

2010 Investigative Community Assessment Report of Chacraseca, Nicaragua

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Purpose

The purpose of this Community Assessment was to conduct an investigation into the daily practices, cultural traditions, community infrastructure, and, most notably, the health status and needs of the Chacraseca and, in sparse instances, Nuevo Amanecer communities in Northwest Nicaragua. The data presented here is meant to guide HOLA in designing future studies of these respective communities in hopes of ultimately implementing sustainable programs to support HOLA's patrons. This report will relay this information in six sections as follows: Geography, Government, Daily Lives, Health, Future Suggestions for Research, and Future Areas of Impact for HOLA. Data for this report was obtained in questionnaire format from key informant sources during the time period of March 22nd, 2010 – March 25th, 2010. *Please note that while numerical statistics may be displayed in this report, the methodology behind the survey questionnaires was purely qualitative and rigorous statistical analysis in any area was not of primary concern for the researchers.*

Geography

Nicaragua is the largest Central American country by area with Honduras bordering on the North and Costa Rica on the South. It has an estimated population of nearly 6 million (median age: 22.5) covering a total area of just over 130,000 km². The country is broken into 15 "departments" or "districts" and two autonomous regions with the top four most populace departments being Managua (location of the capital), Matagalpa, Chinandega, and Leon. The residing president of the proclaimed republic government is Daniel Ortega. The most prominent natural resources include gold, silver, copper, tungsten, lead, zinc, timber, and fish. Nicaragua's most recently reported Gross Domestic Product was US\$ 16.53 billion

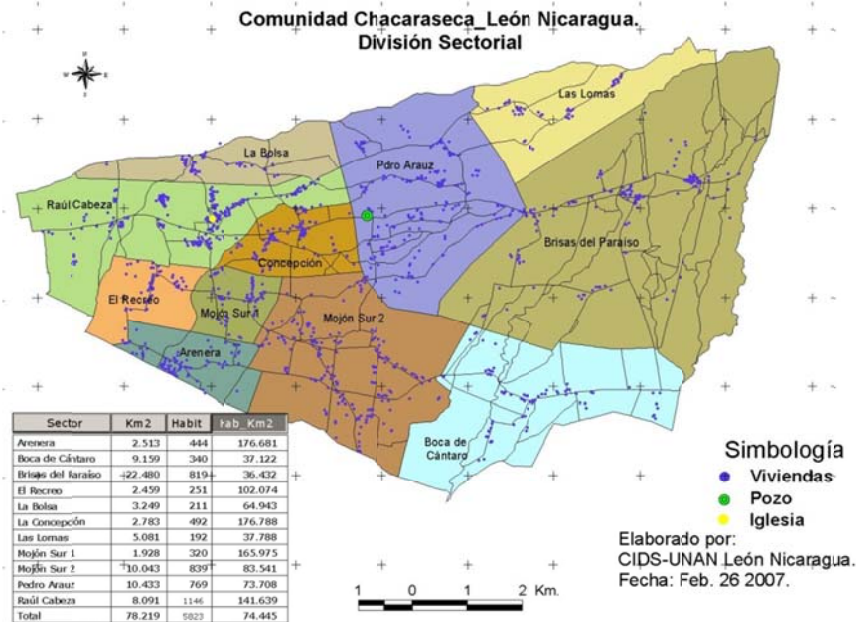


https://www.cia.gov/library/publications/the-world-factbook/maps/maptemplate_nu.html



ranking 129th in the world out of 227 (2009 est.).¹

The Chacraseca and Nuevo Amanecer communities lie in Northwest Nicaragua about 5 km east of Leon. While Nuevo Amanecer does not have officially defined boundaries or population, the Chacraseca community covers approximately 78 km² and has a total population of 5,829 according to its 2006 census data. Chacraseca is divided into 11 distinct sectors: Arenera, Boca de Cantaro, Brisas del Paraiso, El Recreo, La Bolsa, La Concepcion, Las Lomas, Mojon Sur 1, Mojon Sur 2, Pedro Arauz, and Raul Cabeza, the location of the central government for the community. Both communities reside at an elevation of a couple hundred feet above sea level with minimal elevation fluctuations. Weather conditions can be generally categorized into a cycle of the "wet season" between May and October, characterized by constant rainfall and moist conditions, and the "dry season" between November and April, characterized by hot and arid conditions. This cycle directly influences the growing and harvesting seasons for these predominantly agrarian communities.



