on change in economic conditions by group

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KEY FINDING It not surprising that turtle camp volunteers feel economic conditions to be worse as the data repeatedly demonstrate they are some of the most disadvantaged members of the community. Across all groups, the majority feel that conditions are the same or only slight improved.

Some respondents commented:

"Yes things are a little better -- in the way that the youth are in a better situation. For example I have money now to send my daughters to a better school and that will have an effect. Others the same." - Playa Viva Season 8 employee

"Only for those that work there it's better. It's the same for the rest of us -- they only hire within the same families." - Juluchuca Resident

"Before people had to leave for work, now it's not as bad." - Juluchuca Resident

"Things are the same. People are still having to leave to find work in other parts." - Rancho Nuevo Resident

"There are some people working there. It has changed a little." - Rancho Nuevo Resident

"Yes it's changed. Before there was very little work. The young guys would just walk around in the morning. There's more work now but [the young guys] don't want to work. They're just getting involved the cartels." - Playa Viva Season 8 employee

"I haven't seen much change. People keep leaving." - Turtle Camp Volunteer

The Juluchuca town commissioner confirmed the sentiments of most respondents. He stated that things have changed a little and gotten a little better. Now there are more people, more movement, and more commerce, but there's still poverty and people are still leaving to find work.

Of the positive responses to the previous question (i.e. a little better or better, N=42), 48 percent of those respondents reported that Playa Viva played a role in improving economic conditions; 36 percent reported that Playa Viva has had a somewhat of a role in improving economic conditions, 7 percent reported that Playa Viva did not play a role in improving economic conditions and 9.5 percent were unsure (Table 22/Figure 18). There were no significant differences between the stakeholder population and the Playa Viva staff on how people perceived Playa Viva's impact on community vitality (x^2=2.439 df=2.000, p=0.295).

Table 22. Playa Viva's role in community vitality

Playa Viva's role in community vitality (all responses)

	Counts	Percent
Yes	20	47.62%
No	3	7.14%
Somewhat	15	35.71%
Unsure	4	9.52%
N	42	

Has Playa Viva played a role in improving economic conditions? (N=42)
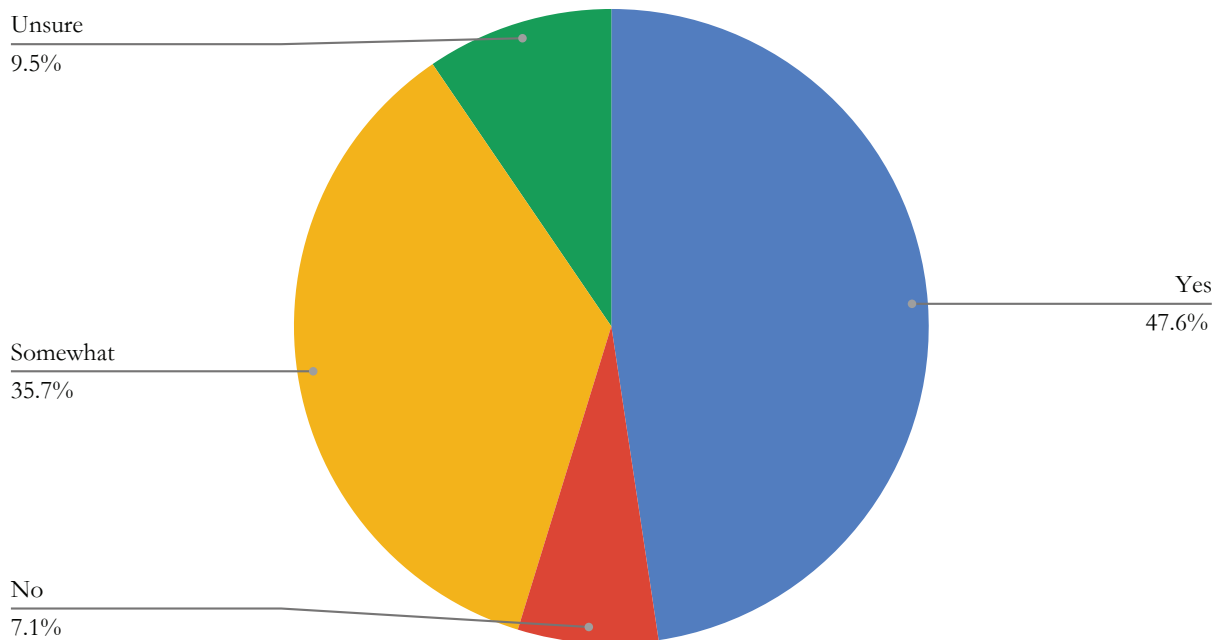
Figure 18. Responses for Playa Viva's role in improving community vitality

Some community members' and employees' commented:

"Playa Viva hasn't really played a role. There's very little work in Playa Viva. It's not big enough to employ enough people to have an impact." - Playa Viva Season 8 Employee

"In some ways yes, it has played a role. There's a bit more work because of the business." - Playa Viva Season 8 Employee

"I haven't heard of any support here from Playa Viva besides employing a few staff" - Rancho Nuevo Resident

"They have given some people jobs so that's good." - Rancho Nuevo Resident

"Yes, because of the jobs available. Young guys have gotten jobs there. Playa Viva has been good." - Juluchuca Resident

"Yes they've helped some people but they can't solve all of the problems." - Juluchuca Resident

Economic Differences

Analysis comparing assets, household items and income across groups revealed some statistically significant differences. The turtle camp group demonstrated levels of income and material wealth significantly lower than their community counterparts ($p<0.05$; $p<0.001$). The Playa Via staff enjoy levels of income significantly higher than the stakeholder population ($p<0.001$), but no statistically significant differences were found on the household items or assets variable between the two groups.

The stakeholder and control communities show no differences in levels of income, but the stakeholder population scores higher on scales relating to assets and household items. This suggests that the stakeholder communities may be in a slightly later stage of development or perhaps explained by the number of remittances they receive from family overseas (possibly more household items purchases made by family in the US).

Table 23. Assets, Household MSL and Income Scale compared across groups

Variable	Groups	N	Mean	t-value	df	U-test
Assets	Juluchuca	78	3.513	1.643	90	678.00
	Turtle Camp	14	2.571			
Household Items	Juluchuca	75	9.413	5.482***	87	916.00***
	Turtle Camp	14	5.857			
Income Scale	Juluchuca	70	6.514	1.8571	80	547.501
	Turtle Camp	12	5.250			

Assets	Stakeholder Population	116	3.828	2.537*	166	3,646.0*
	Control	52	3.038			
Household Items	Stakeholder Population	114	8.956	2.991**	165	3,937.5**
	Control	53	7.830			
Income Scale	Stakeholder Population	104	6.288	0.226	142	2,070.5
	Control	40	6.375			
Assets	Stakeholder Population	116	3.828	1.8271	131	756.0
	Current PV Staff	17	4.824			
Household Items	Stakeholder Population	114	8.956	0.228	128	943.0
	Current PV Staff	16	8.812			
Income Scale	Stakeholder Population	104	6.288	3.671***	119	370.0***
	Current PV Staff	170	8.176			
*=p<0.05 **p<0.01 ***p<0.001 1p<0.05 one-tail test						

COMMUNITY FEEDBACK

General Opinion of Playa Viva Hotel

Playa Viva hotel enjoys a positive reception by its staff and the community (88.97% overall positive opinion). The main reason for the positive reception is because the hotel generates employment (45.59%). Very few negative opinions (total of 4) were stated.

Table 24. Opinion of Playa Viva by Group

	Stakeholder Population	PV Staff S8	Overall	N
Positive (unspecified)	26.89%	41.18%	28.68%	39
Positive, generates/gives employment	44.54%	52.94%	45.59%	62
Positive, protecting nature/turtles	4.20%	0.00%	3.68%	5
Positive, supports the local communities	11.77%	5.88%	11.03%	15
Unsure or has no opinion	9.24%	0.00%	8.09%	11

Negative, do not give jobs to Juluchucans, unfair selection by administrator	0.84%	0.00%	0.74%	1
Negative, could to more to support community	1.68%	0.00%	1.47%	2
Negative/Neutral - Good for Juluchuca, not for Rancho	0.84%	0.00%	0.74%	1

Awareness of and Participation in Playa Viva Activities

Awareness of vision

Playa Viva Staff were significantly more aware of Playa Viva's vision and mission than the stakeholder population (33% fully aware versus 6% fully aware, U=646.500, p=0.001). Although staff were more aware, in both the stakeholder communities and among staff, there are relatively low-levels of full awareness of the Playa Viva vision. About half the hotel staff and the community could partially identify the vision (either community development or environmental protection). Forty-three percent of the stakeholder population is entirely unaware of the Playa Viva vision apart from being a hotel. Only about one-third of hotel staff were fully aware of the Playa Viva vision.

Table 25. Awareness of vision by Group

	Stakeholder Population	PV Staff S8
Fully aware	6%	33%
Partially aware	52%	50%
Not aware	43%	17%

Awareness of Playa Viva services and projects

Hotel staff were significantly more aware of Playa Viva's community services and projects than the stakeholder population (81.25% 'yes' response versus 47.05% respectively, x²=6.598 df=1, p=0.010). Roughly half of the stakeholder population could name at least one project or service that Playa Viva has provided for their community.

Table 26. Awareness of PV Services by Group

	Stakeholder Population	PV Staff S8	Overall	N
No	52.94%	18.75%	48.89%	66

Yes	47.06%	81.25%	51.11%	69
Total	100	100	100	
N	119	16		135

Training and Participation in Playa Viva organized project

Almost one-quarter of the stakeholder population (21.67%), almost half (42.86%) of the turtle camp and about two-thirds (64.71%) of Playa Viva Staff have participated in a course, workshop or training organized by the hotel.

Table 27. Participation in PV trainings or courses

	Stakeholder Population	PV Staff S8	Turtle Camp
Yes	21.67%	64.71%	42.86%
No	78.33%	35.29%	57.14%

Connections

Season 8 hotel staff were more likely to state that Playa Viva helped make connections than the stakeholder population (35.3 versus 7.61 percent respectively, U=645.5, df=1, p=0.001). Roughly 35 percent of employees stated that Playa Viva has helped them make connections with other communities, organizations and businesses, while more than 90 percent of respondents from the stakeholder communities reported that Playa Viva has not helped them make such connections (Table 28, Figure 19).

Table 28. Did PV ever helped you make connections with other communities, organizations or businesses (e.g. provide a training, sent you to courses, brought people to your community, or helped you set up a business, etc.)?

	Stakeholder Population	PV Staff S8
No	92.381%	64.706%
Yes	7.619%	35.294%
N	105	17

General Population

Yes
7.6%

No
92.4%

PV Staff Season 8

Yes
35.3%

No
64.7%
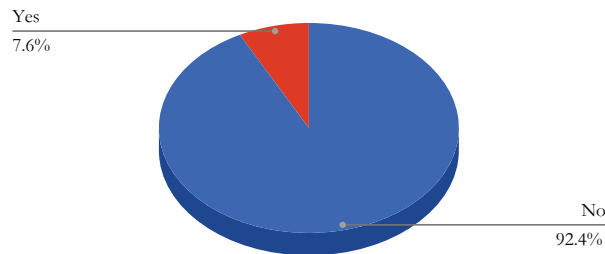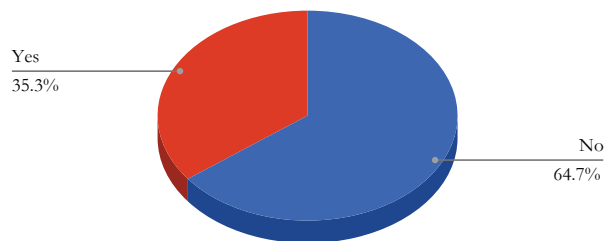
Figure 19: Connections made through Playa Viva, responses by group.

