



CAIRN OIL & GAS

**BASELINE-NEEDS ASSESSMENT, IMPACT ASSESSMENT
AND PERCEPTION STUDY**

MARCH 2023

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EXECUTIVE SUMMARY

Executive Summary

About CAIRN

Cairn Oil & Gas, Vedanta Limited is one of the largest private oil and gas exploration and production companies in India, accounting for more than a quarter of India's domestic crude oil production. The company is committed to conducting all its business activities in a socially responsible, ethical, and environmentally sustainable manner while continuously working towards ***improving the Human Development Index (HDI) in its operational areas across Rajasthan, Gujarat, Assam, and Andhra Pradesh.***

Cairn adopted a scientific and strategic approach to address the needs of the local communities by implementing CSR initiatives in partnership with government (local, state or centre) and credible organisations across various thematic areas like agriculture and animal husbandry, skill development, education, healthcare, community infrastructure development, promotion of sports, etc. Creating multiple channels of continuous engagement with communities through need-based projects is a key strategy in CSR operations of CAIRN.

Since the last impact assessment process, CAIRN has continued as well as initiated programmes that are both foundational as well as aspirational in nature. To understand the impact of their programmes, the current needs of the communities as well as the perception amongst the communities around their CSR activities and business unit, CAIRN appointed KPMG Assurance and Consulting Services LLP to carry out their Baseline cum Needs Assessment, Impact Assessment and Perception Study.

KEY HIGHLIGHTS FROM BASELINE FINDINGS (2022)

Education

- Literacy has been improved by 15 percentage points across all the field location.
- Attainment of Secondary Education has been improved by 20 percentage point across all the locations
- Attainment of Higher Secondary Education has been improved by 13 percentage point across filed locations
- There have been zero school dropouts across filed locations except Barmer and Jalore.
- Access to facilities in schools remain a challenge in Jalore and Barmer.
- 17 per cent of the children in Barmer and 28 per cent of the children in Jalore have dropped out of school.
- Pupil teacher ratio remains a challenge across schools in Barmer , Andhra Pradesh, Gujarat and Assam

Healthcare and Water

- 80 per cent of the population has access to MHVs in Barmer and Jalore.
- 95 per cent of the population has access to Anganwadi
- 96.85 per cent of the population accesses healthcare facility at least once a year
- 55.83 per cent of the population is spending between 2000 INR and 5000 INR annually on health. The average out of pocket expenditure in the field locations is 48.19 per cent lesser than the state average and the majority (61.41 per cent) spend between 2000 INR and 5000 INR.
- 33.51 per cent of the households had access to drinking water within their house or the periphery of the house while 3.57 per cent had access to drinking water beyond 1 kilometre from their house

Sustainable Livelihood

- Unemployment in the field locations is 27 per cent lesser than the district averages (census 2011). However, 29 per cent of household members remain unemployed wherein 62.74 per cent of these are women.
- 73.28 per cent more of the respondents are earning over 10,000 INR a month compared to the district averages (Socio Economic Survey-2011).
- 98.54 per cent of agricultural households were using mechanised farming equipment available to them
- The average expenditure on agriculture is similar to the state state averages (NSS,2019-2020)
- 63.21 per cent of the farmers continue to follow flood irrigation.
- Only 14.89 per cent of farmers have received support with market linkages.
- There are 16.32 per cent more marginal farmers in the field locations compared to the state averages.

KEY HIGHLIGHTS FROM BASELINE FINDINGS (2022)

Skilling

- 14.32 per cent of the population is interested in tertiary skills such as IT, communications, enterprise development as well as financial management.
- Only 13.52 per cent of the main respondents were unemployed.
- 43.21 per cent of the households in the field location have at least one unemployed member.
- Only 24 per cent are willing to pay for skill training.
- The main reason provided for the unemployment in the region was the lack of available opportunities.

Women Empowerment

- 43.97 per cent lesser women in the field locations were married before they turned 18 compared to the overall average of the districts.
- 58.19 per cent women stated to always make independent decisions on their employment, family planning, mobility, right to vote, child's education as well as their finances.
- 16.57 percentage points more women in the field locations were associated with SHGs compared to the districts where the field locations are present.
- On an average 17.84 per cent of women never make any form of decisions on their own in these field locations, significantly in East Godavari, none of the female respondents made their own independent decisions.

Community Development

- Apart from community structures like Gram Panchayat, Community Halls and Concrete Roads, access to other community infrastructures like Post Offices, Banks were found lower.

Environment

- The most prevalent environmental issue across locations is water pollution as stated by 53.56 per cent of the respondents, followed by deforestation as stated by 34.61 per cent of the respondents and drought as stated by 28.18 per cent of respondents.

KEY PROGRAMMATIC IMPACTS AND BUSINESS DRIVERS (2022)

Programme	Key Programmatic Impacts	Business Drivers
<p>Project E-Kaksha</p>	<ul style="list-style-type: none"> 71 per cent of the respondents whose children were accessing digital education in Jalore and Barmer, have reported improvement in passing percentage and/or academic scores due to CAIRN's project interventions. 46 per cent of the respondent households reported to have a decrease in out of pocket health expenditure 	<p>CAIRN has generated shared values¹ between its internal and external stakeholders, incorporating the interest of a wide range of stakeholders and enhancing the trust between the company and its external stakeholders. An educated population further signifies greater rational thinking thereby reducing non-objective thinking. This is supportive to the business in the long run given that the educated population will see greater value in the industrial output of the company and appreciate the social and environmental actions undertaken by the business unit to advance society.</p>
<p>Project NandGhar</p>	<ul style="list-style-type: none"> 68 per cent of the respondent households who were accessing the Anganwadi Centers reported that there was 	<p>Investment in early childhood development, safeguards the development of young children and lays the foundation for their success. Accordingly, companies are responding to this idea as of the smartest investments to make, leading to greater</p>

¹ <https://www.sciencedirect.com/science/article/pii/S0148296322000613>



increased access to supplementary nutrition owing to CAIRN's project interventions.

returns in education, health, productivity, and economic growth². **While the primary concern for any company is to run a successful enterprise, actions taken on early childhood development pays out dividends for multiple generations**³. It is further seen that investment into early childhood development has higher return on investments, not only because those who participate in “high-quality early childhood programs develop enhanced skills and become **more productive workers**”⁴, it further allows the business to **make fewer investments** at higher level of educations given that children would have strong foundational educational backgrounds⁵. The programme has also been appreciated by the local communities.



72 per cent of the respondent households in Villages in Ahemdabad, Jamnagar, Surat and Banas Kantha where the Project Ujjawal has been implemented reported that there has been an improvement in the passing percentage of their children.

CAIRN has generated shared values between its internal and external stakeholders, incorporating the interest of a wide range of stakeholders and enhancing the trust between the company and its external stakeholders. An educated population further signifies greater rational thinking thereby equipping them with emotional skills to avoid non-objective thinking and attempts to sway their opinions for personal gains by external actors. This is supportive to the business in the long run given that the educated population will see more value in the industrial output of the company and understand the social and environmental actions undertaken by the business unit to advance society.

² https://d1zah1nkiby91r.cloudfront.net/s3fs-public/2018_10 - akdn - early childhood development and csr.pdf

³ <https://www.readynationinternational.org/documents/5>

⁴ https://www.purdue.edu/hhs/hdfs/fii/wp-content/uploads/2015/07/s_wifis32c01.pdf

⁵ <https://www.impact.upenn.edu/early-childhood-toolkit/why-invest/what-is-the-return-on-investment/>

Project Mobile Health Units

- 52 per cent of the beneficiaries in Barmer and 43 per cent of the beneficiaries in Jalore reported that due to CAIRN's health intervention, there is an improvement in access and timely availability of health care facilities

By providing access to healthcare at the doorstep of the beneficiaries, **CAIRN has become a partner in healthcare development in the field locations it operates in.** Not only is it one of the goals of CAIRN to ensure the overall wellbeing of the communities it works with, the focus on healthcare paves the way to ensure that the population's other basic needs such as livelihood and education do not suffer during those days lost to sickness. **A healthy and content community recognizes the value of the business unit in complementing the efforts of the public healthcare system.** It further reduces the stress on the government health systems, as a partner to the local stakeholders of the area to meet the goals of ensuring a healthy population. This further has **incremental effects on a thriving economy, which further reduces the pressure on the business unit to provide direct employment.** The programme is widely appreciated and is one of the most popular ones run by CAIRN.

Project Bore Well

- 79 per cent of the respondent households reported to have an improvement in their access to clean drinking water.

Investment in the water facilities of the communities can ensure a thriving and healthy workforce. Investment in the WASH can increase productivity, reduce absenteeism, and improves punctuality amongst the workforce of the community. The investment in WASH ensures a high return on investment and further bolsters the economy of the region. A thriving workforce will further reduce the burden on the business unit to provide direct employment.

**Project Jeevan
Amrit**

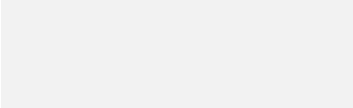
- 62 per cent of the respondent households reported to have an improvement in the access to clean drinking water.
- 56 per cent of the respondent households, who are dependent on the RO water, reported that the intervention has resulted in the decrease in the prevalence of the water borne diseases in the community

Investment in the Water facilities of the communities can ensure a thriving and healthy workforce. Investment in the WASH can increase productivity, reduce absenteeism, and improves punctuality amongst the workforce of the community. The investment in WASH ensures a high return on investment and further bolsters the economy of the region. A thriving workforce will further reduce the burden on the business unit to provide direct employment.

**CAIRN
Enterprise
Centre**

- 100 per cent of the beneficiaries reported to receive placement opportunities through Cairn Enterprise Centers.

Given that “*industries have a crucial role in impelling lasting economic development of the country, investment by them in skilling the workforce makes a strong business case*”. Investment in skill building through CSR is seen as a win-win opportunities for companies as they create wide ranging impacts and sustainability for a company’s stakeholders. To act as a leader in the field of skilling the youth in the field locations where they operate and by supporting them with job placements as well as retention in modern industries, CAIRN not only gains favour of the growing youth but also enhances the workforce portfolio of these locations, supporting the government, the community as well as creating future workforce that could contribute to their own development. **It may further reduce the**



expectations of the community from the business in providing employment.

**Project Barmer
Unnati**

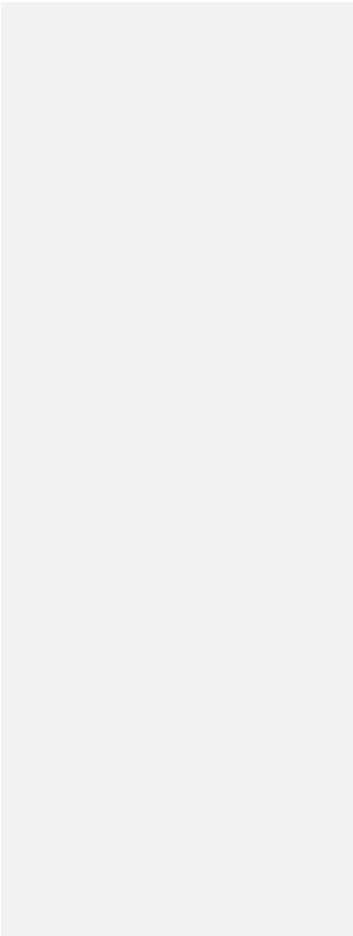
- There has been an increase in income by an average INR 16862 annually. The input cost has been reduced by INR 4526 annually.

Businesses are seen as engines for “growth and development” and therefore to underpin their license to innovate, operate and grow the business, they have a critical role to play in accelerating progress towards development overall. In fact, the World Business Council for Sustainable Development (WBCSD) believes that the leading companies of the future will be those that align profitable business ventures with the needs of society. For any business, investments into the livelihood of communities that are marginalized or have lower incomes, supports in the growth of the communities they work in, which in turn improves the landscape for carrying out business operations. A community that is satisfied with the support they are receiving from the business to improve their livelihood conditions is more likely to support the business in its own growth and further reduces the expectation of the community for employment from the business unit.

**Project Dairy
Development**

- The project ensured an additional income of INR 110/day to the beneficiaries.

Through the Dairy Development programme, the business can enhance the economic empowerment of women in the field locations which in turn has an impact on their decision making, seen through the impact assessment. This, therefore, ensures that **CAIRN is positioned as an organization that is an ally for women’s empowerment**, bolstered by their *People Practices* which state “*We are committed to promote gender equality and women’s empowerment in the workplace, marketplace, and*



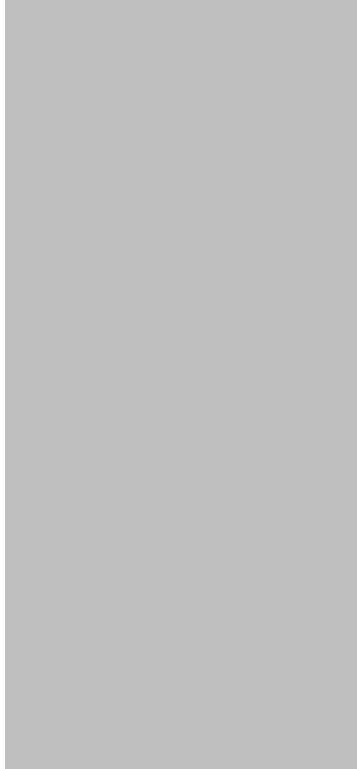
*community*⁶. It must be noted that there is a growing interest of companies to invest in women empowerment due to the heightened awareness that **“empowering women yields a high return on investment”**⁷. According to a pre-conference during Women Deliver 2016, private sector leaders agreed that “by investing in women, **business drives growth, productivity, and innovation—and creates a better world**”⁸. This is due to the fact that the business is recognized to follow an integrated approach wherein not only are their internal practices in alignment with such principles, but they are equally **invested in supporting the community in inculcating the same principles of equality**. CAIRN has instrumentally supported the SHG women in becoming leaders in the social change process in the communities where they are working, thus driving ownership of the community members while further ensuring recognition by the community on the strengths of these women.

Micro Level Intervention

- 84.6 per cent respondents reported positively on increase in income due to increase in yield. The average increase in annual income in Golaghat was Rs 2,000 and in Jorhat it was Rs 3,285.(SRI and SHG)

Community Development interventions offer short wins for the business whereby, it is directly linked with building partnerships with external stakeholders, in supporting their mandate to improve the living conditions of the community; supports communities in ensuring essential infrastructure and thus **gain trust among them**. Furthermore, according to ADB, there is empirical evidence to suggest that **investments into infrastructure have the greatest impact in the presence of other, supportive actions**. “For instance, rural roads, irrigation systems, and rural

⁷ <https://www.icrw.org/wp-content/uploads/2016/10/The-Business-Case-for-Womens-Economic-Empowerment.pdf>
⁸ <https://womendeliver.org/accelerating-private-sector-action-womens-empowerment/>



electrification programs are more successful at reducing poverty when there are also strong programs in education or health”⁹. Through the myriad of projects that are being undertaken by CAIRN, tackling multiple levels of required social development investments along with community development projects, CAIRN is ensuring a **combined and multiplied impact on the overall living conditions of the community**. CAIRN has thus created a footprint in the community that may ensure community and stakeholder support in their business growth and expansion.

Moreover, the income generation through Micro Level Intervention can reduce the burden on the business unit to provide the employment to the community members.

⁹ <https://www.adb.org/sites/default/files/publication/29823/infrastructure-supporting-inclusive-growth.pdf>

KEY AREAS OF IMPROVEMENT AND RECOMMENDATION

Education

Access to Infrastructure and facilities remains a challenge in Jalore and Barmer. There has been dropout amongst school going children in Barmer and Jalore.

- Improve school infrastructure and functioning with support through community involvement.
- Improve digital infrastructure in schools and expansion of E-Kaksha through digital classrooms.

Healthcare and Water

Less than half the households are accessing public healthcare facilities such as district hospitals, CHCs, PHCs and sub centres. There is a shortage of manpower at these institutions as reported by the Rural health statistics (2020-2021).

Thus, it is recommended to:

- Ensuring a Holistic Approach towards healthcare: Mobile Health Vans (MHVs) and units are a key support structure in healthcare delivery; however, it cannot be present everywhere at once.
- It is thus essential to ensure that primary, secondary and tertiary healthcare institutions are not only sufficiently present and accessible but available to provide quality curative and preventive healthcare. CAIRN, with its existing connect with the government health department may work alongside them to fulfil the gaps in infrastructure and healthcare training.
- Certain remote populations may continue to face barriers in accessing healthcare through public institutions which can be supplemented by ensuring MHV access in these locations
- Expansion of Telemedicine access through aligning with existing government services. However, given the challenges that persist (such as with e-sanjeevani), CAIRN may work alongside the Government in order to provide sufficient equipment as well as training to doctors at central locations to enhance availability of first-level of care.
- Community Involvement in increasing health seeking behaviour and bringing health behaviour change.

Sustainable Livelihood

Access to market remains a challenge to farmers in the field location. The input cost of the farming is 45 per cent higher than the state averages in the field locations.

Thus, it is recommended that:

- Movement from income enhancement model to a nutritional enhancement model.
- Increase Association of Farmers with FPOs and support market linkages.
- Access to Financial Services and Subsidies to reduce costs including crop insurance
- Expansion of Modern Irrigation Methods
- Technological Innovation for Technical Training either through collaboration or creation of own roster of material that is easily accessible to farmers (not only in current intervention locations but beyond).

Skilling

43.21 per cent of the households in the field location have at least one unemployed member.

Thus, it is recommended to:

- Create linkages between vocational education and formal skill training
- Improve Job Retention through enhanced Career Counselling (including psychometric mapping) and Job Mapping
- Focus on initiatives such as E-Dukaan to set up their own ventures of e-shops in order to tackle the issue of out-migration required for skilled jobs while further building an enterprise culture within the field locations.
- Develop Worker Facilitation centres to enhance social security net of placed youth who migrate

Women Empowerment

Only 58.19 per cent women stated to always make independent decisions on their employment, family planning, mobility, right to vote, child's education as well as their finances.

Thus, it is recommended to:

- Building Leadership and Gender Training as an overarching element in SHGS: Not only is it necessary to support SHG members with training around financial literacy, support their entrepreneurship as well as literacy, it is equally important to integrate leadership and gender awareness within the programme in a manner that not only are external stakeholders made gender sensitive, but women's leadership skills are leveraged, and they are supported to exercise their agency. This has impact not only on personal empowerment but empowerment for the larger community of women.

Community Development (Community Development Interventions)

Except Gram Panchayat and Community halls, access to other government institutions and infrastructure remains low across field locations

Thus, it is recommended to:

- Improve Transport services in rural areas along with the government under their scheme to ensure buses in rural areas to increase access to transport.
- Enhance Community involvement in infrastructure development and refurbishment for improving visibility and perception.

Environment

The most prevalent environmental issue across locations is water pollution as stated by 53.56 per cent of the respondents, followed by deforestation as stated by 34.61 per cent of the respondents and drought as stated by 28.18 per cent of respondents.

Thus, it is recommended to:

- Create Convergence with District Environment Plan: If CAIRN wishes to work on environment, there is an opportunity to ensure converge and thus collaborate with the district administration on Environment Action Plans created by different districts.
- Promote Climate-resilient Agriculture (CRA): Through their existing sustainable livelihood programme, CRA can be promoted which is an approach that includes sustainably using existing natural resources through crop and livestock production systems to achieve long-term higher productivity and farm incomes under climate variabilities.

Community and Stakeholder Perception

MHV programme was ranked 1 the highest number of times across the field locations. Moreover, the community believed that support must be provided for women's economic independence, skilling of youth and higher education for girls.

The overall perception of the community as well as stakeholders has been significantly positive towards the business unit. Overall, the satisfaction levels of the community are at 92.76 per cent wherein the satisfaction level in each location is over 80 per cent. The overall satisfaction levels of the local stakeholders are at 89.44 per cent further stated that they were extremely satisfied. Within district stakeholders, 75 per cent were satisfied while 22.73 per cent were extremely satisfied.

Proposed Overall CSR Strategy

Holistic Multi-Sectoral Programmatic Approach: The present system of thematic area divisions focuses on specific impacts of each programme, drawing away from the overall impact of CAIRN's CSR. An approach rooted in multi-sectoral programmes that follow a continuum and convergence model, allow for last mile delivery and holistic support to each member of the community. There are clear business drivers for each of the current programmes and evidence of impact. The same when built on each other's success and value, allow for enhanced overall impact as well as positive perception in the community.

Furthermore, convergence and collaborations, not only with the government bodies and relevant schemes, but with sector specialists on each theme would enhance the design of the larger model.

Effective use of Technology

To ensure the above, a significant investment both in terms of human resources as well as financial resources is required, which may not be sustainable. Hence, there is a need ***to bring in technology to ensure scale, quality, standardization, cost effectiveness and sustainability.*** However, while applying technology for scale, one needs to be mindful of the digital exclusion where a section of the population continues to face hurdles in accessing technology¹⁰. In fact, according to a study, one in ten households from underdeveloped rural areas versus one in every second household in urban areas have access to the internet, signifying a clear digital divide between urban and rural areas. Thus, while the use of technology can support development opportunities, it also poses a risk in widening inequalities¹¹. Therefore, while it is recommended to deploy technological solutions to scale impact, work on the economy of scale and therefore further ensure sustainability, one must apply the **'leave no one behind'** principle of the SDGs and ensure continued on-ground support¹².

Monitoring

A focus on monitoring mechanisms is further required. Presently the monitoring mechanism facilitates capturing output data, however last mile traceability, outcome and impact integration needs to be strengthened. This can be done through developing an MIS which captures and documents beneficiary wise services-delivered and integrates outcome and impact KPIs in the overall monitoring process. This would help in review and course correction.

¹⁰ https://link.springer.com/chapter/10.1007/978-981-13-9996-1_1

¹¹ <https://wp.nyu.edu/dispatch/2018/03/07/how-technology-is-improving-the-standard-of-living-in-developing-countries/>

¹² <https://unsdg.un.org/sites/default/files/2022-04/Operationalizing%20LNOB%20-%20final%20with%20Annexes%20090422.pdf>

Introduction to Studies

1. Introduction to Studies

The Macro View- Country and States

India, a country where 67 per cent¹³ of its population live in villages and is largely dependent on agriculture for their livelihood. While the country has made strides to become one of the largest economies in the world today, social inequities within the country not only remain but have exacerbated with time.

Successive governments have been implementing social development policies, programmes and schemes, to bridge this inequity, especially in the rural areas. Social development has been a key concern in India since before Independence, with monumental reformist movements during the independence struggle forming the bedrock of independent India's social welfare policies. The efforts undertaken through various legislatures, policies, and programmes since 1947 have had an impact in improving economic outputs as well as reducing poverty. In fact, between 1990 and 2021, India's HDI¹⁴ value increased by 45.9 per cent¹⁵. However, the country still stands at rank 132 out of 191 countries as of 2021, with an HDI value of 0.633 (medium human development category)¹⁶.

In 2010, UNDP introduced the Inequality Adjusted HDI which measures the human development of each country by adjusting the measure of inequality. Essentially, the IHDI and HDI figures amount to the same when no inequality is found, however the former falls below the latter when there is any form of inequality against the dimension's measures in the HDI¹⁷. India's loss due to inequality is 25 per cent, which lowers the HDI to 0.475 in 2021¹⁸.

The HDI for Indian states is available for the year of 2017¹⁹ wherein India itself ranked 130 across countries with a score of 0.640. In this year, Rajasthan had a score of 0.638 (ranking 31st in the country), Gujarat had a score of 0.698 (ranking 18th in the country), Assam had a score of 0.651

¹³ Census of India 2011

¹⁴ HDI or Human Development Index, developed by UNDP, is a summary measure to assess long term progress in three basic areas viz. a long and healthy life, access to knowledge and a decent standard of living.

¹⁵ <https://hdr.undp.org/data-center/specific-country-data#/countries/IND>

¹⁶ Ibid

¹⁷ [https://ms.indianeconomy.net/glossary/inequality-adjusted-hdi-ihdi/#:~:text=The per cent20inequality per cent20adjusted per cent20HDI per cent20\(IHDI,health per cent20education per cent20and per cent20income\).](https://ms.indianeconomy.net/glossary/inequality-adjusted-hdi-ihdi/#:~:text=The%20inequality%20adjusted%20HDI%20(IHDI,health%20education%20and%20income).)

¹⁸ <https://hdr.undp.org/data-center/specific-country-data#/countries/IND>

¹⁹ [https://mospi.gov.in/documents/213904/301563/Report_per%20on_per%20Gendering_per%20Human_per%20Development_per%20\(1\)1617270984176.pdf/ab88fd0a-d5ee-77f9-a493-4238dfb3838c](https://mospi.gov.in/documents/213904/301563/Report_per%20on_per%20Gendering_per%20Human_per%20Development_per%20(1)1617270984176.pdf/ab88fd0a-d5ee-77f9-a493-4238dfb3838c)

(ranking 28th in the country), and Andhra Pradesh had a score of 0.648 (ranking 30th in the country).