Government

Chacraseca

Chacraseca resides in the Leon department and within the jurisdiction of the Leon government. Around 1980, the Leon government agreed to allow the non-governmental organization (NGO) Asociación de Comité Pastoral para el Desarrollo Social (hereafter referred to as ACOPADES) to assume governing responsibility of the area. Membership into ACOPADES is based on four criteria: the individual must be from Chacraseca, must have spent one year doing social work,



must be honest and responsible, and must be philanthropic. New members are voted into the organization by the Board of Directors, commonly referred to as the Comité.

The Comité consists of nine positions: General Coordinator, Vice Coordinator, Secretary, First Fiscal, Second Fiscal, First Prosecutor, Second Prosecutor, First Vocal, and Second Vocal (Vocals can proxy vote for any of the Comité's members except for the General Coordinator). All members of ACOPADES (currently 160) vote every two years to elect a new Comité. The counting of these votes is overseen by the current Comité General Coordinator, a Leon city council member, the current Comité secretary, the local priest (currently Moises Perez), a member of the National Police, and representatives from NGOs that operate in the Chacraseca area. Any NGO operating within the Chacraseca community is allowed one representative within ACOPADES, and they are allowed to assist in counting the votes of elections. As previously stated, Chacraseca is divided into 11 distinct sectors. Each sector has its own governing subcommittee composed of six members. These six members are elected every two years by a democratic vote of their respective sector, in which each family of the sector (as defined by the most recent census) is allowed to cast one secret vote. Any member of a sector is allowed to run for a subcommittee position of their respective sector. The Comité oversees the decisions made by these subcommittees and has the power to override any subcommittee decision. People elected into sector subcommittees are automatically granted membership into ACOPADES.

All members of ACOPADES meet every Tuesday at Casa de Paz in Raul Cabeza to discuss issues concerning the Chacraseca community and vote on resolutions. The full description of the ACOPADES governing statutes, as well as other information, can be found at their website: <http://acopadeschacraseca.blogspot.com>.

Nuevo Amanecer

Little data was collected on the governing infrastructure of the Nuevo Amanecer community. Nuevo Amanecer survey respondents pointed to a general community leader, Martin Alduvin; however, it is unknown if more community leaders exist. Further research should focus on understanding the governing practices of this community.

Daily Lives

General Demographics

As previously stated, the Chacraseca community has a population of a little more than 5,800. It is a relatively young community with a majority of its members (~70%) less than 40 years old. Among individuals interviewed, households averaged five to six members. Households are generally comprised of a husband, wife, and children. In larger households, it was common for household members to span three generations. In limited cases, extended family members also



reside within the same household. The average number of children per household reported was five to six with a limited number (less than one on average) being less than five years-old. The average age of marriage among survey respondents was 17 – 18 years old. Marriages are not generally arranged by parents.

Catholicism is the predominant religion with a sparing amount of interviewees reporting Evangelism and "Christianity".

ACOPADES conducts a community census every three years and is currently in the process of digitizing its most recent census (2009). Once complete, more definitive demographic stratification values will be available. Not enough data was gathered from the Nuevo Amanecer community to extrapolate demographic generalizations.

Employment

Chacraseca is an agrarian society. Beans, corn, and yucca are reported as the most commonly grown crops. Most interviewees reported that they sold some of their crops for cash while keeping the remainder to feed their family (one respondent reported they did not sell any of their crops). Usually, crops are sold to middlemen who travel from farm to farm within Chacraseca. They then bring the crops to the markets in Leon for sale; however, some farmers indicated that they bring their crops to the Leon markets themselves to sell. Farmers also usually own animals with the most common being cows and horses while some also reported owning pigs, goats, and chickens. From observations, the researchers inferred that diversity of livestock is related to the family's socioeconomic status, but this correlation was not investigated. Farmers reported that horses are used for working the fields and transportation, and the remaining animals were used for feeding the family and selling. A few respondents reported that livestock were only sold in the instance that the family was short on cash; however, it was not clear whether this is a community trend. The few individuals who do not farm in Chacraseca seek work in Leon as contracted construction workers, factory workers, security guards (male only), and housemaids (female only). These workers are compensated at the end of every month in cash.