Consultation with community

Roughly 8 percent of community members (including staff and the turtle camp) were consulted during the hotel's establishment. Roughly half (52%) of respondents were unsure whether other community members were consulted in the process; roughly one-third (31%) knew of community members being consulted during the planning process.

Table 30. Were you ever consulted during hotel establishment? Did anyone ever speak to you about the plans for the hotel?

	Stakeholder Population	PV Staff S8	Turtle Camp	Overall	N (overall)
No	93.39%	83.33%	92.86%	92.16%	141
Yes	6.61%	16.67%	7.14%	7.84%	12
Total	100	100	100	100	
N	121	18	14	153	153

Table 31. Were community members consulted when the hotel was being planned?

	Stakeholder Population	PV Staff S8	Turtle Camp	Overall	N
No	16.67%	11.11%	7.14%	15.13%	23

Yes	30.83%	38.89%	21.43%	30.92%	47
Don't know	52.50%	50.00%	71.43%	53.95%	82
N	120	18	14	152	152

Impact on Livelihoods and Conflict

Livelihood

Livelihoods of Playa Viva staff have been significantly more positively impacted by the hotel than the stakeholder population (x^2=38.367 df=2, p=0.000, Pearson=38.367).

Table 32. Impact on livelihood by group

	Stakeholder Population	PV Staff S8	Turtle Camp	Total	N
No Impact	**56.67%**	0	**42.86%**	49.01%	46
Positive Impact	20.83%	**94.12%**	35.71%	30.46%	74
Unsure	22.50%	5.88%	21.43%	20.53%	31
Total	100	100	100	100	
N	120	17	14		151

94 percent of hotel staff and 21 percent of the stakeholder population stated their livelihoods have been positively impacted by the hotel. Roughly half of the turtle camp volunteers (43 percent) and the stakeholder population (57 percent) reported that the hotel has had no impact on their livelihood. The *comisario* (town commissioner) of Juluchuca felt that while the hotel has provided some jobs and has had some impact, the impact on livelihoods has been minimal.

The most common response (31% of responses) for in what way Playa Viva has positively impacted their lives was that the hotel has provided work to their community. The second most common response was that the hotel has supported the local community (in the form of projects, trainings and donations). A summary of responses can be found in table 33.

Table 33. In what way has PV impacted your life?

	Overall	N
Positive, provides work for the local communities	30.91%	17

Positive, hotel has supported the local communities	23.64%	13
Positive, guests interacting with the local communities and supporting the local economy	16.36%	9
Positive, helped changed the culture regarding environmentalism/learned about the environment	12.73%	7
Positive, unspecified	5.45%	3
Other	5.45%	3
Positive, helped change attitudes about health and healthy eating	3.64%	2
Negative, can no longer fish in the lake next to the property	1.82%	1
Total	**100**	
N		**55**

Some respondents commented:

"[Working at Playa Viva] has had a positive impact on how I think. I was more closed off before -- I didn't say what I felt. But now, I express myself more -- there is opportunity to converse and to get along with other people, the guests and the staff. Also on the way I eat. I eat and cook more healthy." - Playa Viva Season 8 Employee

"It has been positive. First, I'm employed. The guests give us our jobs. The hotel has also helped changed the culture about the environment [toward wanting to protect it]." - - Playa Viva Season 8 Employee

"[Playa Viva] has given me the opportunity to earn money and learn new things. I can send my kids to school. My son is going to finish university. That would not have been possible at all if Playa Viva wasn't here." - Playa Viva Season 8 Employee

"Positive. They're very friendly with the local people. Their tourists are interested in the town, in the schools and in the comedor." - Juluchuca resident

Respect for local culture

The majority of respondents (75.68%), including the stakeholder population, Playa Viva staff and the turtle camp volunteers, feel that Playa Viva mostly or completely respects their culture.

Table 34. Do you feel PV respects the culture of your community?

	Stakeholder Population	PV Staff S8	Turtle Camp	Overall	N
Not at all	0.00%	0.00%	0.00%	0.00%	0
Very little	1.69%	0.00%	14.29%	2.70%	4
Somewhat	13.56%	12.50%	28.57%	14.86%	22
Mostly	27.12%	50.00%	28.57%	**29.73%**	44
A lot	49.15%	37.50%	28.57%	**45.95%**	68
Unsure	8.47%	0.00%	0.00%	6.76%	10
N	118	16	14		148

Conflict

Overall, the Playa Viva hotel enjoys low levels of conflict with the community. 65 percent of respondents responded "no" to any known conflict. Expectedly, Playa Viva staff and turtle camp volunteers cited higher levels of conflict, as they are more involved with the project and are more aware when issues arise.

Table 35. Is there or has there ever been conflict surrounding the hotel?

	Stakeholder Population	PV Staff S8	Turtle Camp	Overall	N
No	70.00%	52.94%	42.86%	65.56%	99
Yes	11.67%	47.06%	50.00%	19.21%	29
Unsure	18.33%	0.00%	7.14%	15.23%	23
N	120	17	14	151	151

Some of the common conflict or issues that arose included:

- *Turtle camp land dispute with La Tortuga Feliz (resolved)*
- *Tension between Juluchuca & Rancho Nuevo because of employment (Playa Viva "promised" job preference to Juluchucans but have given more jobs to those from Ran-*

cho Nuevo)

- *Rumors about the hotel pocketing money that was supposed to be designated for the community*
- *Land and property disputes*
- *Road closure outside of Casa Blanca*
- *Issues over workers' compensation*
- *Issues with the cartel*
- *Dirt from Rancho Nuevo was given to Playa Viva but the money never got back to the town (comisario at the time accepted paint for the church as payment and the town was not satisfied)*

KEY FINDING AND RECOMMENDATION The *comisario* (town commissioner) of Juluchuca identified some of the above issues during his interview, namely the distrust about where the money that was promised for the community (guest donations) has gone and the promise of hiring Juluchucans (preferentially). These issues, among others, could be solved with a higher degree of transparency and communication with the community.

Involvement in the Community

The mean response for how involved respondents feel Playa Viva is in their community was 2.76 out of 5 (with 5 being *very involved*), rendering a *somewhat involved* rating. Respondents from Rancho Nuevo and the Playa Viva staff tended to rate involvement in the community lower than Juluchuca, but these differences were not statistically significant (x^2=1.456, df=4.000, p=0.834).

Table 36. Median and mean responses by group for hotel involvement in the community

How would you rate Playa Viva's involvement in your community?				
	Juluchuca*	**Rancho Nuevo**	**PV Staff S8**	**Overall**
Median	3.00	2.00	2.00	3.00
Mean	2.99	2.30	2.30	2.76
Rating	Somewhat	Very little	Very little	Somewhat
	94	52	15	161

* Includes turtle camp volunteers

Most respondents (80.74%) feel that Playa Viva should be involved in the community. No significant differences were found among groups (x^2=2.111, df=2.000, p=0.438). A portion of respondents

were unsure if they wanted Playa Viva involved, which may be due to a lack of awareness of Playa Viva's mission.

Table 37. Opinions on Playa Viva involvement in the community

Should Playa Viva be involved in your community?				
	Stakeholder Population	PV Staff S8	Total	N
No	5.882%	0%	5.185%	7
Not sure	15.126%	6.25%	14.074%	19
Yes	78.992%	93.75%	80.741%	109
Total	100	100	100	
N	119	16		135

KEY FINDING Playa Viva staff tended to feel more strongly about having Playa Viva involved, which may be due to their higher awareness of the mission and greater degree of involvement in the project.

The majority of respondents (96%) have a positive attitude toward tourists and welcome their presence. The majority of respondents (88.7%) would also like to see more tourists visiting their communities. A handful of respondents were indifferent to more tourists arriving and only two respondents would prefer tourists not to come (do not want it to change their way of life).

Table 38. Attitudes toward tourists

Do you like having tourists visit your community?		
	Counts (All groups)	Percent
Yes	144	96.00%
No	0	0.00%
Indifferent	6	4.00%
N	150	

Table 39. Attitudes toward future visits

Would you like more to visit?		
	Counts (All groups)	Percent
Yes	133	88.67%
No	2	1.33%
Indifferent	7	4.67%
N/A (hardly visit)	0	0.00%
N	142	

Moving Forward

Most respondents (including hotel staff, the turtle camp and the stakeholder population) would like to see Playa Viva continuing to support the community in the form of employment, bringing more tourism to the area (and guests to their community), investment in education and more communication and presence in the community. See table 40 for a summary of open-ended responses.

Table 40. Opinions on how the hotel should be involved in the community

How do you think should Playa Viva be involved in your community?		
	Counts	Percent
Unspecified: General support where and when needed	36	20.57%
Investment in education and schools (more classes, sports, supplies)	33	18.86%
More communication, presence and opportunities for sharing ideas	20	11.43%
More jobs/employment	20	11.43%
Investment in infrastructure and maintenance	17	9.71%
Unsure	9	5.14%
More involvement between guests and the local community	8	4.57%
More support in natural and local environment (cleaning trash, recycling, ecosystem)	6	3.43%
Courses on "life skills" for how to survive in poverty	6	3.43%

Sharing knowledge: Courses and workshops (English classes and other skills)	6	3.43%
Investment in health education/health center	4	2.29%
Organic ag workshops	4	2.29%
Shouldn't be involved	3	1.71%
More investment and efforts in the turtle camp	2	1.14%
More hotels on the beach	1	0.57%
N	175	

The most common response (24.73% of responses) for how Playa Viva could improve its relationship with the community was to provide more jobs or bring more economic opportunities for the community (in the form of buying more of their products and bringing more hotel guests to spend their money, table 41). Following economic opportunities, respondents would also like to see Playa Viva engage the community more in their mission and projects, as well as increase communication with the community to understand community needs and share ideas (e.g. representation in town meetings).

Table 41. Improving community-hotel relationship

In the future, what could PV do to improve its relationship with the community?		
	Counts	**Percent**
Provide more jobs (or economic support in form of spending -- bring more guests etc.)	45	24.73%
General support (unspecified) or continue with status quo	24	13.19%
Engage the community more in what Playa Viva does. More presence in the community, showing interest and allowing people to visit PV to get to know it	23	12.64%
More communication between the two; can include representation in town meetings, meet with town leaders separately about needs, brainstorm ideas	20	10.99%
Doesn't know	16	8.79%
Support more in the schools and investment in education	12	6.59%
Support in infrastructure; can include water, roads, or drainage	8	4.40%

Support in the health clinic or improving health services 7	6	3.30%
Engagement in sports and recreation (particularly for youth)	6	3.30%
Donations to the locals e.g. clothing	6	3.30%
Provide workshops on environmental topics such as organic ag and environmental conservation	5	2.75%
Cooking workshops/healthy eating/food	5	2.75%
English classes	3	1.65%
Trade skills	2	1.10%
Workshops on how to live better/in poverty	1	0.55%
N	**182**	

Most respondents would like to see a future where Playa Viva and their town work together (71 mentions, 43.83% of mentions) and where Playa Viva is more present and communicative with their community (31 mentions, 19% of mentions). As with other previous related questions, economics is highly important to the community. There were 21 mentions for more jobs or more tourism in the area to help improve economic conditions for more families.

