

educate for Life



BAKHEL VILLAGE SURVEY 2015

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Executive summary

Educate for Life and Rajasthan Bal Kalyan Samiti (RBKS) have been operating an integrated education, health and livelihood project called Hunar Ghar Project in the Bakhel village of Udaipur District, Rajasthan State since 2007. In order to understand the extent to which the community at Bakhel is benefiting from the project and to be able to scale the services, a census-style complete village survey of the village was undertaken to identify all individuals in the community.

The survey on one hand demonstrates abysmally low health and educational indices in the region coupled with acute deprivation and poor living standards, on the other hand it also establishes the efficacy of the Hunar Ghar approach through gradual changes that have occurred with respect to increased access to health services and literacy levels of the region.

Background

The village of Bakhel is located towards the periphery of Kotra block (a sub-division of Udaipur district), an administrative region with the poorest health, education, livelihood and welfare indicators in the district, and one of the poorest in India.

100% of the population of Kotra block live in rural settings, spread across 304 villages, and the vast majority of the population belong to the Adivasi community (95.8%)- an indigenous community, classified as 'Scheduled Tribe' or 'Tribal' by the Government of India and considered among the most deprived ethnic minority groups in India. The region is situated in the Aravalli hills and surrounded by Gujarat state and the districts of Pali and Sirohi.¹

The indigenous communities generally live in mud and stone huts sparsely scattered across the hills, with their main sources of income coming from seasonal agriculture and migrant labouring in Gujarat. The hilly terrain, distance from any major city, scattered houses,

discrimination against indigenous communities and paucity of roads, educational facilities and livelihood opportunities all contribute to the developmental challenges faced in Kotra block.¹

Overall, the block has a 20.1% literacy rate, compared to the national average of 73.0%. Furthermore female literacy in Kotra Block is 12.4%, far lower than the national average of 64.6% (Table 1), and not much improved from 2001, when it was 11.1%.

Bakhel village itself is one of 5 villages in Mandwa Panchayat, Kotra block and is made up of 5 hamlets, described further below. The literacy rate in the 4 villages nearest Bakhel, an indication of the literacy in Bakhel before Hunar Ghar Project, 17.4% (10.7% among women) in 2011- confirming that the area Hunar Ghar operates in is among the most deprived in Kotra.^{2,3}

These concerning educational indices in the area are compounded by poor health and limited effective government services. A survey conducted in Bakhel Village in 2011 revealed that awareness of health services in the community were low (Table 2), and that 61% of children under-6 in the village suffer from some form of malnutrition.⁴ Furthermore, a village-wide assessment of access to pregnancy and delivery services in Bakhel in 2013 found that 74% of women had no antenatal checks prior to delivery in the preceding 2 years, 59% of women were delivering their babies without the presence of a skilled attendant and that 67% of babies were not being fed the first milk (colostrum) by their mothers following delivery (Unpublished, 2013).

The poor health and educational outcomes have become entrenched in the area, due to a paucity of functioning services in the area. More than 50% of government health and education posts in the area remain unfilled and with no other agencies working in the area, Bakhel and the surrounding communities are

Table 1: Demographics and Literacy Rates from National level to Hunar Ghar project's local area²

| Region | | Population | | | | Literacy rates | | |
|-----------|----------------------|------------------|---------|-------------------|--------------------------|-----------------------|------------------|-------------------|
| | | Total population | % Rural | % Scheduled Tribe | Sex ratio (per 1000 men) | Overall literacy rate | Male | Female |
| Country | India | 1,210,569,573 | 68.8% | 8.2% | 943 | 73.0% | 80.9% | 64.6% |
| State | Rajasthan | 68,548,437 | 75.1% | 13.5% | 928 | 67.1%** (51.4%) | 80.5% (63.5%) | 52.7%* (38.5%) |
| District | Udaipur | 3,068,420 | 80.2% | 49.7% | 958 | 61.8% (69.6%) | 74.8% (69.6%) | 48.4% (39.8%) |
| Block | Kotra | 230,532 | 100% | 95.8% | 974 | 20.1% | 27.5% | 12.4% |
| Panchayat | Mandwa (excl Bakhel) | 4,343 | 100% | 99.30% | 903 | 17.43% | 24.00% | 10.70% |

* Lowest of any state in India

** 3rd Lowest of any state in India

being left behind while rapid development and change is being enjoyed in other parts of India.¹

In order to address some of the inequities observed and promote positive change in the area, Educate for Life and RBKS have established an innovative school project which serves children aged from 3 to 14 in Bakhel. This is complemented by promotion and provision of essential health services and wider community development work, providing integrated services to address the complex challenges the community of Bakhel faces.

Table 2: Awareness of essential health services and behaviours among households in Bakhel village in 2011

| Key health service/health behaviour | Proportion of households aware of service |
|---|---|
| Availability of institutional delivery services | 40% |
| Recommendation that children receive immunisations | 38% |
| Recommendation that pregnant women receive antenatal check-up | 47% |
| Recommendation for Iron & Folate supplementation and Tetanus vaccination during pregnancy | 48% & 56% respectively |

The ultimate aim of the project is to facilitate sustainable, community led transformation in which all children of school going age in Bakhel and its 4 neighbouring villages benefit from high quality education and all women and children access essential health services appropriately to improve the health and well-being of the community.

