

## Executive Summary

Between May 18th and July 24th of 2015 we, as representatives of the Mortenson Center in Engineering for Developing Communities at CU Boulder, collaborated with El Porvenir (EP) to develop an assessment program of the social, economic and health impacts of their work. We spent the first week developing the project, the next seven weeks collecting data in the field, and the final two weeks organizing, analyzing and summarizing the data.

Using Magpi, a mobile survey data collection tool, we conducted 555 household surveys in 31 communities around the municipality of Camoapa with the help of three local university students and an El Porvenir-Managua staff member. The data collected in this project will serve as baseline data for future surveys, to be repeated every five years. The impact will be measured by associating changes in social, economic, and/or health conditions of the communities with projects implemented by El Porvenir in those communities since the previous survey was conducted.

We calculated a statistically significant sample size using a sample size calculator at [surveysystem.com](http://surveysystem.com) and developed a sample plan with the assistance of the Camoapa El Porvenir office staff. Each day the survey team would drive to each of the scheduled communities and break into teams that would then walk from house to house collecting surveys.

When we had finished the fieldwork, we conducted a preliminary assessment of the data in which we used communities with a low reported combined water and sanitation coverage (<30%) as a pseudo control group. Under the assumption that this group more or less reflected conditions of the communities prior to El Porvenir interventions, we then compared the responses of this group to the responses in communities with high coverage (>30%) and took the difference between the two to represent possible impact that El Porvenir has had. In total, our analysis yielded 22 figures, which can be found in the full report. Below, a few key findings are summarized and recommendations are stated. Referenced figures follow at the end of the summary.

## **Key Findings**

### ***Social***

We attempted to determine if EP has had an impact on various aspects of people's lives, including impacts on their children's school attendance, their daily routines, and the amount of socialization taking place within the communities.

- EP's work does not seem to preferentially benefit any particular demographic, i.e. men, women, or children. (Figure 14)
- 16.2% more interviewees in high coverage communities reported that the work of EP had changed their daily routine than those in low coverage communities. (Figure 13)

- There was little difference (1.59%) in the number of interviewees that reported that their children attended school between the high and low coverage communities. (Figure 1)

### ***Economic***

There was a surprisingly consistent pattern that emerged from the economic analysis of the study. In almost all cases, the high coverage group reported more favorable economic conditions than the low coverage group:

- Interviewees in high coverage areas reported spending 27.6% more on routine provisions on average than those in low coverage groups. (Figure 4)
- For eight out of ten commonly purchased items, interviewees in high coverage communities reported significantly higher ownership than those in low coverage communities. For the other two items, their necessity may be undermined in the high coverage communities by the accessibility to other items or services that serve the same purpose. (Figure 6)
- 34.5% more interviewees in high coverage areas reported an increase in their family income than those in low coverage areas. (Figure 16)

### ***Health***

The health data suggests that EP has had a positive impact on people's health with its WASH interventions.

- High coverage comarcas reported less frequently or never having had an instance of diarrhea in the household (Figure 9), along with 61% less incidence of diarrhea in children five years old or younger. (Figure 10)
- More people in high coverage comarcas reported their health as "very good" or "good," while fewer people in high coverage comarcas reported their health as "poor" or "very poor." (Figure 8)

The results of the preliminary assessment suggest with unexpected consistency that the work of El Porvenir has likely had a positive impact on the social, economic, and health conditions of the communities in which it has worked. It must be kept in mind, though, that the reliability of these preliminary results is limited due to the tenuous nature of our re-created baseline data. A more reliable assessment will result from future iterations of the survey.

## **Recommendations**

As the next step of the impact assessment, we recommend that EP collect a comparable sample of surveys using essentially the same survey element in the same communities every five years. The resulting data can then be compared side-by-side to the present baseline data in order to measure any changes to the social, economic, and/or health conditions of the communities. These changes can then be contextualized by looking for correlations between the amount of change and the amount of work that El Porvenir has undertaken in the same communities.