Table 42. Moving forward with the community

How would you like to see the relationship between Playa Viva and [town] move forward/evolve?		
	Counts	**Percent**
Continue improving/getting along/working together	71	43.83%
Continue with more communication and presence in the community (ser unidos)	31	19.14%
More jobs (or more tourism so there are more jobs)	21	12.96%
More support (unspecified)	17	10.49%
More projects (education)	7	4.32%
Other	7	4.32%
More projects (environmental)	5	3.09%
More projects (infrastructure)	3	1.85%

N	162	

PLAYA VIVA STAFF SURVEY

Playa Viva employees (N=18) were asked an additional set of questions regarding their job satisfaction, growth opportunities in the workplace, awareness of the Playa Viva mission, opinions on management, equity in the workplace and team collaboration. The latter three categories were asked as an internal audit and to assess the degree to which the Playa Viva Code of Conduct, mission and regenerative concept has been integrated into operations. The results from the latter three categories are presented in appendices D and E.

Job Satisfaction

The average response among employees for their level of general satisfaction with their jobs was a 5.778 out of 7, between "somewhat satisfied" and "satisfied" (N=18). Satisfaction regarding specific elements of their jobs tended to be lower on certain items. The satisfaction results are presented in table 43.

Table 43. Job satisfaction

Satisfaction Item	Mean	Median	Satisfaction Score
How much you earn	2.667	2	Dissatisfied-Neutral
Your financial ability to feed your family	2.944	2.5	Dissatisfied-Neutral
The level of health and safety of your job (e.g. working with chemicals/heavy physical labor)	3.556	4	Neutral-Satisfied
The number of hours you work per week	3.500	4	Neutral-Satisfied
The free time you have available to spend with family and friends	3.556	4	Neutral-Satisfied
General Satisfaction with job	5.778	6	Somewhat satisfied-Somewhat

Fortune

83.33 percent (n=15) of employees feel fortunate to have their job with Playa Viva; 11.11% (n=2) feel somewhat fortunate and 5.56% (n=1) do not feel fortunate. The most common reason is because work is close to home, the jobs at the hotel are limited and it is relatively difficult to get hired there and keep the job.

Do you consider yourself fortunate to have this job? (N=18)

Somewhat
11.1%
No
5.6%

Yes
83.3%
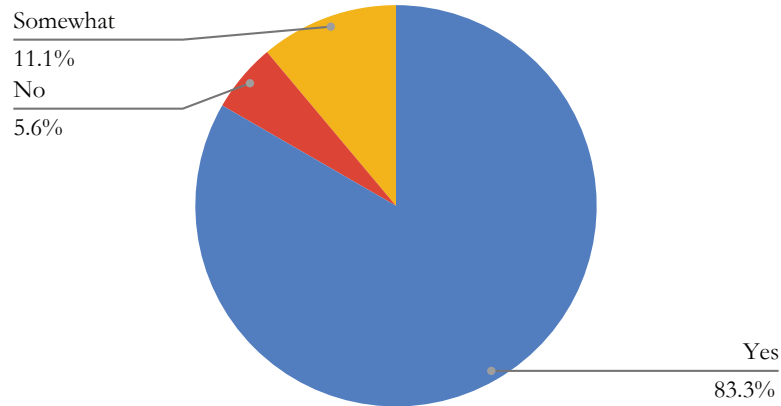
Figure 20. Percentage of employees who feel fortunate to have their job

Pride in Work

Most employees take great pride in their work, with an average and median response of 4.778 and 5, respectively (n=18). Most employees are proud to have a job that is close to home through which they can support their families and is generally considered a "good place to work".

Do you take pride in your work? (N=18)

	Number of responses
I mostly take pride in my work	5
I completely take pride in my work	13

Number of responses
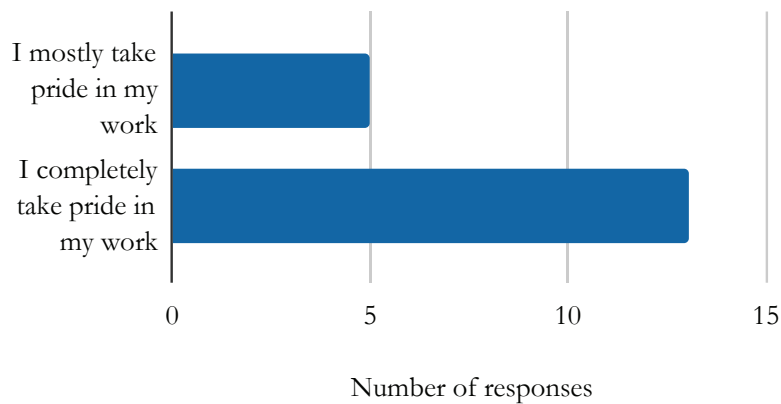
Figure 21. Level of pride among employees.

Job retention

Employees were a roughly 50/50 split when asked if they would look for work outside of Playa Viva if they had the option. 10 respondents (55.6%) responded yes and 8 responded no (44.4%). The most common reason for why people said they would leave was because of the low salaries and the unfair treatment of workers (according open-ended responses in the follow-up question). The most common reason for staying was simply because they are content in their work.

If you had the option, would you look for work outside of PV? (N=18)

No
44.4%

Yes
55.6%
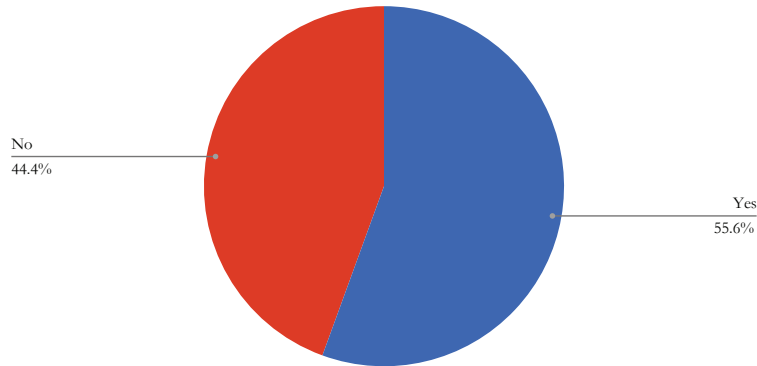
Figure 22. Level of job retention: would you stay here if more options were available?

Although employees were split on whether they would search for work elsewhere, most employees (94.12%) said they would advise a young person to follow this line of work. This may suggest that they view the type of work they do as valuable, but are dissatisfied with certain aspects of work at the hotel.

Would you advise a young person to follow this line of work? (n=17)

No
5.9%

Yes
94.1%
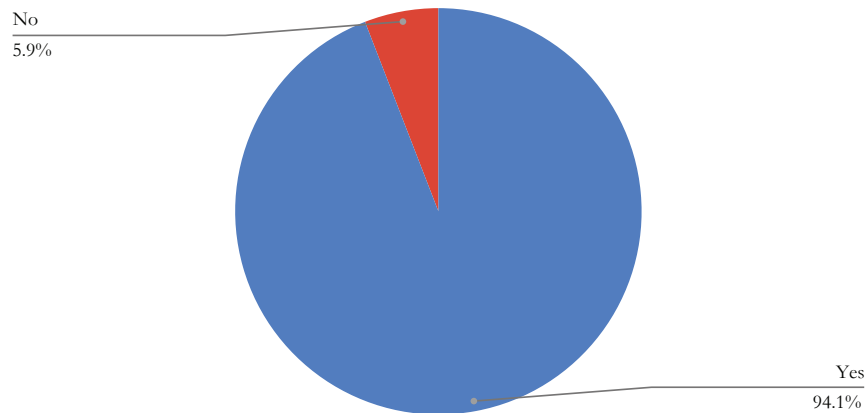
Figure 23. Job sustainability

Empowerment and Opportunities

Impact and Value

Most employees felt the work they do has moderate impact for the hotel, some-moderate impact on the environment and minimal impact on the community. Employees feel that their work is somewhat valued by the administration of the hotel, somewhat valued by the commu-

nity and is mostly valued by their colleagues and direct supervisor. Average and median values are presented in tables 44 and 45.

Table 44. Perceived impact of work

How much do you think your work has …?	Mean	Median	Impact measure
For the community	2.611	2	Minimal - some impact
For the hotel	4.000	4	Moderate impact
For the environment	3.833	4	Some - moderate impact

Table 45. Perceived value of work

How much do you feel your work is valued by …?	Mean	Median	Value measure
Your direct supervisor	3.500	4	Mostly valued
The administration of the hotel	3.056	3	Somewhat valued
By your colleagues	3.353	4	Mostly valued
By your community (Juluchuca/Rancho Nuevo)	3.111	3	Somewhat valued

Trainings

Roughly half of employees have received some type of formal training. The three kitchen employees have all participated in culinary courses, two employees received training in organic agriculture and five employees received first aid training.

Table 46. Trainings received

Have you received any training or participated in any courses related to your work that was organized/facilitated by PV (workshops, courses, exchanges, etc.)? (N=18)	
Yes	55.56%
No	44.44%

New Skills

Nearly 89 percent of employees reported that they had learned new skills at their job and of those 89 percent, 100 percent stated that they were applicable skills to other areas of their life or future jobs.

Table 47. New skills acquired

Have you learned new skills at your job? (N=18)	
Yes	88.89%
No	11.11%

Advancement

61 percent of employees reported that they felt there is room for advancement within their positions or within the organization; about a third of employees do not feel there is room for such advancement. However, this reflects the actual amount of opportunities for advancement. There are caps in five positions: general manager, executive chef, head of cleaning, head of maintenance and head of farming.

Table 48. Advancement within Playa Vva

Do you feel there is room for growth in your position or within PV? (N=18)	
Yes	61.11%
No	33.33%
Unsure	5.56%

Decision making and empowerment

Decision making appears to be very centralized in Playa Viva. Questions assessing autonomy in decision making and top-down vs bottom-up approaches to management revealed that most employees feel very disconnected from their ability to influence management or even how they perform their jobs. Table 49 presents average and median responses to questions pertaining to decision making and empowerment.

Table 49. Opinions on decision making, management and influence within the organization

Decision making and empowerment

	Mean	Median	Rating
How much freedom do you have in decision making related to your work tasks?	1.944	1.500	Not at all - very little
I'm consulted when decisions are made related to my area of work.	4.444	5.500	Neutral - Somewhat agree
Do you feel your problems and/or concerns are listened to by Playa Viva management?	2.235	2.000	Very little
How much influence do you think you have in Playa Viva management?	1.882	2.000	Very little
How satisfied are you with the management of Playa Viva?	3.111	3.000	Indifferent

Unfortunately, the low level of autonomy in decision making and disconnection from management seems to have resulted in a culture of worker-bees, rather than an environment promoting education, capacity building and encouraging new ideas.

One worker commented, "Sometimes [the manager] gives us fear to ask a question or request something. I don't feel very comfortable asking for something because [the manager] is going to be bothered. I'm embarrassed to ask."

Another commented, "They never ask for our opinions; they never listen to us -- if you have an opinion, it goes nowhere... [The manager] doesn't ever inform us about anything [how or why decisions are made]. [The manager] just tells us. [The manager] makes the decisions and informs us and doesn't ask for our opinions so what can I say ... I'm neutral about it."

A great deal of frustration was sensed among the staff in regards to how they were treated. However, some were very satisfied: "I'm very satisfied. I'm here working and getting paid. And that's a good thing."