Human Development Index 2017

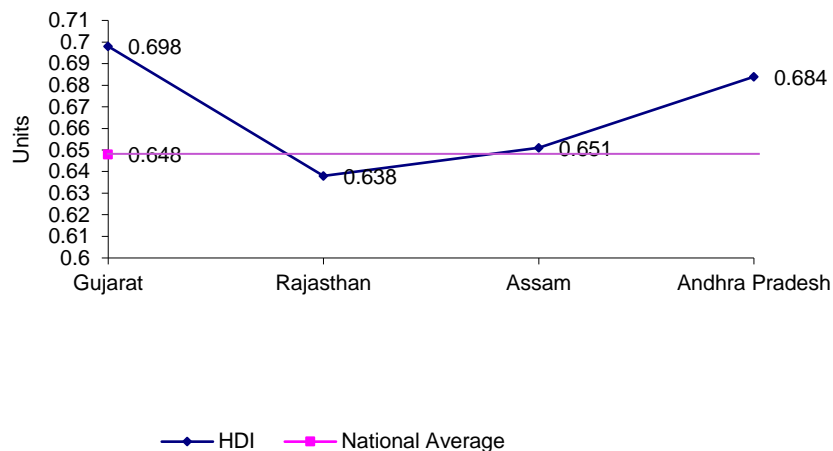


Figure 1: Human Development Index

The country measures HDI basis three dimensions viz. **Long and Healthy Life** (Life expectancy), **Knowledge** (expected years of schooling²⁰ and mean years of schooling²¹) as well as **decent standard of living** (per capita gross state domestic product²²). Across all these indicators, Rajasthan scored below the national average and Assam was marginally better than the national HDI score. Gujarat and Andhra Pradesh performed better on HDI score in comparison to national average.

Persistent poverty and the increasing inequalities in the country remain a concern, especially when the difference within the state contexts is reviewed. In fact, despite India's per capita increasing by over 5 times between 2000 and 2019, the income of the entire population has not increased at the same rate. The top 10 per cent earned 56 per cent of the country's total income in 2019; the bottom 10 per cent earned only 3.5 per cent²³. In fact, the inequality in the distribution

²⁰ As per Human Development Report, UNDP, Expected Years of Schooling is defined as number of years of schooling that a child of school entrance age can expect to receive if prevailing patterns of age-specific enrolment rates persist throughout the child's life.

²¹ As per Human Development Report, UNDP, Average number of years of education received by people ages 25 and older, converted from educational attainment levels using official durations of each level

²² Per Capita Net State Domestic Product is the total value of goods and services produced during any financial year within the geographical boundaries of a state divided by midyear projected population of the state

²³ <https://www.downtoearth.org.in/blog/economy/why-inequality-is-india-s-worst-enemy-75778>

of income between and urban and rural pockets is demonstrated by the fact that the urban households earn around 59 per cent more than the rural household.²⁴ Hence, it can be inferred that villages have become the hub of poverty.

As per Census 2011, 68.8 per cent²⁵ of India's population lived in villages and 72.4 per cent of the workforce resided in rural areas²⁶. Moreover 51 per cent of the working age population (engaged as main workers) were involved in agriculture and allied activities in the country²⁷. Despite the rural economy contributing to half of India's GDP in 2019-2020²⁸ and agriculture forming the major avenue for livelihood in rural India, there exists around 3.76 million landless agricultural labourers and over 120 million small and marginal farmers, who are worst affected since their cropping capacity is very limited. Women comprises 30.03 per cent of the total rural work force suffer more as they have little access to institutional credit or organized extension support.²⁹

As per Population Census 2011, Gujarat has the lowest unemployment rate among the major state economies. Gujarat has an unemployment rate of 2 per cent, which is significantly lower than all-India unemployment rate of 4.8 per cent. Andhra Pradesh and Rajasthan have an unemployment rate of 4.7 per cent and 4.5 per cent respectively. In Assam, the unemployment rate is 7.9 per cent, much higher than the national average.

Despite the progress made, the aftermath of COVID-19 was a poor reflection of the public healthcare system in the country, especially in remote rural areas. In states such as Rajasthan, where investment has been made in health infrastructure, lack of necessary personnel especially lab technicians and other critical facilities like labor rooms, operation theatre and referral transport services are major challenges³⁰. It must further be noted that the population prefers accessing private health facilities (65.8 per cent of all Indians and 52.4 per cent of people in Rajasthan) over public facilities, despite high cost of treatment³¹. In Assam, 43 per cent population utilize public

²⁴ <https://www.ice360.in/blog/urban-households-powering-up-income-expenditure-and-saving/#:~:text=With%20urban%20population%20being%20just,nearly%20double%20that%20of%20rural.>

²⁵ Census of India 2011

²⁶ India remains a predominant rural country (https://www.niti.gov.in/sites/default/files/2021-08/11_Rural_Economy_Discussion_Paper_0.pdf)

²⁷ Census of India 2011

²⁸ [Rural India | Food Price : Rural India, a cause no one worries about: fall in real wages, unemployment, food price rise hit hard \(indiatimes.com\)](https://www.indiatimes.com/Rural-India-Food-Price-Rural-India-a-cause-no-one-worries-about-fall-in-real-wages-unemployment-food-price-rise-hit-hard/)

<https://www.indiabudget.gov.in/economicsurvey/doc/Statistical-Appendix-in-English.pdf>

²⁹ https://agricoop.nic.in/sites/default/files/NCF1_0.pdf

³⁰ <https://main.mohfw.gov.in/newshighlights-90>

³¹ <https://cbps.in/wp-content/uploads/Public-Expenditure-on-Health-in-Rajasthan-Report-6Jan2021.pdf>

facilities and in Gujarat only 24.7 per cent on the population prefers public facilities. When it comes to Andhra Pradesh 79.2 per cent prefers private health facilities.³²

In the rural context, women participation in household decision making process increased from 33 per cent in 2005-06 to 87.5 per cent in 2020-21³³. In fact, in contrast, rural women at 45.7 per cent own more land than urban women, which is significant considering rural women are mostly employed in agriculture, and owning land, a crucial capital asset, may result into financial independence and better participation in decision making. In addition to being a major contributor to the rural economy, women have set benchmarks for the evolution of micro enterprises through various economic engagements through Self-help Groups (SHGs). There has been a massive 54.6 per cent increase in the number of SHGs from 2010 to 2021-22, bolstering the income of the rural women. Several policies and schemes have been implemented by the state to ensure smooth facilitation of women centric entrepreneurial activities in the remotest locations of the country. However, inequalities persist when it comes to gender. Rajasthan, Gujarat and Andhra Pradesh all have been ranked as "medium low equality" with absolute deviation from gender parity of 7.5 to 10 percent whereas, Assam has been ranked as "Low Equality" with absolute deviation from gender parity of above 10 per cent"³⁴. When it comes to Gender Development index (GDI), Rajasthan, Andhra Pradesh, and Gujarat have performed better than the national average, whereas Assam has performed worse than that the national average. However, the deep dive into the status of women through the Gender Inequality Index (GII) shows that Rajasthan and Assam have done far worse in these indicators than India while Andhra Pradesh and Gujarat have fared slightly better. Thus, indicating that gender inclusion is still left wanting in all locations and more so in Rajasthan and Assam

When it comes to education, over the years, especially after the Right to Education Act 2009 came into place, India has made strides through improving the quality, increasing elementary school enrolment as well as ensuring efforts towards reducing the number of out of school children. However, the improvement in the overall educational status does not imply that all children in the country are receiving equitable education. In fact, not only there remains a need to

³² <https://nss.gov.in/>

³³ http://rchiips.org/nfhs/NFHS-5_FCTS/India.pdf

³⁴ [https://mospi.gov.in/documents/213904/301563/Report_per_cent20on_per_cent20Gendering_per_cent20Human_per_cent20Development_per_cent20\(1\)1617270984176.pdf/ab88fd0a-d5ee-77f9-a493-4238dfb3838c](https://mospi.gov.in/documents/213904/301563/Report_per_cent20on_per_cent20Gendering_per_cent20Human_per_cent20Development_per_cent20(1)1617270984176.pdf/ab88fd0a-d5ee-77f9-a493-4238dfb3838c)

improve the status of education within the country, but special focus also further needs to be provided to states that are lagging behind.

The Micro View- Districts of Implementation

Multi-Dimensional Poverty Index

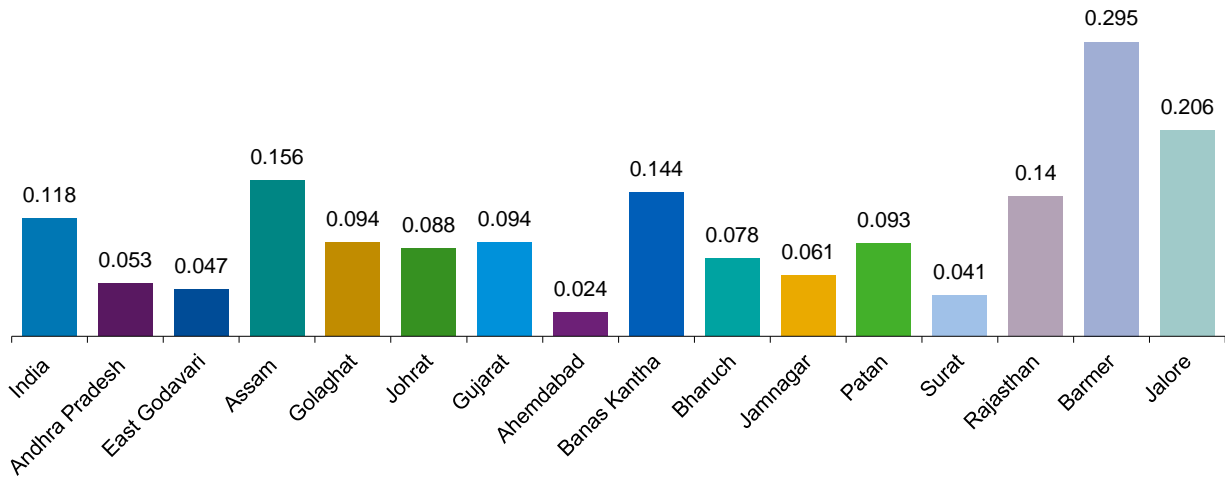


Figure 1.1 Multi-Dimensional Poverty Index

MPI looks at poverty at a multidimensional level including nutrition, child and adolescent mortality, years of schooling, attendance, access to cooking fuel, sanitation, drinking water, assets, housing, and bank account. It moves beyond simple monetary measures of poverty toward the recognition ***that there are multiple deprivations that contribute to poverty beyond economic measures.*** Through this, it is seen that Assam and Rajasthan's MPI is worse than the_country average whereas Andhra Pradesh and Gujarat have performed better. It is further to note that a similar trend is also observed simply by the headcount ratio of poor households in the states in question and the country. Within these states further, the MPI of the districts within Rajasthan is even more poor than the state, while Barmer has a very high MPI. All districts except Barmer and Jalore have performed better than the national average.³⁵

Literacy rate of ***East Godavari District*** is 71.35 percent which is still lower than India's literacy rate of 72.98 percent. On a gender basis, male and female literacy was 74.91 per cent and 67.82 per cent respectively.³⁶ Around 27.1 per cent of the children are underweight (weight-for-age).

³⁵ [MPI Report Final.indd \(niti.gov.in\)](#)

³⁶ District Census Handbook, East Godavari

64.6 per cent of women aged 15-49 suffer from anaemia. This indicates a lack of food security and nutritional impoverishment. The percentage of households with a member covered under a health insurance/financing scheme was around 9.5 per cent in 2015.³⁷

The literacy rate of **Jorhat district** is 82.1 per cent of which 87.6 per cent is for males and 76.5 per cent is for females.³⁸ Gap in male-female literacy rate, was recorded 11.18 percent for the district. Around 34.0 per cent of the children are underweight (weight-for-age). 71.8 per cent of women aged 15-49 suffer from anaemia. This indicates a lack of food security and nutritional district. The percentage of households with a member covered under a health insurance/financing scheme was around 60.1 per cent in 2015³⁹

As per 2011 Census, **Ahmedabad district** reported 5,435,760 persons as literate constituting 85.3 percent of the total population. The proportion of male and female literates in the district is 90.7 percent and 79.4 percent respectively. Around 33.2 per cent of the children are underweight (weight-for-age). 63.7 per cent of women aged 15-49 suffer from anaemia indicating a lack of food security and nutritional impoverishment. The percentage of households with a member covered under a health insurance/ financing scheme was around 36.2 per cent in 2015.

Banaskantha district has a literacy rate of 65.32 and female literacy rate is 51.75 per cent. Around 43.1 per cent of the children are underweight (weight-for-age). 50.0 per cent of women aged 15-49 suffer from anaemia. This indicates a lack of food security and nutritional impoverishment. The percentage of households with a member covered under a health insurance/financing scheme was around 20.9 per cent in 2015

The literacy rates in **Bharuch District**, of rural and urban areas are 78.0 percent and 88.3 percent respectively. Around 44.2 per cent of the children are underweight (weight-for-age). 52.0 per cent of women aged 15-49 suffer from anaemia. This indicates a lack of food security and nutritional impoverishment. The percentage of households with a member covered under a health insurance/financing scheme was around 25.7 per cent in 2015

As per 2011 Census, there are 1,396,534 literates in **Jamnagar district** constituting 73.7 percent of total population. The male literacy rate is 81.5 per cent and female literacy rate is 65.3 percent.

³⁷ http://rchiips.org/nfhs/FCTS/AS/AS_FactSheet_313_Golaghat.pdf

³⁸ District Census Handbook, Jorhat

³⁹

https://nhm.assam.gov.in/sites/default/files/swf_utility_folder/departments/nhm_lipl_in_oid_6/menu/document/jorhat_2.pdf

Around 29.3 per cent of the children are underweight (weight-for-age). 63.8 per cent of women aged 15-49 suffer from anaemia. This indicates a lack of food security and nutritional impoverishment. The percentage of households with a member covered under a health insurance/financing scheme was around 22.5 per cent in 2015

Patan district has 72.30 per cent literacy rate and female literacy rate is 61.05 per cent.⁴⁰ Around 38.4 per cent of the children are underweight (weight-for-age). 59.6 per cent of women aged 15-49 suffer from anaemia. This indicates a lack of food security and nutritional impoverishment. The percentage of households with a member covered under a health insurance/financing scheme was around 25.3 per cent in 2015.⁴¹

As population per 2011 census, **Surat district** reported 45,71,410 persons as literates constituting 85.5 percent of the total. The proportions of male and female literates in the district are 89.6 and 80.4 percent respectively.⁴² Around 36.1 per cent of the children are underweight (weight-for-age). 39.0 per cent of women aged 15-49 suffer from anaemia. This indicates a lack of food security and nutritional impoverishment. The percentage of households with a member covered under a health insurance/financing scheme was around 19.1 per cent in 2015.⁴³

The overall literacy rate of **Barmer district** is 56.53 percent while the male & female literacy rate is 70.86 and 40.63 percent respectively.⁴⁴ Rural Barmer has a literacy rate of 54.79 percent while the same in urban areas is 78.22 percent. Data on drop-out rate in Govt. schools in Barmer at the Primary level is as high as 9.89 percent. Per cent of the children are underweight (weight-for-age) are 39.6 percent. 42.7 per cent of women aged 15-49 suffer from anaemia. This indicates a lack of food security and nutritional impoverishment. The percentage of households with a member covered under a health insurance/financing scheme was around 8.9 per cent in 2015.⁴⁵

The overall literacy rate of **Jalore district** is 55.97 percent while the male & female literacy rate is 69.50 and 42.35 percent respectively. The literacy rate in Jalore district is 54.9 percent which is lower than the State Average (66.1 percent) and it ranks 33rd among the other districts of the state.⁴⁶ Per cent of the children are underweight (weight-for-age) are 42.7 percent. 42.9 per cent of women aged 58.7 percent suffer from anaemia. This indicates a lack of food security and

⁴⁰ District Census Handbook, Patan

⁴¹ http://rchiips.org/nfhs/FCTS/GJ/GJ_FactSheet_470_Patan.pdf

⁴² District Census Handbook, Surat

⁴³ http://rchiips.org/nfhs/FCTS/GJ/GJ_FactSheet_492_Surat.pdf

⁴⁴ District Census Handbook, Barmer

⁴⁵ http://rchiips.org/NFHS/FCTS/RJ/RJ_FactSheet_115_Barmer.pdf

⁴⁶ District Census Handbook, Jalore

nutritional impoverishment. The percentage of households with a member covered under a health insurance/financing scheme was around 9.3 per cent in 2015.⁴⁷

The above only provides a snapshot of the districts in order to ascertain the need to work in them.

Why CAIRN has intervened

CAIRN Oil & Gas, Vedanta Limited has been committed to conducting all its business activities in a socially responsible, ethical, and environmentally sustainable manner while continuously working towards improving the Human Development Index (HDI) in its operational areas across Rajasthan, Gujarat, Assam, and Andhra Pradesh. They are working towards ensuring a standard quality of life of communities in the areas they work in, while working towards upholding a relationship with such communities. Furthermore, CAIRN has been working in synergy and cognizance with myriad of stakeholders to achieve its aim of improving the wellness and quality local communities. Thus, their CSR forms the bedrock for the organization's social license to operate.

With the dawn of the regulatory provisions of CSR in The Companies Act, 2013, the approach towards CSR was remodeled. This included a move to a more structured approach in budgeting, allocations, monitoring, implementation as well as alignment with international development priorities such as the Millennium Development Goals (MDG) and then later Sustainable Development Goals (SDGs) in 2015.

Thus, in 2014, a new chapter for CAIRN's CSR was written with a movement towards ***an impact driven portfolio*** of projects such as Project Jeevan, Project Barmer Unnati etc. This helped the business unit deepen their interventions as well as their relationship with the community in alignment with the specific needs.

Rationale for Undertaking the Studies

⁴⁷ http://rchiips.org/nfhs/FCTS/RJ/RJ_FactSheet_116_Jalor.pdf

To remain unbiased and strategic, it is pertinent for any organization undertaking philanthropic endeavors to develop projects that are need based and factually sound. This is done through carrying out frequent baseline and need assessments. Moreover, to ensure that the projects being run remain impact-driven, frequent impact assessments are also pertinent, and now also a compliance requirement under Companies Act 2013⁴⁸.

This third-party impact assessment not only helps to assess the significance of the project, including effectiveness of design and project interventions, and sustainability of results and impact of the intervention on the target community, but further assists the company to undertake course correction and provide direction to scale up or replicate the successful initiatives, and at the same time, re-model or discontinue the projects/ initiatives which have not been able to create the desired impact.

While frequent baseline and impact assessments allow the company to design, implement, and monitor projects in a strategic manner, another study, known as the perception study, can support a company understand the overall attitude and perception of the community, different external stakeholders as well as internal management and CSR team regarding the company's operations and specific perception on CSR itself. Such a study gives credence to the social license to operate and highlights the business drivers that can be strengthened by the company to operate more smoothly in a particular area.

The study thus delves into analyzing the impacts and values created by the development initiatives by CAIRN across the geographies, where it is intervening. It also provides a benchmark against which the future progress can be tracked through baseline assessment. Through the perception assessment it draws the general sentiments of the myriad stakeholders towards the CSR activities of CAIRN. Finally, drawing gaps, challenges and recommendation through primary/secondary data analysis and stakeholder interviews, this study chalks out a long-term CSR strategy to make CAIRN's intervention more sustainable and resilient.

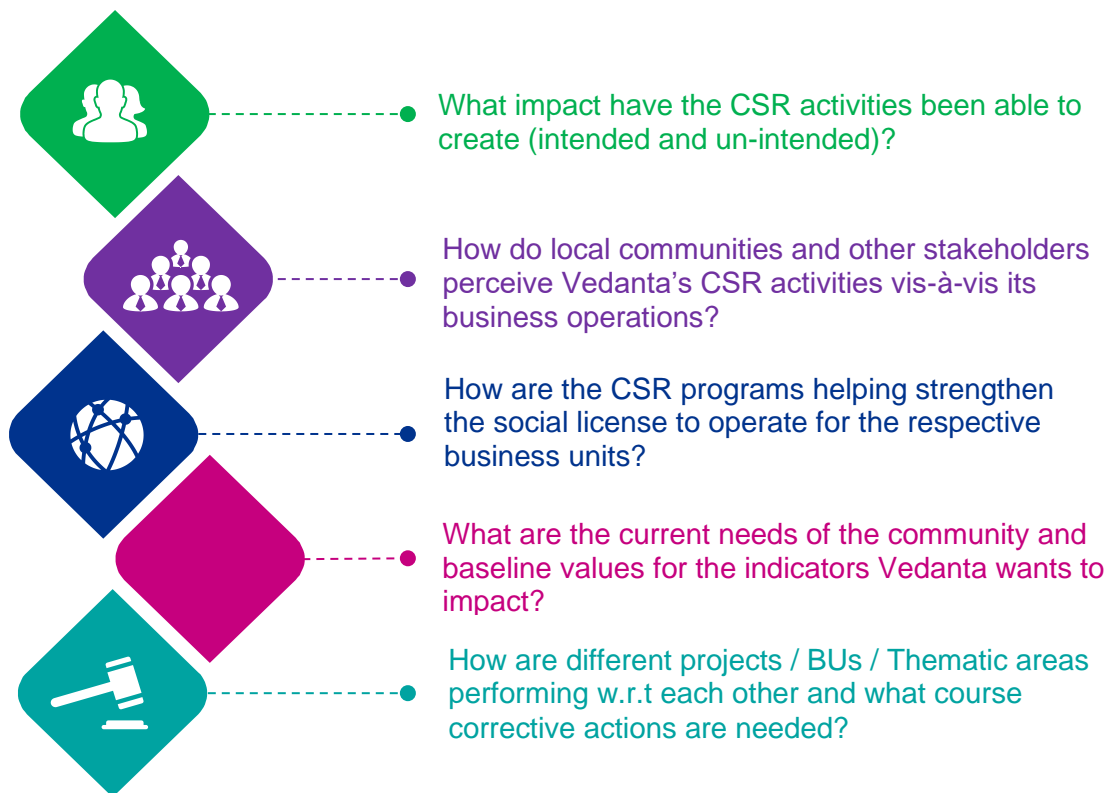
⁴⁸ *It must further be noted that Impact Assessments are mandatory for "every company having an average CSR obligation of INR 10 crores or more in the three immediately preceding financial years, shall undertake impact assessment, through an independent agency, of their CSR projects having outlays of one crore rupees or more, and which have been completed not less than one year before undertaking the impact study" [Section 8 (3) of Companies (Corporate Social Responsibility Policy) Amendment Rules, 2021].*

1.1. Methodology and Approach

1.1.1 Methodology for Baseline, Impact and Perception Studies

CAIRN has been carrying out impactful CSR programs based on the needs of the community. The exercise of carrying out the three studies viz. Baseline cum Needs Assessment, Impact Assessment and Perception Study, was intended to provide an understanding of what has been done right, learn from the success and challenges and accordingly plan to build on the currently run projects.

The following key questions were to be answered through these studies:



The key objective of this exercise was to support the business units strategize their CSR activities in the future. The study has been undertaken using mixed methods including both qualitative and quantitative data collection tools. These include surveys and interviews along with secondary research as well as digital insights through sentiment analysis.

1.1.2 Methodology for OECD-DAC

KPMG has included an assessment basis some of the parameters of the OECD-DAC Framework wherein the relative performance of each assessed project of CAIRN has been provided. This comprises of a set of parameters that *aid in systemic and objective assessment of ongoing or completed development programs, their design and implementation*. Various components within the parameters were assigned scores which that is used to develop a parameter wise ranking for CAIRN.

OECD DAC criteria has been used for impact evaluation. The framework has been described in the below sections.

Impact assessment is a structured process for assessing the effects of an intervention on the intended beneficiaries. Impact evaluation, on the other hand, is a broader term that encompasses a range of issues such as appropriateness of the intervention design, the cost and efficiency of the intervention, its unintended effects and guidance on future course of the intervention in terms of design and implementation (OECD).

Impact assessment has often been described as a theory-based activity since it is designed based on a '*theory of change*'. This relates to establishing a chain of causation from intervention to impact and has the advantage of being specific and focused on the identified impacts. The impact assessment may, however, tend to overlook some of the unexpected and undesired results of the intervention

Regarding the overall approach for undertaking an impact study, the widely acclaimed framework for evaluating the effectiveness of development projects is the one established by the OECD-DAC (Development Assistance Committee) Evaluation Network. In response to the need for having a mechanism by which bilateral development agencies could monitor the funding provided to multilateral organizations for various development projects, the DAC Evaluation Network devised a set of evaluative criteria for assessing the effectiveness of any development project (UNICEF, 2012). The OECD DAC first developed the criteria in 1991 for evaluating international development co-operation. They have since become a cornerstone of evaluation practice and are widely used, beyond the DAC. These criteria have often been applied for international donors such as UN agencies (OECD, 2020).

The OECD DAC Network has defined five evaluation criteria – relevance, effectiveness, efficiency, impact, and sustainability – and two principles for their use. These criteria are intended to guide evaluations. They were refined in 2019 to improve the quality and usefulness of evaluation and strengthen the contribution of evaluation to sustainable development (OECD, 2020).

