



Odanaku Household Survey Report

The Oda Foundation fosters community empowerment through health and education initiatives in Nepal's most remote villages. The Foundation is located in the Odanaku VDC (Village Development Community) of the Kalikot District of Nepal. The Oda Foundation focuses on sustainable, locally driven programs that aim to improve health and education while more broadly reducing regional poverty. The Foundation was incorporated in August 2013 and began operations on December 12, 2013.

This report details the findings from the November/December 2016 Odanaku Household Survey, conducted by two Oda Foundation employees. The goal of the survey was to interview one member of every household in Odanaku Wards 1, 2 and 3 to gauge population size and assess household amenities and health-related practices.

Picture: Smriti Devkota interviewing a participant from Odanaku-2.



Highlights & Significant Challenges

- **“Our lives are full of hardships and difficulties” (Participant 19)**
- **45 % of Oda’s current population is children**
- **3 : average number of months a family can sustain themselves on food produced by their field**
- **19 : average age of a mother at her first childbirth**
- **82 % of households have non-ventilated stoves**
- **32 % of families don’t have a toilet and must defecate in the forest**

About the Survey

The goal of the Odanaku Household Survey was to assess the structural barriers to health in three wards within the VDC. This study utilized a qualitative methodology with set interview questions focused on household amenities and health-related behaviors. Wards 1, 2 and 3 were selected due to their proximity to the Oda Foundation’s medical clinic and the fact that most of our patients come from these three areas. The two researchers that conducted the study attempted to include one member of every household within the three wards; in total, the study contained **170 participants** over a thirteen-day period between November and December 2016. **By asking questions aimed at the family, we were able to gather data for 1,411 individuals.** After going around the village by ourselves for ten days, we consulted local experts and Foundation staff in an attempt to account for families that we previously skipped.

Rebecca Dunn, the Oda Foundation’s Health Research Fellow, constructed the survey, oversaw the coordination of the project from start to finish and compiled this report. Smriti Devkota was invaluable in translating responses from Nepali to English and transcribing qualitative answers. Our affiliation with the Oda Foundation, and its accompanying acceptance into the community for the past three years, afforded us the benefit of a willing participant pool; indeed, **not one person approached for this study refused to be interviewed.** Additionally, Oda Foundation staff and American Fellows often walk around the village so our daily comings and goings were not seen as peculiar. By the time I (Rebecca) conducted the first interview within this survey, I had been living in Oda for roughly two months and many of the children called after me by name as we journeyed from house to house. With only a few exceptions, participants were keen to converse with us. They spoke with ease to Smriti, and during many interviews we were surrounded by the participant’s family members and neighbors who were eager also to be included in the study.

We asked a range of questions across five categories: 1) **Demographic Information:** household size, gender and age breakdown, number of people that sleep under the same roof, source of income, age at first child’s birth; 2) **Household Amenities:** presence of electricity, type of stove, location of cooking, food security; 3) **Hygiene & Sanitation:** treatment of water before drinking, presence of a toilet, substance used for washing hands, teeth brushing behaviors, frequency of bathing; 4) **Lifestyle:** number of people in house who smoke and drink, frequency of such behaviors; 5) **Community Challenges:** open-ended question regarding the biggest challenges that the community faces. All quotes are translated from Nepali to English; for ease in understanding this report, we opted to preserve the idea of the quoted statements over directly translating, word-for-word, what participants told us.

About Oda

Odanaku is a Village Development Community (VDC) located in the Kalikot District of mid-western Nepal. Kalikot is situated in the most isolated area of Nepal and is considered to be one of the most deprived places in the developing world—it is accessible by only one road and many communities (including Oda) can only be reached after hours of walking. Each VDC is made up of 9 different wards; participants in this survey came from Odanaku Wards 1, 2 and 3. The VDCs within Kalikot face significant education, health and income challenges as well as other difficulties that come with extreme remoteness such as access to facilities, government resources, malnutrition and caste inequality. This report mainly focuses on structural barriers to health within the household context.