In order to track progress toward this aim, a census-style complete village survey of Bakhel was undertaken to identify all individuals in the community, understand what proportion of the community are benefiting from the services being provided and who is being 'left behind' and to be able to plan expansion of services so that all community members benefit.

While providing a description of the age and gender profile of the community Hunar Ghar Project serves, the survey collected basic information about (1) household living standards, (2) individual educational status, and (3) household adverse health experiences. These 3 sets of indicators were used to understand overall levels of deprivation in the community.

Similar surveys of the 4 neighbouring villages will be conducted in due course, and the survey will be repeated on a 5-yearly basis to track change over time. This document summarises the methods used, the main findings of the survey and implications of the findings from the survey. It is hoped that the data presented will add to current understanding of living circumstances and needs in communities such as Bakhel and

complement the existing picture from published literature described above.

Methods

Survey Design

The survey had two main sections:

- 1) Details of individuals in each household- including name, age, date of birth and educational history for all individuals and heights and weights for selected individuals
- 2) Household level information- including measures of household assets and living standards, household experiences of adverse health events (indicated by deaths in under-5s) and household possession of a below poverty line card.

The survey components followed a standardised format, as used in many large scale surveys, such as the Demographic and Health Surveys, and components relating to deprivation (education status, living standards, nutritional status and under-5 deaths) were adapted from the multi-dimensional poverty index, which is described in further detail below.⁵

Inclusion/Exclusion criteria

The survey was conducted across the entirety of Bakhel village, which is divided into 5 hamlets. All households in the 5 hamlets were visited to complete the survey. Households were defined as families eating from the same kitchen. Where multiple 'households' resided in a single building, they were interviewed separately. In order to ensure entire households and village areas were not missed, local people were involved in each hamlet. Where it was not clear if a household fell within the survey area or which hamlet a household belonged to, government documentation and local classifications were considered before allocation. If families were present, but not normally resident in the village, they were excluded, and similarly efforts were made to return to households where families were away at the time of survey, but normally resident.

It was not possible to survey approximately 10% of households in total. This was because certain families had migrated away for the period of the survey or were unavailable on repeat visits and furthermore as a consequence of the hilly and scattered nature of the village, which covers approximately 12km², it was found subsequent to the survey that some households were not covered during the survey period.

Data Collection

The survey was conducted by a senior project coordinator and community health worker, who were both familiar with the community and with conducting surveys in the area. In order to ensure high data quality, the senior project coordinator was charged with completion of the survey forms.

Informed consent was taken at each household and the survey was completed with a senior member of the household to try to ensure accurate responses. Where appropriate, 'probe questions' were included to validate responses.

Data management & analysis

All surveys were completed on paper records. Data from these records were double entered, using a system with multiple checks to ensure that the data was accurately transferred from paper to digital records and that only plausible responses were entered. Where inconsistencies between entries were found, these were corrected and where appropriate, households were re-visited to check information.

Analysis of the data included further quality checks before the study findings were explored using Stata SE/13.0.

Data quality

Overall the quality of data collected from the survey was considered to be of a high standard with minimal data quality queries. Data for nutritional status of households could not be reliably collected during the survey, as calibrated and accurate scales were unavailable in the project area, therefore this variable was dropped from the study. Furthermore, while highest education category (primary, secondary or higher) of all individuals in the village was collected, it was not possible to accurately report exact number of years in education for respondents.

Multi-dimensional poverty index

The multi-dimensional poverty index (MDI) is a tool for estimating levels of deprivation and destitution (a more severe form of deprivation) in a community. It differs from many other measures of poverty, because rather than using a single measure of socio-economic status, such as household wealth or maternal education, it combines different 'dimensions' to provide a composite measure of deprivation and destitution.

The 3 dimensions assessed by the index are: (1) household education (2) living standards of the household (3) household health. In each of these dimensions, indicators are used which relate to the millennium development goals and are comparable with Human Development Index and Demographic Health Surveys, resulting in international validity and comparability of levels of poverty across communities as well as within them.

Conventionally, the MDI uses two indicators of health-under-5 mortality in households and prevalence of malnutrition in households. For practical reasons, it was not possible to assess under-nutrition during the survey, so the under-5 mortality indicator alone has been used

as an indicator for household health. Other large-scale surveys have adopted a similar approach, when measuring heights and weights was not feasible.⁶

Using the MDI, each household has been assigned a deprivation score between 0-18 and a separate destitution score between 0-18. If a household scores more than 6/18 they are considered deprived or destitute. The way scores have been assigned to households is presented in Table 3.

Estimating an under-5 mortality rate for Bakhel

Under-5 mortality is estimated by calculating the number of under-5 deaths that take place for every 1000 live births in a population. Data on number of live births in the last 10 years was not directly recorded during the survey, but in order to provide an estimated under-5 mortality rate, has been estimated from the survey by adding the number of under-10s living in Bakhel, to the number of documented under-5 deaths in the last 10 years in Bakhel and an estimate of the number of under-10 deaths in Bakhel in the same period.

Survey Findings

The following section presents the findings of the survey, including the demographic profile of Bakhel, its living standards, educational status, health status and estimation of levels of deprivation in the village.