OECD DAC: Evaluation Criteria

This study has used OECD DAC framework as it helps in gaining qualitative understanding of the impact created, stakeholder perception, and sustenance of the change through the following parameters:

Evaluation Criteria	Key Areas
Relevance	Assesses the extent to which project responds to the felt needs of all the communities. <ul style="list-style-type: none"> - To what extent are the objectives of the program still valid? - Are the activities and outputs of the program consistent with the overall goal? - Are the activities and outputs of the program consistent with the intended impacts and effects?
Coherence	The compatibility of the intervention with other interventions in a country, sector or institution. <ul style="list-style-type: none"> - The extent to which other interventions (particularly policies) support or undermine the intervention, and vice versa
Effectiveness	Assesses the extent to which objectives of developmental interventions are being achieved. <ul style="list-style-type: none"> - To what extent were the objectives achieved / are likely to be achieved? - What were the major factors influencing the achievement or non-achievement of the objectives?
Efficiency	Assesses the extent to which project uses the least costly resources possible to achieve the results. <ul style="list-style-type: none"> - Were activities cost-efficient? - Were objectives achieved on time?
Impact	Assesses the extent to which positive or negative changes are produced by the development intervention, directly or indirectly, intended, or unintended, or externally or internally. <ul style="list-style-type: none"> - What has happened as a result of the program? - What real difference has the activity made to the beneficiaries? How many people have been affected?
Sustainability	Assesses the extent of continuation of benefits from a development intervention after major assistance has been completed. <ul style="list-style-type: none"> - To what extent did the benefits of a program continue after donor funding ceased? - What were the major factors which influenced the achievement or non- achievement of sustainability of the program?

To evaluate CSR programs on the OECD criteria, KPMG developed its own Scorecard based upon the information and documents shared by CAIRN



The scoring parameters are as follows:

➤ **Evaluation Criteria 1: Relevance**

This evaluates the extent to which the interventions have been designed basis the needs of the beneficiaries. This has been mapped across specific indicators and have been weighted alongside:

OECD Parameters	Methodology	Guidelines
Relevance	Baseline conducted or not.	A baseline assessment was conducted and document provided
	Alignment of project with baseline	Information from baseline used to develop projects

➤ **Evaluation Criteria 2: Coherence**

This evaluates the extent to which the interventions have been designed basis the policies and priorities present nationally as well as internationally. This has been mapped across specific indicators and have been weighted alongside:

OECD Parameters	Methodology	Guidelines
Coherence	Alignment of project with government scheme/ policy	National alignment (design of the project provides that it aligns with national goals/schemes, not necessary that the BU projects that themselves)
	Alignment of project with SDGs	International alignment (design of the project provides that it aligns with SDG, not necessary that the BU projects that themselves)

➤ **Evaluation Criteria 3: Effectiveness**

The extent to which the intervention achieved, or is expected to achieve, its objectives, and its results. This has been mapped across specific indicators and have been weighted alongside:

OECD Parameters	Methodology	Guidelines
Effectiveness	Targets clearly identified	Availability of targets
	Target achievement (planned vs actuals)	Completion rate: 80-100 per cent-> 90 per cent 60-80 per cent->70 per cent 40-60 per cent-> 50 per cent Less than 40 per cent-> 0 per cent

➤ **Evaluation Criteria 4: Efficiency**

The extent to which the intervention delivers, or is likely to deliver, results in an economic and timely way. This has been mapped across specific indicators and have been weighted alongside

OECD Parameters	Methodology	Guidelines
Efficiency	Alignment with Vedanta CSR policy	Coherence with internal requirements
	Availability of MoUs	MoUs available and provided
	Clearly articulated start and end date	Availability of start and end dates in MoUs
	Delay in Timeline	Yes/No information- 0, No-20
	Budget for Project provided	Clear Budget included in project documents
	Budget Utilisation	If utilisation as per budget

	Margin of Underspent or Overspent	Up to 5 per cent: (-) 2 5 per cent- 10 per cent: (-) 4 10 per cent-20 per cent: (-) 8 More than 20 per cent: (-) 10
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➤ **Evaluation Criteria 5: Sustainability**

The extent to which the net benefits of the intervention continue or are likely to continue. This has been mapped across specific indicators and have been weighted alongside:

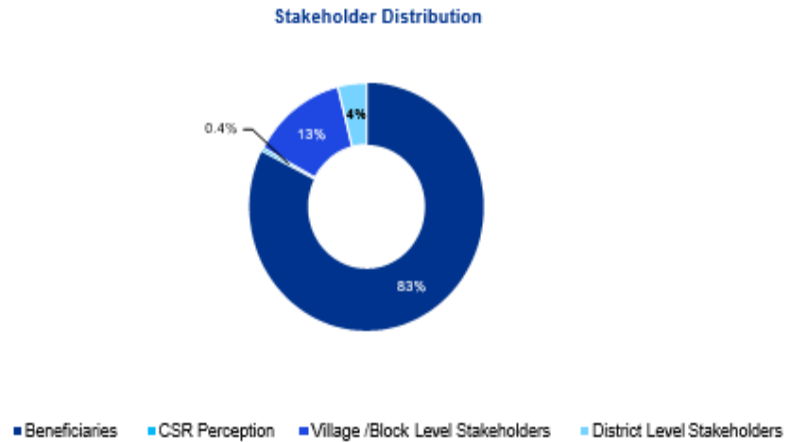
OECD Parameters	Methodology	Guidelines
Sustainability	Sustainability Mechanism, Convergence	Mechanism in place, ability to sustain impact: 100 per cent Not fully- 50 per cent Not able to sustain impact, no mechanism: 0 per cent (Mechanisms include: (1) Stakeholder led governance (2) Local capacity building for operational sustainability and (3) Financial sustainability through user fee, linkages, collaboration, etc)

1.1.3 Sample Selection and Coverage

The sample size has been developed basis a scientific method of taking a 95 per cent confidence level and 5 per cent margin of error using the population coverage of the business unit.

Post this, multiple consultations were undertaken with the Vedanta Group (of which representatives of CAIRN were part of) through which it was decided that a sample size of 3700 will be used for the specific studies. This was further divided proportionately across the business units, basis the quantum of their outreach, while maintaining at least the minimum sample reach as per the scientific method.

The total sample size of CAIRN came to be 1298 including 1138 household sample, 116 stakeholders and 44 institutional sample (including beneficiaries and stakeholders). It must be noted, however that the final sample distribution was subject to the availability of the beneficiaries and stakeholders on the ground. Therefore, given below are the final list of villages and the number of beneficiaries and stakeholders covered from each.



An actual sample of sample of 1339 was covered across 4 states. The sample is divided amongst beneficiaries, district level stakeholders, block village level stakeholders and CAIRN’s internal stakeholders. Beneficiaries, district level stakeholders and block village level stakeholders were covered for baseline, impact, and perception study, while CAIR’s internal stakeholders were covered for CSR perception study.

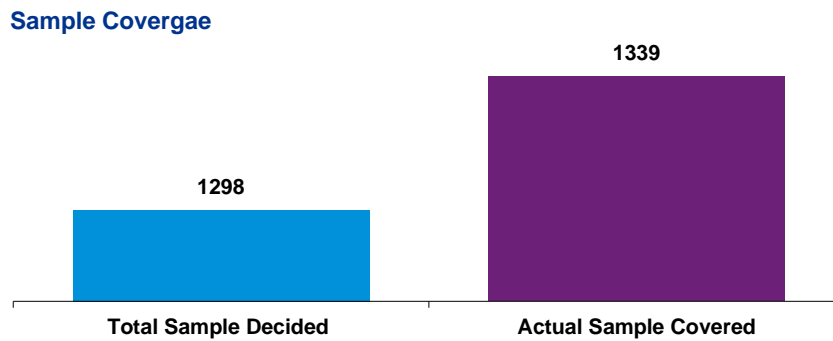


Figure 2: Sample Covered

Figure

3:

Stakeholder Distribution

1.1.4 Geographical Coverage

The Impact, Baseline and perception study covered 4 states, 11 districts and 133 villages.

Table 1: Geography Covered for the study

Business Unit	State	Districts	Villages Covered
CAIRN	Andhra Pradesh	East Godavari	1
	Gujarat	Patan, Banas Kantha, Baruch, Surat, Ahmedabad and Jamnagar	23
	Rajasthan	Barmer and Jalore	99
	Assam	Jorhat and Golaghat,	10

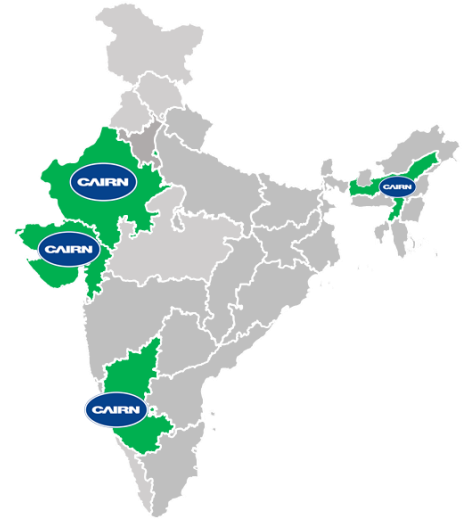


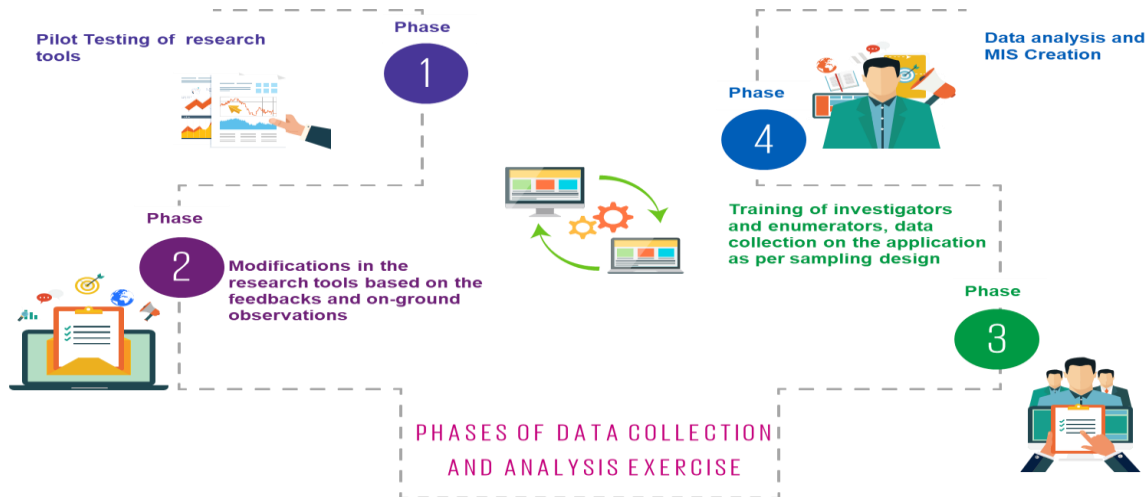
Figure 4: Geographical Coverage

1.1.5 Data Collection and Analysis

KPMG onboarded a third party to support with the data collection exercise. They were supervised by KPMG as well as CAIRN’s CSR SPOCs across locations. District-level and business unit level stakeholder interviews were conducted by KPMG team.

Below steps were taken during the data collection and analysis:

- Conducting a pilot testing of research tools under the supervision of KPMG team along with sharing feedback as required.
- Translation of the questionnaires as per requirement
- Training of investigators and enumerators with the support of KPMG team
- Collection of data as per sampling design under the supervision of KPMG Team.



Data was collected through an app-based solution and regular updates on the status of data collection was provided to the BUs. In areas where the internet networks were intermittent, Pen-and Paper interviews were conducted through KPMG and data collection team. Later, the data was transformed and updated into the app.

Further, post collection, data was analyzed, and the findings was used to develop a smart dashboard designed specifically for the purpose.

1.2. Stakeholder Map

A '**stakeholder**' for the studies is defined as an individual or a representative that has an interest and provides certain influence over the CSR projects of CAIRN.

Such stakeholders play a pivotal role in the implementation of government policies, programmes, and schemes within the communities. Moreover, they are further considered as influencers within the community (while the degree of influence may vary) and can act as key players in supporting the business unit's work within the area.

Within these studies, a myriad of stakeholders has been covered ranging from Anganwadi workers, block development officers to district collectors. They have provided their valuable insights, not only through providing inputs in the baseline and impact assessments but also through their recommendations for charting out the future CSR strategy of the business unit.

Below, one can see a mapping of the selected stakeholders for the study as a whole and their relative position within the influence and support to project continuum. It must be noted, however, that the position and number of stakeholders vary from business unit to business unit and were interviewed based on the lists provided by the business units (in this case CAIRN) as well as their availability on the ground.

Thematic Areas	Type of Stakeholders	Title	Ability to Impact/Influence Project	Level of Support for the Project
Health and WASH	State Level Stakeholders	NGO Partners	High	High
	District Level Stakeholders	Principal Medical Officer (PMO)	High	High
	Block/Village Level Stakeholder	ANM	High	Medium
	Block/Village Level Stakeholder	ASHA	High	High
	Block/Village Level Stakeholder	AWW	High	High
	Block/Village Level Stakeholder	MOIC	Medium	Low
	Block/Village Level Stakeholder	Gram Pradhan	Medium	Medium
	Block/Village Level Stakeholder	PRI Members	High	High
Education	State Level Stakeholders	NGO Partners	High	High
	State Level Stakeholders	Ministry of Social Justice and Empowerment	High	High
	District Level Stakeholders	District Education Officer (DEO)	High	High
	District Level Stakeholders	Director Education	High	High
	District Level Stakeholders	DD ICDS	High	High

Thematic Areas	Type of Stakeholders	Title	Ability to Impact/Influence Project	Level of Support for the Project
	Block/Village Level Stakeholder	Chief Block Educational Officer (CBEO)	High	High
	Block/Village Level Stakeholder	School Principals	High	High
	Block/Village Level Stakeholder	Gram Pradhan	Medium	Medium
	Block/Village Level Stakeholder	PRI Members	High	High
Livelihood and Women Empowerment	State Level Stakeholders	NGO Partners	High	High
	District Level Stakeholders	District Employment Officer	Medium	Medium
	District Level Stakeholders	Heads of the agriculture/livelihood schemes	High	High
	District Level Stakeholders	Managers of training centres	High	Low
	Block/Village Level Stakeholder	Gram Pradhan	Low	Low
	Block/Village Level Stakeholder	Placement Officers	High	High
	Block/Village Level Stakeholder	PRI Members	Low	High
	Block/Village Level Stakeholder	SHG Leaders	High	High
	Block/Village Level Stakeholder	FPO Members	High	High
Community Assets	State Level Stakeholders	NGO Partners	High	High
	District Level Stakeholders	District Collector	High	High

Thematic Areas	Type of Stakeholders	Title	Ability to Impact/Influence Project	Level of Support for the Project
	Block/Village Level Stakeholder	Block Development Officer	High	Medium
	Block/Village Level Stakeholder	Gram Pradhan	Low	Low
	Block/Village Level Stakeholder	PRI Members	High	High
Environment	District Level Stakeholders	District Collector	High	High
	Block/Village Level Stakeholder	Block Development Officer	High	Medium
	Block/Village Level Stakeholder	Gram Pradhan	Low	Low
	Block/Village Level Stakeholder	PRI Members	High	High
Sports and Culture	State Level Stakeholders	NGO Partners	High	High
	District Level Stakeholders	District Collector	High	High
	Block/Village Level Stakeholder	District Sports Officer	High	High
	Block/Village Level Stakeholder	Gram Pradhan	Low	Low
	Block/Village Level Stakeholder	PRI Members	High	High

1.3. District Profiles

Cairn Oil & Gas, Vedanta Limited, has business units located in Ahmedabad, Banas kantha, Bharuch, Jamnagar, Patan and Surat in Gujarat; Golaghat and Jorhat in Assam; Barmer and Jalore in Rajasthan; as well as in East Godavari in Andhra Pradesh.

State	District
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Andhra Pradesh	East Godavari
Assam	Golaghat
	Jorhat
Gujarat	Ahmedabad
	Banas kantha
	Bharuch
	Jamnagar
	Patan
	Surat
Rajasthan	Barmer
	Jalore

1.3.1. Andhra Pradesh

Andhra Pradesh is in the south-eastern coast of India. With 13 districts and with a geographical area of 1,62,970 sq km, it is the 8th largest state in the country. Situated in a tropical region, the state has the 2nd longest coastline in the country. Andhra Pradesh is the tenth largest state in the Country, in terms of population. As per the 2011 Census, the State accounts for 4.10 percent of the total population of the country.⁴⁹

Agriculture and allied sectors have been the key source of income and occupation in Andhra Pradesh with about 60 percent of its population engaged in agriculture and related activities.⁵⁰

Andhra Pradesh's MPI identifies 21 per cent of its population as living in multidimensional poverty. The State-level MPI in Andhra Pradesh uses the same structure as the Global MPI which was co-designed by OPHI and the UNDP. It monitors 10 indicators, such as school attendance, nutrition,

⁴⁹ <https://dev-gws.e-pragati.in/AP-Portal/Files/Pdf/ApSocioEconomicSurvey/637737950006790996.pdf>

⁵⁰ Ibid. (reference 59)

and safe drinking water, grouped into three dimensions: education, health and standard of living. In AP, 26.38 per cent of the population are deprived of nutrition, the report said. A total of 9.66 per cent of the population in the State deprived of maternal health. Within the Andhra Pradesh state, East Godavari has the lowest MPI among the districts, with a value of 0.047, while Vizianagaram has the highest, with a value of 0.127.⁵¹

Andhra Pradesh's literacy rate in 2011 increased from 62.07 percent in 2001 to 67.35 percent in 2011. However, this is still lower than India's literacy rate of 72.98 percent.⁵²

According to SDG India Index, Andhra Pradesh scores 81 on SDG-1 No Poverty, scores 77 on SDG-3 Good Health and Well-being, scores 50 on SDG-4 Quality Education, scores 58 on SDG-5 Gender Equality, scores 92 on SDG-6 Clean Water and Sanitation.⁵³ The district data below provides a deeper look into the location that CAIRN works in and establishes a clear need for their interventions.

East Godavari

East Godavari District, which is one of the largest and most populous districts in the state of Andhra Pradesh. As the name of the district conveys, East Godavari District is closely associated with the river Godavari, occupying a major portion of the delta area. The Headquarters of the District is located at Kakinada. East Godavari District lies North – East Coast of Andhra Pradesh and bounded on the North by Visakhapatnam District and the State of Orissa, on the East and the South by the Bay of Bengal and on the West by Khammam District of Telangana State and West Godavari Districts. Agriculture and its allied activities are the backbone of East Godavari district's economy.⁵⁴

Within the Andhra Pradesh state, East Godavari has the lowest MPI among the districts, with a value of 0.047 which reflects its performance across three dimensions: education, health and standard of living.⁵¹

In 2007–2008, the International Institute for Population Sciences interviewed 1019 households in 38 villages across the district, on essential household indicators. They found that 92.5 per cent had access to electricity, 96.7 per cent had drinking water, 50.4 per cent toilet facilities, and 30.9

⁵¹ https://www.niti.gov.in/sites/default/files/2021-11/National_MPI_India-11242021.pdf

⁵² Ibid. (reference 59)

⁵³ <https://sdgindiaindex.niti.gov.in/#/ranking>

⁵⁴ District Census Handbook, East Godavari

per cent lived in a pucca (permanent) home. 28.6 per cent of girls wed before the legal age of 18 and 79 per cent of interviewees carried a BPL card.⁵⁵

Literacy rate of East Godavari District is 71.35 percent, this is still lower than India's literacy rate of 72.98 percent. On a gender basis, male and female literacy was 74.91 per cent and 67.82 per cent respectively.⁵⁶

1.3.2. Assam

Assam is situated in the North-East of India and is the largest northeastern state in terms of population while second in terms of area. Assam covers an area of 78,438 km² (30,285 sq miles). The state is bordered by Bhutan and the state of Arunachal Pradesh to the north; Nagaland, Arunachal Pradesh, and Manipur to the east; Meghalaya, Tripura, Mizoram, and Bangladesh to the south; and West Bengal to the west. A significant geographical aspect of Assam is that it contains three of six physiographic divisions of India – The Northern Himalayas (Eastern Hills), The Northern Plains (Brahmaputra plain), and the Deccan Plateau (Karbi Anglong). Population Density of Assam is 398 per square km which is higher than the national average of 382 per square km. Assam has abundant mineral resources coal, petroleum; limestone, and natural gas are the principal mineral resources. It is also the largest producer of crude oil in India. Other minor minerals include magnetic quartzite, kaolin, sillimanites, iron ore, clay, and feldspar, etc.⁵⁷

In Assam, agriculture makes the highest contribution to its domestic sectors, accounting for more than a third of Assam's income and employs about 69 per cent of the workforce.⁵⁸

Assam's MPI identifies 32.67 per cent of its population as living in multidimensional poverty. The State-level MPI in Assam uses the same structure as the Global MPI which was co-designed by OPHI and the UNDP monitoring 10 indicators, such as school attendance, nutrition, and safe drinking water, grouped into three dimensions: education, health and standard of living.⁵⁹

The total literacy rate of Assam is 72.19 per cent according to the 2011 census study. The male literacy rate is 77.85 per cent and the female literacy rate is 66.27 per cent in Assam.⁶⁰

⁵⁵ Ibid. (reference 64)

⁵⁶ Ibid. (reference 64)

⁵⁷ <https://assam.gov.in/about-us/393>

⁵⁸ Ibid. (reference 68)

⁵⁹ Ibid. (reference 61)

⁶⁰ Ibid. (reference 68)

According to SDG India Index, Assam scores 51 on SDG-1 No Poverty, scores 59 on SDG-3 Good Health and Well-being, scores 43 on SDG-4 Quality Education, scores 25 on SDG-5 Gender Equality, scores 64 on SDG-6 Clean Water and Sanitation.⁶¹

The district data below provides a deeper look into the locations in Assam that CAIRN works in and establishes a clear need for their interventions.

Golaghat

Golaghat district on the north is bounded by the river Brahmaputra and on the south by Nagaland and Karbi Anglong district, on the east by Jorhat and on the west by Karbi Anglong and Nagaon district. The total population of Golaghat District as per Census 2011 is 1066888. Male comprises 543161 while female consists of 523727. The percentage of urban population in the district is only 9.2 per cent. So, it can be clearly seen that most of the population dwell in the rural areas of the district.⁶²

The percentage of Schedules Castes population to total population is 5.8. The percentage of ST population to total population in the district is only 10.5⁶³

The economy of Golaghat district is agriculture based. The rearing and reeling of muga and endi, the making of Japi (headgear) and earthen potential and the extraction of agaru oil are the cottage industries prevalent in Golaghat district.⁶⁴

The literacy rate of Golaghat district is 77.4 per cent of which 83.6 per cent is for males and 71.1 per cent is for females. Gap in male-female literacy rate, was recorded 12.47 percent for the district.⁶⁵

Within the Assam state, Golaghat has an MPI value of 0.094 which reflects its performance across three dimensions: education, health and standard of living.⁶⁶

Jorhat

The district is bounded on the north by Lakhimpur districts; on the south by the state of Nagaland; on the east by Sivasagar and Dibrugarh district and on the west by Golaghat district. Kakodonga

⁶¹ Ibid. (reference 63)

⁶² District Census Handbook, Golaghat

⁶³ Ibid. (reference 73)

⁶⁴ Ibid. (reference 73)

⁶⁵ Ibid. (reference 73)

⁶⁶ Ibid. (reference 61)

is important river bordering Golaghat district. It serves as a natural boundary. The total population of Jorhat District as per Census 2011 is 1092256. Male comprises 556805 while female consists of 535451. The percentage of urban population in the district is only 20.19 per cent. So, it can be clearly seen that most of the population dwell in the rural areas of the district. The district has a Sex Ratio of 962 as against 958 in the State.⁶⁷

The distribution of Scheduled Castes (SC) and Scheduled Tribes (ST) population in the district- the percentage of Schedules Castes population to total population is 4.5. The percentage of ST population to total population in the district is only 12.8.⁶⁸

The economy of the whole of Assam is agrarian in character and Jorhat district is no exception to this.⁶⁹

The literacy rate of Jorhat district is 82.1 per cent of which 87.6 per cent is for males and 76.5 per cent is for females. Gap in male-female literacy rate, was recorded 11.18 percent for the district.⁷⁰

Within the Assam state, Jorhat has an MPI value of 0.088 which reflects its performance across three dimensions: education, health and standard of living.⁷¹

1.3.3. Gujarat

Gujarat is located on the country's western coast, on the Arabian Sea. It encompasses the entire Kathiawar Peninsula (Saurashtra) as well as the surrounding area on the mainland. It has the longest coastline of 1,600 km among all the states in the country. Gujarat Population Census Data shows that it has Total Population of 6.03 Crore which is approximately 4.99 per cent of total Indian Population.⁷²

The economy of Gujarat is the fourth-largest in India. Gujarat ranks 21st among Indian states and union territories in human development index. The diverse peoples constituting the Gujarati population may be categorized broadly as either Indic (northern-derived) or Dravidian (southern-derived). The Parsis, originally from Persia (Iran), represent a much later northern influx. The rest of the population, including the aboriginal Bhil community, is of mixed heritage. Members of the Scheduled Castes and Scheduled Tribes, together form roughly one-fifth of the state's population.