Due to the arid environment in Nuevo Amanecer, the community focuses less on agrarian production and more on ranching. Some members seek work in the nearby towns/villages of La Union, Telica, and Cortasol. However, it was reported by the main Nuevo Amanecer community leader that a majority of the inhabitants are unemployed leading to a heavily impoverished community.

Education

One primary school exists in every sector of Chacraseca with the exception of Arenera and La Bolsa. Raul Cabeza and Brisas del Paraiso also have a secondary school. There were varying reports of the ages that children attend school, but there is a general consensus that almost all



children attend primary school. Schooling occurs Monday through Friday from around 7 am to 12 pm, with time off during the harvesting season (December – February, although there were confounding responses as to exact dates) as well as Holy Week in March. Common subjects taught in schools are mathematics, Spanish and English languages, sciences, social studies, and civic behavior. Some health education is provided, mostly on hygiene topics such as hand washing before eating. Knowledge of health topics taught in schools was sporadic among respondents, though. The literacy rate for Chacraseca is upwards of 80% as reported by members of the Comité, although an exact percentage could not be ascertained. Education is government-sponsored, but parents are usually required to cover the costs of school supplies, uniforms, and transportation if necessary.



Elementary classroom in Las Lomas
Photo courtesy of Nicholas Alvey

The Comité has a limited number of scholarships that families can receive in order to send their children to one of two high schools in Chacraseca, although the availability of these scholarships is contingent upon outside donations. It is more common for males to attend high school, because many females marry early and start a family. Most community members drop out of school by age 15 in order to help on the family farm and/or get married.

A few students from Chacraseca attend the University in Leon. As with high school, it is more likely for males to attend the University. Because it is expensive, this opportunity is almost always based on a scholarship from the Comité. Furthermore, there is competition every year for funding, as there are only 10 scholarships annually awarded, yet approximately 40 people graduate high school per year. Scholarships are awarded based on nominations. Each sector leader proposes a student to receive the scholarship from their sector. Since there are 11 sectors, but only 10 scholarships, one sector does not receive one. While this was not explored, it is possible that this process exhibits the same potential favoritism that is suspected when selecting patients for the clinic.

Education systems in Nuevo Amanecer were not assessed and need further evaluation.



Food/Water Resources, Sanitation

By far, the most commonly consumed foods within the community are rice and beans. Some respondents reported they had limited access to fruits such as papaya, oranges, and bananas as well as some vegetables. Correlation of accessibility to fruits and vegetables and socioeconomic status was not directly assessed, although it appears that they do relate. Much like fruits and vegetables, most interviewees reported little to no access to meats of any kind. When meats are available, the most common method of cooking is frying. However, a low number of respondents answered this question, so this is not necessarily a community trend. Meals are consumed three times a day (morning, noon, and evening). Every respondent reported that they considered hunger a problem for themselves and/or people they knew.

Multiple water projects conducted by international NGOs within the Chacraseca community have resulted in nearly 80% of all Chacraseca households receiving running water, although at a slight cost. The Austrian government assisted in a project to place large water "bombs", or tanks, throughout the community. Currently, there are three water tank locations in Chacraseca. Each location can house around 4,500 gallons of water and employs two trained workers who maintain the tanks 24 hours a day, seven days a week.



Aerial view of 3 Austrian-sponsored water "bombs"
Elevation 567 ft – Photo adapted from Google Earth



Ground view of 3 Austrian-sponsored water "bombs"
Photo courtesy of Nicholas Alvey

American NGOs JustHope International and Group for 60,000 have also implemented water projects in the region. These include installing underground piping and placing filters in the community, among other accomplishments. However, there were multiple responses from community members indicating suspicion that the drinking water was somehow contaminated. No concrete evidence was supplied to substantiate this argument, though.

In Nuevo Amanecer, Group for 60,000 built a large water tank for the community along with piping for access during the 1990s. However, all Nuevo Amanecer interview respondents reported that water is trucked in to their community multiple times a week, because the



government tested the local well water and found a large concentration of pollutants including 40 parts per million (ppm) of arsenic (United States EPA standards are 0.010 ppm of arsenic²). Furthermore, there were many complaints that not enough water was trucked in for everyone in the community.

Sanitation conditions are similar for both Nuevo Amanecer and Chacraseca. A majority of Chacraseca respondents and all Nuevo Amanecer respondents reported they use an outdoor latrine. A small minority of people in Chacraseca use an indoor bathroom, and an even smaller minority reported they do not have a latrine and instead use the outdoors to relieve themselves.