Demographic Profile of Bakhel Village

Bakhel village is composed of 5 hamlets and at the time of the survey had a total population of approximately 2,088 individuals spread across 369 households (Table 4). The average household size is 5.66 people, slightly above India's national average household size of 4.8 and Rajasthan's of 5.5.⁷ Whereas many households across India are inhabited by extended families, with grandparents and married siblings and their families sharing a single home, in Bakhel families are primarily nuclear, so this large household size reflects a high total fertility rate* in the area.

The sex ratio in Bakhel is balanced with 991 women per 1000 men. This is in contrast to Rajasthan as a whole, which has a sex ratio of 928 women per 1000 men. Imbalanced sex ratios are usually the consequence of sex selection before birth, female infanticide and relative neglect of girls after birth resulting in increased mortality rates in this group. Overall it is estimated that there are over 35 million missing women across India as a consequence of these factors.⁸ It is therefore, reassuring that the sex ratio is balanced in Bakhel, although it is clear from subsequent data that girls and boys do not share equal status in the community.

* Total fertility rate is the average number of children born to a woman over her lifetime

Table 3: Indicators and scoring of multi-dimensional poverty index

| Dimension | Indicator of deprivation | Score if deprived | Indicator of destitution | Score if destitute |
|--------------------|--|-----------------------|---|-----------------------|
| Education | If any child between age 6-14 is not in school | 3 | If no child between age 6-12 is in school from the household | 3 |
| | If no-one in the household has had more than 5 years of schooling | 3 | No-one in the household has had one year of schooling (≥ 1). | 3 |
| Health | If a child under-5 has died in the past 10 years | 3 | 2 or more children under-5 have died in the household | 3 |
| | If anyone in the household is undernourished | 3 | Severe undernourishment of any adult or any child | 3 |
| | Because no measure of malnutrition was used, the score for under-5 mortality was doubled to 6 | | Because no measure of malnutrition was used, the score for under-5 mortality was doubled to 6 | |
| Living standards | If no access to safe water or water is >30mins walk round trip | 1 | The household does not have access to safe drinking water, or safe water is more than a 45- minute walk (round trip). | 1 |
| | If no access to improved sanitation | 1 | There is no facility (open defecation). | 1 |
| | If no access to electricity | 1 | The household has no electricity (no change). | 1 |
| | If using solid fuel | 1 | The household cooks with dung or wood. | 1 |
| | If living in poor housing (type of flooring) | 1 | The household has a dirt, sand, or dung floor (no change). | 1 |
| | If doesn't own more than one from TV, Radio, Fridge, Mobile phone, landline, cycle, car, truck | 1 | The household has no assets (radio, mobile phone, etc.) and no car. | 1 |
| Deprived if | | Total >6/18 | Destitute if | Total >6/18 |

Overall, Bakhel's population is very young. 34.7% of the population is aged under-10 in Bakhel, compared to 16.5% in rural India on average. Furthermore, the child-dependency ratio in Bakhel is 92.3, meaning there are 92.3 children aged between 0-14 years for every 100 people aged 15-64 years in the village. In comparison, the child-dependency ratio for India as a whole is 46.6, or half that of Bakhel.⁷

Table 4: Number of inhabitants and households in the Bakhel community we serve

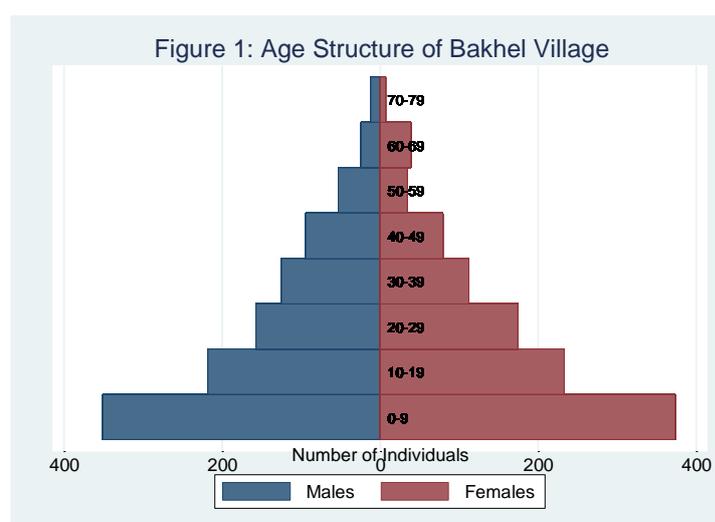
| Hamlet | Number of individuals | Houses |
|--------------|-----------------------|------------|
| Andat | 409 | 69 |
| Dagri | 834 | 145 |
| Kharavali | 561 | 106 |
| Ratnad | 98 | 16 |
| Dholimagri | 186 | 33 |
| Total | 2088 | 369 |

This high number of young children in proportion to the adult population has profound economic and developmental implications for the Bakhel community:

- Each economically active adult is responsible for more child-dependents, meaning household resources are likely to be spread more thinly.
- Children are more likely to be obliged to contribute to the household economy, either through formal labouring or informal work, such as grazing the goats and fetching water and firewood from an early age.
- Children are less likely to be enrolled in school, as once children reach a certain age, families may consider the 'opportunity cost' of sending a child to school to be too great if the child can be contributing to the household economy instead.