⁶⁷ District Census Handbook, Jorhat

⁶⁸ Ibid. (reference 78)

⁶⁹ Ibid. (reference 78)

⁷⁰ Ibid. (reference 78)

⁷¹ Ibid. (reference 61)

⁷² <https://gujaratindia.gov.in/state-profile/demography.htm>

Portions of the mountainous region of southeastern Gujarat are populated almost entirely by tribal people. Unfavorable climatic conditions, salinity of soil and water, and rocky terrain have hampered Gujarat's agricultural activities, but the sector has remained a major component of the state's economy, employing about half the workforce. Gujarat is rich in minerals, including limestone, manganese, gypsum, calcite, and bauxite. The state also has deposits of lignite, quartz sand, agate, and feldspar. The fine building stones of Porbandar, on the Kathiawar Peninsula, are among Gujarat's most valuable products, and the state's output of soda ash and salt amounts to a significant portion of the national yield. In addition, Gujarat produces petroleum and natural gas. Gujarat is hailed as the petroleum capital of India with the state producing 4.6 million tonnes of crude petroleum and 1,287 million cubic metres of natural gas in in 2019-20.⁷³

Literacy rate in Gujarat has seen upward trend and is 79.31 per cent as per 2011 population census. Of that, male literacy stands at 87.23 per cent while female literacy is at 70.73 per cent.⁷⁴

Gujarat's MPI identifies 18.60 per cent of its population as living in multidimensional poverty. The State-level MPI in Gujarat uses the same structure as the Global MPI which was co-designed by OPHI and the UNDP. It monitors 10 indicators, such as school attendance, nutrition, and safe drinking water, grouped into three dimensions: education, health and standard of living.⁷⁵

Health and medical services in Gujarat include programs to control malaria, tuberculosis, HIV/AIDS, and other communicable diseases; to prevent blindness; and to eradicate leprosy and polio. According to National Family Health Survey – 5 for Gujarat, Infant Mortality Rate (IMR) is 34.2, which is higher than the national average of 30. Under Five Mortality Rate is 43.5, which is also higher than the national average of 36.⁷⁶

According to SDG India Index, Gujarat scores 66 on SDG-1 No Poverty, scores 86 on SDG-3 Good Health and Well-being, scores 52 on SDG-4 Quality Education, scores 49 on SDG-5 Gender Equality, scores 93 on SDG-6 Clean Water and Sanitation.⁷⁷

⁷³ <https://www.britannica.com/place/Gujarat/People>

⁷⁴ Ibid. (reference 83)

⁷⁵ Ibid. (reference 61)

⁷⁶

https://fpkonet.org/web/content/?model=ls.fpkonet.resources.info&field=resources_pdf_upload&id=114&filename=file_d=resource.resources_caption&ownload=true

⁷⁷ Ibid. (reference 63)

The district data below provides a deeper look into the locations in Gujarat that CAIRN works in and establishes a clear need for their interventions.

Ahmedabad

Ahmedabad is the largest city in Gujarat. Ahmedabad district is situated in central Gujarat. The district has been divided into 10 talukas, 13 towns and 512 villages, with population density of 890 persons per sq. km against the density of 308 of the Gujarat state. The rank of this district is 8th in comparison to other districts of the state.⁷⁸

In Ahmedabad as in other districts of Gujarat, agriculture happens to be the main source of subsistence for the majority of people. According to the 2011 Census, 15.86 percent of the total working population of the district was engaged in agriculture, as against 49.61 percent in the State as a whole.⁷⁹

The Population of Scheduled castes work out to 10.53 percent in total population, 10.29 in rural and 10.57 in urban population of the district. The Total Scheduled Tribes population of the district works out to 1.24 percent of the total Population. The corresponding percentage for rural and urban areas is 1.45 percent and 1.19 percent respectively.⁸⁰

Within the Gujarat state, Ahmedabad has an MPI value of 0.024 which reflects its performance across three dimensions: education, health and standard of living.⁸¹

As per 2011 Census, Ahmedabad district reported 5,435,760 persons as literate constituting 85.3 percent of the total population. The proportion of male and female literates in the district is 90.7 percent and 79.4 percent respectively. The literacy rate of males is higher than that of females. The difference of male and female literacy rate is 11.3 percentage points in the district. The literacy rates of rural and urban areas are 71.0 and 87.9 percent respectively.⁸²

Banas kantha

Banaskantha covers 5.47 per cent of total area of Gujarat State. Banaskantha district is the 5th most populated district in the State. Banas is the main river flowing through the district and Kantha

⁷⁸ District Census Handbook, Ahmedabad

⁷⁹ Ibid. (reference 89)

⁸⁰ Ibid. (reference 89)

⁸¹ Ibid. (reference 61)

⁸² Ibid. (reference 89)

means the bank of the river i.e the district consists of the territories situated on and around the river Banas.⁸³

The economy of the district is basically dependent on agriculture as 66.16 per cent of workers are engaged in agricultural activities. 33.84 per cent of workers are engaged in other non-agricultural activities.⁸⁴

Banaskantha district has second lowest literacy rate of 65.32 and female literacy rate is 51.75 per cent. Sub-district Palanpur has the highest literacy rate of 78.91 per cent and Amirgadh has the lowest literacy rate of 50.85 per cent among all sub-districts of Banaskantha. Banaskantha district has a sex ratio of 938 (no. of females per 1000 males).⁸⁵

Within the Gujarat state, Banas Kantha has an MPI value of 0.144 which reflects its performance across three dimensions: education, health and standard of living.⁸⁶

Bharuch

Bharuch is bounded by Anand and Vadodara district in the north, gulf of Khambhat in the west, Surat district in the south and Narmada district in the east. The area covered by the district is 6,509 sq. km. It covers 3.31 per cent geographical area of State. The district ranks 12th in the State in terms of area. The known mineral wealth of Bharuch district is substantial though less diversified than in a few other mineral rich districts of the state.⁸⁷

In Bharuch as in other districts of Gujarat, agriculture happens to be the main source of subsistence for most people. According to the 2011 Census, 52.89 percent of the total working population of the district was engaged in agriculture, as against 49.61 percent in the State as a whole. In the district about 70 per cent of the population is depending on agriculture. Out the total workers in the district, 12.5 percent are engaged in cultivation, 40.4 percent are engaged as agricultural laborers, 1.4 percent are engaged in household industry and 45.7 are engaged in other work.⁸⁸

Out of the total population of the district 66.2 percent lives in rural areas while 33.8 percent lives in urban areas. The proportion of Scheduled Castes population in the district is 4.0 percent and

⁸³ District Census Handbook, Banaskantha

⁸⁴ Ibid. (reference 94)

⁸⁵ Ibid. (reference 94)

⁸⁶ Ibid. (reference 61)

⁸⁷ District Census Handbook, Bharuch

⁸⁸ Ibid. (reference 98)

that of Scheduled Tribes population is 31.5 percent. The percentage of Scheduled Castes population is 3.5 percent in rural areas and 5.1 percent in urban areas of the district.⁸⁹

The literacy rates of rural and urban areas are 78.0 percent and 88.3 percent respectively. The proportion of male and female literates in rural area is 85.1 and 70.5 percent. In urban areas this proportion is 92.0 and 84.2 percent. The difference between male and female literacy rates in urban areas is 7.8 percentage points against 14.6 percentage points in rural areas.⁹⁰

Within the Gujarat state, Bharuch has an MPI value of 0.078 which reflects its performance across three dimensions: education, health and standard of living.⁹¹

Jamnagar

Jamnagar district is situated on the north-west corner of the peninsular region of Gujarat State known as Kathiawar or Saurashtra. The total area of the district is 14,184 sq.km i.e. it covers 7.23 per cent of total geographical area of Gujarat. It is the second largest district of area in the Gujarat, but the density of the district is 152 persons per sq.km compared to 308 the density of the Gujarat. The district population is 3.6 percent of total population of Gujarat State and the district ranks 11th in population among 26 districts of the State. There are 939 females for every 1,000 males in Jamnagar district. The sex ratio of rural and urban areas for the district is 949 and 926 respectively.⁹²

The population of Scheduled Castes works out to 8.05 percent in total population, 8.36 percent in rural and 7.67 percent in urban population of the district. The total Scheduled Tribes population of the district works out to 1.12 percent of the total population. The corresponding percentage for rural and urban areas are 1.39 percent and 0.79 percent respectively.⁹³

In Jamnagar as in other districts of Gujarat, agriculture happens to be the main source of subsistence for most people. According to the 2011 Census, 48.56 percent of the total working population of the district was engaged in agriculture, as against 49.61 percent in the State as a whole. Agriculture occupies a very prominent place in the economy of the district and provides means of livelihood to 60 percent of the working population.⁹⁴

⁸⁹ Ibid. (reference 98)

⁹⁰ Ibid. (reference 98)

⁹¹ Ibid. (reference 61)

⁹² District Census Handbook, Jamnagar

⁹³ Ibid. (reference 103)

⁹⁴ Ibid. (reference 103)

Within the Gujarat state, Jamnagar has an MPI value of 0.061 which reflects its performance across three dimensions: education, health and standard of living.⁹⁵

As per 2011 Census there are 1,396,534 literates in Jamnagar district constituting 73.7 percent of total population. The male literacy rate is 81.5 per cent and female literacy rate is 65.3 percent showing a gap of 16.2 percentage points.⁹⁶

Patan

Patan is situated on the banks of the sacred Saraswati River. Patan covers 2.95 per cent of total area of Gujarat State. Patan district is the 21st most populated district in the State. Patan district has a sex ratio of 935 (no. of females per 1000 males). District stands at 14th position in terms of sex – ratio.⁹⁷ Patan district has 72.30 per cent literacy rate and female literacy rate is 61.05 per cent. Patan ranks 20th and 22nd in literacy and female literacy rate respectively.⁹⁸

The economy of the district is basically dependent on agriculture as 65.55 per cent of workers are engaged in agricultural activities. 34.45 per cent of workers are engaged in other non-agricultural activities.⁹⁹

Within the Gujarat state, Patan has an MPI value of 0.093 which reflects its performance across three dimensions: education, health and standard of living.¹⁰⁰

Surat

Surat district is situated in the southern part of the Gujarat state. According to the 2011 Census, the total population of Surat district is 60,81,322 comprising 34,02,224 males and 26,79,098 females. The population of the district forms 10.1 percent of the State population and rank at 2nd place among the districts of Gujarat state. Out of the total population of the district 20 percent that is 12,32,109 live in rural area while 80 percent, that is 48,49,213 live in urban area. There are 787 females for every thousand males in Surat district. The sex ratio figures for rural and urban areas of the district are 925 and 756 respectively.¹⁰¹

⁹⁵ Ibid. (reference 61)

⁹⁶ Ibid. (reference 103)

⁹⁷ District Census Handbook, Patan

⁹⁸ Ibid. (reference 108)

⁹⁹ Ibid. (reference 108)

¹⁰⁰ Ibid. (reference 61)

¹⁰¹ District Census Handbook, Surat

The population of Scheduled castes works out to 2.60 percent in total population, 3.14 percent in rural and 2.46 in urban population of the district. The total Scheduled Tribes population of the district works out to 14.09 percent of the total population. The corresponding percentage for rural and urban areas is 55.47 percent and 3.58 percent respectively.¹⁰²

In Surat as in other districts of Gujarat, agriculture happens to be the main source of subsistence for the majority of people. According to the 2011 Census, 17.05 percent of the total working population of the district was engaged in agriculture, as against 49.61 percent in the State as a whole.¹⁰³

As population per 2011 census Surat district reported 45,71,410 persons as literates constituting 85.5 percent of the total. The proportions of male and female literates in the district are 89.6 and 80.4 percent respectively. The gap between male and female literacy rates is 9.2 percentage points in the district. The total literacy rates of rural and urban areas are 76.9 and 87.7 percent respectively.¹⁰⁴

Within the Gujarat state, Surat has an MPI value of 0.041 which reflects its performance across three dimensions: education, health and standard of living.¹⁰⁵

1.3.4. Rajasthan

Rajasthan is the largest state in India with a geographical spread of 3,42,239 km² (RHS 2019). It is divided into 34 districts and is estimated to have a population of over 6.85 crores, which accounts for approximately 5.66 per cent of India's total population. As per Census 2011, the Scheduled Caste (SC) and Scheduled Tribe (ST) population is 1.2 crores (17.83 per cent) and 0.92 crores (13.48 per cent), respectively. Around 75.13 per cent of the population reside in rural areas, while the rest constitute the urban population. At present, 61 cities are covered under National Urban Health Mission. Rajasthan boasts huge mineral reserves. It produces 81 varieties of minerals such as wollastonite, lead, zinc, calcite, gypsum, rock phosphate, silver, marble, sandstone and serpentine (green marble).¹⁰⁶

¹⁰² Ibid. (reference 112)

¹⁰³ Ibid. (reference 112)

¹⁰⁴ Ibid. (reference 112)

¹⁰⁵ Ibid. (reference 61)

¹⁰⁶ [Rajasthan.pdf \(nhsrcindia.org\)](#)

The census study of 2011 revealed that literacy rate of Rajasthan has witnessed a steep rise, to 67.06 per cent against 38.55 per cent and 60.41 per cent during the years 1991 and 2001 respectively. However, this is still lower than India's literacy rate of 72.98 percent.¹⁰⁷

14.71 per cent of the population of Rajasthan is living below the poverty line, which indicates a better performance than the national average. However, when the Multiple Poverty Index (MPI) is concerned, 29.46 per cent of the population of Rajasthan falls under the same, worse than the national average. In Rajasthan, 42.6 per cent of the population are deprived of nutrition, the report said and 26.3 per cent of the population in the State deprived of maternal health. It monitors 10 indicators, such as school attendance, nutrition, and safe drinking water, grouped into three dimensions: education, health and standard of living. This figure further indicates that socially marginalised communities often fall off the radar due to the definition to poverty employed within the country.¹⁰⁸

According to National Family Health Survey – 5 for Rajasthan, Infant Mortality Rate (IMR) is 35, which is higher than the national average of 30. Maternal Mortality Ratio (MMR) 164 is also higher than the national average 113. Under Five Mortality Rate is 40 which is higher than the national average of 36.¹⁰⁹

According to SDG India Index, Rajasthan scores 63 on SDG-1 No Poverty, scores 70 on SDG-3 Good Health and Well-being, scores 60 on SDG-4 Quality Education, scores 39 on SDG-5 Gender Equality, scores 54 on SDG-6 Clean Water and Sanitation.¹¹⁰

The district data below provides a deeper look into the locations in Rajasthan that CAIRN works in and establishes a clear need for their interventions.

Barmer

Is the second largest district in the state of Rajasthan. Barmer is located in the western part of the state, and it also forms a part of Thar Desert. The main river of the district is Luni which flows 480 km in length and meets at Gulf of Kutch flowing through Jalore. It shares borders with Jaisalmer in the north, Pali and Jodhpur in the east, Jalore in the south and Pakistan in the west. In respect of area, it is third largest district of the state after Jaisalmer and Bikaner district.

¹⁰⁷ Ibid. (reference 117)

¹⁰⁸ Ibid. (reference 61)

¹⁰⁹ Ibid. (reference 117)

¹¹⁰ Ibid. (reference 63)

The proportion of scheduled caste and scheduled tribe population to the total population of the district is found to be 16.76 percent and 6.77 percent respectively. In the SC category, Chohtan tehsil have the maximum 21.27 percent and the minimum 14.31 percent is in Pachpadra tehsil and in ST category maximum 10.60 percent in Siwana tehsil and minimum 4.13 percent is in Sheo tehsil.¹¹¹

Barmer is one of the industrially backward districts of the state. Due to lack of adequate power and water facilities there is no large-scale industry in the district. The main small scale and cottage industries of the district are textile, blocks printing, oil industries, dyeing and weaving. There are also other industries viz. black smithy, carpentry, shoe making, pottery, biri and ghee making etc.¹¹²

Within the Rajasthan state, Barmer has an MPI value of 0.295 which reflects its performance across three dimensions: education, health and standard of living.¹¹³

The overall literacy rate of district is 56.53 percent while the male & female literacy rate is 70.86 and 40.63 percent respectively. Rural Barmer has a literacy rate of 54.79 percent while the same in urban areas is 78.22 percent. Data on drop-out rate in Govt. schools in Barmer at the Primary level is as high as 9.89 percent.¹¹⁴

As per NFHS IV for Rajasthan, there is just 45 percent of household have improved sanitation, while the figure Barmer is even less than the state average as with just 20 percent of it's households with improved sanitation. The same source suggests that only 14.7 percent of household in Barmer and 29.6 percent of household in state use clean fuel for cooking. Apart from sanitation facility and clean fuel, 20.2 percent of household have improved drinking water source in Barmer. It also provides data that only 65.6 percent of households have electricity in Barmer while 91 percent of household in the state.¹¹⁵

Jalore

¹¹¹ [Barmer.pdf \(apfstatic.s3.ap-south-1.amazonaws.com\)](#)

¹¹² Ibid. (reference 122)

¹¹³ Ibid. (reference 61)

¹¹⁴ Ibid. (reference 122)

¹¹⁵ Ibid. (reference 122)

Jalore is known as *Granite City*. Jalore lies to south of Sukri River a tributary of Luni River and is about 140 km south of Jodhpur having geographical area of 10,640 sq. Kms. The seven subdistricts of Jalore are— Sayla, Ahore, Jalor, Bhinmal, Bagora, Sanchore and Raniwara.

As per Census 2011, the total population of Jalore is 1828730 which accounts for 2.67 percent of the total population of State. The sex ratio of Jalore district (952) is significantly higher than the State sex ratio (928). The percentage of urban population in Jalore is 8.3 percent, which is lower than the state average of 24.9 percent. Schedule Caste (SC) constitutes 19.5 per cent while Schedule Tribe (ST) were 9.8 per cent of total population in Jalore district of Rajasthan. The economy of Jalore district is mainly dependent on agriculture as 72.6 percent workers in the district are either cultivators or agricultural labourers. However, the district percent of such workers is higher than the state average of 62.1 percent.¹¹⁶

Within the Rajasthan state, Jalore has an MPI value of 0.206 which reflects its performance across three dimensions: education, health and standard of living.¹¹⁷

The overall literacy rate of Jalore district is 55.97 percent while the male & female literacy rate is 69.50 and 42.35 percent respectively. The literacy rate in Jalore district is 54.9 percent which is lower than the State Average (66.1 percent) and it ranks 33rd among the other districts of the state. Gender Gap of the literacy rate is 32.2 percent in the district. Significant difference is notable in the literacy rate of rural and urban Jalore. Rural Jalore has a literacy rate of 53.20 percent while the same in urban areas is 84.78 percent. Drop-out rate in Govt. schools in Jalore is 6.89 percent at the Primary level. However, it is seen to increase as one moves to higher grades. It is 3.98 percent at the Upper Primary level, a 21.45 percent at Secondary level, 8.42 percent at Higher Secondary level.¹¹⁸

The overall percentage of households having access to improved drinking water source is 79.0 percent which is less than the state average (85.5 percent) as per NFHS-IV. The same survey reports that 39.4 percent household have improved sanitation facilities which is also less than state average of 45.0 percent. Apart from drinking water and sanitation facility, only 27.1 percent of household use clean fuel for cooking compared to state average of 31.8 percent. In the district, 82.8 percent of household having electricity which is less than the state average 91.0 percent).¹¹⁹

¹¹⁶ [Jalor District Population Religion - Rajasthan, Jalor Literacy, Sex Ratio - Census India](#)

¹¹⁷ Ibid. (reference 61)

¹¹⁸ [Jalor.pdf \(apfstatic.s3.ap-south-1.amazonaws.com\)](#)

¹¹⁹ Ibid. (reference 129)

1.4. Theory of Change

The theory of change below (or an impact map) was created based on the documents shared by CAIRN at the beginning of the engagement and provides a snapshot of the KPIs that were then used to develop the questionnaires. These do not reflect the actual change on the ground, but a guidance document used for tool development for the programmes that have been assessed under this round of impact assessment.

Furthermore, the tools were finalised with the support of the business unit and have been provided in the Annexure.

Thematic Area	Location	Project Name	Key Activities	Key Outputs	Key Outcomes	Impact
Health & WASH	Rajasthan	Project Nandghar	Strengthen the efficacy of government’s Integrated Child Development Services (ICDS) Program Hot meal food distribution (with ICDS) Combat nutrition and improve overall health and well-being of children in the age group of 3-6 years (Nandghars in Barmer) Link women to sustainable livelihood opportunities Monthly ‘well-baby show’	Total Nandghars Total children covered/screene d No of hot meals distributed No of awareness sessions	per cent Increase in coverage of ICDS program per cent decrease in malnutrition cases per cent increase in immunization Improved access to adequate nutrition for children per cent increase in coverage of children for malnutrition screening per cent MAM (Moderate Acute Malnutrition) children moved to Healthy Zone per cent of the SAM (Severe Acute Malnutrition) Children moved to Healthy Zone	Improved health and well-being of children in the age group of 3-6 years Improved access to sustainable livelihood opportunities for women Improved access and efficacy of ICDS program

			and 'children's excursions' for awareness		per cent of the SAM children moved to MAM Zone	
Education	Rajasthan	PROJECT UJJAWAL	Digital classrooms were set up and school infrastructure was strengthened by upgrading the existing sanitation and other facilities in all schools Capacity building of school teachers	No. of Students Covered No. of Schools Covered No of teachers trained	per cent increase in learning outcomes Improved enrolment and attendance in schools per cent decrease in drop out rate of girls Improved capacity of school teachers per cent increase in access to sanitation facilities per cent increase in access to drinking water in school	To improve academic performance of students with multiple interventions. To improve health and hygiene index of targeted schools. Establishing sustainable practices for behavioural change.
Thematic Area	Location	Project Name	Key Activities	Key Outputs	Key Outcomes	Impact
Education	Rajasthan	PROJECT MARU JYOTI	Installing solar panels in schools Fans were also installed in schools.	No. of Students Covered No. of Schools Covered	Annual reduction in CO2 emission Improved access to electricity Improved enrolment and attendance in schools	Improved access to renewable electricity in schools
Education	Rajasthan	PROJECT E-KAKSHA	Provide free and quality education to students of Class 6th to 12th in Hindi medium schools of Rajasthan, through digital platforms and	No. of Students Covered No. of Schools Covered	per cent increase in learning outcomes Improved enrolment and attendance in schools per cent decrease in drop out rate of girls	To provide digital education to students of government schools across the state of Rajasthan. Improve the accessibility as well as affordability of quality education. Provide e-learning facilities to

			offline desktop applications		per cent decrease in drop out rates	students as supplementary learning to the classroom teaching
Health & WASH	Rajasthan Gujarat	MOBILE HEALTH VAN	Mobile Health Vans	No. of MHVs covered No. of villages covered No. of beneficiaries covered No of facilities/test available No of diseases covered	per cent decrease in medical expenditure per cent beneficiaries experiencing timely availability of treatment per cent beneficiaries reporting improved health per cent beneficiaries reporting increase in income due to improved health	To strengthen the health quotient and provide quality health services in villages around Rajasthan and Gujarat.
Thematic Area	Location	Project Name	Key Activities	Key Outputs	Key Outcomes	Impact
Health & WASH	Rajasthan	PROJECT NAVKIRAN	Intervention to operationalise all dysfunctional First Referral Units (FRUs) in District Barmer.	No of beneficiaries covered No. of villages covered No of women beneficiaries covered No of facilities/test available No of diseases covered	Improved availability of diagnostic services Improved quality of maternal and childcare in the FRUs Improved access to quality healthcare services Improved quality of healthcare facilities and services Decrease in IMR and MMR rates in the region	Transforming public health systems and achieving greater adoption of safe, timely, and effective practices in handling pregnancy and newborn complications

Health & WASH	Rajasthan	SUPPORTING BARMER DISTRICT HOSPITAL	Support of specialist doctors – service of 3 specialist doctors, an ENT, a Gynaecologist and a General Surgeon for the hospital. Also, 62 cleaning staffs were provided to the district hospital to maintain the overall hygiene.		Improved access to quality healthcare services in the district hospital Improved quality of healthcare facilities and services in the district hospital per cent beneficiaries experiencing timely availability of treatment per cent beneficiaries reporting improved health per cent beneficiaries reporting increase in income due to improved health Improved awareness on importance of health and good hygiene practices	To ensure that people of Barmer district have access to specialist doctors within the premise of the Government District Hospital. To improve the overall hygiene index of the hospital and create awareness on the importance of health and hygiene practices. To support the government agencies with necessary infrastructure & equipment
Thematic Area	Location	Project Name	Key Activities	Key Outputs	Key Outcomes	Impact
Health & WASH	Andhra Pradesh	SUPPORT TO PHC	Providing better healthcare facilities to communities residing in Ravva	No. of villages covered No. of beneficiaries covered No of facilities/test available No of diseases covered	Improved access to quality healthcare services at PHC Improved quality of healthcare facilities and services at PHC per cent beneficiaries experiencing timely availability of treatment per cent beneficiaries reporting improved health per cent beneficiaries reporting increase in income due to	<ul style="list-style-type: none"> To provide healthcare services to people through PHC. To bring remarkable improvement in health standards of people. To cater to emergency healthcare services for the community

Thematic Area	Location	Project Name	Key Activities	Key Outputs	Key Outcomes	Impact
Health & WASH					improved health per cent decrease in medical expenditure Improved access to emergency healthcare services	
	Gujarat	SMART AWW PROJECT (Gujarat)	Improving Aanganwadi infrastructure	Total Aanganwadi covered Total children covered/screened No of awareness sessions	per cent increase in AWW enrollment and attendance per cent increase in coverage of ICDS program per cent decrease in malnutrition cases Improved access to adequate nutrition for children per cent increase in coverage of children for malnutrition screening per cent MAM (Moderate Acute Malnutrition) children moved to Healthy Zone per cent of the SAM (Severe Acute Malnutrition) Children moved to Healthy Zone per cent of the SAM children moved to MAM Zone	To link the community to government schemes by converting existing Aanganwadi centres into smart AWWs. To ensure increase in AWW enrollment and attendance. <ul style="list-style-type: none"> To improve AWW functioning and to ensure regular malnutrition screening, improvement in growth chart and enhanced community engagement through project monitoring.