Health

Morbidity and Mortality

Overall, the most commonly reported illness was some variant of kidney problems (pain, infections, failure, etc.). This response was given by both of the two physicians surveyed as well as a high majority of non-health professional individuals. The physicians also reported that cardiovascular disease, diabetes, and liver problems were among their most common diagnosis. Non-health professional individuals reported similarly that cardiovascular disease and diabetes were common illnesses in the community as well as fever, cough, and diarrheal diseases. For 2009, there were zero maternal mortalities in about 100 births, and one U5 mortality according to the physicians. While these numbers are excellent and certainly above the averages for the country, the physicians may only be aware of births they oversee or refer to the Leon hospital and possibly do not account for home births. The average life expectancy as reported by physicians is around 50 years old. This is alarming, as the average life expectancy officially reported for Nicaragua is about 71¹.

Accessibility to Medical Care

There are two free clinics in Chacraseca: one in Raul Cabeza and another in Miramar; however, the Raul Cabeza clinic is much larger, is outfitted with more supplies, and has a larger staff than the Miramar clinic. When asked whether or not they used the Raul Cabeza clinic, respondents were split on their answer. Reasons for not using the clinic usually concerned distance, time constraints (e.g. they work all day which does not allow time to get to the clinic), and lack of medications. A large majority of people polled acknowledged that they have used the hospital. The top reason for using the hospital in female interviewees was giving birth, and the top reason in males was minor trauma injuries from working in the fields. While a large portion of the population does not have personal transportation to the hospital, community members with transportation means are open to transporting other members for some favor in return (such as monetary payment, labor assistance, etc.) Some respondents also indicated that there was a clinic in Miramar that they frequented, simply because it was closer to their primary residence.



As stated before, one of the primary reasons some respondents did not attend the Raul Cabeza clinic was medication availability. Many indicated that the Raul Cabeza clinic was frequently out of prescription medications that they needed. Consequently, many respondents reported that medication availability was one of their biggest health concerns, and that they would like HOLA to work towards increasing medication stocks for the community. Medication availability at the Miramar clinic was not ascertained.

At the Raul Cabeza clinic, there are two to three physicians that cycle through as well as a dentist and neonatal nurse. Respondents indicated there was at least one physician that staffed the Miramar clinic, but it was not clear if there were more physicians or ancillary medical staff. The physicians reported that there are also three midwives dispersed throughout the Chacraseca community. Upon interviewing one of the midwives, it was learned that MINSA has free, official midwife training programs in Leon. However, she had not completed this program, as it required her to stay multiple days in Leon which she could not afford. All of her midwifery skill she has learned from other midwives and experience attending births. She reported that for the births she attends, she uses a variety of natural, plant-based remedies to mitigate pain. She also assesses blood pressure based on a patient's facial color and temperature. In the case where she believes the patient is in need of more advanced medical care, she refers them to the hospital, but did not explain how the patient would be transported.

Most community members reported that they turned to physicians or nurses for health information and education. Posters outlining preventative health information and resources are on display at the Raul Cabeza clinic. There is also a weekly hypertension program at the clinic. A few respondents indicated they turn to the local priest as well.



Poster outlining proper dental health
Photo courtesy of Nicholas Alvey



Poster outlining symptoms of influenza
Photo courtesy of Nicholas Alvey



Nuevo Amanecer does not have a physical clinic for its inhabitants to travel to, but the nearby town of La Union does have a clinic. Some respondents reported they had been to this clinic before, but that it was a burdensome distance to walk. More research should be focused on accessibility of medical care in this community.

Sexual Health, Pregnancy, and Birthing

Even though Chacraseca is predominantly Catholic, contraception is surprisingly widely used and accepted. The most common type of contraception used is birth control pills offered for free at the Raul Cabeza clinic. IUDs are the second most common method of contraception and are obtained at the hospital in Leon. Some women indicated they were sterilized after having the desired number of children. Hormonal injections are also available for free at the Raul Cabeza clinic, although fewer women reported using this than other methods. Only one in 21 respondents indicated they had never tried a birth control method. Women reported that the Raul Cabeza clinic often runs out of the free birth control pills and injections. When this occurs, women have to purchase the birth control in Leon, although most women forgo the birth control in this situation. A few respondents said they had used condoms before, but women reported that most men feel condoms decrease the amount of pleasure during intercourse and as a result, do not enjoy wearing them.