A view of a group of houses
in Oda-2

Participants

Our goal was to interview one person (ideally the female or male head of household) from each family within Odanaku-1, 2 and 3. Undoubtedly, our survey size is an underrepresentation of the area's population (see 'Population' section). Our study area is referred to as "Oda" throughout this report as these wards are commonly referred to under that collective title. Other wards within the Odanaku VDC go by different names such as "Dillicoat" or Odanaku-4.

The average age of participants in our sample was 43 years old; the youngest participant was 18 and the oldest participant was 75. The sample consisted of 102 females and 68 males.

DEMOGRAPHIC INFORMATION

Population

To gauge the total population in Oda, we asked two separate sets of questions—first about family size and subsequently about number of families/individuals living under the participant’s roof. We first asked participants their family’s size, male-to-female breakdown and how many people in the household are children. We collected family data from 170 participants, in effect covering 1,411 individuals in Oda. According to the sum of our household size data, 709 males, 701 females and 635 children live in Oda, meaning that **45% of the total current population of Oda is children**. Across our sample, families currently have, on average, 3.92 under 18-year-olds in their households.

Oftentimes, more than one family sleeps under the same roof. To get a more accurate count of Oda’s population, we asked participants how many families sleep under their roof as well as the total number of people who sleep under the same roof. From this data, we gleaned that **approximately 225 families live in Oda, making up the total population of around 1,732 individuals**.

The discrepancy between these two totals shows that we clearly did not interview every household in Oda. We found it extremely difficult to do so and ultimately decided that our sample size was adequate for the purposes of this report (75% of families, 81% of individuals). Space is seen as communal and thus people hang out in the front area of houses regardless of the house’s ownership so it was hard to track who lives in what house. Many names in the village are the same, especially considering the fact that surnames are always a family’s caste group and thus have few variations. Additionally, adults were gone working in the fields on some of the days that we conducted interviews and thus impossible to track. Finally, due to the sheer number of children running around the village as well as confusing family relations, we encountered difficulties in counting the exact population.

Population by Ward & Caste

Ward	Number of Families	Total Population Estimate (2016)
1	92	701
2	48	407
3	85	624
TOTAL	225	1,732

Caste	Number of Families	Total Population	Percent of Population
Brahmin	18	174	10%
Chhetri	133	1,031	60%
Dalit (“Untouchables”)	74	527	30%
Total	225	1,732	100%

Cohabitation

Families under the same roof: 44% of households share their roof with at least one other family

Up to 4 families live in some houses

People under the same roof: The maximum people who live under one roof in Oda is 40

33 houses in Oda have 15+ people living in them

8.35

Average household size

12.13

Average number of people
living under one roof

Sources of Income

Almost all families in Oda are subsistence farmers. Because they aren't able to produce enough food to sustain their families throughout the year, almost all families also send at least one working-age male to do manual labor work in India for 6 months out of the year. Remittance money is vital to the survival of Oda's population.

By the Numbers...

- 89% of families in Oda are employed in the agriculture sector, either farming their own land or working for others in the fields
- 79% of families send a family member out of the country to work (all but 4 families who send family members abroad receive remittance from India)
- 89% of families also consider their income to come from more than one place, most often farming and labor work in India

Other sources of income within Oda from most to least common include tailoring, working in a local shop, labor work, government work (usually army), wood work/carpentry, metal work, employment at the Oda Foundation, teaching and only one family in the hotel industry and doing missionary work.

Low caste families within Oda, just like many remote areas in Nepal, have been involved in the Baligharae System for generations. Traditionally, people from "Dalit" families are involved in various skilled labor jobs such as tailoring, metal work, making jewelry and working in the fields of so-called higher caste people. Instead of receiving money for their work, these families receive grains produced in the fields of the families they work for, usually twice a year after the harvest time (Jestha and Mangshir months according to the Nepali calendar, or May and November). These families usually don't have land of their own.