Sustainable Livelihoods	Rajasthan	PROJECT BARMER UNNATI	Introducing and promoting new crops and technologies in the region	No of farmer beneficiaries covered No of awareness sessions, workshops or demonstrations conducted No of farmers trained	per cent increase in agricultural yield Improved adoption of sustainable agricultural practices Improved capacity of farmers Improved market linkages for farmers per cent increase in income per cent increase in crop prices due to market linkages and other projec interventions	Development of healthier agricultural (farm and nonfarm) practices to increase productivity and income by diversifying production base. Optimum utilisation of rainwater through storage and planned utilization of natural resource base of the community through structures requiring minimum maintenance post project completion. Capacity building through training, collectivisation, financial management, market linkage and product improvement.
Sustainable Livelihoods	Rajasthan	DAIRY DEVELOPMENT PROJECT/ Project Maru Sagar	Providing key facilities of Bulk Milk collection units, Mobile Veterinary van services, One-stop solution shops, capacity building training, women empowerment and green fodder support	No of beneficiaries covered No of Bulk milk collection units No of mobile veterinary van services No of trainings conducted	Improved access to veterinary services Improved quality of veterinary facilities and services Improved livestock health Improved awareness on fodder development per cent increase in income Improved market linkages for dairy farmers	To provide income enhancement opportunities to the rural communities involved in animal husbandry and dairy farming.
Community Development (Infrastructur	Gujarat	Community Helpdesk Project	All five Community Help Desk centres are working towards community awareness and linkage	No of viilages Covered No of	Improved access to government schemes Improved awareness about government schemes	To spread awareness about government schemes and how to avail them. • To ensure 100 per cent

e/Awareness)			to government schemes as per eligibility of beneficiaries.	Beneficiaries supported		enrolment of the households for government schemes as per their eligibility.
Thematic Area	Location	Project Name	Key Activities	Key Outputs	Key Outcomes	Impact
Community Development (Infrastructure/Awareness)	Gujarat	MICRO LEVEL INTERVENTION (MLI) PROJECT	. A micro-level intervention initiative has been customised to address some of the key issues of the community while continuously creating platforms of engagement.	No of villages covered	Improved community relations for the firm	To strengthen relations with community and stakeholders in the area.
Community Development (Infrastructure/Awareness)	Andhra Pradesh	MICRO LEVEL INTERVENTION (MLI) PROJECT AT S. YANAM	to conduct awareness on various National Days and to implement one-time activities like Health Camps, Science Camps, Sports events, etc	No of villages covered No of events conducted	Improved community relations for the firm Improved awareness in the area	To support development activities in villages around the terminal. To improve the quality of life for communities and create awareness about days of national importance.
Community Development (Infrastructure/Awareness)	Assam	MICRO LEVEL INTERVENTION (MLI)- ASSAM	livelihood promotion'. Community Connect (Jan Samvaad), community mobilisation events, livelihood development through skill development and	No of villages covered No of events conducted No of beneficiaries covered in livelihood	Improved community relations for the firm Improved awareness in the area Increase in income for the skill development trainees Improved skillsets (skill development trainees) Improved self esteem and	To gain confidence and acceptance from community, especially in drilling area/ villages and around. • To contribute in improving income and lifestyle of the community.

Thematic Area	Location	Project Name	Key Activities	Key Outputs	Key Outcomes	Impact
Community Development (Infrastructure/Awareness)	Gujarat	MICRO LEVEL INTERVENTION (MLI)-OALP GUJARAT	self-help groups and village infrastructure development activities Community Connect meetings-Jan Samvaad, community mobilization events, livelihood promotion and village infrastructure development.	activities No of infrastructural assets constructed/ repaired No of villages covered No of events conducted No of beneficiaries covered in livelihood activities No of infrastructural assets constructed/ repaired	confidence (skill development trainees) Improved community relations for the firm Improved awareness in the area Increase in income for women involved in livelihood activities Improved self-esteem and confidence for women involved in livelihood activities	To improve lives of villagers and engage women into livelihood initiatives for generating income.
Community Development (Infrastructure/Awareness)	Rajasthan	PROJECT GREEN BARMER SMART BARMER	Develop green parks and beautify selected locations in the city	No of parks revamped/developed	Improved green space in the city	To support municipal council of Barmer in developing a 'Green and Smart' Barmer city

Health & WASH	Rajasthan	SCHOOL SANITATION PROJECT	This includes both infrastructural upgrades (construction of toilets, washbasin, shed for the mid-day meal, hand washing area etc.) as well as behavioral change through education	No of schools covered no of villages covered	Percentage beneficiaries reporting improved access to clean drinking water per cent beneficiaries reporting reduction in water borne diseases per cent reduction in drop out rates Improved attendance and regularity per cent reduction in drop out rates of girls Improved awareness on WASH practices	
Thematic Area	Location	Project Name	Key Activities	Key Outputs	Key Outcomes	Impact
Health & WASH	Rajasthan	HOUSEHOLD SANITATION PROJECT	construction of ~20,500 household toilets, including ~4,000 toilets with attached bathrooms under the Nirmal Bharat Abhiyan and 188 school toilets across District Barmer in partnership with the local government agencies	No of HHS covered no of villages covered	increase in access to household toilets Improved safety and comfort of women Improved awareness on sanitation and hygiene Improved usage of toilets constructed Decrease in open defecation practice	

Health & WASH	Rajasthan	PROJECT JEEVAN AMRIT	RO Plants	No of RO plants installed No of villages covered	Percentage beneficiaries reporting improved access to clean drinking water per cent beneficiaries reporting reduction in water borne diseases per cent beneficiaries reporting change in cost of availing water per cent beneficiaries reporting more hours of economic activity per cent Increase in income due to more productive/ working hours per cent decrease in expenditure on health	To provide safe drinking water facilities to rural communities with an aim to improve the quality of life and reducing the occurrence of water-borne diseases.
Thematic Area	Location	Project Name	Key Activities	Key Outputs	Key Outcomes	Impact
Health & WASH	Rajasthan	Project Borewell	Community borewells along with 10,000 litres capacity water tank and cattle troughs	No of water tanks installed No of villages covered	Percentage beneficiaries reporting improved access to clean drinking water per cent beneficiaries reporting reduction in water borne diseases per cent beneficiaries reporting change in cost of availing water per cent beneficiaries reporting more hours of economic activity per cent Increase in income due to more productive/ working hours per cent decrease in expenditure	To ensure 24X7 availability of water for communities in selected water-scarce areas (interior villages).

Thematic Area	Location	Project Name	Key Activities	Key Outputs	Key Outcomes	Impact
Skilling	Rajasthan	CAIRN ENTERPRISE CENTRE (CEC)	Online course on GST and Data Recovery Agent (DRA) were conducted during Covid pandemic. Last year, more than 600 youths have been trained from the CEC centre and linked with different agencies for job opportunities	No of courses covered No of beneficiaries trained No of candidates provided with job opportunity	on health Improved access to water for feeding cattle per cent youth / women reporting enhanced skills per cent youth / women receiving employment per cent beneficiaries pursuing higher education Increase in income for the skill development trainees Improved skillsets (skill development trainees) Improved self esteem and confidence (skill development trainees)	Creating employability for identified unemployed rural youths through vocation-based training 1
	Gurgaon, Haryana	PROJECT TAMANA, NEW DELHI	Supported the renovation of the physiotherapy unit at the Tamana Nai Disha Centre While Cairn is supporting 20 differently-abled children and young adults for skill	No of beneficiaries covered No of trainees covered No of candidates provided with job opportunity	per cent youth / women reporting enhanced skills per cent youth / women receiving employment per cent disabled youth / women reporting enhanced skills per cent disabled youth / women receiving employment	

			training, the physiotherapy unit and bus service caters to all 125 students at the Centre.		per cent beneficiaries pursuing higher education Increase in income for the skill development trainees Improved skillsets (skill development trainees) Improved self esteem and confidence (skill development trainees)	
Women Empowerment and Inclusion (Disability)	Rajasthan	PROJECT DIVYANG	The project supports para-athletes by providing sports kits and equipment, specialised training and coaching, diet and nutrition supplements, physiotherapy, exposure to domestic and international competitions, and incentives for exceptional performance.	No of para-athletes supported	Improved financial support to selected para-athletes Improved awareness on fitness, wellness, and sports initiatives	

1.5. Demographic Profile

The following section will provide an overview of the demographic profile of beneficiaries in CAIRN’s intervention areas. Through this exercise, the socio-economic status of the communities can be ascertained and will support CAIRN in planning for the sustainability of their CSR projects and strengthening their social license to operate.

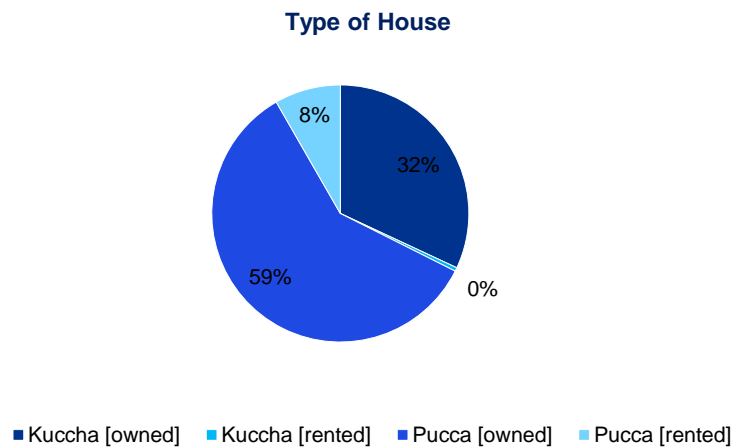


Figure 5 Type of House
Economic Category

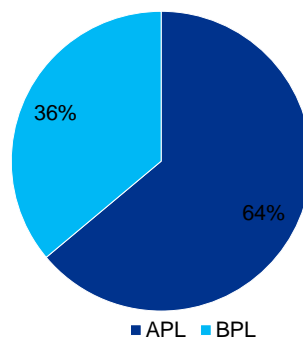


Figure 6: Economic Category of Respondents

Most of the respondents of the household survey owned their own Kuccha house (59 per. This is further bolstered by the fact that close to 64 per cent of these respondents also reported to be above the poverty line.

Caste related data reflects that over 40.88 per cent of the respondents belong to the General Category, 38 per cent belong to the Other Backward Castes, 7 per cent from the Scheduled Castes and over 14 per cent are from the Scheduled Tribes

Different social groupings provide for layered discrimination and poverty indicators. Therefore, not only are the economic categories, household types and caste important in any level of analysis of need. It is necessary to understand the gender-composition as well, in order to better serve them. According to the data, Average family Size was found out to be 3.48 across all the intervention areas of CAIRN. As per the findings, 45 per cent of the household members surveyed were women. It must further be noted that a negligible proportion of respondents reported to hold any public position (4 per cent), representing lack of access to power and thus a greater dependency on people in positions of authority to support the larger community in fulfilling their needs.

Asset Ownership Across Field Location

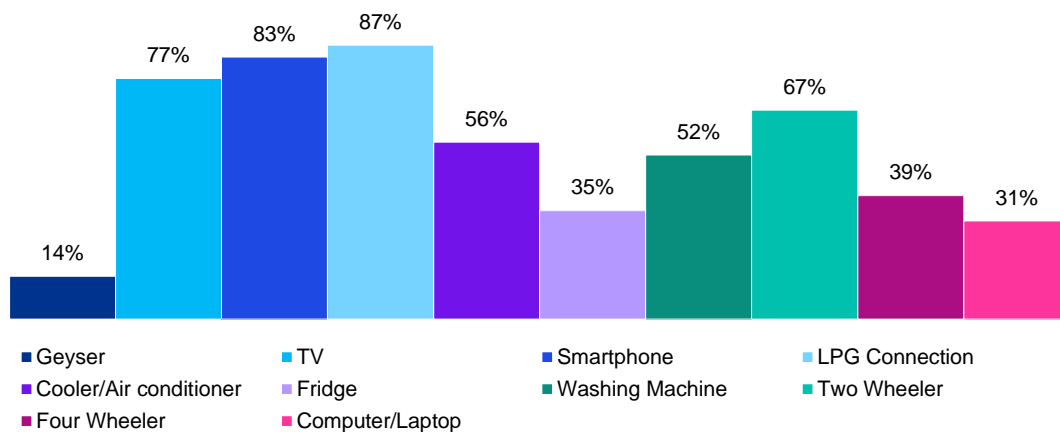


Figure 7: Asset Ownership

The socio-economic wellbeing of a household can also be gauged by the assets that they own. The data shows that a majority of the households have amenities such as television (77 per cent), Smart phones (83 per cent) and two wheelers (67 per cent). 87 per cent of the households have the LPG connections.





Health & WASH

2. Thematic Area: Health and WASH

2.1. Executive Summary

CAIRN has been carrying out significant efforts in the field of healthcare with a strong community and stakeholder connect. They have been ensuring last mile delivery to the communities to ensure that the population is healthy. This is in recognition of the Sustainable Development Goals (Goal 3) and an understanding that the health of a population is an integral concern for all, whether it be policy makers, corporates, communities, or the individual itself. Good health is thus a foundational need to achieve any other positive development outcomes. Despite health in the country seeing positive advances in the decades after independence, the COVID-19 pandemic revealed the lack of the ability of the public health infrastructure to take on a burden of ensuring universal healthcare. In states such as Rajasthan, where investment has been placed into infrastructure development, ensuring that the number of public health facilities are available to all, there continues to be a lack of necessary personnel especially lab technicians and other necessary facilities like delays in medicine delivery due to lack of transport¹²⁰.

Key Highlights of the Baseline Assessment

- 80 per cent of the population has access to MHVs in Barmer and Jalore.
- 95 per cent of the population has access to Anganwadis
- 96.85 per cent of the population accesses healthcare at least once a year
- 55.83 per cent of the population is spending between 2000 INR and 5000 INR. The average out of pocket expenditure in the field locations is 48.19 per cent lesser than the state average and the majority (61.41 per cent) spend between 2000 INR and 5000 INR.
- 33.51 per cent of the households had access to drinking water within their house or the periphery of the house while 3.57 per cent had access to drinking water beyond 1 kilometer from their house

While on an average, 95 per cent of the population has accessed Anganwadis, but when the state averages are considered, only 44 per cent of the respondents in AP had accessed the same while 100 per cent in Assam had accessed such institutions. Further, despite parents

¹²⁰ <https://cbps.in/wp-content/uploads/Public-Expenditure-on-Health-in-Rajasthan-Report-6Jan2021.pdf>

reporting children to be healthy, only 67.32 per cent of households had taken their children for health checkup at Anganwadis. Referrals and immunization also remained low.

Only 3.3 per cent of the respondents stated to have accessed CHCs and when state averages were considered separately, it was seen that other than Rajasthan where at least 18.53 per cent had stated having accessed CHCs, the averages in other states were close to 0.

Key Highlights of the Impact Assessment

Mobile Health Units: 52 per cent of the beneficiaries in Barmer and 43 per cent of the beneficiaries in Jalore reported that due to CAIRN's health intervention there is an improvement in access and timely availability of health care facilities.

Key Recommendations

- 1. Ensuring a Holistic Approach towards healthcare:** Mobile Health Vans (MHVs) and units are a key support structure in healthcare delivery; however, it cannot be present everywhere at once.
 - It is thus essential to ensure that primary, secondary, and tertiary healthcare institutions are not only sufficiently present and accessible but available to provide quality curative and preventive healthcare. CAIRN, with its existing connect with the government health department may work alongside them to fulfil the gaps in infrastructure and healthcare training.
 - Certain remote populations may continue to face barriers in accessing healthcare through public institutions which can be supplemented by ensuring MHV access in these locations
- 2. Expansion of Telemedicine access through aligning with existing government services:** However, given the challenges that persist (such as technical issues with e-sanjeevani), CAIRN may work alongside the Government to provide sufficient equipment as well as training to doctors at central locations to enhance availability of first level of care.
- 3. Community Involvement in Increasing health seeking behaviour and bringing health behaviour change:** CAIRN's community-based organizations can be leveraged for the same in a campaign mode.

2.2. Baseline Assessment

Disease Burden

Communicable, maternal, neonatal, and nutritional diseases (CMNND) contribute to 37.27 per cent of total disease burden in Rajasthan, 28.29 per cent in Gujarat 34.06 per cent in Assam and 25.30 per cent in Andhra Pradesh. In fact, the burden of the same is much higher in 9.81 percentage points higher than the national average. The leading causes of death due to CMNND in Rajasthan can be attributed to lower respiratory infection, neonatal preterm birth, drug susceptible tuberculosis, diarrheal diseases & other neonatal conditions¹²¹. In Gujarat, the leading cause of death due to CMNND can be attributed to Drug Susceptible TB, Lower respiratory infection & diarrheal diseases.¹²² . Diarrheal diseases, lower respiratory tract infections, neonatal preterm birth and tuberculosis are the leading causes of deaths due to CMNND in the Assam.¹²³ When it comes to Andhra Pradesh Diarrheal diseases, neonatal preterm birth and dietary iron deficiency are the leading causes of deaths due to CMNND in Andhra Pradesh.¹²⁴

Disease Burden in India, Rajasthan, Gujarat, Assam and Andhra Pradesh

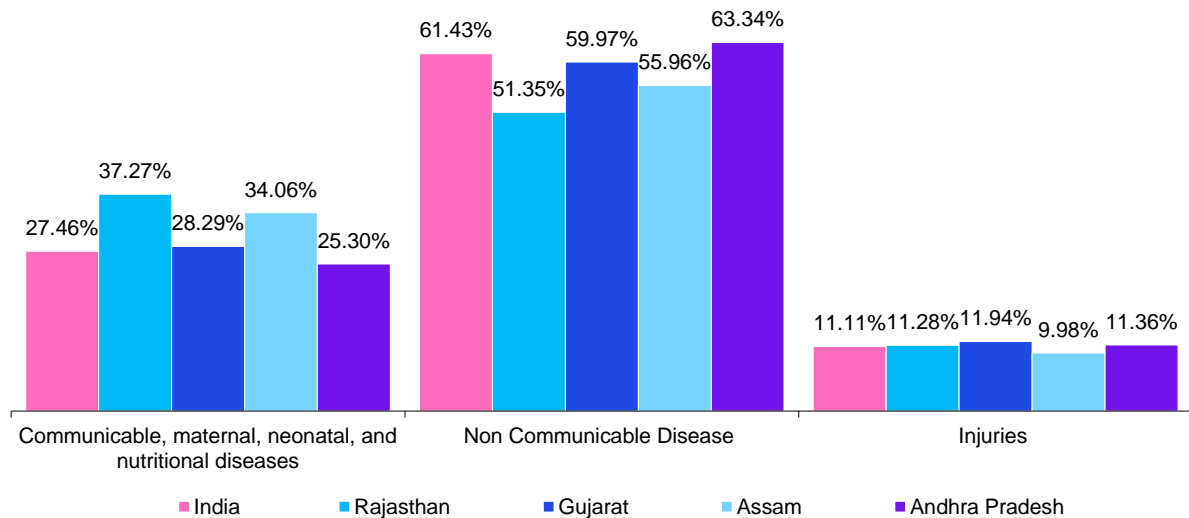


Figure 8 Disease Burden in India Rajasthan, Gujarat, Assam and Andhra Pradesh

¹²¹ https://nhsrcindia.org/sites/default/files/practice_image/HealthDossier2021/Rajasthan.pdf

¹²² https://nhsrcindia.org/sites/default/files/practice_image/HealthDossier2021/Gujarat.pdf

¹²³ https://nhsrcindia.org/sites/default/files/practice_image/HealthDossier2021/Assam.pdf

¹²⁴ https://nhsrcindia.org/sites/default/files/practice_image/HealthDossier2021/Andhra%20Pradesh.pdf

Non-Communicable Diseases (NCDs) are the leading causes of premature deaths in all these states. NCDs include a host of diseases which are linked both with behavior (smoking, glucose, blood pressure etc.) as well as environmental issues (such as pollution).

In all the states, the leading causes of death among the age group of 0 and 14 are *Diarrhea, Lower Respiratory Infections and Neonatal diseases*. On the other hand, in the age group of 15 to 39 years of age, other causes including *HIV/AIDS, injuries, digestive, neurological diseases* as well as suicide have been found to be the leading causes of death. An increase is seen in cardiovascular, respiratory diseases as well as cancers and diabetes in the age groups of 40 to 69 years. Not only do childhood diseases and risk factors play a considerable role in future health issues but a focus on curative healthcare does not track and stop diseases at their root. It further increases the burden on healthcare institutions. Primary prevention is a key strategy wherein manifestations of diseases can be avoided. This is done through provision of information on behavioral and medical health risks, nutritional and food supplementation, hygiene education; and clinical preventive services such as immunization and vaccination of children, adults, and the elderly, among others¹²⁵.

The health of a population is an integral concern for all, whether it be policy makers, corporates, communities, or the individual itself. Good health is thus a foundational need to achieve any other positive development outcomes. In fact, health holds a central position in the Global Sustainable Development Agenda.

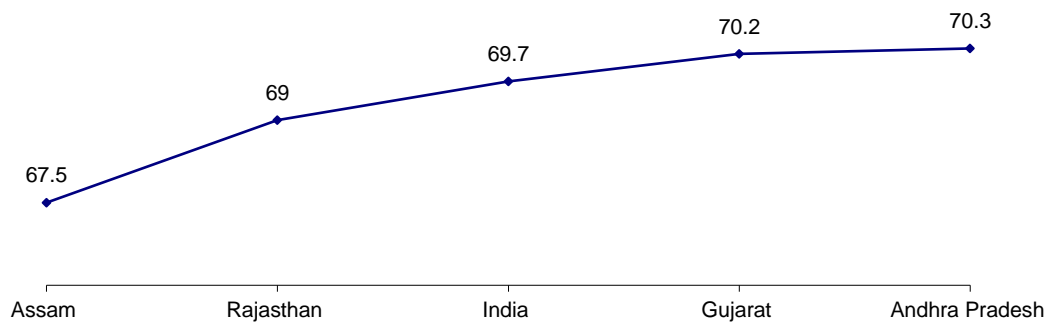
Health in India has seen momentous positive advances in the decades after independence. Life expectancy increased from 49.5 years in 1970-75 to 69.7 years in 2015-16¹²⁶. Life expectancy in the ***states of Assam and Rajasthan were found to be lower than the national average at 67.5 years and 69 years respectively, while Gujarat and Andhra Pradesh fared better at 70.2 years and 70.3 years respectively***¹²⁷.

¹²⁵ <https://www.emro.who.int/about-who/public-health-functions/health-promotion-disease-prevention.html>

¹²⁶ <https://timesofindia.indiatimes.com/india/indias-life-expectancy-inches-up-2-years-to-69-7/articleshow/92166901.cms>

¹²⁷ <https://censusindia.gov.in/nada/index.php/catalog/43473>

Life expectancy at Birth (years)- 2015-2016



There has been an increase in life expectancy by 1.6 to 2 per cent in all states except in Assam, where a 4 per cent increase has been identified. Based on World Bank data, the life expectancy in India in 2020 was inching upwards at 70¹²⁸. Further, WHO states that the gains in life expectancy is largely due to major reductions in mortality of children under 5¹²⁹. In India, the under-five mortality (U5MR) reduced from a rate of 45 per 1000 live births in 2014 to 32 per 1000 live births in 2020. Similarly, the infant mortality rate (IMR) reduced from 39 per 1000 live births in 2014 to 28 per 1000 live births in 2020¹³⁰.