Awareness of Playa Viva mission

Roughly half of employees could state part of the Playa Viva mission, slightly less than a third could state the full mission of the hotel. In one employee's words, s/he stated the mission as:

> *"[The Playa Viva mission is] to grow and have more opportunities for more people. They help us as a community — a hotel that is more natural [ecological]. They try to find local resources and how to conserve what's here ecologically and culturally."*

Table 50. Playa Viva Mission

Level of understanding of Playa Viva's Mission	
Not aware	16.67%
Partially aware	55.56%
Fully aware	27.78%

After the mission was explained to those who were not fully aware of the mission, respondents were asked if they felt they are supporting this mission. Roughly 60% feel they are supporting this mission in their daily duties.

Table 50. Connection to Playa Viva Mission

Do you feel that you are supporting or realizing this mission in your daily duties?	
Not at all	0.00%
A little	16.67%
Somewhat	11.11%
Moderately	61.11%
Completely	5.56%
Unsure	5.56%

Discussing the mission and goals with the staff stirred up comments relating to the dissatisfaction in Playa Viva's management and general operations. One longer-term employee remarked:

I agree with the Playa Viva project. I like the way they work, but it's not like it was before. I like what they're doing with the environment and the values they have but now it's not the same. Things have changed. They're lying to the guests. We deceive them that we are feeding them food from here but we're not. I really disagree with what they're doing. I don't understand really what they're doing. On paper they're saying what they're doing is great for the environment, for the community and the staff, but we're not doing that. We're operating very detached from what they say they want to do.

Conversely, one employee remarked,

They give to the community and try to buy what they can from the community. They can't all work here so they try to support by buying local products. They also give supplies to the

schools. We live in an area where there is no work. We were really suffering before. Their mission is of mutual support: to support the community [by trying to buy locally] and give healthy products to the guests.

Furthermore, when speaking about the strengths of the hotel, one employee remarked:

Giving any kind do job is a good thing. If it weren't for Playa viva then I think a lot of people wouldn't be here. Or my daughter wouldn't be studying. It's a support. That's a good thing--generating jobs for the community.

RECOMMENDATION There seems to exist not only disconnection, but disagreements and misconceptions about the Playa Viva mission. Continuation of the team-building work by recent consultants is recommended.

When asked the opened ended question as to how they feel Playa Viva is performing on its goals (core values), most employees felt that the hotel is performing well on the guest experience and utilizing certain sustainability techniques such as organic gardening and the use of solar panels. Almost all employees felt that the area that needs improvement is the work done in the community. The communities also felt similarly on this issue and rated Playa Viva's involvement as only *somewhat* and *minimally* involved in their communities (Juluchuca and Rancho Nuevo, respectively).

Table 51. Core Values

Playa Viva Core Values (Goals)
Promote Biodiversity
Create Cleaner and More Abundant Water and Energy
Create Meaningful Community
Promote Transformational Experiences
Create a Living Legacy for Regenerative Resort Development

One employee remarked:

On the first goal [promoting biodiversity], we are performing well. On the second [cleaner water and energy], we've really only done that at Playa VIva, not in the community or the

broader area. On the third [meaningful community], we're missing a lot of work here. We need education and capacity building especially. Number four [transformational experiences], for the clients, yes and for the employees yes. You learn a lot here, you learn you can change your behavior. On the fifth [living legacy], we're on the way.

KEY FINDING Despite some management shortcomings, most employees have a positive opinion about Playa Viva and feel its strengths lie in its mission and for creating a physically beautiful environment that supports and protects nature, as well as provides local jobs. Employees stated that the hotel's greatest weaknesses are both internal and external. Internal weaknesses include management-related issues of favoritism, communication and investment in staff capacity and skills-building. External weaknesses include the lack of resources to accomplish all the hotel has promised, inability to buy more locally due to the issue of *facturas*, a culture of *narcos* surrounding the hotel and poor water quality.

IMPACT ON THE COMMUNITY

Only a small percentage of community members (6%) were fully aware of the Playa Viva mission and its social impact areas of focus. Roughly 52% were partially aware of the mission and 47% could name at least one project or service Playa Viva has provided for their community.

Despite low levels of awareness, Playa Viva enjoys an overall positive reception among community members, with the majority of respondents being in favor of the hotel at its inception and today. Community members are pleased to see the hotel providing jobs for their friends, neighbors and loved ones and for providing support in the community. The majority of community members (79%) would like to see Playa Viva involved in their community and see the hotel grow in order to provide more jobs, more economic spending and for the hotel to support them in projects related to education and economic development.

On measures related to education, environmental awareness, health and economic development minimal to no impact was observed in the stakeholder communities of Juluchuca and Rancho Nuevo. The general population in the stakeholder communities was no more economically well-off, more educated or more environmentally conscious than the control community. There were also no differences in levels of happiness, or how people rated their health, their community's health, or quality/availability of medical care, suggesting that the Playa Viva project has not yet had effect on health and well-being. Additionally, it seemed that the stakeholder communities were very unaware of health problems in their community when compared to the control, suggesting a lack of health education and awareness.

Playa Viva hotel also seems to have had little impact on community vitality. In comparison to ten years ago, only 28 percent of survey respondents feel that the local economy has slightly improved (2 percent reported the economy as moderately improved), while 70 percent perceive it to be the same or worse. Among the respondents who feel economic conditions are better, 36 percent believe Playa Viva has played a role and 48 percent believe Playa Viva has somewhat played a role.

The turtle camp volunteers' participation in the Playa Viva project has not resulted in improved economic or emotional well-being, nor increased their environmental awareness. The turtle camp volunteers reported significantly lower levels of happiness, lower satisfaction in opportunities available to them (lower degree of place attachment), poorer economic conditions and were no more conservation-minded than their community counterparts. The volunteers feel that the work they do has a great deal of (positive) impact for the hotel and for the environment and generally feel their work to be at least somewhat valued by the hotel (neutral for the community). These findings suggest that although these volunteers are providing a direct and valuable service to the hotel, their general well-being and quality of life still ranks much lower than the stakeholder communities.

Playa Viva's community development efforts will have to overcome the challenge of the lack of social cohesion in both Juluchuca and Rancho Nuevo. The stakeholder communities rated the level of social cohesion and familial conviviality in their community significantly lower than the control ("very little support"). These differences between Playa Viva's stakeholder communities and the control demonstrate the fractured nature of social life in Juluchuca and Rancho Nuevo and therefore presents a challenge for future community organizing and development efforts.

IMPACT ON HOTEL STAFF

Where the Playa Viva project had a demonstrable positive effect was closer to home: with its employees. Playa Viva Season 8 staff had significantly higher levels of income, demonstrated higher levels of happiness, exhibited higher levels of environmental conscientiousness and experienced more economic security and stability (higher degree of place attachment) than their community counterparts.

However, while the data illustrate that the Playa Viva employees experience greater degrees of happiness and economic well-being than their community counterparts, their level of job satisfaction in relation to meeting basic needs and economic advancement was very low. The minimum Playa Viva salary begins at MXN$180 per day, with a cap at MXN$250 (excluding

management). While this is comparable to other local salaries, the endemic poverty of the town and the economic pressure felt by even full-time employees suggests that this compensation is not sufficient to provide them with the means for true economic advancement.

Season 8 employees also experienced a disconnection from the mission of the project, were generally dissatisfied by certain aspects of management (namely low levels of autonomy and a culture of favoritism) and felt that their opinions and ideas were not being heard. However, Playa Viva has begun to make strides to improve the lack of connection employees feel with the mission and to help decentralize decision making. In season 9, a group of consultants provided training and conducted team-building activities to ensure the Playa Viva mission and values are integrated into the hotel's operations.

Despite some management shortcomings, most employees (83%) feel fortunate to have a job with Playa Viva and exhibit higher levels of environmental conscientiousness and a greater awareness of healthy lifestyles. They report levels of happiness higher than the general stakeholder population, feel they are learning new skills and that there are opportunities for advancement within the organization. Most employees would like to see management improved, fairer treatment of employees and see Playa Viva more involved with their communities.

CONCLUSION AND RECOMMENDATIONS

The results demonstrate that Playa Viva is having a positive impact on its employees and has potential to become an even more nurturing, empowering and positive working environment that fully aligns with regenerative principles. However, the positive outcomes observed among hotel staff are not yet observed in the broader community and even less so for the volunteers of the turtle camp. Due to the larger system in which Playa Viva operates—a system rife with corruption, poverty and low-levels of education—the hotel will need to make a more concerted and strategic effort in community development. The hotel will need to leverage more resources to be able to carry out the necessary work for regenerative development and, in turn, to observe impact not only on its staff, but in the broader community.

Playa Viva's previous approach of sporadic community involvement and projects (e.g. workshops and trainings provided yearly or bi-yearly, donated money from guests to repair schools, etc.), while a noble effort, is no longer sufficient to have sustained, long term impact in education, health and economic development. However, with a more strategic approach through direct investment in the community, steps in the right direction can be made.

A more direct investment in community development
- Community development takes time and thorough relationship building. Playa Viva's current community outreach efforts operate through a volunteer program and one full-time paid Social and Environmental Impact Manager (lead author of this study). While there are positives to this program, the program is not a sufficient nor

appropriate long-term or sustainable solution for social change. It is recommended that the volunteer program be phased out and overtime replaced by a more permanent presence: the establishment of a non-governmental organization (NGO) with full-time permanent staff. This NGO could operate as a sister organization to Playa Viva ("Comunidad Viva") and receive a portion of its funding from hotel profits, the regenerative fee applied to guests' bills and individual donations (along with larger grants from foundations).

- The *Comunidad Viva* NGO recommendation is a longer-term investment and solution that will take time. In the shorter term, it is recommended that Playa Viva invest in longer-term volunteer/intern placements (paid if possible) and leverage more local, national and international partners and organizations to provide the community with more resources, such as trainings and capacity-building workshops. These types of workshops and opportunities therefore will not have to rely on short-term or sporadic volunteer placements and also promotes Playa Viva within the regenerative community.
  - Note: Workshops should first and foremost be centered around community-organizing and community-building activities, as social cohesion was both the most frequently cited problem and seen as the most important attribute of a healthy community.

- Continuation of the Juluchuca Garden and Nutrition Project. In conjunction with the Casita EcoVegana, monthly workshops on nutrition, nutritional cooking and mental health are held at the community soup kitchen (began in 2017). Low levels of nutritional awareness and high rates of nutrition-related disease (diabetes, hypertension) are present in both Juluchuca and Rancho Nuevo. Men should also be targeted in these efforts as they appear to be less connected to issues concerning health and wellness.

- Continuation of the Juluchuca Limpio project. For Juluchucans, one of the most important attributes of a healthy community was low-levels of pollution, litter and contamination. The current recycling program initiated in Spring of 2018 with the local high school through a local partner is a great example of an effective community-driven program focused on environmental education, combating trash burning and solving waste management issues in the town.

- A greater degree of investment in environmental education (with a focus on the turtle camp). The community and turtle camp volunteers were no more environmentally aware than the control community. Environmental education will require a more sustained and long-term effort, therefore channeling resources will require time and planning. With the new permaculture hire, some trainings and workshops could be organized for the community around this topic.

- More presence and communication with the community. Many of the issues and the neutrality/lack of awareness about Playa Viva could be solved by a higher degree of transparency and communication with the community. It is recommended to have a hotel representative regularly communicate with the community, especially in the meetings held in town when issues arise (note: there is not much regularity to these meetings but Playa Viva could assist in community organizing). It would be more appropriate for this person to be from the community (e.g. Johnny for Juluchuca, Inés for Rancho Nuevo). A greater degree of communication, collaboration and friendship could be established.
- A more concerted effort to buy locally. The communities expressed their desire for more economic opportunities. They would like to see more spending and purchasing for the hotel happen closer to home so that the money generated from the hotel is also supporting the local economy. The issue of facturas to be able to purchase from local producers remains a priority for Playa Viva. Investing in a sourcing position or freeing up other staff members' time to address this issue and build the necessary relationships will be critical.