- Unless education indicators improve dramatically in the Bakhel area, there will be a significant increase in the number of unskilled adults from the community in the coming years, this will drive external migration to take up menial work and create land and resource pressures within the community.

The population pyramid (Figure 1) shows that there are roughly equal numbers of males and females by age group, and illustrates that the population is dominated by under-20 year olds. The sharp decline in numbers of individuals by age group could reflect a number of factors:



- 1) Very high mortality rates, particularly in the youngest age groups
- 2) Rapidly increasing fertility rates with every 10 years
- 3) High levels of emigration from Bakhel from men and women, while leaving children behind

Of these, possible causes it is likely that the age structure is primarily the consequence of high mortality rates across age groups, but particularly in the youngest groups; this is discussed further in next section.

Household living standards in Bakhel

The Bakhel community is one of the most marginalised and poor communities in India. This section documents findings from the survey about households' living standards, as indicated by their access to basic services and ownership of assets. The questions used were the same as those used in the Demographic and Health Surveys and are comparable with national and international data sources in this respect. These indicators, along with households' experiences of adverse health events and their access to education have been used to estimate levels of 'multi-dimensional poverty' in Bakhel in the forthcoming section; this was done using the methods described earlier.

Access to safe drinking water

82.6% of all households do not currently have access to safe drinking water[†]. They primarily use open wells, which may be seasonal, to access water with one family drawing surface water from a pond. The remaining 17.1% of households use shared tube-wells as a source of drinking water.

Table 5: Ownership of household assets in Bakhel

| Household asset | Proportion of households who own asset | Number of households who possess the asset |
|--------------------|--|--|
| Radio | 0.3% | 1 |
| Television | 0.8% | 3 |
| Landline telephone | 0% | 0 |
| Mobile telephone | 50.7% | 187 |
| Bicycle | 6.0% | 22 |
| Refrigerator | 0.3% | 1 |
| Motorbike | 3.0% | 11 |
| Car or truck | 0.8% | 3 |

Availability of improved sanitation

Only 2 households in the community have a designated toilet area (one pit and one toilet). Improved sanitation, is defined as sanitation in which excreta are appropriately separated from the toileting area, so in reality only one household in Bakhel has access to improved sanitation, and 99.7% do not. The vast majority (99.5%) of households continue to practice open defecation, and even basic practices, such as covering of stools with dust are not commonly practiced.

Cooking fuel

In Bakhel, every family cooks with an indoor wood burning fire. Most houses, have two rooms- one room in which all household possessions are kept (food, kitchenware, clothes etc.) and a second room which

serves as a living, sleeping and cooking quarters, resulting in very high levels of exposure to indoor air pollution for all the family, including the most vulnerable (young children and the elderly and frail).

Burning of solid fuels (especially indoors) is one of the most significant causes of morbidity and mortality in low income settings globally- in India it is estimated that approximately 500,000 premature deaths each year are attributable to indoor air pollution.⁹ In the young, chronic smoke inhalation contributes to recurrent respiratory infections and poor growth, while in older populations, smoke exposure is associated with cardiovascular morbidity and mortality (heart attacks and strokes) as well as lung cancer.

Housing quality

Type of flooring is a commonly used indicator of housing quality, with dung, mud and sand floors indicative of poor housing quality. In Bakhel, 7 households have cement floors, while the remaining 98.1% have dung and mud floors.

Access to electricity

32 households have access to electricity, either from mains or solar panels in Bakhel, while the remaining 91.3% have no access to electricity.

Household assets

Household assets are commonly used as an indicator or a household's purchasing power and wealth. In this survey, household ownership of various assets was recorded as indicators of household wealth (Table 5).

50.7% of households own mobile telephones, while only 8.7% of households have electricity, indicating that some utilities are often shared across households. Apart from mobile phone ownership, the households of Bakhel have very low ownership of assets, with less than 10% ownership rates for any of the other assets in the survey.

Possession of Below Poverty Line Card

The Below Poverty line card is provided by Government of India and entitles the households possessing it to some basic rations and benefits. Only 8.9% (33) households were found to possess a BPL card, although most households were eligible. It is unclear if the reason that possession rates are so low is because the community finds it difficult to complete the forms necessary to get a card, because of other bureaucratic difficulties or because the rations are never received, so there is low motivation to request the card.

[†] Defined by the World Health Organisation as a household water connection, public standpipe, borehole, protected well, protected spring or harvested rainwater.

Educational status of children aged from 6 to 14 years old in Bakhel

In India as a whole 96% of children aged between 6 and 14 years are enrolled in school.¹⁰ In contrast out of the 576 children in Bakhel aged 6-14:

- 222 (38.5%) are currently enrolled in a primary school (Classes I-VIII).
- A further 68 children of primary school age are currently in pre-primary education
- 47 children were previously enrolled in school, but have subsequently dropped out
- 238 children aged 6-14 (41.3%) have never been to school in Bakhel

Therefore, a total of 285 children (49.5%) are currently not in any form of education and 353 (61.3%) are either not in education or are in pre-primary education when they should be receiving a primary education.