Less than Subsistence Farming

Even though almost all families within Oda consider agriculture their primary sector of work, field production is too low to sustain them throughout the year. In fact, **on average, a family's field only produces enough food to eat for 3 months out of the year** (median and mode = 2 months). The maximum response for months of food that their family's field provides to sustain themselves was 8 months and the minimum response was less than one month. Because all families within Oda must purchase food to eat from sources other than their own farms to sustain them for the remainder of the year, they must send at least one family member to work in India to gain needed remittance money.

Water Shortage

95% of participants told us that the biggest challenge their community faces is the water shortage that has been occurring for the past 5-6 years. For example, Participant 119 commented that “because of the water shortage, the land is barren and production is minimal.” Participant 2 agreed: “There are no irrigation canals [here anymore so] we have to depend on rainwater. It has a direct effect on our field production. There is a close association between the food and water shortage in our VDC.”

The water shortage poses significant health concerns in a variety of ways, including production of fields, nutritious diets, water for drinking, community relations and personal hygiene. See the ‘Major Challenges’ section of this report for more about the water shortage in Oda.



A participant beating rice from her field while answering our interview questions

Electricity

148 out of 170 households have solar electricity, meaning that only 13% of houses don't have solar power. No houses within Oda contain an alternative form of electricity. In 2013, a missionary group distributed and installed solar electricity throughout the area. **These small solar panels are only equipped to power light bulbs.**

“Solar power no longer functions the same as it used to when it was installed” (Participant 10). Approximately half of the participants with solar power claimed that it is not working as well as it did when it was installed, likely because the batteries are expired. Participants told us that their solar panel used to power two to three light bulbs and now one is barely working.



An example of a house equipped with a solar panel

Cooking Space, Appliance and Ventilation

According to the Household Survey, females (usually mothers) spend the most time cooking meals. Only 7 males in our sample claimed to spend the most time out of their family members in the kitchen; it seemed that if a male spent more time in the kitchen than a female it was because of an extenuating circumstance; in one instance, the male participant told us that his wife passed away.

Stove Type

97% of families have a stove apparatus that sits on the ground. To cook, people burn firewood, collected from the nearby forest, under a circular stand that holds a pot above the flames (see photo to the right). The only other stove apparatus in Oda is a mud stove (5 total) that are found in only in shops. Families that cohabitate with other households usually had a designated cooking





space and stove for their individual family, meaning that houses with four families had four separate appliances.

Ventilation & Cooking Space

82% of families have no effective form of ventilation for their ground stoves. These families simply let smoke escape out of a window or the door, resulting in the everyday inhalation of cooking smoke. Only 30 people in our sample reported to either cook in a room outside the house or have a pipe that allows smoke to escape out of the room.

Participant 77 has a pipe in his house but told us that “we only use the improved stove [the one with proper ventilation] during the summer because the normal [non-ventilated] stove is suitable to make our home warm during cold winter nights.” Participant 79 reported likewise: “we use a traditional stove [with no ventilation] during the winter because it is warmer than the improved stove with ventilation.” Other participants told us that they don’t like to use the improved stoves because it takes more time to cook than cooking over a bigger fire from the traditional stoves. These practical concerns should be taken into account before starting a new project focusing on installing cleaner and improved stoves.

Additionally, **64% of families we interviewed have members who sleep in the same room where cooking takes place.** 108 families cooked in a multi-purpose room where both sleeping and cooking occur, while 62 families had a designated kitchen where only cooking takes place.

Ground stoves with no ventilation pose significant respiratory related health risks. Women are more vulnerable to such health risks as they spend the most time in the kitchen. 25% of diagnoses at the Oda Foundation are respiratory tract related illnesses—mainly Chronic Obstructive Pulmonary Disease (COPD) and Acute Respiratory Infection (ARI). Inhaling cooking smoke throughout the lifespan is directly associated with the development of COPD.