Internal investment in staff and management
- In the short and long term, Playa Viva needs to continue to invest in its social and environmental impact manager position, an onsite permaculture manager and consider investing in the turtle camp coordinator position (due to their direct impact on the environment and on the guest experience, as well as their demonstrated lower levels of well-being). Eventually, these roles could be local hires and will be entirely locally-run and operated.
- Continue to invest in management capacity building. The staff survey revealed a degree of dissatisfaction and apathy toward management. Many employees feel disconnected from the mission, feel their opinions or concerns are not taken into account and a lack of communication/collaboration among the team. The process to resolve some of these issues has already been initiated, but it is strongly recommended that this investment is continued to ensure a healthier work environment.
- Investment in Human Resources. Another option is to invest in a human resources department (or an individual to start) to manage employee benefits and concerns. This individual should be a neutral third-party and not a member of the stakeholder communities. This role could begin as a part time position to begin to address the inequalities and incidences of favoritism reported by the staff.

- Investment in staff training. Regenerative development involves both manifesting potential and growing regenerative capacity within systems. Given that Playa Viva operates outside of a small community, it is critical the hotel invest in providing its staff members, old and new, with the training necessary for completing their tasks not only in the present, but in the future. With a growing and evolving business like Playa Viva, staff need to be well-trained and anticipate the needs of a growing business and a more diverse clientele. Although operating outside a small rural community has its challenges, it also presents an enormous opportunity to have a great deal of impact.
- Raise salaries and provide more paid leave. While staff members enjoy higher levels of economic security than their community counterparts, the comparative baseline is rather low. Most employees feel their salaries are not enough to cover basic needs to provide for themselves and their families. Raising salaries to a degree where staff feel they can adequately provide for their families, providing them with nutritious meals, sending their children to school, having time to seek medical care and take sick leave, can be the most effect method for community development.

In conclusion, the communities, hotel staff and turtle camp volunteers' greatest desire and need is for more economic stability and security. Promoting transformational change for other social and environmental issues will take more time and more resources, but first steps can be made. Community development begins with one's closest stakeholders: the hotel staff. Investing first in a healthy and prosperous work environment (*Onda Playa Viva*) is a way to guarantee the start of a positive ripple effect into the community that supports regenerative development. With time, careful planning and longer-term investments (e.g. establishment of *Comunidad Viva*), Playa Viva can begin to have more strategic involvement with and greater impact in the surrounding community.

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APPENDIX A: CORE VALUES, OBJECTIVES & ACTIONS

Core Value 1: Promote biodiversity	
Objective 1: Foster more resilient ecosystems	**Action 1:** Restore and protect mangroves by planting seedlings and removing invasive overgrowth and other debris (e.g. coconuts, coconut palm debris)
	Action 2: Encourage resilience and biodiversity by diversifying plant and crop species, removing invasive species and planting native varieties
	Action 3: Foster and promote environmental awareness and environmentally conscientious behavior through educational activities and programs within the community, La Tortuga Viva, and among staff at Playa Viva
Objective 2: Increase economic value of local ecosystem by restoring it to its natural state and making the land fertile, verdant, and productive for present and future generations	**Action 1:** Restore and protect mangroves by planting seedlings and removing invasive overgrowth and other debris (e.g. coconuts, coconut palm debris)
	Action 2: Restore coastal forest ecosystems by rebuilding soils (organic farming) and contribute to erosion control
	Action 3: Grow edible and medicinal crops for consumption and for natural building material without the use of harmful/toxic pesticides, herbicides, insecticides
	Action 4: Support, manage, and improve sea turtle conservation program ensuring compliance with all local, state, federal and international regulations and best practices
Core Value 2: Create cleaner and more abundant water and energy	
Objective 1: Promote and use water saving techniques, conscious waste disposal, filtration systems, and water efficient landscaping	**Action 1:** Black and gray water treatment systems in place and full functioning

	Action 2: Advanced water filtration system for potable drinking water in all Playa Viva sinks and showers
Objective 2: Promote and use renewable energy sources	**Action 1:** Off-grid solar energy system to power all hotel needs in place and fully functioning
	Action 2: Production of biodiesel for Playa Viva vehicles, using byproduct glycerine to make hotel soaps
Core Value 3: Create meaningful community	
Objective 1: Facilitate the transfer of both informal and formal knowledge and skills (Education)	**Action 1:** Volunteer program established and managed to facilitate the transfer of knowledge and skills between guests, staff, and community
	Action 2: Teaching English program established and offered on a continual basis (in the community and to hotel staff) or according to needs
	Action 3: Community needs assessment and monitoring tool established and managed to evaluate community needs on a continual basis
Objective 2: Foster the state of complete physical, mental, and social well-being (health)	**Action 1:** Function as a retreat center
	Action 2: Offer assistance in the local community and to Playa Viva staff through volunteer placements in the local health clinic/Petatlán hospital, equipment/ services donations from hotel guests, wellness services (yoga, massage, and other body work)
	Action 3: Implementation of a community garden, nutrition, and wellness program in the community to promote wellness and healthy, sustainable lifestyles.
Objective 3: Help strengthen a standard of living whereby basic consumption and material needs are met (economic well-being)	**Action 1:** Provide and sustain adequate and fair pay and benefits for all hotel staff
	Action 2: Foster and promote opportunities for community to become involved in skills building activities (English classes, IT classes, workshops at PV on organic farming, turtle conservation or any such desired skills)

Objective 4: Strengthen local organic food and product (beauty products, etc.) markets and movement	**Action 1:** Foster opportunities for developing microenterprises among existing staff and Juluchucans in organic farming and organic beauty products
Core Value 4: Promote transformational experiences	
Objective 1: Facilitate people's ability to make decisions that affect their lives and represent their interests (empowerment)	**Action 1:** Host guests and retreats to help nourish and empower themselves and others to make choices that serve them and contribute to their greatest good
	Action 2: Through community events, encourage guests to participate to interact with the local community and learn more about the local culture
	Action 3: Provide a healthy working environment for employees by actively empowering them to make decisions that affect their life and their families' lives
Core Value 5: Create a living legacy for sustainable and regenerative resort development	
Objective 1: Promote sustainable livelihoods for the harmonious integration of people and nature for the benefit of both	**Action 1:** Create a replicable model for regenerative resort development with an M&E system in place and fully functioning for continuous adaptive management for improvement of SEI and programs

APPENDIX B: SOCIAL INDICATORS

Domain	Indicator	Goal	Method of Assessment
Education	ED1. Level of public's understanding of human impacts on resources	CV1.O1.A3	HS, KII, FG
Education	ED2. % or # people trained in English/who have received English classes	CV3.O1.A1.A2 CV3.O3.A2	KII, SD, PO
Education	ED3. % or # people trained in sustainability-related skills (e.g. organic farming, composting, turtle conservation, etc.)	CV3.O1.A1 CV3.O3.A2	HS, KII, SD, PO
Education	ED4. # of professional and training development programs offered	CV3.O1.A1 CV3.O3.A2	KII, SD, PO
Education	ED5. % of FT workers who took/taking advantage of training and professional development programs	CV3.O3.A2	KII, SD, PO
Education	ED6. Distribution of formal knowledge (scientific or technical knowledge generated by PV community) to the community (degree of awareness)	CV3.O3.A2 CV3.O1.A1.A2	HS, KII, FG, PO
Education	ED7. Attitudes toward conservation and environmental conscientiousness	CV1.O1.A3	HS, KII, FG, PO
Health	H1. Availability of and access to local health services for PV local staff and community at large	CV3.O2.A2	KII, SD
Health	H2. Quality of local health services	CV3.O2.A2	KII, SD
Health	H3. Availability of and access to healthy food (fresh produce, etc.)	CV3.O2.A2	KII, SD
Health	H4. Levels of nutrition	CV3.O2.A2	SD
Health	H5. Local mortality rates (+infant mortality)	CV3.O2.A2	SD
Health	H6. Local morbidity rates	CV3.O2.A2	SD
Health	H6. Levels of nutrition	CV3.O2.A2	SD
Health	H7. Physical, mental, and emotional well-being of PV local staff	CV3.O2.A2	HS
Health	H8. Perception of physical, mental, and emotional well-being	CV3.O2.A2	HS
Economic Well-being	EW1. Economic status and level of poverty	CV3.O3.A1	HS, SD
Economic Well-being	EW2. Level of material assets	CV3.O3.A1	HS, SD
Economic Well-being	EW3. Household occupational distribution	CV3.O3.A1	HS, SD
Economic Well-being	EW4. Household income distribution	CV3.O3.A1	HS, SD

Economic Well-being	EW5. Level of access to markets and capital	CV3.O3.A1	HS, SD
Economic Well-being	EW6. % of local people employed at PV	CV3.O3.A1	PO, SD
Economic Well-being	EW7. Perception of economic well-being & material wealth (residents and PV employees)	CV3.O3.A1	HS, KII, FG
Economic Well-being	EW8. % of PV employees reporting wages and compensation are fair and sufficient	CV3.O3.A1	HS, FG, SD
Economic Well-being	EW9. Level of community services (e.g. hospital, school) and infrastructure (e.g. roads, utilities, sewage and solid waste treatment)	CV3.O3.A1	PO, SD
Empowerment	EM1. Percentage of stakeholder group in leadership positions (# of individual stakeholders from various stakeholder groups who have been or are currently in a leadership position that have a direct or indirect relationship with the hotel)	CV4.O1.A1.A2	HS, KII, FG
Empowerment	EM2. Existence and activity level of community organization(s)	CV4.O1.A1	HS, KII, FG
Empowerment	EM3. Level of conflict between community members and PV management	CV4.O1.A1.A2	HS, KII, FG
Empowerment	EM4. Nature (type of) and/or % of local (Juluchuca/ Rancho Nuevo) involvement in hotel management/ development decisions & activities	CV4.O1.A1.A2	HS, KII, FG
Empowerment	EM5. Nature (type of) or % and/of PV staff involvement in hotel management/development decisions & activities	CV4.O1.A1.A2	HS, KII, FG
Empowerment	EM6. Distribution of benefits (income, time-off, etc.) across employees	CV4.O1.A1	HS, KII, FG, SD
Empowerment	EM7. Distribution of benefits across community	CV4.O1.A1	HS, KII, FG
Empowerment	EM8. Level PV code of conduct is integrated into hotel operations	CV4.O1.A1	HS, KII, FG
Empowerment	EM9. Perception of impact felt by volunteers in the PV "community"	CV4.O1.A1.A2	HS, KII, FG
Empowerment	EM10. Perception and level of ownership and pride in one's work among PV staff and volunteers	CV4.O1.A1.A2	HS, KII, FG
Culture	C1. Patterns of natural resource usage and/ or recreational activities (e.g. fishing activities, beach activities, hunting, etc.).Note: eco-hotel establishment may decrease or increase conflict over resource usage and management	CV1.O1.A3	HS, KII
Culture	C2. Level of place attachment/sense of place. Note: eco-hotel may either alienate individuals from their environment or strengthen their ties to it.	CV3	HS, KII, FG

APPENDIX C: REGENERATIVE DEVELOPMENT CONTEXT

COMPONENTS OF REGENERATIVE DEVELOPMENT (FROM GIBBONS ET AL. 2018[53]):

1. **Manifests potential.** Regenerative development enhances regenerative capacity—viability, vitality, and evolutionary capacity—in living systems that manifests increasingly higher levels of health and potential. In other words, regenerative development focuses on positive outcomes for all members of a system, which inherently means increased opportunities for health, well-being, and happiness.