# Figures

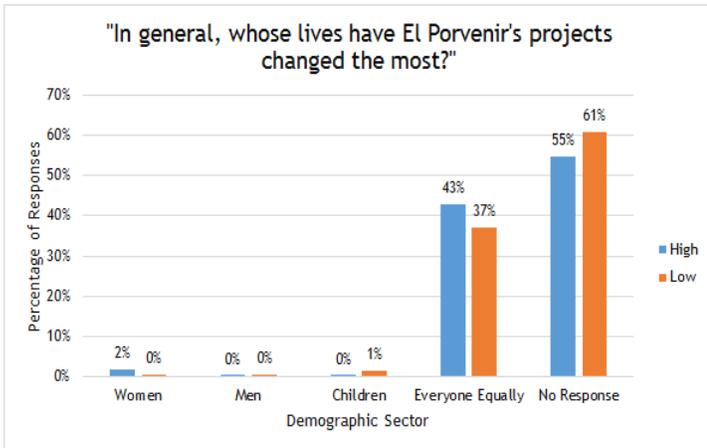


Figure 14

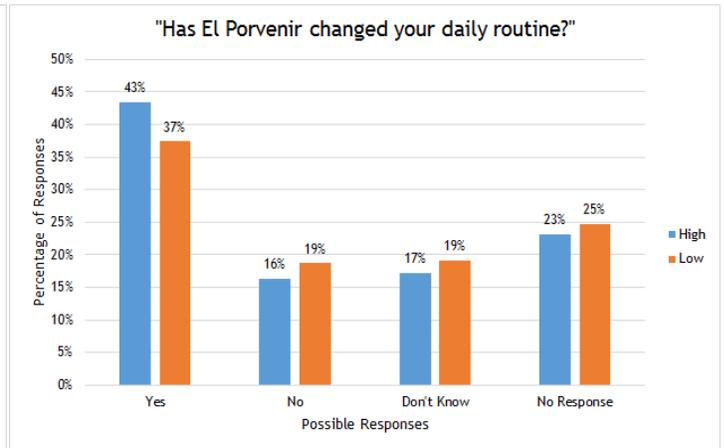


Figure 13

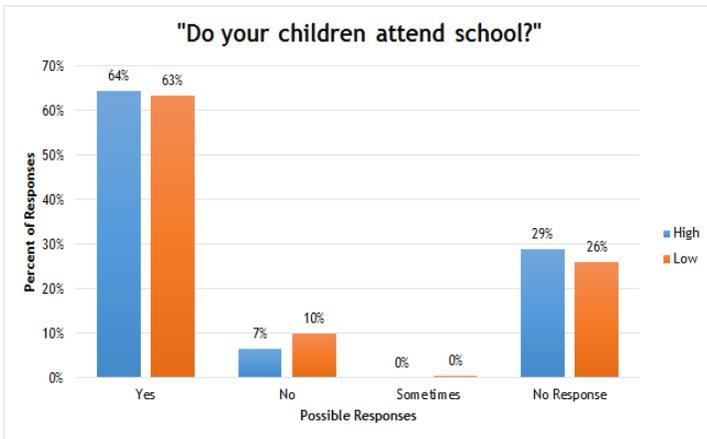


Figure 1

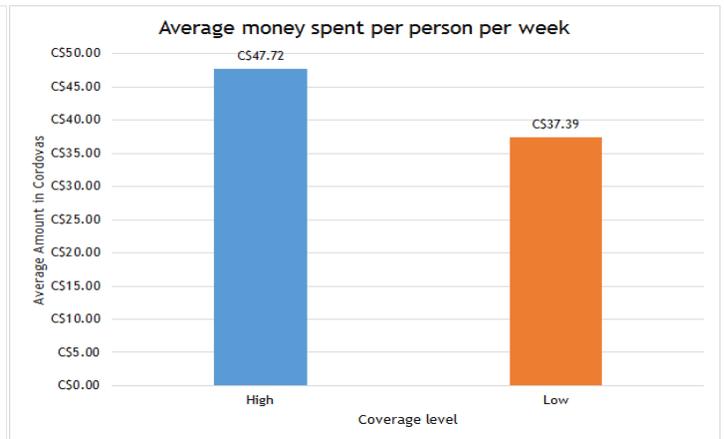


Figure 4