It must be noted, that despite the improvements seen, there are growing socio-economic inequalities in the country which disproportionately affect the health outcomes of marginalized groups. Oxfam has reported ***a stark inequality between social and income groups vis-à-vis access to health facilities as well as determinants of health***. For example, while IMR has reduced (as provided above), scheduled caste groups (SC) have 13.1 higher IMR than the general category, while infant deaths in scheduled tribes (ST) are 12.3 more. Further, the chances of children dying before their fifth birthday is 3 times higher for the bottom 20 per cent of the population as compared to the top 20 per cent. Adding on to this the COVID-19 pandemic starkly exposed the Faultline of the primary healthcare system in India. The number of people requiring medical care and emergency support in rural areas during the second wave of COVID 19 increased, and the PHCs and CHCs which are managed with poor infrastructure, inadequate manpower failed to provide the necessary support and services.

¹²⁸ <https://data.worldbank.org/indicator/SP.DYN.LE00.IN?locations=IN>

¹²⁹ <https://www.who.int/publications-detail-redirect/9789240005105>

¹³⁰ <https://pib.gov.in/Pressreleaseshare.aspx?PRID=1861710#:~:text=Neonatal per cent20Mortality per cent20Rate per cent20has per cent20also,to per cent2023 per cent20in per cent20rural per cent20areas>

Healthcare in India

Access to healthcare in India is limited by a combination of factors such as dysfunctional physical infrastructure, poor health financing and lack of adequate human workforce. Availability of healthcare facilities is highly skewed towards urban centres when the urban population accounts for only 28 per cent of the country's entire population. The remaining 72 per cent has access to only one-third of the total beds available in the country. Healthcare in India is classified into three categories:

1. **Primary (including PHCs and sub centres):** Primary Healthcare is one of the most important elements of healthcare in the country. It provides basic healthcare facilities. Yet, major challenges in accessing quality healthcare services remain a challenge here:
 - Limited services and infrastructure which has forced patients to seek substandard consultation and treatment for early-stage illnesses.
 - Human resource challenges given that the medical workforce prefers to work in urban areas and higher-paying facilities.
 - Disconnect with higher levels of care.

2. **Secondary (including CHCs, DH, sub divisional hospitals as well as mobile medical units):** Secondary healthcare facilities play a key role in providing diagnosis and treatment services to a large part of Indian population. However, have not been able to keep up with the demand.
 - There is a shortage of infrastructure required to meet the goal of providing access to free drugs and diagnostics.
 - Lack of specialists at this level especially in public hospitals force patients to go for expensive private healthcare.
 - There are also growing concerns around the quality of care provided.

3. **Tertiary (including medical colleges)** provide advanced care options. However similar challenges remain.
 - Rising cost to patient: With the cost of tertiary care increasing rapidly, it is becoming a challenge for the poor section of the society to access quality care.
 - Shortage of institutions catering to tertiary care.

Access to Healthcare Institutions

Research points to an asymmetric access to healthcare between urban and rural India¹³¹. Healthcare is a right to all in the country and the population should be able to receive health services that are “*physically and financially accessible, affordable and acceptable for all*”¹³². Critical illnesses often go untreated in rural areas due to the unavailability diagnostic facilities in the local vicinity. In fact, according to a study, while only 3 per cent of major illnesses in urban areas remain untreated, the figure stands at 12 per cent in rural areas, primarily, less developed villages¹³³.

It must be noted that India has a vast public healthcare network and according to the government health policy, there must be one health sub centre per a population of 3000 to 5000, at least one public health centre (PHC) for a population between 20,000 and 30,000 and at least one community health centre (CHC) per a population between 80,000 and 120,000¹³⁴.

According to the 75th NSS report on Social Consumption on Health, 42.8 per cent of the rural population of Rajasthan access public or government run hospitals for ailments while the rest prefer either charitable or NGO run hospitals, private hospitals or clinics or even informal healthcare providers. While a greater proportion of the rural population in Assam (50.6 per cent)

- All the beneficiaries in the CAIRN intervention areas in Rajasthan, Gujarat, Andhra Pradesh, and Assam accessed at least one of the mentioned institutions like Anganwadi Centers, PHC, CHC, Subcenter and District Hospitals. While as per the NSS report on the social consumption in India: Health report, only 42.8% of the population in Rajasthan, 50.6% population in Assam, 32.6% population in Gujarat and only 19.1% population in Andhra Pradesh accessed the public health institution. Cairn field areas have been faring better than the state averages when it comes to access to health institutions.
- In Barmer, where CAIRN has focused on strengthening the district hospital, 83% of the population accessed the health institution which is almost double than the state average of the population accessing public health institutions.
- 67% of the population in Rajasthan and 37% of the population in Gujarat have accessed Mobile Health Vans.
- Access to Anganwadi/Nand Ghars centers remains high in Rajasthan and Assam. 87% of the respondents in Rajasthan (Nand Ghar) and 100% of the respondents in Assam have accessed Anganwadi Centers.
- It must be noted that access to MHV also remains high in all the field locations where they are operational. It can be inferred from the primary data that the population in the field location where MHVs are operational are dependent on MHVs for the basic health care.

¹³¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4621381/>

¹³² <https://nmji.in/access-to-healthcare-among-the-empowered-action-group-eag-states-of-india-current-status-and-impeding-factors/>

¹³³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4621381/>

¹³⁴ Indian Public Health Standards (IPHS)

access such public facilities, it is lower in Gujarat (32.6 per cent) and worse in Andhra Pradesh, where only 19.1 per cent access public facilities. Not only is there a preference for private health facilities, but it has also been noted that major illnesses in rural India often go untreated due to the unavailability of diagnostic facilities. This figure stands at 12 per cent for rural areas, primarily, less developed villages¹³⁵.

It must further be noted that a report by the Comptroller and Auditor General India (CAG) stated basic infrastructural facilities were not present in over 75 per cent of rural health centres. The report stated that these centres were “*inaccessible*”¹³⁶. Further, according to a study on ‘Empowered Action Group’ states, 48 per cent of the rural population in Rajasthan were not satisfied with the quality where services were available¹³⁷. Furthermore, where they believe the quality to be satisfactory, 25 per cent of the rural population of Rajasthan did not access facilities due to the long wait required in such facilities¹³⁸.

Another key factor that influences access to healthcare is ‘*distance*’. Often people residing in rural and tribal belts are deprived of quality healthcare merely because of the lack of availability of healthcare in their vicinity. This implies travel to greater distances to reach any healthcare facility. Furthermore, for people to avail healthcare services it is essential for the necessary infrastructure to be in place, maintained and proper manpower in place to ensure functionality.

Field Unit: East Godavari, Andhra Pradesh

According to the Rural Health Statistics 2021, there are 840 sub centres, 144 PHCs and 26 CHCs and 1 District Hospital in East Godavari district and all of these align with the health policy basis the rural population of the district. However, despite their presence it should be noted that there is a significant shortfall in manpower in the state. 9 per cent ANM positions in Sub centers and PHC were left vacant in Andhra Pradesh. In fact, when it comes to more critical support offered at CHCs, there is a significant shortfall of 43 per cent of doctors and 47 per cent vacancy for surgeons.

¹³⁵ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4621381/>

¹³⁶ <https://www.hindustantimes.com/jaipur/provide-accessible-healthcare-in-rural-areas-cag-tells-rajasthan-govt/story-4zDflT3SA2WMDBmROjo8hI.html>

¹³⁷ <https://nmji.in/access-to-healthcare-among-the-empowered-action-group-eag-states-of-india-current-status-and-impeding-factors/>

¹³⁸ <https://nmji.in/access-to-healthcare-among-the-empowered-action-group-eag-states-of-india-current-status-and-impeding-factors/>

Population that has accessed Healthcare Institutions in East Godavari, Andhra Pradesh

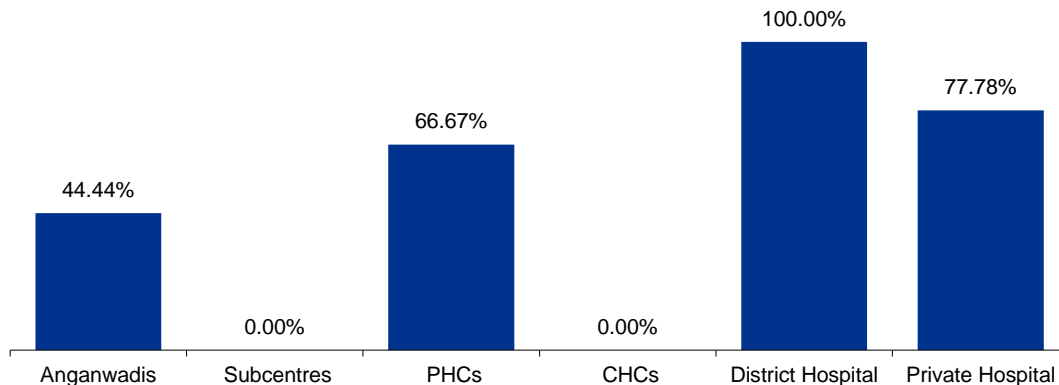


Figure 9 Population that has accessed Healthcare Institutions in East Godavari, Andhra Pradesh

While only 19.1 per cent of the population in Andhra Pradesh had accessed public healthcare facilities according to the 75th NSS Report on Social Consumption on Healthcare, over 70 per cent of the respondents from the district under CAIRN's operational area stated that they had accessed public healthcare institutions. Despite the fact that all the population had accessed the facilities offered by the District Hospital, the proportion of the population accessing other public healthcare facilities has remained low. In fact, it is noted that none of the respondents stated accessing CHCs and Sub centres while 66.67 per cent at least accessed PHCs.

Significantly, PHCs, subcentres and Anganwadis provide the population with access to first level interventions for healthcare including healthcare information. Where a population does not frequent foundational institutions of healthcare, it builds significant burdens on higher levels of institutional healthcare, impacting the quality of the care provided.

Field Unit: Golaghat, Assam

The district of Golaghat has 143 sub centers, 39 PHCs, 9 CHC's 1 sub divisional hospital and 1 district hospital all of these align with the health policy basis the rural population of the district. However, despite their presence it should be noted that there is a significant shortfall in manpower in the state. 5 per cent ANM positions in Sub centers and PHC were left vacant in Assam. In fact, when it comes to critical care support offered at PHCs, there is a significant shortfall of 21 per cent of doctors in PHC's and 72 per cent vacancy of specialists like surgeons, physicians etc. in CHC's in Assam.¹³⁹

¹³⁹ <https://main.mohfw.gov.in/newshighlights-90>

Population that has accessed Healthcare Institutions Golaghat, Assam

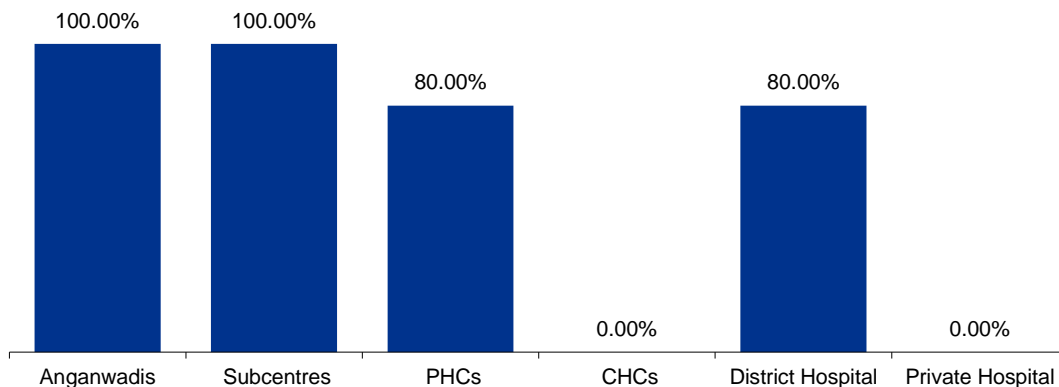


Figure 10 Population that has accessed Healthcare Institutions Golaghat, Assam

Over half (50.6 per cent) of the population in Assam had accessed public healthcare facilities according to the 75th NSS Report on Social Consumption on Healthcare, 100 per cent of the respondents from the district under CAIRN’s operational area stated that they had accessed public healthcare institutions only. In fact, in Golaghat all respondents were accessing Anganwadi and Subcenters while 80 per cent had accessed CHCs and district hospitals. The baseline data further indicates that none of the respondents reported accessing CHCs or private hospitals.

Where the population access public healthcare facilities over private health facilities, it indicates a strong reliance over government systems, indicating a positive direction towards universalizing healthcare in such institutions. However, with the population indicating that they prefer to access district hospital over the available CHCs, it places additional burden on the district hospital to provide quality of care to all those who frequent it.

Field Unit: Jorhat, Assam

The district of Jorhat has 143 sub centers, 39 PHCs, 9 CHC’s 1 sub divisional hospital and 1 district hospital all of these align with the health policy basis the rural population of the district. However, despite their presence it should be noted that there is a significant shortfall in manpower in the state. 5 per cent ANM positions in Sub centers and PHC were left vacant in Assam. In fact, when it comes to critical care support offered at PHCs, there is a significant shortfall of 21 per cent of doctors in PHC’s and 72 per cent vacancy of specialists like surgeons, physicians etc. in CHC’s in Assam.¹⁴⁰

¹⁴⁰ <https://main.mohfw.gov.in/newshighlights-90>

Population that has accessed Health Institutions in Jorhat, Assam

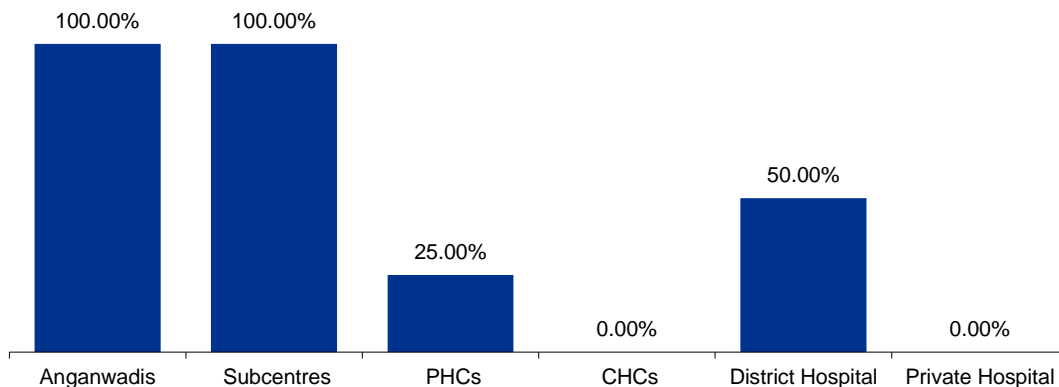


Figure 11 Population that has accessed Health Institutions in Jorhat, Assam

In Jorhat all respondents were accessing Anganwadi and Subcenters, while 50 per cent of them had been accessing the district hospital. Only 25 per cent of the respondents stated that they had been accessing PHCs and none stated that they had been accessing CHCs. There is a significant shortfall of dedicated healthcare professionals in CHCs in the entire state of Assam, while PHCs further have a shortfall of 21 per cent of doctors. However, given that the all the respondents were accessing sub centres, it indicates that their needs were being met by institutions that are located closer to the dwelling.

Field Unit: Ahmedabad, Gujarat

Lack of amenities at PHC and CHC's can lead to overburdening of the district hospital. Data from the Rural Health Statistics shows that in Gujarat there is a significant shortfall of manpower in public health care institutions as 16 per cent of ANM positions are left vacant in Sub centers and PHC's. In fact, when it comes to critical care support offered at CHCs, there is a significant shortfall of 13 per cent of doctors and 90 per cent for surgeons.¹⁴¹

32.6 per cent of the population in Gujarat had accessed public healthcare facilities according to the 75th NSS Report on Social Consumption on Healthcare, 50 per cent of the respondents from the district under CAIRN's operational area stated that they had accessed public healthcare institutions only.

¹⁴¹ <https://main.mohfw.gov.in/newshighlights-90>

Population Accessing Different Health Institutions in Ahmedabad, Gujarat

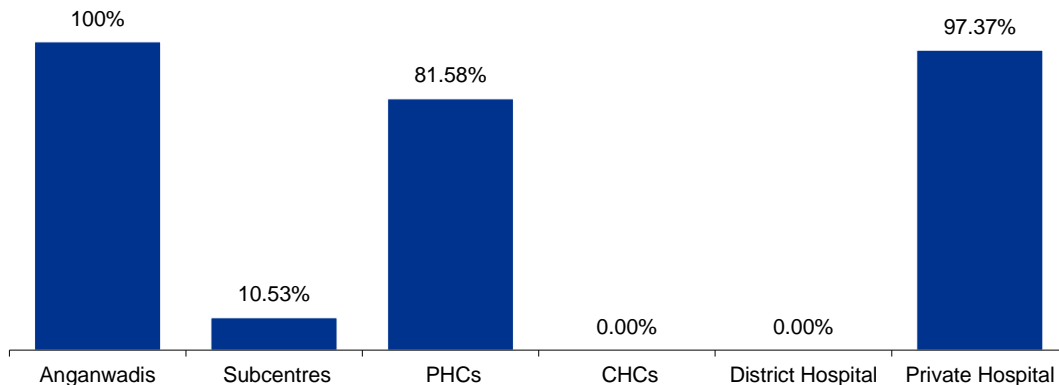


Figure 12 Population Accessing Different Health Institutions in Ahmedabad, Gujarat

The findings show that 97.37 per cent of the respondents in Ahmedabad were accessing private hospitals. While 100 per cent accessed Anganwadis and 81.58 per cent accessed PHCs, only 10.53 per cent accessed subcentres. Unfortunately, none of the respondents had accessed either CHCs or the district hospital. The overreliance on private hospitals for the population’s critical care needs adds increases the out-of-pocket expenditure of each household.

Field Unit: Banas Kantha, Gujarat

The district of Banas Kantha has 759 subcenters, 125 PHCs, and 26 CHCs yet the baseline data shows that access to government health facilities like CHC and Subcentres by respondents in Banas Kantha is considerably low. However, despite the presence of the same, only 32.6 per cent of the population in Gujarat had accessed public healthcare facilities according to the 75th NSS Report on Social Consumption on Healthcare. In the field location, 65 per cent of the respondents stated that they had accessed public healthcare institutions only.

Population Accessing Different Health Institutions in Banas Kantha, Gujarat

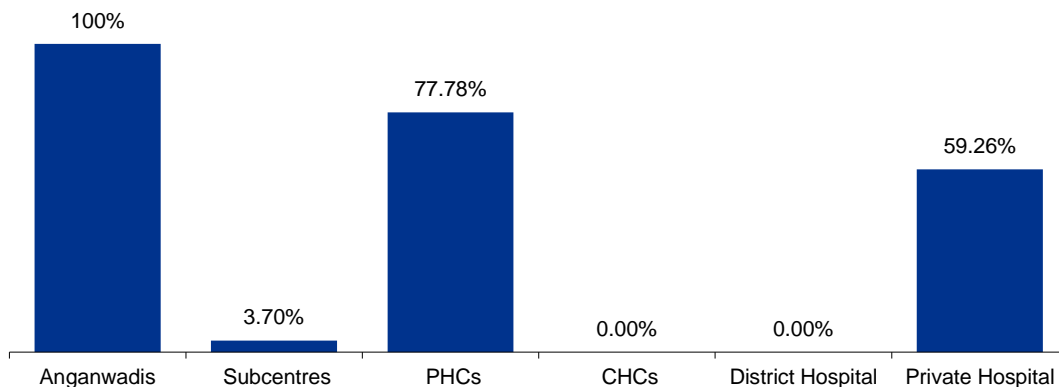


Figure 13 Population Accessing Different Health Institutions in Banas Kantha, Gujarat

Data indicates that while all respondents were accessing Anganwadis and 77.78 per cent stated to have accessed PHCs, only 3.7 per cent were accessing sub centres and none were accessing either CHCs or District Hospitals. The lack of available staff in CHC, sub centers and PHC compels community members to access health care facilities such as district hospital and private hospital. However, where the population is relying more greatly on private institutions such as private hospitals, the burden of out-of-pocket expenditure increases. Therefore, there is a need to strengthen government healthcare facilities especially CHCs to reduce patient load in hospitals and further support secondary as well as tertiary institutions to provide critical care and quality services.

Field Unit: Bharuch, Gujarat

According to the Rural Health Statistics released by the Health Ministry in 2021, there are 241 sub centres, 46 PHCs, 9 CHCs and 1 District Hospital in Bharuch district and all of these align with the health policy basis the rural population of the district. However, despite the presence of the same, only 32.6 per cent of the population in Gujarat had accessed public healthcare facilities according to the 75th NSS Report on Social Consumption on Healthcare. In the field location, 83 per cent of the respondents stated that they had accessed public healthcare institutions.

Population Accessing Different Health Institutions in Bharuch, Gujarat

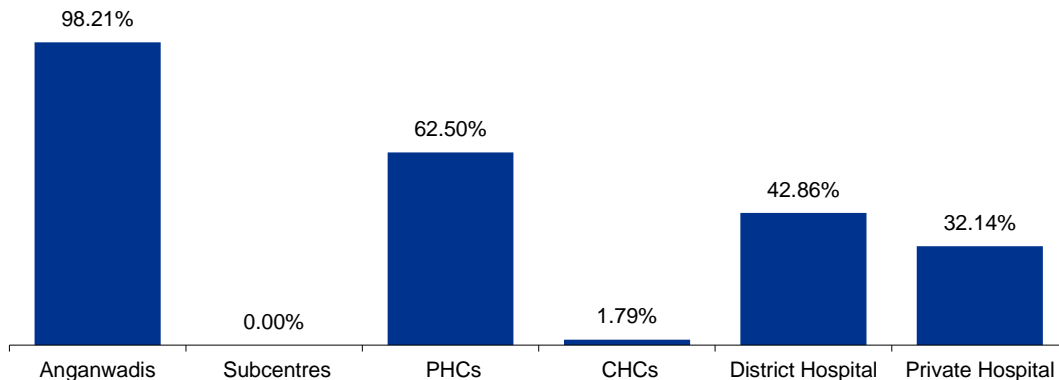


Figure 14 Population Accessing Different Health Institutions in Bharuch, Gujarat

The proportion of the population accessing public care facilities in the field location is driven by Anganwadis where it was seen that 98.2 per cent of the respondents stated having accessed the same. While Anganwadis provide support on antenatal care, immunization, family planning etc., other foundational primary care institutions are critical for ensuring that diseases (whether communicable or not) are not only cured but prevented at an early stage. However, while none of the respondents stated accessing subcentres and only 1.79 per cent accessed CHCs, 62.5 per cent were accessing PHCs.

It was noted that 42.86 per cent of the population was relying on district hospitals and 32.14 per cent had also accessed private hospitals for their healthcare needs. There is a need to strengthen healthcare like CHCs and subcentres to reduce patient load in district hospital and out of pocket expenses incurred during visits to district and private hospitals.

Field Unit: Jamnagar, Gujarat

The rural health statistics shows that the district has 210 subcentres and 9 CHCs. The baseline data indicates that despite the presence of health care facilities none of the respondents were accessing CHCs and subcentres. In fact, only 32.6 per cent of the population in Gujarat had accessed public healthcare facilities according to the 75th NSS Report on Social Consumption on Healthcare. In the field location, 82 per cent of the respondents stated that they had accessed public healthcare institutions.

Population Accessing Different Health Institutions in Jamnagar, Gujarat

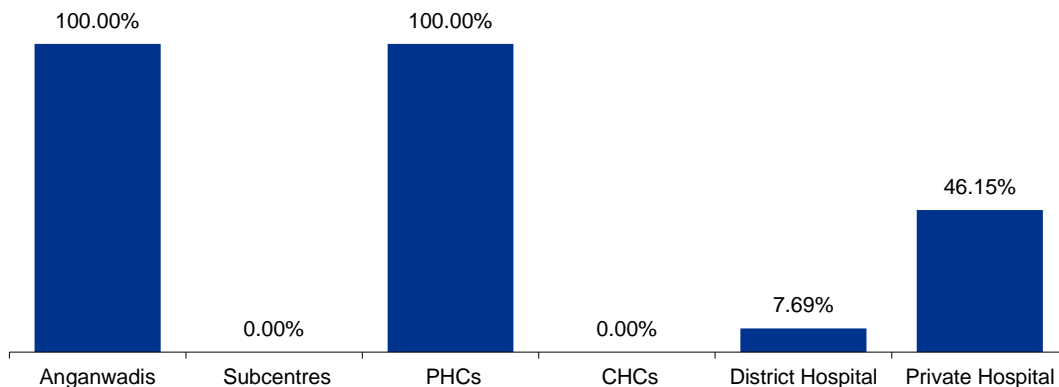


Figure 15 Population Accessing Different Health Institutions in Jamnagar, Gujarat

While none of the respondents were accessing subcentres that are present closest to dwellings, 100 per cent were accessing PHCs as well as Anganwadis. However, for higher level of care needs, none visited CHCs and only 7.89 per cent had been accessing district hospitals. 46.15 per cent of the respondents did access private hospitals, suggesting that the majority that had reached out to access higher levels of care, were accessing only private facilities which are more expensive. There is thus a need to strengthen the levels of care, especially at secondary levels to ensure that the population is encouraged to access public institutions.