2. **Shifts worldviews.** Regenerative development explicitly and deeply engages stakeholders, inhabitants of a place, and practitioners in a collaborative, co-creative process. This process shifts worldviews to ecological ones and, as a result, shifts values, beliefs, behaviors, and their sociocultural and physical manifestations (e.g., infrastructure) to ones that nurture thriving living systems.

3. **Creates mutually beneficial, co-evolving relationships.** Regenerative development forms mutualistic relationships amongst the sociocultural and ecological components of systems that evolve through time.

4. **Adds value across scales.** Regenerative development works explicitly across scales, at least one scale below and two scales above the focal project. It seeks to add integral, life-conducive value to systems. Smaller-scale (e.g., individual and local) efforts are coordinated within larger scale (e.g., regional) efforts and are leveraged to catalyze transformation toward sustainability throughout the living system.

5. **Grows regenerative capacity in whole systems.** Regenerative development works with whole living systems, not just isolated fragments, to understand geological, ecological, and sociocultural relationships and flows to increase viability, vitality, and evolutionary capacity (i.e., regenerative capacity).

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[53] Gibbons, L. V., Cloutier, S. A., Coseo, P. J., & Barakat, A. (2018). Regenerative development as an integrative paradigm and methodology for landscape sustainability. *Sustainability (Switzerland) 10(6)*: 1910.
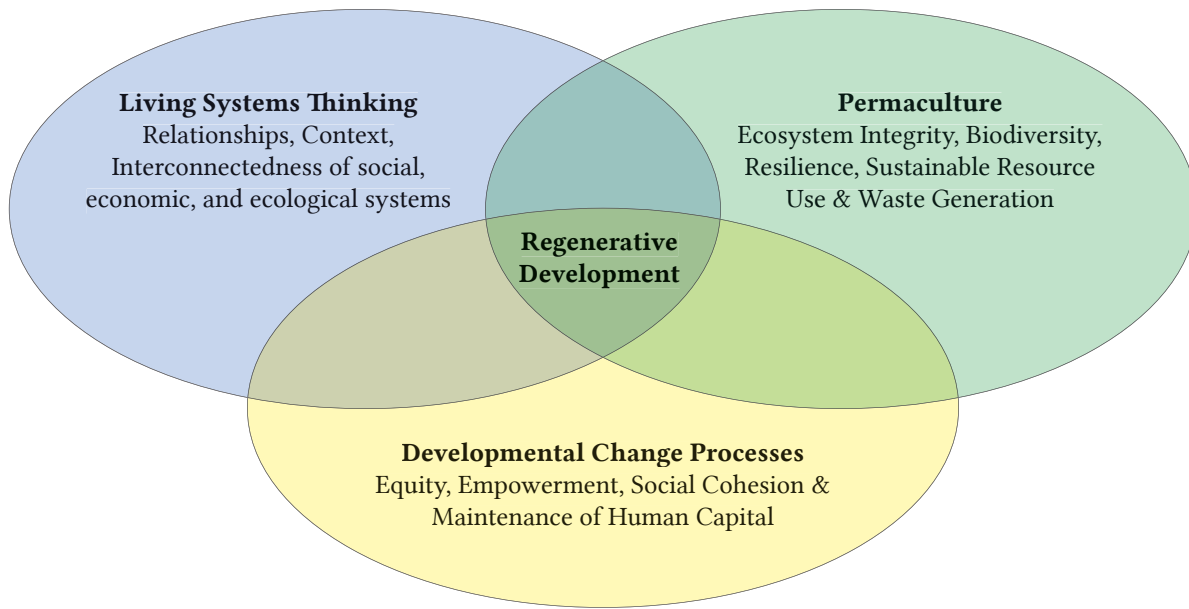
Figure 1: Venn Diagram for Regenerative Development. The three fundamental concepts embedded within regenerative development: living systems thinking, permaculture, and developmental change processes. The relative importance of each pillar greatly depends on the existing condition at the project/site level., Collectively, these three concepts aim to enhance and improve the well-being of the host community.

CHALLENGES WITHIN REGENERATIVE DEVELOPMENT

Due to the complex nature of large-scale social-ecological systems, understanding, designing and implementing transformational change for regenerative sustainability requires various disciplines, experts and involves diverse stakeholders.1 Fostering this kind of capacity to promote regenerative sustainability is thus met with challenges, particularly when operating in "low-capacity" environments (i.e. low levels of education, low socioeconomic mobility).

Regenerative development is not synonymous with regenerative design. Design is the blueprint for implementation and execution but the challenge and real work lies in moving the regenerative process beyond the design or even construction phase.[54] Often, issues pertaining to fragmented institutional structures of governance and ownership as well as corruption can subvert regenerative efforts.[55] Further, establishing a systematic approach for qualitative and long-term measurability and the economic pressures felt for scalability and replicability of local solutions also present a challenge.[1,2]

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[54] Gibbons, L. V., Cloutier, S. A., Coseo, P. J., & Barakat, A. (2018). Regenerative development as an integrative paradigm and methodology for landscape sustainability. *Sustainability* (Switzerland), 10(6), [1910].
[55] Mang, P. and Reed, B. (2011). Designing from place: a regenerative framework and methodology. *Building Research & Information 40(1)*: 23-38.

Assessing the success of projects needs to move beyond prescriptive checklists and allow for monitoring of dynamic change within systems and be supported by adaptive management. This process requires continuous participatory reflection and evaluation that embraces social learning.[1]

Furthermore, due to economic pressures, regenerative development has the potential to be "green washed," using "regenerative development" and "regenerative design" as marketing catch phrases, which undermines their true meaning. Similarly, as with other economic ventures in the sustainability arena, regenerative development has the capacity to be subverted by powerful economic interests only looking "to advance their self-serving agendas instead of increasing the health of whole living systems,".[1] As such, it is essential that regenerative projects regularly evaluate their progress, identify adverse consequences early on in the project, which can help to address distributional inequities or any negative impacts. Regenerative sustainability asks practitioners to be attuned to issues of equity, power and governance, as they are the most difficult components of social systems to transform.

APPENDIX D: PLAYA VIVA CODE OF BUSINESS PRINCIPLES AND CODE OF CONDUCT

Our code of business principles describes the operational standards that everyone at Playa Viva follows, wherever they are in the world. It also supports our approach to governance and corporate responsibility.

Code of business principles

Standard of conduct

We conduct our operations with honesty, integrity and openness, and with respect for the human rights and interests of our employees. We shall similarly respect the legitimate interests of those with whom we have relationships.

Obeying the law

Playa Viva and our employees are required to comply with the laws and regulations of the countries in which we operate.

Employees

Playa Viva is committed to diversity in a working environment where there is mutual trust and respect and where everyone feels responsible for the performance and reputation of our company. We will recruit, employ and promote employees on the sole basis of the qualifications and abilities needed for the work to be performed. We are committed to safe and healthy working conditions for all employees. We will not use any form of forced, compulsory or child labor. We are committed to working with employees to develop and enhance each individual's skills and capabilities. We respect the dignity of the individual and the right of employees to freedom of association. We will maintain good communications with employees through company based information and consultation procedures.

As a company primarily based on providing hospitality services, the general work ethic that is expected of all employees is that they respect their work and the work of their fellow employees. This respect is to be upheld across all job roles and functions, to the extent that should any employee state, "This is not my job," they will no longer have a job. This primary commitment

to the guest, the community, and the environment provides the highest level of commitment to teamwork and long-term success for all.

The following are our key goals for employees:

1) Security – always make decisions that will ensure the highest level of safety and security for our guests.
2) Hygiene – take the appropriate steps to ensure a healthy and hygienic environment for guests, including but not limited to standard procedures such as hand washing, using clean water, etc.
3) Sustainability – take actions that will increase the level of sustainability in the work you do.
4) Garden to Table – make every effort possible to provide locally produced, organic products from the Playa Viva garden or local producers, and deliver fresh to the table.
5) Transparency – strive to provide guests and investors with a higher level of visibility around resources produced and consumed at Playa Viva.

Consumers

Playa Viva is committed to providing hospitality products and services, which consistently offer the highest level of green, regenerative and sustainable values at the best possible price and quality, and which are safe for all members of our ecosystem – guests, staff, suppliers, community and ecology. We recognize that sustainability is an aspirational goal. Given the limited resources of our environment, we understand we will be required to deal with certain trade-offs, yet we will strive to make the best decisions based on these aspirational goals.

Stakeholders

Playa Viva will conduct its operations in accordance with internationally accepted principles of strong corporate governance, with an emphasis on evenly balancing people, planet and profits and preventing the favor of one of these over another. We will provide timely, regular and reliable information on our activities, structure, financial situation and performance to all stakeholders.

Business partners and suppliers

Playa Viva is committed to establishing mutually beneficial relations with our suppliers, customers and business partners. In our business dealings we expect our partners to adhere to business principles consistent with our own as outlined in our Code of Conduct.

Community involvement

Playa Viva strives to be a trusted corporate citizen and, as an integral part of society, to fulfill our responsibilities to the societies and communities in which we operate. We primarily focus on supporting Education, Health and Economic Development. Our primary role is to serve as a conduit, opening doors so that guests can connect to the communities in which we are located, and facilitating guest and staff involvement in fulfilling these goals.

The environment

Playa Viva is committed to making continuous improvements in promoting biodiversity and the health of our environment; this is core to our sustainable business model. Playa Viva will work in partnership with guests, staff, the local community and members of our ecosystem to promote the environment through education, access to resources, and access to markets that promote organics, environmental stewardship, and serve as an example through the implementation of our sustainable practices.

Business integrity

Playa Viva does not give or receive, whether directly or indirectly, bribes or any other improper advantages for business or financial gain. No employee may offer, give or receive any gift or payment which is, or may be construed as being, a bribe. Any demand for, or offer of, a bribe must be rejected immediately and reported to management. Playa Viva accounting records and supporting documents must accurately describe and reflect the nature of the underlying transactions. No undisclosed or unrecorded account, fund or asset will be established or maintained. Bribery leads to a cultural disintegration, strictly contrasting our goals for regeneration.

Conflicts of interests

All Playa Viva employees are expected to avoid personal activities and financial interests which could conflict with their responsibilities to the company. Playa Viva employees must not seek gain for themselves or others through misuse of their positions.

Compliance - monitoring - reporting

Compliance with these principles is an essential element in our business success. The Playa Viva management team is responsible for ensuring these principles are applied throughout the organization. The Manager is responsible for implementing these principles and is supported in this by everyone in the company.

Any breaches of the Code must be reported in accordance with the procedures specified by the Manager. Senior management of Playa Viva will not criticize management or employees for any loss of business resulting from adherence to these principles and other mandatory policies and instructions. The management of Playa Viva expects employees to bring to their attention, or to that of senior management, any breach or suspected breach of these principles. Provision has been made for employees to be able to report in confidence and no employee will suffer as a consequence of doing so.

Drug Policy

Playa Viva will in no way support the activities related to distribution of drugs. We understand that our guests may condone the use of drugs and just like the use of cigarettes or alcohol (which are legal), these are personal choices of our guests. However, Playa Viva employees will not be party to provide any drugs to any guests. Given the nature of drug violence in Mexico, being party to drug distribution is only supporting the strength of illegal drug cartels and gangs. In no way should Playa Viva participate in these activities making it a potential target for turf warfare.