The elementary school in Raul Cabeza has a MINSAsponsored health program aimed towards educating 4th, 5th, and 6th graders on how and why to use condoms. This program was met with some opposition from parents, and the school master reported that the Raul Cabeza clinic and MINSAs have been working together to develop education seminars for parents. These seminars discuss why condom usage is important. However, the school master also indicated that the program is poorly funded. The educational materials MINSAsends (posters, brochures, etc.) are often damaged, and the school frequently runs out of condoms to pass out to the students. There were a variety of responses concerning who decides whether or not to use contraception. Some responded that the decision is jointly arrived upon by both the male and female. Others indicated that males decide whether or not they will use condoms and females decide whether or not to use pills, IUDs, or injections. Finally, one woman responded that she decides whether or not to use contraception, and her partner decides which type to use.

Overall, a majority of women surveyed reported that all of their pregnancies were planned, most likely a result of the relatively accepted practice of birth control. About two-thirds of women interviewed reported having their births at the hospital in which case both physicians and nurses were present for the birth. The other one-third reported having their child at home, in which case a midwife was usually present. Of the people who have home births, most only go to the hospital if there are problems with the pregnancy, the mother's health is failing, or if it is suspected there is a medical problem with the fetus.



All women interviewed reported that they breast feed after every birth. However, the length of time women breast feed is inconsistent. The average time reported is 15 months with the minimum reported time being three months and the maximum being three years. Interestingly, responses from physicians confounded the other women's responses, in that the physicians indicated mothers usually breastfeed for three months on average and for a maximum of six months. Reasons for discontinuing breastfeeding include fear of breast deformation, time constraints, and the fact that some women work outside the home and cannot breast feed in public.

Future Areas of Impact

In retrospect of past relief trips to Chacraseca, it has become increasingly apparent that HOLA is not making the greatest possible impact. It has also become clear that HOLA's ignorance of many community-based programs in Chacraseca has contributed to this inefficiency. HOLA's models of health care improvement in the community have consisted of establishing new systems of medical care. Some of these programs certainly have a positive impact, such as the traveling clinic which provides medical care to communities that have significant physical barriers to receiving medical attention. However, other programs have displaced medical professionals from the Raul Cabeza clinic, blindly offered treatment to people preferentially selected, and taught education topics that were neither of interest nor use to the community. Furthermore, HOLA's impact extends only until the medications bought for patients have run out, which most likely occurs within the first one to two months of HOLA's absence. Identification and support of the current Chacraseca infrastructure is a **must** when considering how to make a *sustainable* impact. Suggestions for both short-term and long-term projects are offered here:

Short-term Projects

All of the following suggestions were selected because: they support current infrastructure and therefore are more likely to be sustainable; community members indicated that they would participate in and support these programs; *and* they are financially reasonable.

- The Raul Cabeza elementary school runs a MINSA-supported program that educates 4th, 5th, and 6th-graders on condom usage. However, the school is frequently out of condoms to distribute to the students. HOLA could financially support the supply of condoms to this school year round.
- Both the Las Lomas and Raul Cabeza elementary schools are in need of first aid kits. Teachers also indicated that they are interested in formal first aid training. Because many HOLA members are EMT-certified or First-Aid trained, HOLA could financially support the supply of basic emergency first aid kits to schools in Chacraseca in addition to training teachers on first aid techniques.
- One of the *de facto* Chacraseca midwives mentioned that there is a free, three day MINSA-run program at the Leon hospital to officially certify women in becoming midwives. She



thought many women in the community, including herself, would be interested in this program, but the costs of staying in Leon for three days are too great. HOLA could offer a scholarship program for women to attend this training. However, the physician reported infant mortality rate for 2009 was close to zero, so potential impact of this program must be carefully assessed prior to implementation.

- The Comité offers scholarships to Chacraseca residents in order to offset the cost of school supplies and uniforms. These are generally given to families trying to send their children to high school. However, the amount of scholarships provided by the Comité does not meet the demand in the community. HOLA could offer a certain number of scholarships per year in order to increase the number of children who receive at least a high school education.
- Similar to the high school scholarships, the Comité offers scholarships for Chacraseca members to attend the university in Leon. Although these scholarships would be more expensive for HOLA to support, creating more opportunities for community members to achieve a college education could help bolster the Chacraseca economy in the future.
- The clinic in Raul Cabeza has a weekly hypertension program geared towards education and prevention. It was learned from one source that this program needs more funding, but more research is needed to ascertain why more funding is needed and how much.