Field Unit: Patan, Gujarat

The rural health statistics shows that the district has 326 subcentres and 129 PHCs. The baseline data indicates that despite the presence of health care facilities none of the respondents were accessing CHCs. In fact, only 32.6 per cent of the population in Gujarat had accessed public healthcare facilities according to the 75th NSS Report on Social Consumption on Healthcare. In the field location, 72 per cent of the respondents stated that they had accessed public healthcare institutions.

Population Accessing Different Health Institutions in Patan, Gujarat

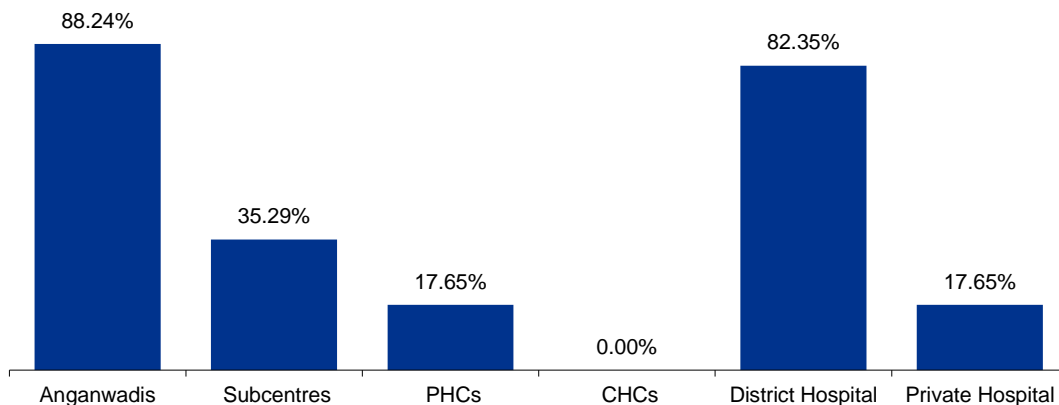


Figure 16 Population Accessing Different Health Institutions in Patan, Gujarat

In Patan, 88.24 percent of the respondents had accessed Anganwadis. However, while 35.29 per cent accessed subcentres, only 17.65 per cent of the respondents stated having accessed PHCs. Though none of the respondents accessed CHCs, 82.35 per cent stated having accessed district hospitals while 17.65 per cent resorted to private hospitals for higher levels of care.

As mentioned above ***lack of available staff in health care facilities at the lower level*** often compels community members to access health care facilities like district hospital and private hospital even for basic diagnostic support. However, there is a need to strengthen government healthcare facilities especially PHC and CHC's to not only reduce patient load in district hospital.

Field Unit: Surat, Gujarat

PHCs act as linchpin in rural health services in India as they are the first point of contact between the community and a medical officer. PHCs are envisaged to provide integrated curative and preventive healthcare to rural population. In Gujarat according to the Rural Health Statistics only 20.8 percent of the PHC's function 24*7.

Population Accessing Different Health Institutions in Surat, Gujarat

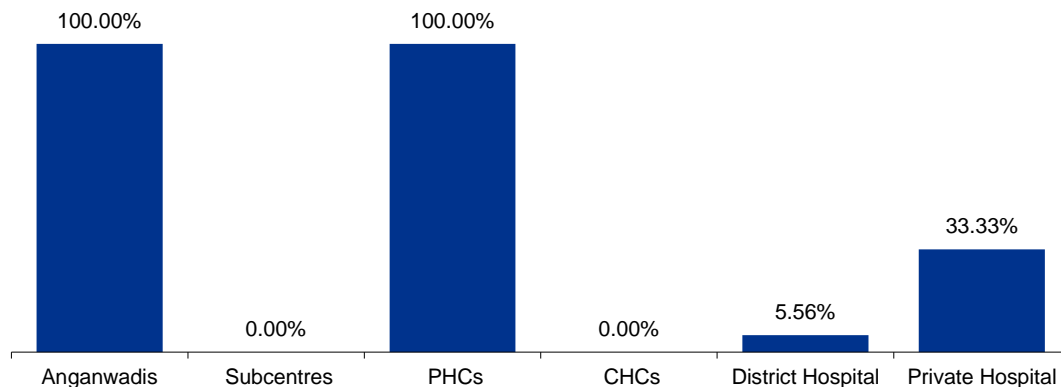


Figure 17 Population Accessing Different Health Institutions in Surat, Gujarat

Data from the current baseline shows that in Surat, Anganwadis and PHCs were being accessed by all the respondents. 5.56 per cent of the respondents had accessed district hospitals for care support but 33.33 per cent stated that they had accessed private hospitals. While the requirement for higher needs of care may have been lower in Surat by the respondents that were surveyed, the difference seen in access between public and private care at the higher levels of healthcare institutions suggests a greater reliance on private hospitals and further a greater financial burden on the population.

Field Unit: Barmer, Rajasthan

In Barmer as per the data provided in the Rural Health Statistics 2021, there are 729 subcentres and 105 PHCs. Despite the presence of sufficient number of public healthcare institutions, 42.8 per cent of the population of Rajasthan accessed public healthcare institutions as per the 75th NSS Report on Social Consumption on Health. In the field location where CAIRN operates, 69 per cent of the respondents were accessing public healthcare.

Further in Rajasthan only 29 percent of functional PHC's operate 24*7 and only 22 percent have provision of an operation theatre. Further the state has a shortfall of 17 percent doctors in Subcentres and PHC and 80 percent shortfall of specialists at CHC. However, the unavailability of medical staff has ailed the healthcare services in the district for long¹⁴².

¹⁴² [Barmer and Jaisalmer facing medical staff crunch | Jaipur News - Times of India \(indiatimes.com\)](https://timesofindia.indiatimes.com/Barmer-and-Jaisalmer-facing-medical-staff-crunch-Jaipur-News/articleshow/9588888.cms)

Population Accessing Different Health Institutions in Barmer, Rajasthan

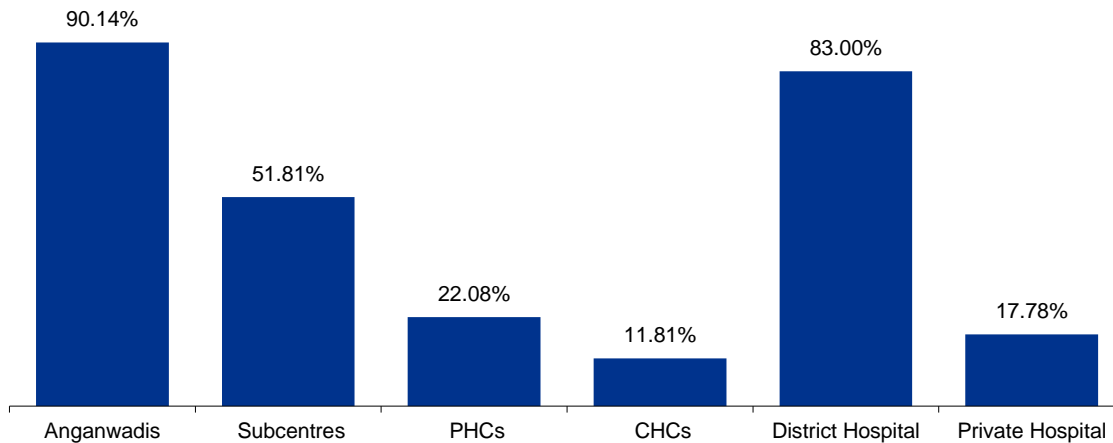


Figure 18 Population Accessing Different Health Institutions in Barmer, Rajasthan

The baseline data shows that Anganwadi was the most accessed public health facility (90.14 per cent) followed by subcentres (51.81 per cent). While more than half the respondents were accessing subcentres which are the closest public health facilities available in any village, 22.08 per cent also accessed PHCs. However, it is observed that only 11.81 per cent of the respondents were accessing CHCs.

A greater proportion of the respondents stated to have accessed district hospital (83 per cent) compared to private hospitals (17.78 per cent). With the shortfall of specialists in secondary healthcare institutions such as CHCs, it is critical to intervene and support the population through convergence with the district health department. CAIRN has already begun work in CHCs in Baytu and Gudamalani blocks of Barmer which included support with refurbishment of infrastructure for operation theatre, labour rooms etc.

Field Unit: Jalore, Rajasthan

In Jalore majority of the respondents reported accessing Anganwadi centres (91 per cent), followed by district hospital (88 per cent). Access to government healthcare by respondents in Jalore is seen to be good. However, a high percentage (97 per cent) of respondents also reported accessing private hospitals, which can be expensive. Access to MHV was reported by only 44 per cent of the respondents. Further the rural health statistics data states that in Rajasthan only 29 per cent of functional PHC's operate 24*7 and only 22 per cent have provision of an operation theatre. The state has a shortfall of 17 per cent doctors in Subcentres and PHC and 80 per cent shortfall of specialists at CHC. Table below indicates that as

compared to access to other public health facilities fewer percentage of respondents in Jalore are accessing CHC's and subcentres.

Population Accessing Different Health Institutions in Jalore, Rajasthan

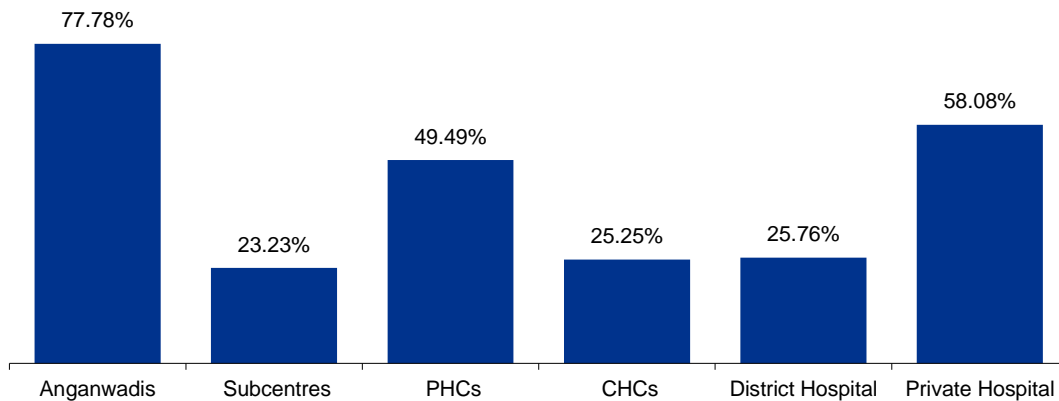


Figure 19: Population Accessing Different Health Institutions in Jalore, Rajasthan

Access to Healthcare Facilities

Despite improvements that have been made over the years, India's health infrastructure does not compare well even with other low- and middle-income countries.

In fact, in 2018, rural areas in the country accounted for 83 per cent of all hospitals, but only 37 per cent of all beds. Furthermore, in the same year, the number of functioning sub centres and PHCs in India was roughly 80 per cent of the numbers needed as per population norms, with considerable variation in this proportion across states. The shortfall is even greater for CHCs, with a ratio of functioning CHCs to requirements as per norm being 70 per cent¹⁴³.

- *The access to health institutions remains high across the public health Institutions in Cairn's intervention states. But, when it comes to the access to critical health care facilities, a low proportion of the population have accessed it.*
- *As the secondary research suggests, it is due to the shortage of manpower at PHCs and CHCs across Cairn's intervention areas. There is a significant shortfall of 43 per cent of doctors and 47 per cent vacancy for surgeons at CHCs in AP while there is a shortage of 21 per cent of doctors in PHC's and 72 per cent vacancy of specialists like surgeons, physicians etc. in CHC's in Assam. When it comes to Gujarat, there is a significant shortfall of 13 per cent of doctors and 90 per cent for surgeons in CHCs. There is a shortfall of 17 percent doctors in Subcenters and PHC and 80 percent shortfall of specialists at CHCs in Rajasthan.*
- *Health Care services like OPD and free medicine remain high in the field areas where CAIRN has been working on health through Mobile Health Units and strengthening of public health institutions.*

¹⁴³ WHO (2022). India Health System Review. Health Systems in Transition. Vol 11, No. 1 2022. Asia Pacific Observatory on Health Systems and Policies. <https://apo.who.int/publications/i/item/india-health-system-review>

According to the Rural Health Statistics, while 98.1 per cent of PHCs in Andhra Pradesh had at least 4 beds, 100 per cent in Rajasthan and 76.2 per cent in Gujarat, in Assam only 18.8 per cent had the same. Furthermore, only 68 per cent of CHCs in Assam and 85 per cent of CHCs in Gujarat had at least 30 beds while the CHCs of the other two states had the required numbers¹⁴⁴. Furthermore, according to WHO (2022), a large proportion of diagnostic equipment such as X-RAY machines, MRI machines etc. are available in private facilities; the number is 6 times higher in private facilities compared to the public facilities.

It must further be noted that it is not simply the presence of facilities and equipment that lead to greater footfall in public health systems, but the presence of adequate number of healthcare professionals to provide the required medical care. It has already been established, in the previous section, that there is a drastic insufficiency in healthcare professionals at all levels of public health institutions.

Field Unit: East Godavari, Andhra Pradesh

Health Facilities Accessed in East Godavari, Andhara Pradesh

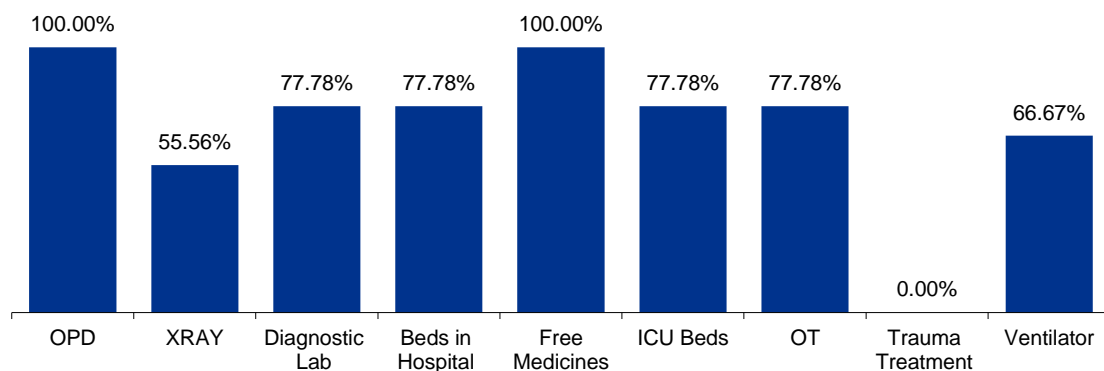


Figure 20 Health Facilities Accessed in East Godavari, Andhra Pradesh

As the most frequently accessed facility within healthcare, 100 per cent of the respondents from East Godavari field location accessed OPDs and all stated having received free medicines. In fact, 77.78 per cent of them further accessed diagnostic labs and 55.56 per cent had availed X-Ray services through the healthcare institutions.

77.78 per cent of the respondents had also accessed other critical care services such as operating theatre and 66.67 per cent had required and accessed ventilators at these facilities. The former had also stated availability of beds as well as ICU beds.

¹⁴⁴ https://hmis.nhp.gov.in/downloadfile?filepath=publications/Rural-Health-Statistics/RHS_per cent2020-21.pdf

Field Unit: Golaghat, Assam

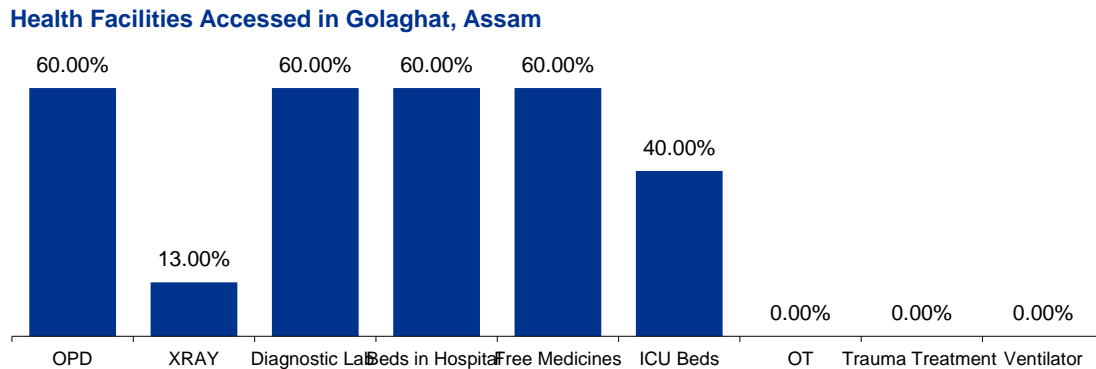


Figure 21 Health Facilities Accessed in Golaghat, Assam

As the most frequently accessed facility within healthcare, 60 per cent of the respondents from Golaghat stated that they had access to beds in the hospitals and availed diagnostic facilities such as X-Rays. Further 60 per cent stated that they had availed OPD facilities and received free medicines through such consultations.

None of the respondents here accessed critical care facilities such as OTs or Trauma centres but 40 per cent stated that ICU beds were available.

Field Unit: Jorhat, Assam

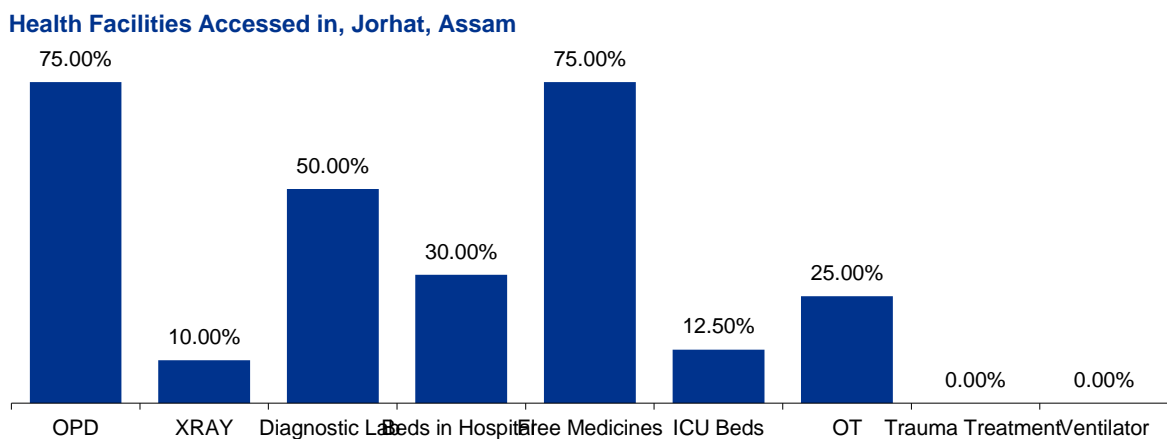


Figure 22 Health Facilities Accessed in, Jorhat, Assam

75 per cent stated that they had availed OPD facilities and received free medicines through such consultations. 12.5 per cent had stated that ICU beds were available, and they had accessed the same while 25 per cent had stated that OTs were accessed as well.

Field Unit: Ahmedabad, Gujarat

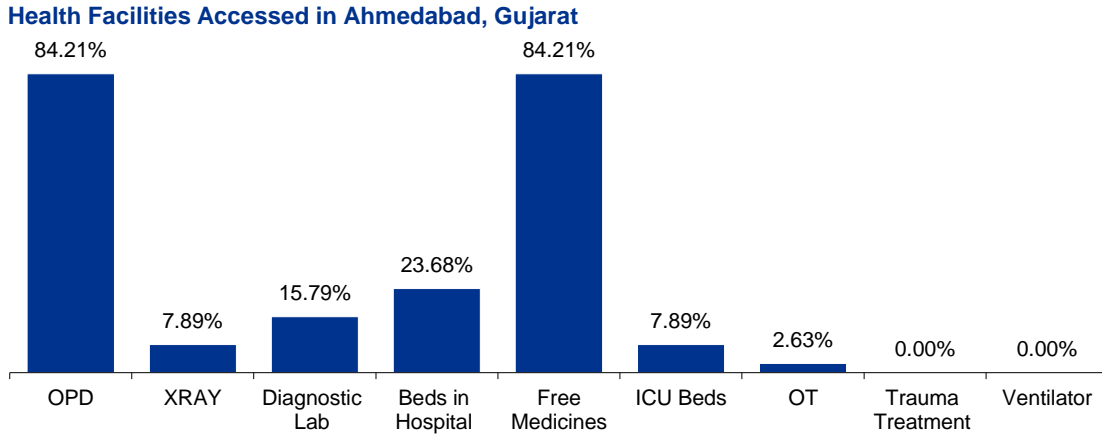


Figure 23 Health Facilities Accessed in Ahmedabad, Gujarat

84.21 per cent of the respondents from Ahmedabad field location accessed OPDs and all stated having received free medicines. However, diagnostic facilities such as lab and x-rays were accessed by less than 16 per cent. While 23.68 per cent had accessed beds in hospital only 7.89 per cent had required and accessed ICU beds.

Field Unit: Banas Kantha, Gujarat

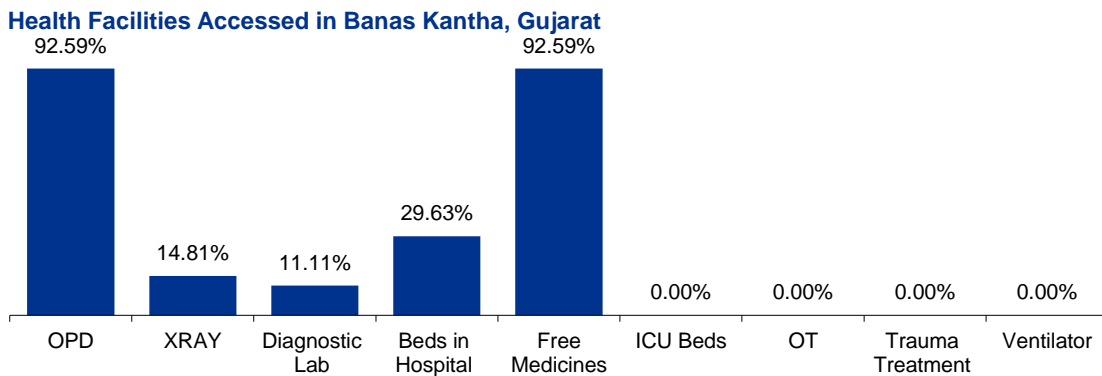


Figure 24 Health Facilities Accessed in Banas Kantha, Gujarat

92.59 per cent of the respondents from Banas Kantha field location accessed OPDs and all stated having received free medicines. However, diagnostic facilities such as lab and x rays were accessed by less than 15 per cent. While 29.63 per cent had accessed beds in hospital, no other critical care services had been accessed.

Field Unit: Bharuch, Gujarat

Health Facilities Accessed in Bharuch, Gujarat

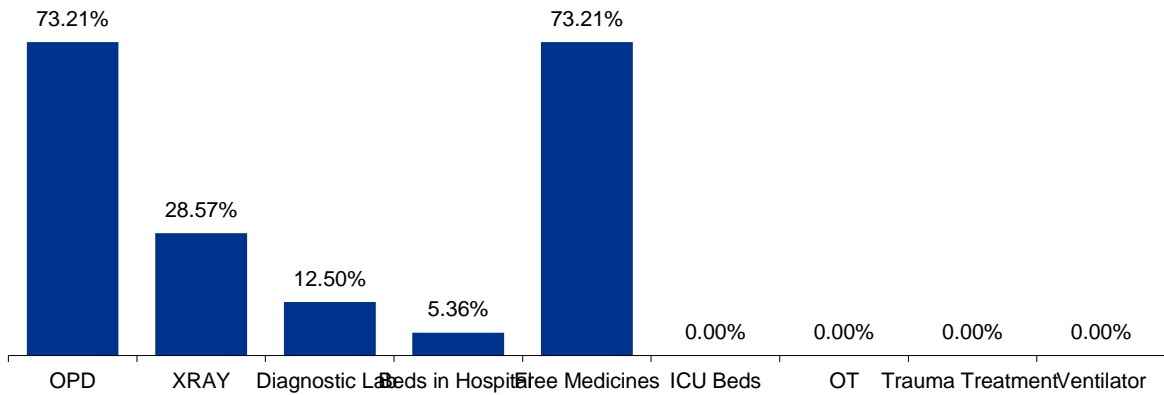


Figure 25 Health Facilities Accessed in Bharuch, Gujarat

73.21 per cent of the respondents from Bharuch field location accessed OPDs and all stated having received free medicines. However, diagnostic facilities such as lab and x-rays were accessed by less than 30 per cent.