Of the 47 children that have dropped out of education in Bakhel, only 12 had pre-schooling, while just 4 had completed the lower primary (classes 1-5) years.

Characteristics of children not attending school

There is a notable gender difference in children attending school in Bakhel, such that 63.8% of boys are enrolled in some form of education, while only 37.4% of girls are; as a consequence, 183 of the 285 children not

Table 6: School Enrolment status of children in Bakhel

| Enrolment Status | | Boys | Percent of boys | Girls | Percent of girls | Total | Percent of total |
|----------------------------------|--------------------------------|------------|-----------------|------------|------------------|------------|------------------|
| Currently enrolled in school | Enrolled in primary school | 143 | 50.7% | 79 | 26.9% | 222 | 38.5% |
| | Enrolled in pre-primary school | 37 | 13.1% | 31 | 10.5% | 68 | 11.8% |
| | Total | 180 | 63.8% | 110 | 37.4% | 290 | 50.3% |
| Not currently enrolled in school | Has dropped out of school | 19 | 6.7% | 28 | 9.5% | 47 | 8.7% |
| | Has never attended school | 83 | 2.9% | 155 | 52.8% | 238 | 41.3% |
| | Total | 102 | 36.2% | 183 | 62.3% | 285 | 49.5% |
| Unknown | - | - | 1 | 0.3% | 1 | 0.2% | |
| Total | | 282 | 100% | 294 | 100% | 576 | 100% |

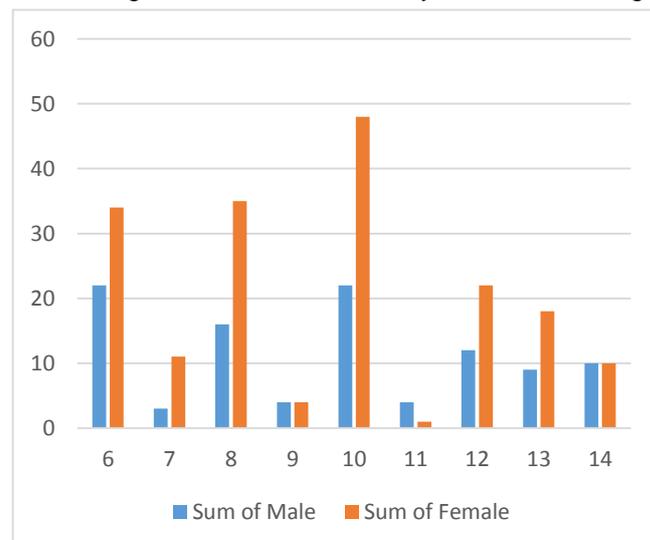
currently in school in Bakhel are girls (64.2%).

199 of the children not currently enrolled in school are also aged 10 or under (68.8%), meaning there is opportunity for significant catch up learning if these children can rapidly be enrolled into education.

It is also notable, that when numbers of children not enrolled in school is broken down by hamlet and gender, most of the children reside in the hamlets furthest away from Hunar Ghar Project as illustrated in Table 7 above. It is also clear that girls are systematically less likely to be enrolled in school across all the hamlets in Bakhel than boys.

Figure 2: Children aged 6-14 not currently in education by age and sex

Of the 369 households in Bakhel 235 (63.7%) contain children aged between 6 and 14 years. The average



number of children in the 235 households who were of school going age was 2.45 and the average number of children in school per household 1.24.

Of the 235 households with children of school going age, 79 households (33.6%) send all their children to school, while 96 households (40.9%) do not send any of their children to school. Overall, this means that 74.5% of families either send none of their children or all of their children to school, with only 25.5% of families

selectively enrolling children.

There was no association between the living standards of the household (as described above) and the likelihood of children from the household attending school, and similarly no evidence of an association between risk of under-5 mortality in the household and likelihood of children from the household attending school. There was, however, strong patterning of the proportion of children in school by hamlet, with relatively more families in Andat and Ratnad (the two closest hamlets to Hunar Ghar) with more than 50% of their children in school.

Table 7: Children aged 6-14 not in school by hamlet and gender

| Hamlet | Approx. Distance from Hunar Ghar | Number of boys | Boys out of school | % boys out of school | Number of girls | Girls out of school | % girls out of school | Number of children | Number out of school | % children out of school |
|--------------|----------------------------------|----------------|--------------------|----------------------|-----------------|---------------------|-----------------------|--------------------|----------------------|--------------------------|
| Ratnad | <1km | 20 | 4 | 20.0% | 12 | 4 | 33.3% | 32 | 8 | 25.0% |
| Andat | <1km | 63 | 16 | 25.4% | 60* | 31* | 51.7% | 123 | 47 | 38.2% |
| Degri | 1-3km | 102 | 31 | 30.4% | 134 | 82 | 61.2% | 236 | 113 | 47.9% |
| Kharavali | 1-3km | 71 | 37 | 52.1% | 66 | 50 | 75.8% | 137 | 87 | 63.5% |
| Dholi Magri | 1.5km | 26 | 14 | 53.8% | 21 | 16 | 76.2% | 47 | 30 | 63.8% |
| Total | - | 282 | 102 | 36.2% | 293 | 183 | 62.5% | 575 | 285 | 49.6% |