Toilet Prevalence & Type

The majority of households in Oda have access to a toilet. Although 115 families told us their house has a toilet, this does not accurately represent the number of toilets in Oda as families who live under the same roof often share the same toilet. All toilets in Oda are squat toilets. 88 families use a squat toilet with a pan and 28 families use a squat toilet that is merely a hole in the ground, surrounded by stone or mud. All toilets have septic tanks below them made out of rocks and mud. No septic tanks in the village are made of concrete.

Participant 168 told us that many low-caste families don’t own enough land to make a toilet. Additionally, their land is located on top of large stove slabs, which makes it difficult to build a septic tank and oftentimes results in overflow during the monsoon season. As we walked around the village conducting interviews, we observed human feces on the walking paths. During rainy season, open defecation and overflow from toilets is swept up by floodwater and redistributed across the village and into agriculture fields.

Participant 61 had a different perspective: “Making a toilet near the house is not a problem. However, supplying water to that toilet is a big issue. Filthy water near the house will certainly spread diarrhea and other health problems so it’s better not to make a toilet.” The water shortage within Oda poses a tremendous issue for keeping toilet areas and bodies sanitary. Both problems, as well as the problem of open defecation discussed in the following paragraphs, pose significant risks of pollution and of contracting diarrhea.



HYGIENE & SANITATION

Hand Washing Materials

After asking questions regarding the presence and type of toilet, we inquired if participants washed their hands after using the restroom. All of our participants claimed to do so, although with the scarcity of water and distance between the forest and the nearest water source, we doubt the accuracy of that claim.

“We don’t always have soap with us but we use it whenever it is available. For other times, we wash our hands with ash and water” (Participant 3). This quote sums up our research’s consensus across Oda’s population. Participants oftentimes told us that they use between two to three different materials to wash their hands. **Ash is the most common substance used to wash hands in the village.**

When compiling our data, we decided to take note of the first substance that the participant mentioned in their answer to our question “what does your family use to wash their hands?” From most common to least common answer, participants primarily use soap, ash, just water, soil, sand and rice residue. Evidence points to the fact that ash or soil may be more effective than water alone, but both are less effective than soap. Although soil or ash can be contaminated by microorganisms and/or pathogens that may increase the spread of disease, the WHO recommends these substances as an alternative to soap when soap is unaffordable or unavailable.

Teeth Brushing

The large majority of families within our sample told us that at least one of their family members brushes their teeth; 15 families have no members who brush their teeth. If participants answered yes to the question “do people in your family brush their teeth?” we then inquired about the number of people who brush every day. Using the family size and the number of people who brush their teeth daily, we gleaned that **48% of Oda’s population doesn’t brush their teeth.** This number could overestimate the number of non-teeth brushers as we didn’t specifically ask for participants to omit infants. However, participants did tell us that kids start brushing their teeth around 7th to 8th grade, while proven health research advocates for tooth brushing to begin much earlier.

It is clear that tooth brushing is not a universal behavior; in only 27 out of 170 families did every member brush their teeth.

Participant 10 told us “we do brush our teeth. However, we don’t always have toothpaste so we also use ash and coal to brush our teeth.” Participant 14 also reported “we brush our teeth with coal if we don’t have toothpaste.” Some websites champion using ash as a teeth-whitening agent to scrub off excess plaque but dentists warn that it should not be used as a toothpaste substitute.

The younger generations may be adopting more hygienic practices. “I am a women from the older generation. I don’t know about washing hands or brushing teeth. The new generation is aware of these things and practice these habits” (Participant 48). Older women frequently showed us their teeth and told us that they don’t have teeth to brush because the majority of them had fallen out. We observed that many grandparents were missing numerous teeth—likely from never brushing their teeth and years of smoking.