A final short-term project would be to establish a permanent, paid representative of HOLA within the region. This would be an individual who is native to Chacraseca, has a means of transportation around the region, can be in constant communication with the organization, has time to devote to overseeing HOLA's funds distribution, and who can represent HOLA within the Comité (as allowed by the ACOPADES Governing Statutes). It would be extremely helpful and informative to, for example, have an HOLA representative present at every ACOPADES meeting on Tuesdays and send a report back to the HOLA senior staff outlining the conflicts, discussions, and decisions that took place.

Additionally, in continuing with HOLA's public health theme of educational seminars, community members were specifically asked which health topics they would like to explore in educational seminars. While there was much diversity in topics requested, education on sexual health and family planning was the most common response. Furthermore, the physicians interviewed listed sexual health education as the best way HOLA can help the health of the community. Other topics mentioned include nutrition, midwife skills, high blood pressure, women's health, children's health, water usage, and medication usage.

Long-Term Projects

Overall, Chacraseca community members had a positive response to the idea of community health educators. However, there was some contention on which community members could become a health educator. The Comité specifically commented that there should be three health educators per sector: the sector leader, the sector health leader, and one other person that the



sector health leader chooses. However, when asked about committing to this, one sector leader stated he would not feel comfortable in such a position and thought someone else with a medical background would be better for this position. All teachers interviewed expressed interest in fulfilling this role, and as a figure in the community that is entrusted with teaching, they may be a good target for future community health educators. It was suggested that, if HOLA were to implement a community health educator program, the educators could be compensated at the rate of a rural teacher, about 3500 Córdoba per month (~\$175/month). When planning to implement such a program, it is important that each educator have a thorough training initially with follow-up trainings periodically, a direct means to contacting a representative from HOLA, and a requirement for reports on activity as a quality assurance measure. These aspects will help make such a program sustainable throughout the year while keeping the educators motivated, knowledgeable, and accountable.

As stated in this report, many patients commented that medication supply at Raul Cabeza is a problem with some patients stating their primary reason for *not* attending the clinic was lack of medication. Consequently, many asked if HOLA could help with this problem. One community member suggested the best action HOLA could take to help Chacraseca is establish a pharmacy in Raul Cabeza that is consistently stocked with both over-the-counter and prescription medications. Obviously, this project will require a thorough cost analysis to ascertain when in the organization's future it will be financially feasible. However, a common internal and external complaint of HOLA's impact is that many patients' medications only last for one to two months after HOLA's departure after which point they are essentially stuck in the same situation as before the organization arrived. By establishing a pharmacy in conjunction to the Raul Cabeza clinic and guaranteeing the constant supply of vital medications, HOLA will be able to positively impact the community year-round.

Future Areas of Research

It is extremely important for HOLA to thoroughly research any area of impact it wishes to make. Thus, for any of the "Short-term Projects" HOLA decides to pursue, further research should be conducted as to how the organization can best approach the project with the funds available. This essentially equates to program designers asking the community "What is the best way we can implement this project?" instead of asking themselves that question. It is only until the community thoroughly answers this question when the project design team(s) should continue with the design process.

Beyond researching each proposed project thoroughly before beginning the design, it is also important for HOLA to conduct general assessments annually in order to stay current on pressing issues occurring in the community. This will allow the organization to adapt its funding patterns and project designs to better suit the community's needs.





"Salud para Todos"

Finally, as can be gleaned from this report, relatively little information was collected concerning the Nuevo Amanecer community. A future community assessment, similar to this one, should be conducted solely within the Nuevo Amanecer community in order to determine aspects such as demographics, government, physical boundaries, interactions with other communities, education, water and food resources, sanitation, electricity availability, and access to medical care. This assessment should be conducted in the near future, so that HOLA can appropriately allocate funds for support of this impoverished community.

Overall, it is *extremely important* for HOLA to stay current with the evolving needs of the Chacraseca and Nuevo Amanecer communities. It is only through listening to the community members and understanding their needs that HOLA will achieve a sustainable impact.



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"Salud para Todos"

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