* The educational status for 1 girl from Andat is unknown

Table 8: Proportion of households with school-going age children in school by hamlet

| | All children go to school | % | 50-100% of children go to school | % | <50% of children go to school | % | No children go to school | % | Total |
|--------------|---------------------------|-------|----------------------------------|-------|-------------------------------|-------|--------------------------|-------|-------|
| Andat | 16 | 34.8% | 15 | 32.6% | 2 | 4.3% | 13 | 28.3% | 46 |
| Degri | 38 | 37.3% | 19 | 18.6% | 5 | 4.9% | 40 | 39.2% | 102 |
| Kharavali | 15 | 26.8% | 7 | 12.5% | 2 | 3.6% | 32 | 57.1% | 56 |
| Ratnad | 5 | 50.0% | 4 | 40.0% | 0 | 0.0% | 1 | 10.0% | 10 |
| Dholi Magri | 5 | 23.8% | 3 | 14.3% | 3 | 14.3% | 10 | 47.6% | 21 |
| Total | 79 | 33.6% | 48 | 20.4% | 12 | 5.1% | 96 | 40.9% | 235 |

Education status of adolescents and adults in the community

Of 354 adolescents/young adults aged between 15 and 24, 236 (67%) had never been to any school, 45 had been to primary school or less, while 106 had been to upper primary or secondary school. 10 people had higher education qualifications, and for 2 people we have no data.

From 751 adults aged 25 or over, 627 (83.5%) had never been to any school, 53 had primary education or less, 62 people had been to upper primary/secondary school (but not necessarily completed this) and 8 people had higher education; two of these individuals are teachers at Hunar Ghar.

Under-5 deaths in Bakhel over the past 10 years

In the past 10 years there have been 141 deaths of children under-5 in Bakhel. Death of a child under-5 was reported in 93 of Bakhel's 369 households. This means 25.2% of households in Bakhel have experienced the death of 1 or more children under-5 years of age, with 32 of these households having experienced more than one death of a child in the past 10 years.

An estimated under-5 mortality rate in Bakhel, based on approximately 936 livebirths in Bakhel in the last 10 years, is 150.6 per 1000 live births. This means a child born in Bakhel has approximately a 1 in 7 risk of death before their 5th birthday.

By comparison India's reported under-5 mortality rate is 53 per 1000 livebirths and rural Udaipur's reported Under-5 mortality is 98 per 1000 livebirths (95% CI 87-109).^{11,12}

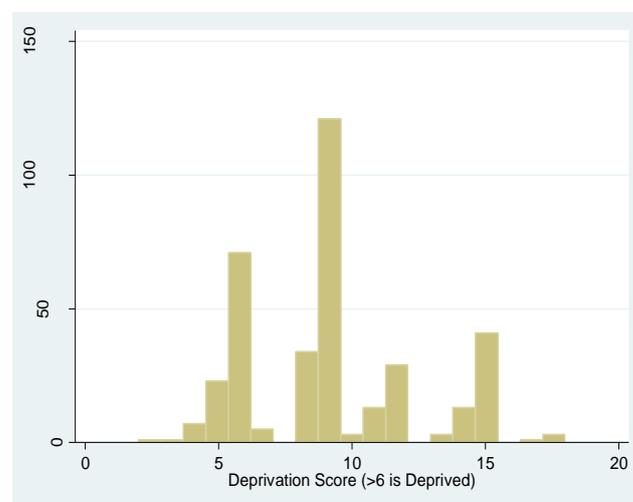
Levels of Deprivation and Destitution in Bakhel

In Bakhel, 72% of households are classified as deprived and 5.2% of households are destitute, as defined by the Multi-Dimensional Poverty Index. By comparison, 55.3% of households were estimated to be deprived across India in 2005, since when significant progress has been made with regard to livings standards, health and education.

Table 9: Number and proportion of households deprived and destitute in Bakhel

| | People (%) | Households (%) |
|------------------|--------------|----------------|
| Deprived | 1451 (69.5%) | 266 (72.1%) |
| Destitute | 98 (4.7%) | 19 (5.15%) |

Figure 3: Distribution of deprivation scores across households in Bakhel*



*Higher scores= more deprived, score of 7 or more is defined as deprived and 18 is the maximum score

It is apparent from the graph above that despite the overall poverty of people in Bakhel, this poverty is not equally distributed across the village, with some households having very high deprivation scores, while others' are relatively low.

In order to promote equitable change in Bakhel, this information will be used to target future Hunar Ghar services toward the most deprived households and to verify that services are reaching the most marginalised households in the community. Table 10 presents proportions of people living in deprived households by Hamlet.

Table 10: Deprivation levels by Hamlet

| Hamlet | Number of people living in deprived households | Proportion of total population of hamlet |
|-------------------|--|--|
| Andat | 196 | 47.9% |
| Dagri | 598 | 71.7% |
| Kharavali | 425 | 75.8% |
| Ratnad | 61 | 62.2% |
| Dholimagri | 145 | 78.0% |

Current and projected beneficiaries from Hunar Ghar Project

As stated in the introduction, the eventual aim of Hunar Ghar project is to ensure every child in Bakhel and the four surrounding villages benefits from access to a high quality education and that all mothers and children receive basic pregnancy, delivery and early childhood services, to ensure children are able to fulfil their potential.