Buying toothbrushes and toothpaste is not a priority, especially considering the food shortage and widespread poverty in Oda. “We don’t have money to buy toothpaste” (Participant 139). “If we had money, we would buy rice instead of a toothbrush” (Participant 118). Because of widespread financial hardship in Oda, it’s not practical to spend money on a toothbrush and toothpaste, especially considering their short-term utility and need to be frequently re-purchased.

Bathing

Bathing at Oda occurs in three places: 1) at the four public taps; 2) brought to the house from the public tap in a bucket; or 3) at the river, an up to 30 minute walk depending on where you live in the village. No families in Oda have a water source inside of their house. All water in Oda used for bathing, drinking and irrigation comes from the Jhagad River.

We asked participants two separate questions about bathing: how many times per month during the hot season do people in your household bathe and how many times per month during in the cold months. We did not use the terms “winter” and “summer” as many people would not understand that distinction and Nepal has its own unique calendar.

Hot months: Nine families told us that they bathe in the river every day during the warmer months. These families either lived either on or in close proximity to the river or told us that they brought buckets of water to their houses to take a sponge bath. Excluding everyday bathers as the outlier, **most people in our sample claimed to bathe 4 times a month during the hot season.** Including all of the variation between the families that bathe only once a month and those that bathe 15 times a month (once every 2 days), on average families in Oda bathe 5 to 6 times a month.

Cold months: **On average, families in Oda reported to bathe 3 times a month in the cold months.** The majority of participants claimed to bathe once a week, or 4 times a month, during the cold season. The answers to this question were skewed much lower than the previous one: 41% of families bathe less than 3 times a month.

We hypothesize that these statistics are an overestimate of how often people bathe per month. During our interviews around the village, we observed that the majority of kids looked as if they haven’t taken a shower in over a month. Many kids have black and cracked feet, arms and legs, lice and uncombed hair and rashes on their skin. Many participants laughed after we asked their family’s frequency of bathing and told us that if there wasn’t a water shortage in the village, they would bathe more often. For example, Participant 2 aptly commented, “there is not even enough water to drink; how are we supposed to take a bath?” Participant 168 expressed a similar idea: “All of the village is dry because there is no water... People work all day long in the fields and when they go back home they can’t drink water or take a shower. With no water, how can people take care of their own sanitary needs?”

Purification of Water

We asked families if they do anything to treat water before they drink it (don’t do anything, boil, filter, other). Only 7 families either claimed to treat their water or didn’t understand the question. **96% of families in Oda answered that they don’t treat their water before drinking it.** Water from Oda’s four public taps comes from a neighboring river that is also used to wash clothes. Two families also claimed to use the restroom on the riverbank. Drinking water without purifying it could expose individuals to water-bourn illnesses and the consumption of dirt particles.



LIFESTYLE

Smoking Behavior & Frequency

Three different types of smoking substances are available in Oda: 1) Bidi is a locally grown plant that is rolled into cigarettes; 2) Tamakhu is also grown locally and packed into a pipe; and 3) manufactured packs of cigarettes can be purchased from the local shops and cost around 100 NRs (a little less than \$1) each. Many participants told us that both smoking and drinking habits depend on the availability of money.

74% of households in Oda contain at least one family member who smokes every day of the week (125 out of 170 households). In total, 214 people in our sample smoke—130 males and 91 females. Using our household size data that 776 adults live in Oda, about 1 in 4 adults smoke.

Some females seemed hesitant to tell us about their smoking behavior. While these women denied smoking, their kids jumped in during the interview to tell us that they do actually smoke. Therefore, we predict that our numbers are again an underestimation of the actual smoking population.

Not only is smoking a proven cause of respiratory health issues, second-hand smoke also poses significant risks for children in Oda. Families oftentimes live in small rooms together and children are in close proximity to smoke on a daily basis—either from cooking or from pipes/cigarettes. Indeed while conducting the Oda Household Survey, we observed women and men who would hold infants while smoking. Since a large number of Oda's population smokes and it is a socially acceptable behavior at any time of the day in any setting, children regularly see this behavior and may be inclined to also smoke in the future.