Whistle-blowing

In keeping with the policy of maintaining the highest standards of conduct and ethics Playa Viva will investigate any suspected fraudulent or dishonest use or misuse of Playa Viva's resources or property by staff, consultants or volunteers. Playa Viva is committed to maintaining the highest standards of conduct and ethical behavior and promote a working environment that values respect, fairness and integrity. All staff, consultants and volunteers shall act with honesty, integrity and openness in all their dealings as representatives for the organization. Failure to follow these standards will result in disciplinary action including possible termination of employment, dismissal from one's consulting or volunteer duties and possible civil or criminal prosecution if warranted.

Employees, consultants and volunteers are encouraged to report suspected fraudulent or dishonest conduct (i.e. to act as "whistleblower"), pursuant to the procedures set forth below.

Reporting

A person's concerns about possible fraudulent or dishonest use or misuse of resources or property should be reported to his or her supervisor or, if suspected by a volunteer, to the staff member supporting the volunteer's work. If for any reason a person finds it difficult to report his or her concerns to a supervisor or staff member supporting the volunteer's work, the person

may report the concerns directly to Playa Viva's senior management for determination of due process. Alternately to facilitate reporting of suspected violations where the reporter wishes to remain anonymous, a written statement may be submitted to one of the individuals listed above.

Definitions

Baseless Allegations: Allegations made with reckless disregard for their truth or falsity. People making such allegations may be subject to disciplinary action by Playa Viva, and/or legal claims by individuals accused of such conduct.

Fraudulent or Dishonest Conduct: A deliberate act or failure to act with the intention of obtaining an unauthorized benefit. Examples of such conduct include, but are not limited to:

- Forgery or alteration of documents;
- Unauthorized alteration or manipulation of computer files;
- Fraudulent financial reporting;
- Pursuit of a benefit or advantage in violation of Playa Viva;
- Misappropriation or misuse of Playa Viva's resources, such as funds, supplies or other assets;
- Authorizing or receiving compensation for goods not received or services not performed; and
- Authorizing or receiving compensation for hours not worked

Whistleblower: An employee, consultant or volunteer who informs a supervisor or senior management about an activity relating to Playa Viva which that person believes to be fraudulent or dishonest.

Rights and Responsibilities

Supervisors

Supervisors are required to report suspected fraudulent or dishonest conduct to senior management. Reasonable care should be taken in dealing with suspected misconduct to avoid:

- Baseless allegations;
- Premature notice to persons suspected of misconduct and/or disclosure of suspected misconduct to others not involved with the investigation; and
- Violations of a person's rights under law

Due to the important yet sensitive nature of the suspected violations, effective professional follow-up is critical. Supervisors, while appropriately concerned about "getting to the bottom" of such issues, should not in any circumstances perform any investigative or other follow up steps on their own. Accordingly, a supervisor who becomes aware of suspected misconduct:

- Should not contact the person suspected to further investigate the matter or demand restitution.
- Should not discuss the case with attorneys, the media or anyone other than senior management.
- Should not report the case to an authorized law enforcement officer without first discussing the case with senior management.

Investigation

All relevant matters, including suspected but unproved matters, will be reviewed and analyzed, with documentation of the receipt, retention, investigation and treatment of the complaint. Appropriate corrective action will be taken, if necessary, and findings will be communicated back to the reporting person and his or her supervisor. Cases may warrant investigation by an independent person such as auditors and/or attorneys.

Whistleblower Protection

Playa Viva will protect whistleblowers as defined below:

- Playa Viva will use their best efforts to protect whistleblowers against retaliation. Whistle-blowing complaints will be handled with sensitivity, discretion and confidentiality to the extent allowed by the circumstances and the law. Generally this means that whistle-blower complaints will only be shared with those who have a need to know so that Playa Viva can conduct an effective investigation, determine what action to take based on the results of any such investigation, and in appropriate cases, with law enforcement personnel. (Should disciplinary or legal action be taken against a person or persons as a result of a whistleblower complaint, such persons may also have right to know the identity of the whistle-blower.)
- Employees, consultants and volunteers of Playa Viva may not retaliate against a whistleblower for informing management about an activity which that person believes to be fraudulent or dishonest with the intent or effect of adversely affecting the terms or conditions of the whistleblower's employment, including but not limited to, threats of physical harm, loss of job, punitive work assignments, or impact

on salary or fees. Whistleblowers who believe that they have been retaliated against may file a written complaint with senior management. Any complaint of retaliation will be promptly investigated and appropriate corrective measures taken if allegations of retaliation are substantiated. This protection from retaliation is not intended to prohibit supervisors from taking action, including disciplinary action, in the usual scope of their duties and based on valid performance-related factors.

- Whistleblowers must be cautious to avoid baseless allegations (as described earlier in the definitions section of this policy).

WORKPLACE CODE OF CONDUCT

At Playa Viva, our core values are to promote biodiversity, meaningful community, transformational experiences, and generate cleaner and efficient uses of energy and water over the long term of creating a living legacy. When working with employees, partners, vendors and members of our supply chain and ecosystem, we will work with people who have common values and operate using responsible business practices.

In our business, we can only deliver quality products and services if we retain satisfied employees who are treated with respect. Ultimately, our employees have a choice to work with us and we will only attract the best people if we are committed to fairness and honesty and integrity to our core values. As such, we work with our ecosystem, people and organizations that have open, direct relationships with their workers and manage their business within the following Workplace Code of Conduct.

CHILD LABOUR: No person shall be employed at an age younger than 16 or the age for completing compulsory education, or the local legal age limit, whichever is higher. As a measure of increased compliance to age standards, manufacturer shall not use homework of any kind for Playa Viva production.

FORCED LABOR: Suppliers shall not use any forced labor including prison, indentured or bonded labor.

NON-DISCRIMINATION: No person shall be subject to any discrimination in employment, including hiring, salary, benefits, advancement, discipline, termination or retirement, on the basis of gender, race, religion, age, disability, sexual orientation, nationality, political opinion, or social or ethnic origin.

FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING: Employers shall recognize the right of employees to freedom of association and collective bargaining.

HARASSMENT OR ABUSE: Every employee shall be treated with respect and dignity. No employee shall be subject to any physical, sexual, psychological or verbal harassment or abuse.

HEALTH AND SAFETY: Employers shall provide and promote a safe and healthy working environment. Employer has written health and safety policies and standards and implements system to reduce worker injury and accidents at employer workplace and living facilities.

WAGES AND BENEFITS: Employers recognize that wages are essential to meeting employees' basic needs. Employers shall pay employees at least the minimum wage required by local law or the prevailing industry wage, whichever is higher, and as applicable to their business, shall provide legally mandated benefits.

HOURS OF WORK AND OVERTIME: Workers shall not be required to work more than 60 hours per week, including overtime, except in extraordinary circumstances. Local standards will apply in countries where the maximum workweek is less. Workers shall be entitled to at least one day off in every seven-day period. In accordance with country laws, employees shall be compensated for overtime hours at a premium above their regular hourly rate if not compensated via tips or other fair agreement with employees. Employer must keep complete and accurate employee work and pay records.

ENVIRONMENTAL RESPONSIBILITY: Vendors must be working towards environmental improvements (may include: waste reduction, pollution prevention, proper waste disposal, sustainable and efficient use of natural resources) in their operations.

Supplier agrees, in addition to complying with all applicable local laws, to comply with this Workplace Code of Conduct. Suppliers agree to maintain on file all documentation necessary to demonstrate compliance with this Code of Conduct and agrees to make these documents available for Playa Viva or its agents, and agrees to submit to inspections with or without prior notice.

Suppliers also shall require its licensees and contractors to comply with applicable local laws and with this Code.

Suppliers must post this Code in all major workplaces, in English or the language of employee, and must train employees on their rights and obligations defined by this Code and applicable law.

Any cases of non-compliance with this Code should be reported to Playa Viva immediately. Email: info@Playa Viva.com

APPENDIX E: INTERNAL MANAGEMENT AUDIT

FAIRNESS AND INTEGRITY: Playa Viva is committed to maintaining the highest standards of conduct and ethical behavior and promote a working environment that values respect, fairness and integrity.

Do you feel in general that compensation for employees at PV is fair and sufficient?		
	Cts	%
Not at all	5	27.78%
A little	2	11.11%
Somewhat	0	0.00%
Mostly	1	5.56%
Completely	0	0.00%
Depends on the department	10	55.56%

Do you feel others at PV receive benefits that you don't but feel you deserve?		
	Cts	%
Yes	10	55.56%
No	6	33.33%
Unsure	2	11.11%

How would you rate the distribution of benefits (salary, time-off, etc.) among employees?		
	Mean	Median
Between Unequal (2) - Somewhat Unequal (3) (1-7, 1 is highly unequal, 7 is highly equal)	2.882	2.000

COLLABORATION AND TEAMWORK: As a company primarily based on providing hospitality services, the general work ethic that is expected of all employees is that they respect their

work and the work of their fellow employees. This respect is to be upheld across all job roles and functions, to the extent that should any employee state, "This is not my job," they will no longer have a job. This primary commitment to the guest, the community, and the environment provides the highest level of commitment to teamwork and long-term success for all.

How would you rate the collaboration among employees?		
	Mean	Median
"Some collaboration" (scale 1-5, 1-no collaboration, 5-a lot of collaboration)	3.056	3.00
What's your opinion on the level of support among PV workers?		
	Cts	%
None at all	2	11.11%
Very little	6	33.33%
Somewhat	5	27.78%
Moderately	1	5.56%
A lot	1	5.56%
It depends: it is more selective (only between groups or certain people)	3	16.67%

SUPPORT AND ORIENTATION: "Regenerative development enhances regenerative capacity—viability, vitality, and evolutionary capacity—in living systems that manifests increasingly higher levels of health and potential. In other words, regenerative development focuses on positive outcomes for all members of a system, which inherently means increased opportunities for health, well-being, and happiness." We are committed to working with employees to develop and enhance each individual's skills and capabilities.

Do you feel you are provided with adequate support and guidance from management and/or your supervisor to carry out your work?		
	Mean	Median
Between "Somewhat" and "Mostly" (Scale 1-5, 1 -not at all, 5 - completely)	3.444	4.000

Do you feel you were provided with adequate resources (e.g. training, physical/financial/human resources) to accomplish your tasks?		
	Mean	Median
"Somewhat" (Scale 1-5, 1 -not at all, 5 - completely)	3.167	3.000

SUPERVISION: We will maintain good communications with employees through company based information and consultation procedures.

How would you rate the quality of communication with your (direct) supervisor?		
	Mean	Median
Between "Neutral" and "Good" (Scale 1-5, 1 - Very bad, 5 - Very Good)	3.833	4.000

How would you rate your relationship with your (direct) supervisor?		
	Mean	Median
Between "Neutral" and "Good" (Scale 1-5, 1 - Very bad, 5 - Very Good)	3.833	4.000

DECISION MAKING AND EMPOWERMENT: Regenerative development explicitly and deeply engages stakeholders, inhabitants of a place, and practitioners in a collaborative, co-creative process.

Autonomy and Management			
	Mean	Median	Rating
How much freedom do you have in decision making related to your work tasks? *(scale 1-5)*	1.944	1.500	Not at all - very little
Disagree or Agree: I'm consulted when decisions are made related to my area of work. (scale 1-7)	4.444	5.500	Neutral - Somewhat agree
Do you feel your problems and/or concerns are listened to by PV management? *(scale 1-5)*	2.235	2.000	Very little
How much influence do you think you have in PV management? *(scale 1-5)*	1.882	2.000	Very little
How satisfied are you with the management of Playa Viva? *(scale 1-5)*	3.111	3.000	Indifferent

MANAGEMENT EFFECTIVENESS: Management effectiveness is essential for the operations of any business. Fairness, effective communication, accountability and collaboration are the building blocks for a prosperous and healthy work environment. Staff opinions on the following open-ended questions are presented below.