Where previous sections have described the population of Bakhel as a whole, this section describes Hunar Ghar Project's range of services and the numbers of individuals from Bakhel who are currently benefiting from them and might be expected to benefit from them in the future.

Safe Motherhood Programme

The Safe Motherhood Programme was initiated in July 2013 in response to the poor access to pregnancy and delivery services in the area and to give children in the area, the best possible start in life.

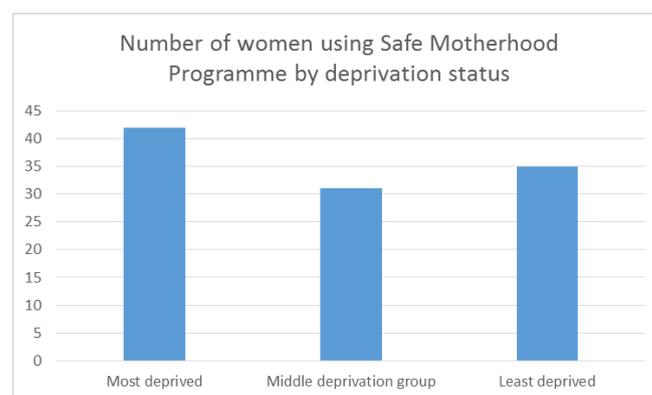
The programme is delivered by two community health workers, who undertake monthly home visits to all pregnant women, to provide advice about diet, avoidance of harmful substances (e.g. alcohol and tobacco), birth preparedness and warning signs which should prompt women to seek medical advice. The health workers also accompany women to the primary health centre for antenatal checks, tetanus vaccination and to receive Iron, Folate and Calcium supplementation. Overall the programme has been very successful in promoting healthy behaviours, increasing utilisation of government pregnancy services and increasing skilled delivery rates in Bakhel.

Since it began, the programme has served 149 women for the area. Of these, 131 women are from the village of Bakhel, representing over 90% of pregnancies that have taken place in Bakhel in the past 2 years. It is remarkable that over 1 in 4 women (27.8%) of child bearing age have used the service for a pregnancy within 24 months. Over the subsequent 4 years, it might be anticipated that the programme will have directly

benefited over 80% of women aged between 15 and 49 in the area.

It is also re-assuring that women from the most deprived sub-sections of Bakhel are benefiting from the services as much as, if not more, than women from wealthier households.

Figure 4: Distribution of women using the Safe Motherhood Programme by deprivation status



Infant & Early Childhood Programme

This programme follows on from the Safe Motherhood Programme and aims to ensure that all children born in Bakhel benefit from appropriate infant and early childhood care in order to improve their health, promote their development and enable them to achieve their full potential later in life.

The programme is in its early stages, with full implementation of activities not yet achieved. It also utilises community health workers to ensure birth registration of children, early breastfeeding and appropriate weaning, to guide mothers about care of newborns, monitor child growth and nutritional status, ensure full childhood vaccination coverage and promote developmentally friendly care at home so that children's language and cognitive skills are being nurtured before arrival at Hunar Ghar.

To date, the programme has served 128 children from the area, of whom 112 are from Bakhel. This constitutes 58.9% of the 190 children aged under-3 in Bakhel. In 12 months, it would be expected that over 90% of under-3s

Table 11: Numbers of people in Bakhel by beneficiary group

| | Hunar Ghar Project Area | Age range | Male | Female | Total |
|---|------------------------------------|--------------------|------------------|------------------|---------------------|
| Pre-school aged | Infant & Early Childhood Programme | 0-2 | 83 | 107 | 190 |
| | Kindergarten at Hunar Ghar | 3-5 | 109 | 108 | 217 |
| Total Under-6s | | | 192 | 215 | 407 |
| School-going age | Primary school at Hunar Ghar | 6-11 | 218 | 224 | 442 |
| | Upper primary school at Hunar Ghar | 12-14 | 64 | 70 | 134 |
| Total in age for compulsory education | | | 282 | 294 | 576 |
| Senior school age | Youth mentorship programme | 15-17 | 62 | 68 | 130 |
| Child-bearing age (15-49 years) | Safe Motherhood Programme | 15-49 (women only) | 471 | - | 471 |
| Total number of direct beneficiaries (of which under-18) | | | 945 (536) | 577 (577) | 1522 (1,113) |

in Bakhel will be actively benefiting from the programme.

Hunar Ghar School years

Hunar Ghar School opened in 2007 to children in the area who had never before attended school. As such it began with a Kindergarten and Class I and each year has taken on an additional year group. The aim of the school is to provide for a holistic and high quality education using methods which makes learning engaging and accessible to these first-generation learners.

To estimate the change in school enrolment rates since Hunar Ghar began, the proportion of 21-29 year olds in Bakhel who had any education (32.8%) has been compared to the proportion of 6-14 year olds (58.7%). This approximate doubling in access to education since Hunar Ghar started is also reflected in the fact that Bakhel's literacy rate in the 2011 census was approximately double that of surrounding villages (Table 12).²

In 2014-15 the school extended from age 3 (Kindergarten) to age 14 (Class VII) and had 259 children enrolled. Of these 259 children, 154 children (59.5%) were from Bakhel, while the remainder were from the surrounding villages.