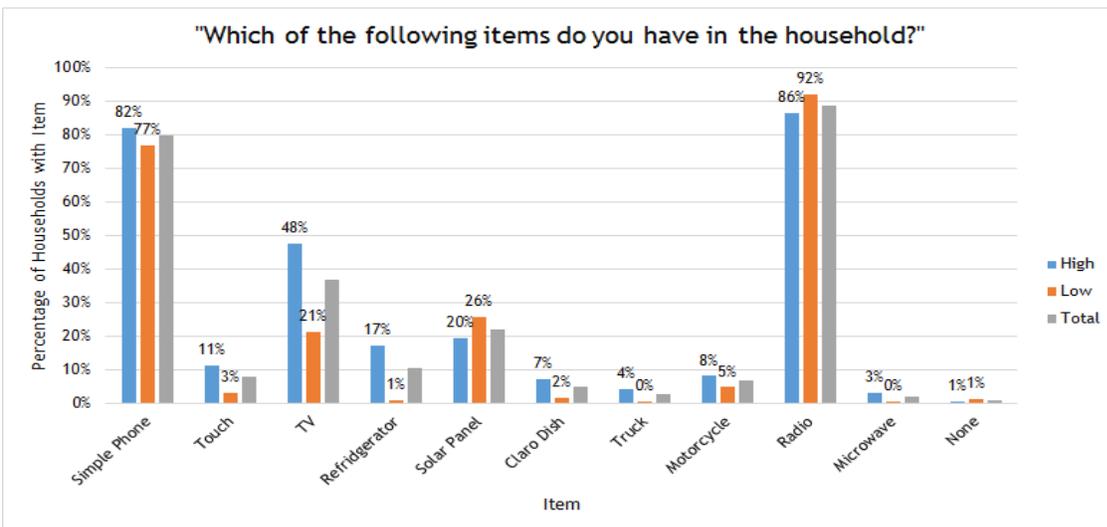


Figure 6

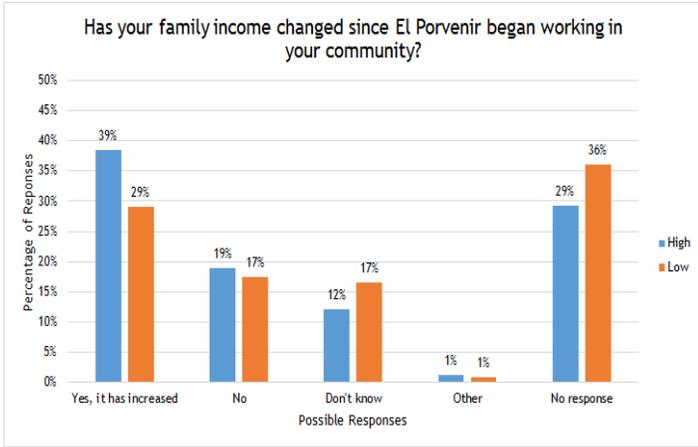


Figure 16

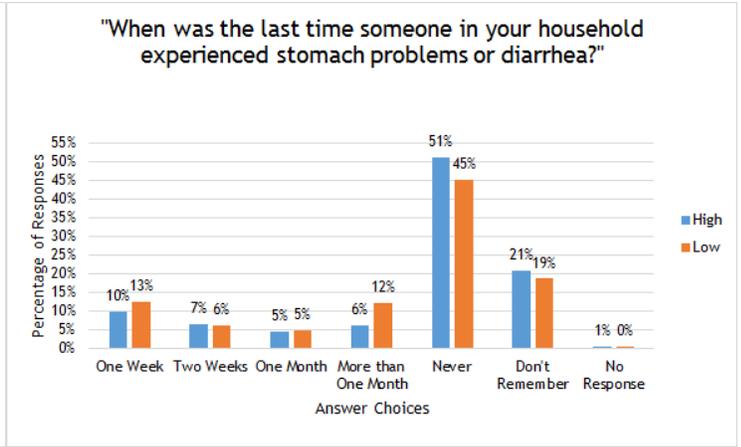


Figure 9

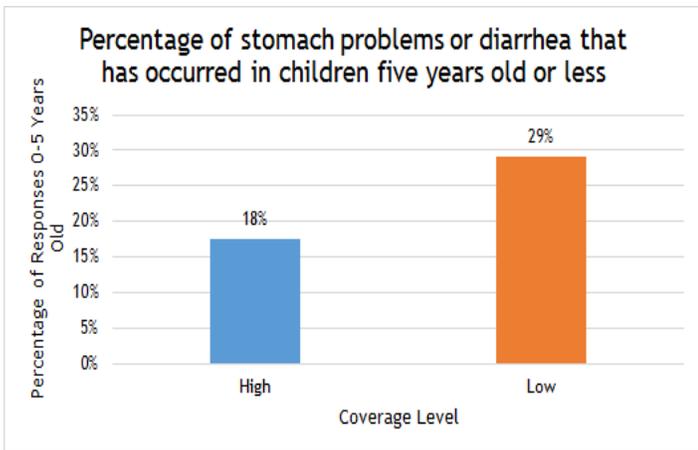


Figure 10

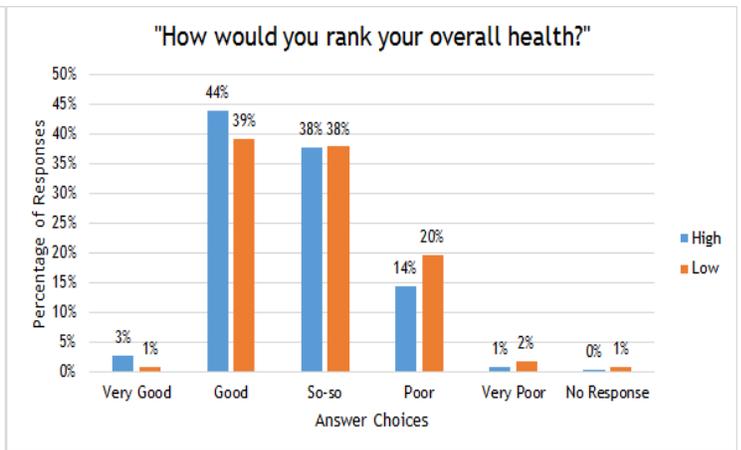


Figure 8