What do you think about the staff meetings?		
Common Responses	Cts	%
Not useful; nothing gets resolved or fixed. Always the same: no follow-up, no solutions. Waste of time.	11	57.89%
They are a good thing. Satisfied with them for the most part.	6	31.58%
Good for getting information about what's going on.	1	5.26%
N/A - Never invited or there for them.	1	5.26%

In your opinion, what could be done to make management more effective/better?		
Common Responses	Cts	%
Effective communication	9	27.27%
Fair distribution of benefits (no favoritism) and treatment	6	18.18%

Listen to the workers and take their opinions into account	5	15.15%
Change leadership/administration	3	9.09%
Good treatment of employees and support	3	9.09%
Improved collaboration	2	6.06%
Better organization and staff management	2	6.06%
Education and awareness about Playa Viva's goals and mission	1	3.03%
Decentralized decision making	1	3.03%
Invest in capacity building and training for workers	1	3.03%

In your opinion, what are Playa Viva's main strengths?		
Common Responses	Cts	%
Taking care of the environment or trying to (incl: no use of toxic chemicals, reforestation, taking care of animals, turtles)	11	50.00%
Generates jobs	4	18.18%
Use of solar energy	4	18.18%
Nice rooms & good services for the guests	2	9.09%
No answer	1	4.55%

In your opinion, what are Playa Viva's main weaknesses?		
Common Responses	Cts	%
Not enough resources (financial, human) to achieve its goals	5	16.67%
Farm-to-table program (not producing enough/buying locally)	5	16.67%
Not enough community involvement (in form of projects and services; purchasing goods from Juluchuca)	3	10.00%
Water issues (dirty/not enough/neighbor using chemicals)	3	10.00%
Lack of camaraderie among staff	3	10.00%
Lack of communication	3	10.00%
Security issues (cartel presence)	2	6.67%
Lack of investment in the workers (training and capacity building)	2	6.67%
Inequality among the workers	1	3.33%
Management/Administration is not effective/strong	1	3.33%
Infrastructure of the hotel (parking lot, laundry etc.)	1	3.33%
None	1	3.33%

If you could change one thing about Playa Viva, what would it be?		
Common Responses	Cts	%
The administration / manager of the hotel	7	46.67%
The treatment of employees / inequalities (need for system to look out for employees)	4	26.67%
Nothing	2	13.33%
Decentralize decision making	1	6.67%
Other	1	6.67%

APPENDIX F: INTERVIEW WITH THE GUTIERREZ FAMILY

INTERVIEW NOTES: GUTIERREZ FAMILY

Interviewer: Melissa luna

Interviewees: Don Jesus (Father/husband); Juanita (Wife/mother); Lupita (Daughter)

Date: November 23rd, 2017

Start Time: 10:50 am

End Time: 11:42 am

Location: La Sierra (Vista Hermosa); home of the Gutierrez

Background on the family:
- Primary occupation is farmer/campesino; have been working in this capacity for generations
- Family migrated to Guerrero from Michoacan in the 1930s
- Don Jesus settled in Guerrero; other siblings went to Chiapas, others back to Michoacan
- Used to sell their coffee to Atoyac through the Mexican Institute

Relationship with Playa Viva:
- Have worked with Playa Viva for 5 years
- Relationship started through El Sapo and La Chenca (former PV employees); then Julia came to check out the family and their products. At first, only wanted one kilo of coffee every two months -- and now it's a lot more.
- The tourism piece (making this trip an excursion) came through Emma Sharer (student doing her master's thesis in culinary tourism in 2011, later worked for 18 Rabbits). It was her idea to bring people up there.
- They had sold their coffee before; but they sold it differently. They had never sold or produced chocolate before.
- Don Jesus thought the idea of bringing people up to their farm was a "marvelous" idea (meeting new people and cultures from the around the world was only seen as a positive). He had no objections. Juanita and Lupita didn't say anything -- it felt as though at times Lupita wanted to speak up, but the cultural norm of having the man speak for the family seemed to spring up frequently.

Nature of the relationship:
- Playa Viva pays them money for the food they cook and prepare for tourists, but they are not given a percentage of the excursion price
- Tourists do buy their products and they have donated a few things here and there because they've seen the need
- Would like to continue down this road because it has provided them rich cultural exchange and a certain earning for their way of life. More people and more tourism could signal more employment opportunities to the area

Impact:
- Don Jesus says the impact has only been positive and PV has been a great partner
- Has provided them a means to support themselves
- Have helped them develop their cacao products
- The work has been good and welcomed; but more organization would help them a lot so that it's not always a surprise
- Especially after the plaga (roya); Playa Viva really helped them there. Without the relationship with Playa Viva, they don't know how they would've supported themselves (says Don Jesus)
- When I asked if the relationship were to end, would they have to find another way to compensate themselves? Yes -- PV has helped them a lot.
- Right now Playa Viva is their sole client for chocolate and coffee (they sold their coffee to others before but not after the plague. Now PV is sole client)

Ways in which Playa Viva could support them:
- Although difficult to discern whether Lupita feels the same way, Juanita and Don Jesus did seem to enjoy the tourism aspect of the work they do
- Lupita really wants Playa Viva to support them by paying half to install a telephone/antenna system so that they can communicate. It costs 6000 pesos and they're willing to pay half. She said it's very difficult to plan ahead of time/accordingly/prepare food for unknown numbers and groups of guests. Additionally, it would benefit PV when they know they have products available (coffee, wine, chocolate)
- Helping to fix the camino: they're not sure how that would look, but helping to fix some of the road up to their home would be ideal (that way more people can come and it's easier for them to go up and down the mountain)

Side notes:
- I noticed there is an increased consumption of commercialized goods (coca-cola and other sodas, sugary juices, processed snacks). I'm not sure if that's an increase from last year or if it's correlated to the relationship with Playa Viva and their economic development -- but Johnny has brought coca-cola up to them and they store (and maybe ferment?) a lot of their wine in recycled plastic coke bottles (not the best receptacle as plastic carcinogens leach into the product).
- These are things we should be helping to educate them about and providing them with alternatives
- We also need to provide them with paper bags for coffee storage as well or large glass bins.
- I've also seen the use of harsh cleaning products; which I assume goes back to their garden

Conclusions and Recommendations
- It seems that the impact of the PV partnership has overall been economically positive
- With more economic growth we are seeing an increase in consumption of industrialized and commercialized products, perhaps at the expense of some of their sustainable practices
- Don Jesus spoke nearly the whole time; it is recommended that further interviews should be separate (I believe the daughters Reina and Lupita would have a lot to say)
- The relationship should be continued and further strengthened -- it surprised me that they don't receive compensation for the excursion, only just the sale of their products. This goes against sustainable tourism principles.

APPENDIX G: RECOMMENDATIONS FOR FUTURE MONITORING AND EVALUATION

One of the greatest challenges in development is to discern whether a project has been "successful." To do so, one must measure the impact of the project or program, comparing how the project site was before intervention and then again after implementation.

There are two main types of impact evaluations: prospective and retrospective. As their names suggest, *prospective* evaluations are developed at the *beginning* of a program (designed at the same time the program is being developed), while *retrospective* evaluations assess program impact *after* the program has already been implemented. Prospective evaluations are built into program implementation and baseline data are collected prior to implementation for both treatment and comparison (control) groups. Retrospective attempt to assess impact based on observed outcomes and identify treatment and control groups post-implementation.

In general, prospective impact evaluations are recommended as they are more likely to produce more robust and credible evaluation results. Baseline data provide pre-program information about the treatment and control groups and help to clarify program objectives and desired outcomes. Additionally, identifying treatment and control groups before the program is implemented allows for a better chance at validating counterfactuals. It is highly recommended Playa Viva obtain data on treatment and control groups before any new programming in the future.

The first Playa Viva social impact evaluation was retrospective. However moving forward, one may use the data collected in this study as baseline information (for the stakeholder and control populations) and in turn have more credible results. Note that the future SEI Manager will have to survey the same control community (Coyuilla Sur).

General recommendations for future M&E are as follows:
- The next comprehensive evaluation (covering variables such as health, education and economic development) can be completed in 5 years (2022).
- Less time- and resource-intensive monitoring can be conducted on a yearly or bi-yearly basis. These include:
  - Income and basic demographics (age, marital status, education, employment, gen-

der) of all stakeholder study groups.

- ○ Staff well-being and management appraisals should be completed during every off season between July and October (includes satisfaction with benefits, salaries, management, etc.). This appraisal can be more extensive if management decides to adopt more rigorous monitoring.

- ○ Any new Playa Viva employee should be surveyed about their environmental knowledge and attitudes.

- ○ Playa Viva employees should be required to get a yearly health physical (hotel pays) and track physical activity. The results from these physicals should be anonymously analyzed and monitored. Playa Viva employees should also be sent to workshops and trainings on healthy living and healthy lifestyles (perhaps some require participation in the workshops delivered at the community soup kitchen).

General recommendations and tips for improving questionnaires and measuring dependent variables:

- • Community well-being metrics: respondents were asked what are the most important attributes of a thriving community. Their responses should now be used as indicators for measuring and tracking community well-being for future evaluations. The top three most important attributes were:
  - ○ 1 - Social cohesion: ask respondents to rate the level of social cohesion in their community
  - ○ 2 - Access to healthcare: ask respondents to rate their access to quality medical care
  - ○ 3 - Employment opportunities: ask respondents to rate the level of employment opportunities (could be 1-5, 1- no opportunities, 2 - very few opportunities, 3 - some, 4 - moderate, 5 - many, etc.)
  - ○ These three attributes (or more if SEI Manager chooses) can be combined to come up with a "community health/vitality rating"
- • Correlation analysis: there were too many variables to analyze during this first evaluation, but correlation analysis could be done for this current dataset and future datasets:
  - ○ Between environmental conscientiousness and formal education
  - ○ Between environmental conscientiousness and age
  - ○ Between environmental conscientiousness and income
  - ○ And others.
- • Improved conservation belief scale: certain items in the conservation belief scale

were confusing to some respondents. Additionally, it felt as though the scale or list items could be improved to more accurately reflect not only conservation attitudes but environmental behaviors. Perhaps adding or replacing some of the items with:

- ○ I am ____ (not at all, a little, somewhat, moderately, very) concerned over the health of the environment (follow up: why, why not?)
- ○ Agree/disagree: There are enough resources to sustain my community (water, food, shelter).
- ○ Pesticides (farming/garden) have___ (none at all, a little, somewhat, moderate, severe) negative effects on the environment
- ○ Pesticides (farming/garden) have___ (none at all, a little, somewhat, moderate, severe) negative effects on my health

- Additionally, particularly with the recent work being done with the "Juluchuca Limpio" Project, I suggest the following:
  - ○ Do a small survey about personal and community environmental behaviors on waste management (recycling, composting, burning trash). Why do they or do not recycle, compost, burn trash (organic/inorganic)? What are the barriers and attitudes surrounding this? What is there knowledge on how it contributes or climate change/greenhouse gas emissions, and their own personal health?

- The most common environmental change observed was deforestation. It would be interesting to get people's knowledge about what they know about the effects of deforestation or if the environmental changes they observed concern them (some people offered this information naturally, but we did not dive into this deeply during the household surveys).