There are currently 793 children aged between 3 and 14 in Bakhel and if Hunar Ghar is to be successful in ensuring 100% of these children are in school and learning well, while continuing to accept a proportion of children from the surrounding villages, the eventual number of the children at Hunar Ghar will be approximately 1,300 by 2030. In order to keep numbers of students enrolled in Hunar Ghar to a manageable number, while ensuring all children in the area can access the education they deserve, plans are in place to start supporting government schools in the nearby villages. It is anticipated that using this approach the number of children enrolled at Hunar Ghar will be limited to approximately 900.

Youth Mentorship Programme

A youth mentorship programme is planned to begin from July 2016 which will support children to continue to study beyond VIIIth class and develop skills which will enable meaningful occupation, as well as promoting youth leadership in the area. This programme has not yet begun, but will benefit approximately 14-17 year olds in years to come.

Discussion and Conclusion

With a relatively younger population and better sex ratio, as compared to the state and national averages,

Bakhel still stands as one of the poorest and most marginalised villages of the country. The household living standards are ostensibly poor, marked by little access to safe drinking water, improved sanitation, clean and pollution free cooking fuel and electricity coupled with poor housing quality, low ownership of household assets and access to social entitlements provided by the government for household below the poverty line. Poor social and human development indicators are also reflected in low school enrolments, particularly for girl children and high infant and child mortality rates. Overall, Bakhel is characterised by acute levels of deprivation and has been remarkably untouched by the gradual social and economic development experienced by other parts of the country in the past decade. The survey also demonstrates an underlying link between the indicators of deprivation resulting in compounding the vulnerabilities of individuals and households. Hence, there emerges a need to holistically build capabilities of the communities in terms of access to health, education and livelihoods.

Table 12: Census 2011 literacy rates in Bakhel compared to surrounding villages

| Area | Population | Sex Ratio | Literacy rate | Male Literacy | Female Literacy |
|--------------------|------------|-----------|---------------|---------------|-----------------|
| Bakhel | 2660 | 991 | 33.5% | 41.5% | 25.3% |
| Mandwa excl Bakhel | 4343 | 903 | 17.4% | 24.0% | 10.7% |

While the survey clearly outlines the need and offers directions for further intervention in the region, it also offers a snapshot of the work done by the Hunar Ghar project towards enabling access to high quality education and basic pregnancy, delivery and early childhood services for all mothers and children through its Safe Motherhood programme, Infant and Early Childhood programme, Hunar Ghar school and Youth Mentorship programme. The above programmes aim to enable every child achieve their full growth potential through a 360 degree approach. As a result of these programmes, there has been steady increase in access to health services during pregnancy and healthy behaviours with respect to antenatal, infant and early childcare. The access to education in the region has doubled and the literacy rate of Bakhel has become twice that of neighbouring villages since Hunar Ghar School was started in 2007.

Furthermore, the survey also indicates the need for scalability and replicability of the Hunar Ghar model to not only ensure access to education and health services for every child in Bakhel but also devising similar approaches and interventions to low and middle income settings elsewhere in the country.

References

1. Mohan P, Sharad D, Kumaril A, Virendra S. Situation Analysis of health status and health system in Kotra Tehsil. Action Research & Training for Health; 2003.
2. Government of India. Census of India 2011. In: Affairs MoH, editor.; 2011.
3. Government of India. Census of India 2001. In: Affairs MoH, editor.; 2001.
4. Kumar A, Sharma S, Sharma C, Meghwal S. A study to assess the level of living and awareness and practices regarding maternal and child health care in remote tribal village of Udaipur District. *National Journal of Community Medicine India* 2013; **4**(2): 318-20.
5. Alkire S, Conconi A, Roche JM. Multidimensional Poverty Index 2012: Brief Methodological Note and Results. *University of oxford, Department of International Development, oxford Poverty and Human Development Initiative, oxford, UK* 2012.
6. Initiative OPaHD. Global MPI FAQs. 2015. <http://www.ophi.org.uk/multidimensional-poverty-index/mpi-faqs/> (accessed 20/07/2015 2015).
7. Government of India. National Family Health Survey (NFHS-3); 2005-2006. In: Welfare MoHaF, editor. Mumbai: International Institute for Population Sciences; 2007.
8. Perianayagam A, Goli S. Provisional results of the 2011 Census of India: Slowdown in growth, ascent in literacy, but more missing girls. *International Journal of Social Economics* 2012; **39**(10): 785-801.
9. Smith KR. National burden of disease in India from indoor air pollution. *Proceedings of the National Academy of Sciences* 2000; **97**(24): 13286-93.
10. ASER Centre. Annual Status of Education Report 2014 (Rural). Inkprint.in, New Delhi; 2015.
11. UN Inter-agency Group for Child Mortality Estimation. World Under-5 Mortality Data. 2014. <http://data.worldbank.org/indicator/SH.DYN.MORT> (accessed 20/07/2015 2015).
12. Office of the Registrar General and the Census Commissioner India. Annual Health Survey Bulletin 2011-12. In: Affairs MoH, editor.: Government of India; 2012.

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