Drinking Behavior & Frequency

Drinking alcohol is more socially acceptable for men than for women in Oda. According to the Household Survey, 108 males and only 2 females in Oda drink. After asking participants how many people in their household drink alcohol, we inquired about the frequency of drinking. From this data, we discovered that **15% of households contain a family member who drinks every day of the week.**

This statistic is evinced by our own observations that drinking is common, especially among lower-caste men, in the village. In fact, on one of the days we were interviewing, we observed a group of men who were drunk around 1 pm. Matwali castes (castes that are allowed to drink) make up the majority of the population in Oda (90%) and drinking it part of their social gatherings.

Gambling

Although we didn't ask specifically about gambling behavior, we observed gambling as we walked around the village. There are two major places for gambling in the village—one located in the low-caste node of the village (Dalit Tol) and one in a high-caste area (Pureapalla). Participant 168 explained that “gambling happens there every day. People gamble even if they don't have money... By the end of December, many men go to India and work and when they get back to Oda with money, they pay their debts from gambling instead of using the money to pay for other things.” Future research should look more closely into gambling behavior and its detriments in Oda.

MAJOR CHALLENGES

At the end of our survey, we asked participants “what is the biggest challenge that your community faces?” and “what improvements would you like to see in your community?”

Everything...

- “Our lives are full of hardships and difficulties” (Participant 19)
- “Life in the mountains, itself, is a challenge” (Participant 43)
- “Our lives are full of hardship and there is a shortage of everything” (Participant 22)

Water Shortage

95% of participants answered that a water shortage, present in the community for the past 5-6 years, is the biggest problem that the village faces. Many people told us that if there was a more plentiful and steady source of water for the village, they could bathe regularly, have more water to drink, wash their clothes, harvest greater amounts of crops and maybe even grown vegetables. “During the dry season, if you go to the tap around 6 AM, your turn will come around 1 PM. If you go around 10 AM, your turn will come after midnight” (Participant 168). Participant 24 observed, “as cleaning and sanitation are all linked to easy access to water, we are having trouble living a healthy life.”

Participants identified various health concerns that are linked to the water shortage:

- Production of Food
 - “People work all day long in their fields yet production is minimal” (Participant 160)
 - “The food shortage is always looming over us” (Participant 77)
 - “Because of the water shortage, the land is barren and production is minimal” (Participant 119)
 - “There are no irrigation canals [here anymore so] we have to depend on rainwater. It has a direct effect on our field production. There is a close association between the food and water shortage in our VDC” (Participant 2)
- Nutritious Diets and Water for Drinking:
 - “We don’t have water to drink. There was a time when there was no water at all. We couldn’t even cook food” (Participant 147)
 - “We only grow millet... there are no vegetables in the village. We eat rice and millet bread only with salt” (Participant 13)
 - “We have to walk for around 2 hours to fetch water [to drink] during the dry season” (Participant 17)
- Community Relations:
 - “There is a big shortage of water in the village. Our community is pretty close with each other, but the water shortage makes us fight with each other” (Participant 2)
 - “Women here fight at the public taps during the three month period [March to May] when there is no water at all in the village” (Participant 44)
- Personal Hygiene:
 - “Because of the water shortage we have difficulty taking care of our personal hygiene and feeding our cattle” (Participant 153)
 - “There is not even enough water to drink; how are we supposed to take a bath?” (Participant 2)
 - If we had water, “we could have better harvests, sanitation, clean clothes and taken regular showers” (Participant 42)
 - “All of the village is dry because there is no water... People work all day long in the fields and when they go back home they can’t drink water or take a shower. With no water, how can people take care of their own sanitary needs?” (Participant 169)