Field Unit: Jamnagar, Gujarat

Health Facilities Accessed in, Jamnagar, Gujarat

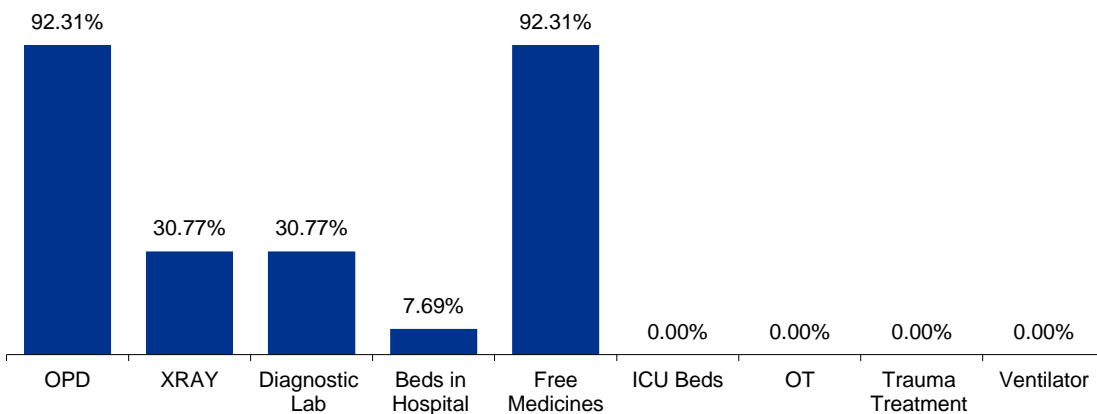


Figure 26 Health Facilities Accessed in, Jamnagar, Gujarat

92.31 per cent of the respondents from Jamnagar field location accessed OPDs and all stated having received free medicines. However, diagnostic facilities such as lab and x-rays were accessed by around 30 per cent.

Field Unit: Patan, Gujarat

Health Facilities Accessed in, Patan, Gujarat

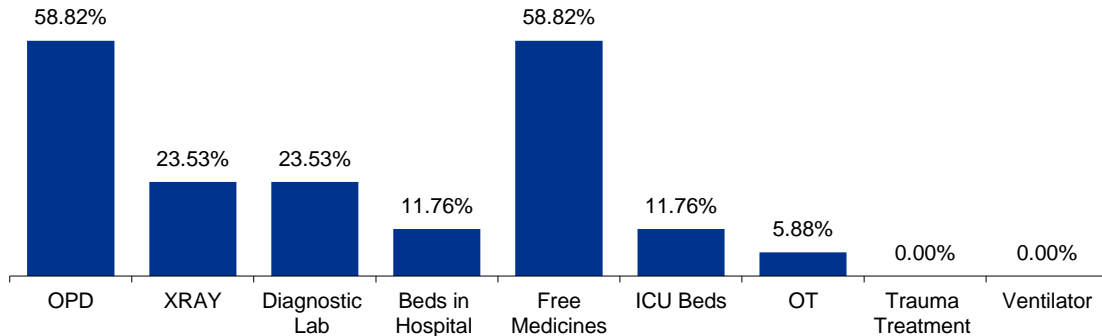


Figure 27 Health Facilities Accessed in, Patan, Gujarat

Only 58.82 per cent of the respondents from Patan field location accessed OPDs and all stated having received free medicines. However, diagnostic facilities such as lab and x-rays were accessed by under 30 per cent. Critical care services were only accessed by 11.76 per cent vis-à-vis hospitals and only 5.58 per cent accessed OTs. None stated the requirement of accessing trauma centres or ventilators.

Field Unit: Surat, Gujarat

Health Facilities Accessed in, Surat, Gujarat

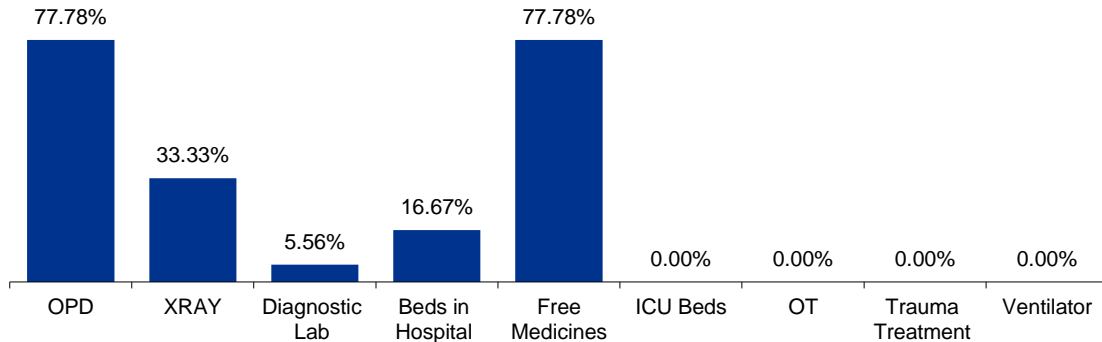


Figure 28 Health Facilities Accessed in, Surat, Gujarat

77.78 per cent of the respondents from Patan field location accessed OPDs and all stated having received free medicines. However, diagnostic facilities such as lab was only accessed by 5.56 per cent and x-rays were accessed by 33 per cent.

Field Unit: Barmer, Rajasthan

Health Facilities Accessed in Barmer, Rajasthan

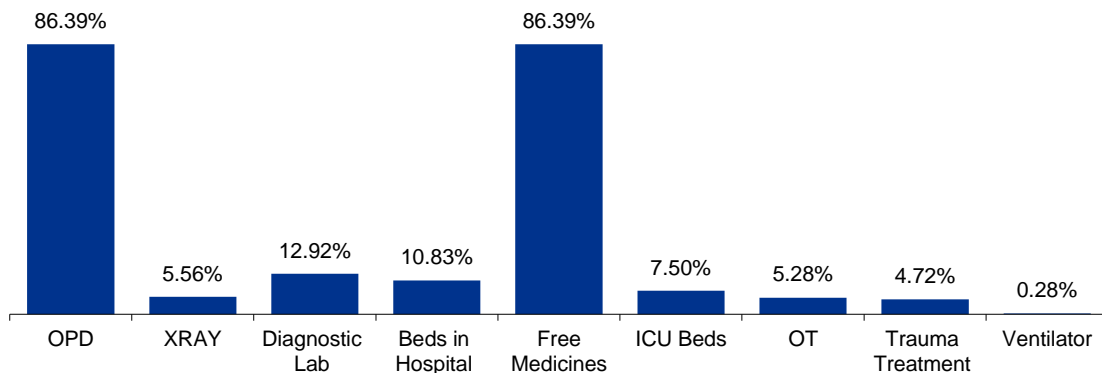


Figure 29 Health Facilities Accessed in Barmer, Rajasthan

86.39 per cent of the respondents from Barmer field location accessed OPDs and all stated having received free medicines. However, accessing other facilities such as diagnostic facilities (lab or x-rays) was low. Critical care services were not accessed by over 10 per cent of the population either.

Field Unit: Jalore, Rajasthan

Health Facilities Accessed in, Jalore, Rajasthan

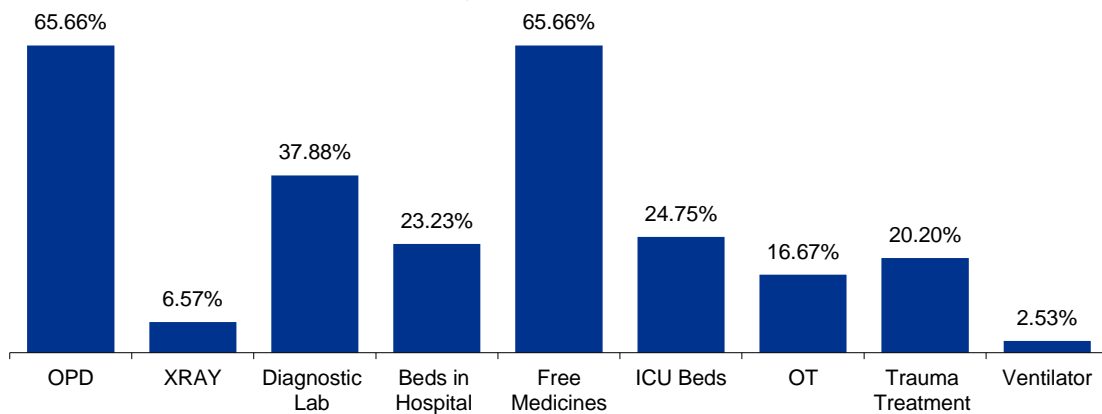


Figure 30 Health Facilities Accessed in, Jalore, Rajasthan

86.39 per cent of the respondents from Barmer field location accessed OPDs and all stated having received free medicines. However, accessing other facilities such as diagnostic facilities (lab or x-rays) was low. Critical care services were not accessed by over 10 per cent of the population either.

Access to Mobile Health Vans

Mobile Health Van were introduced by CAIRN with the aim to bring quality primary healthcare at the very doorstep of rural population.

As per the primary data, 60% of the population in Rajasthan and 37% of the population in Gujrat have accessed Mobile Health Vans.

The rationale behind the project was to address the gaps that exist in public health system in rural areas and to address the persisting inequity in access to primary health services that population from rural areas of the region face on a regular basis.

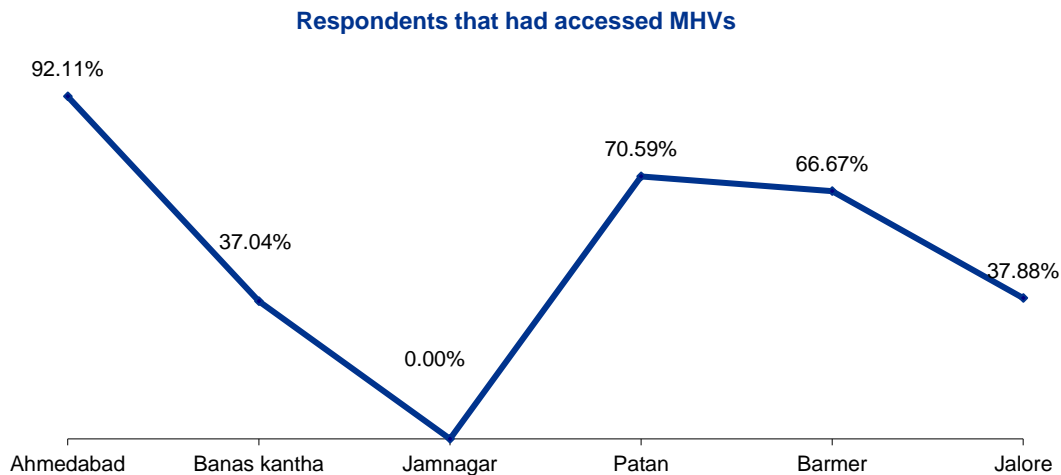


Figure 31 Respondents that had accessed MHVs

44.74 per cent of the population surveyed in the areas where CAIRN has operational MHVs stated that they had accessed the same. It has been noted already that the majority of the respondents in the field locations were accessing public healthcare institutions over private healthcare institutions. In the location of Jamnagar where none of the respondents stated that they were accessing MHVs, 100 per cent were accessing the available PHCs.

Frequency of Accessing Healthcare

Apart from having access to health care institutions and medical amenities it was important to understand the frequency at which respondents accessed healthcare institutions. Frequency of accessing health care facilities can be the determinant of the health of the community.

When it comes to the health seeking behavior, 99% of the population in Rajasthan, 100% of the population in Assam and Andhra Pradesh and 99% of the population in Gujarat have accessed health care facilities at least once a year. This depicts that almost every beneficiary has accessed the health care facilities when required.

It can be attributed on determining the overall health of the community and whether they have the access to required health care facilities when required.

96.85 per cent of the respondents were accessing healthcare at least once a year.

Field Unit: East Godavari, Andhra Pradesh

Frequency of Accessing Healthcare by Respondents in East Godavari, Andhra Pradesh

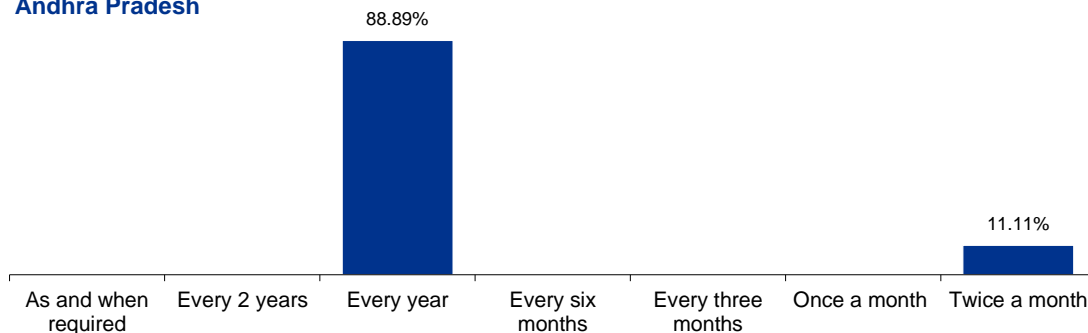


Figure 32 Frequency of Accessing Healthcare by Respondents in East Godavari, Andhra Pradesh

The entire surveyed population of East Godavari was accessing healthcare in some form at least once a year. In absolute terms, 88.89 per cent of them accessed healthcare institutions once every year and 11.11 per cent were more frequent as they accessed it twice each month. When compared to the population accessing different healthcare institutions, the majority were accessing district hospitals and thus accessed the same at least once a year.

Field Unit: Golaghat, Assam

Frequency of Accessing Healthcare by Respondents in Golaghat, Assam

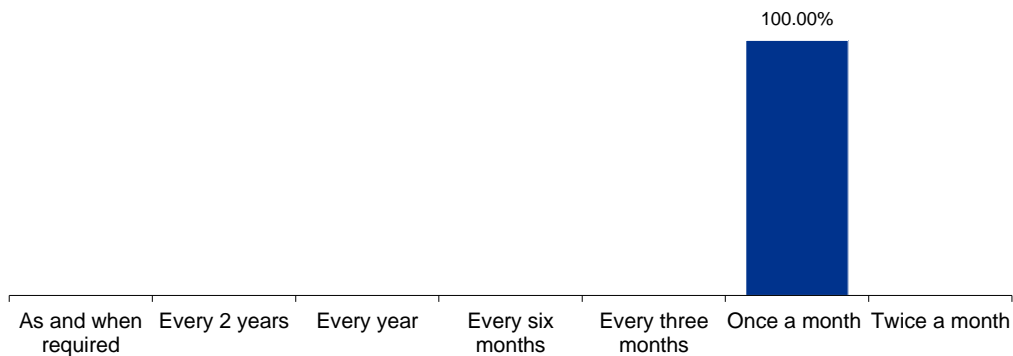


Figure 33 Frequency of Accessing Healthcare by Respondents in Golaghat, Assam

In Golaghat, 100 per cent of the population accessed healthcare once every month. This is significant as the health seeking behaviour in Golaghat is considerably high, not only vis-à-vis the frequency of accessing healthcare but further given that the majority of the population accesses foundational and primary healthcare institutions run by the government. This indicates that they have access to healthcare at the preventive stages of diseases.

Field Unit: Jorhat, Assam

Frequency of Accessing Healthcare by Respondents in Jorhat, Assam

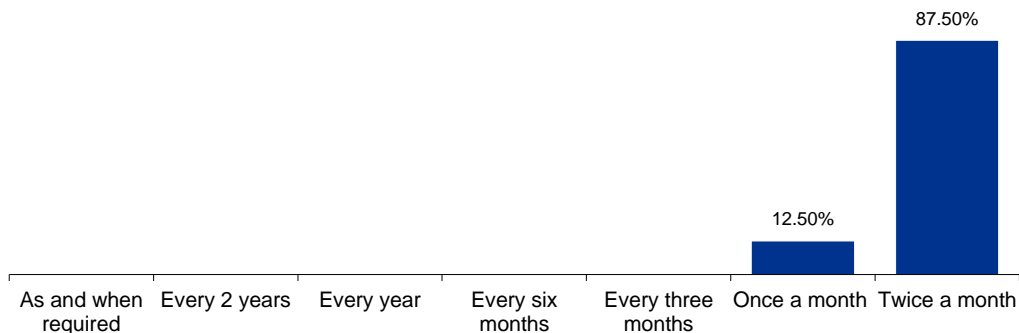


Figure 34 Frequency of Accessing Healthcare by Respondents in Jorhat, Assam

In Jorhat as well, not only are 12.50 per cent of the population accessing healthcare once every month, 87.50 per cent of the population was accessing healthcare twice every month. This is significant as the health seeking behaviour in Jorhat is high, even higher than Jorhat, not only vis-à-vis the frequency of accessing healthcare but further given that the majority of the population accesses foundational and primary healthcare institutions run by the government (Subcentres and Anganwadis). This indicates that they have access to healthcare at the preventive stages of diseases.

Field Unit: Ahmedabad, Gujarat

Frequency of Accessing Healthcare by Respondents in Ahmedabad, Gujarat

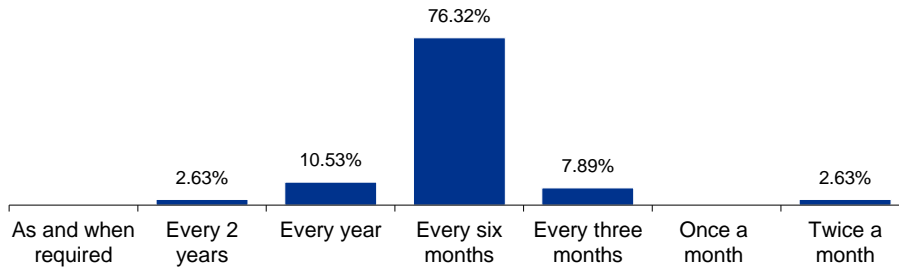


Figure 35 Frequency of Accessing Healthcare by Respondents in Ahmedabad, Gujarat

The current baseline suggests that 97.37 per cent of the population are accessing health services at least once a year. In absolute terms, the majority (76.32 per cent) were accessing healthcare services at least once every six months, 10.53 per cent were accessing the same at least once every year, 7.89 per cent accessed the same once every three months and 2.63 per cent accessed twice a month. The health seeking behaviour of the population is favourable, however 2.63 per cent of the population only access healthcare once every two years. It must however be noted that the majority of the population continues to access private health facilities such as private hospitals.

Field Unit: Banas Kantha, Gujarat

Frequency of Accessing Healthcare by Respondents in Banas Kantha, Gujarat

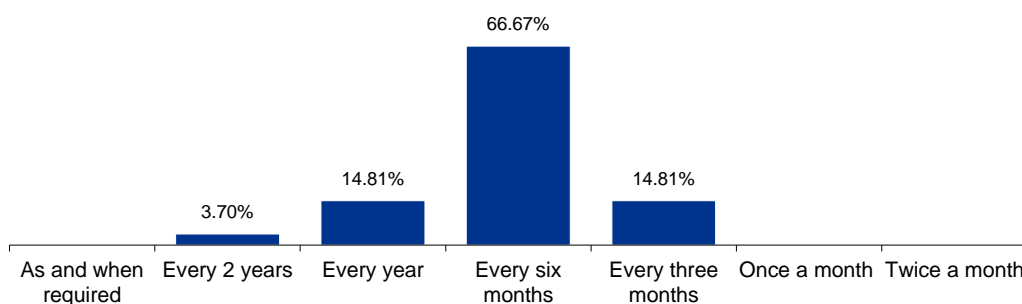


Figure 36 Frequency of Accessing Healthcare by Respondents in Banas Kantha, Gujarat

The current baseline suggests that 96.30 per cent of the population are accessing health services at least once a year. In absolute terms, the majority (66.67 per cent) were accessing

healthcare services at least once every six months, 14.81 per cent were accessing the same at least once every year and 14.81 per cent accessed the same once every three months. The health seeking behaviour of the population is favourable, however 3.7 per cent of the population only access healthcare once every two years. It must however be noted that 59.26 per cent of the population continues to access private health facilities such as private hospitals.

Field Unit: Bharuch, Gujarat

Frequency of Accessing Healthcare by Respondents in Bharuch, Gujarat

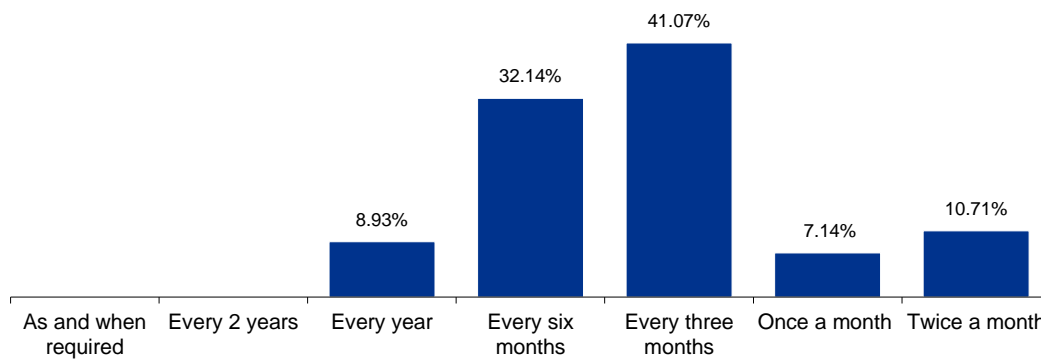


Figure 37 Frequency of Accessing Healthcare by Respondents in Bharuch, Gujarat

The current baseline suggests that the entire population is accessing health services at least once a year. In absolute terms, the majority (41.07 per cent) were accessing healthcare services at least once every three months, 32.14 per cent were accessing healthcare services every six months. It must further be noted that 7.14 per cent were accessing healthcare services at least once a month and 10.71 per cent were accessing healthcare twice a month. 8.9 per cent were accessing healthcare at least once a year. It must however be noted that 32.14 per cent of the population accesses private health facilities such as private hospitals.

Field Unit: Jamnagar, Gujarat

Frequency of Accessing Healthcare by Respondents in Jamnagar, Gujarat

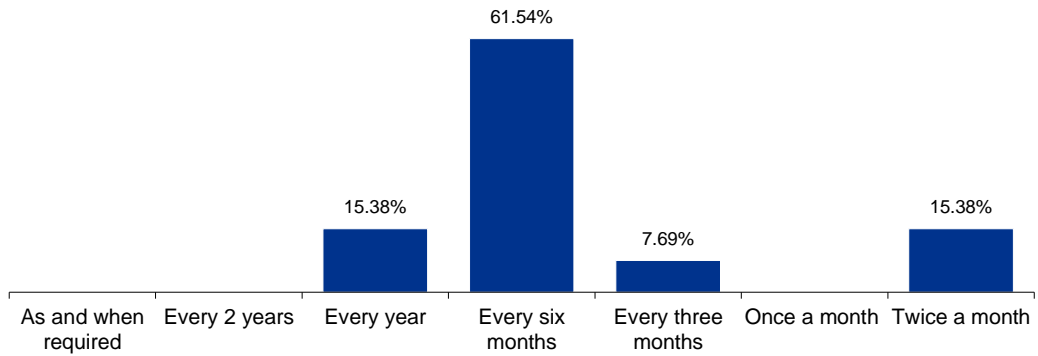


Figure 38 Frequency of Accessing Healthcare by Respondents in Jamnagar, Gujarat

Field Unit: Patan, Gujarat

Frequency of Accessing Healthcare by Respondents in Patan, Gujarat

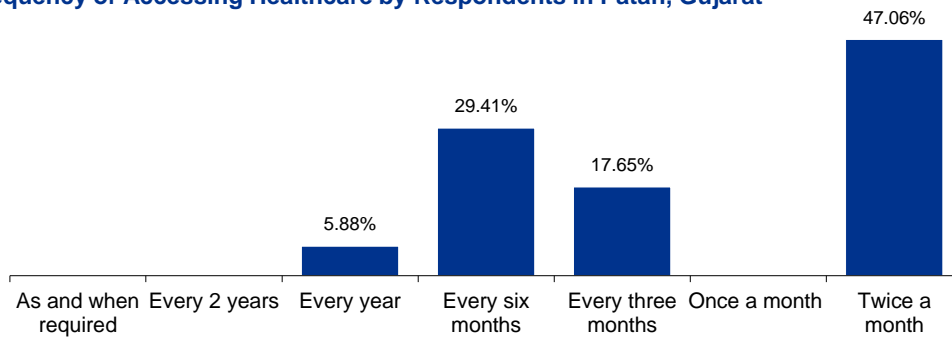


Figure 39 Frequency of Accessing Healthcare by Respondents in Patan, Gujarat

Field Unit: Surat, Gujarat

Frequency of Accessing Healthcare by Respondents in Surat, Gujarat

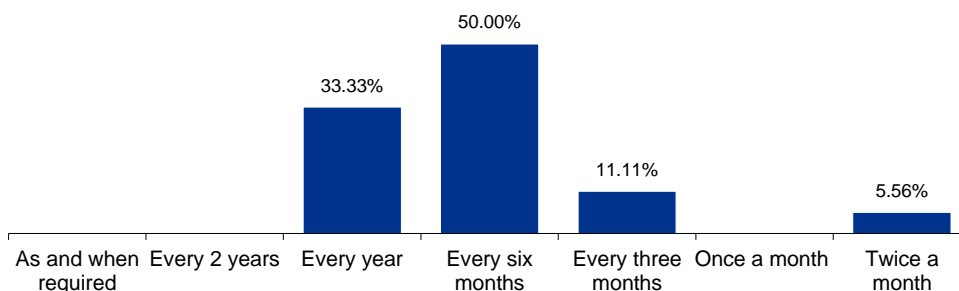


Figure 40 Frequency of Accessing Healthcare by Respondents in Surat, Gujarat

Field Unit: Barmer, Rajasthan

Frequency of Accessing Healthcare by Respondents in Barmer, Rajasthan

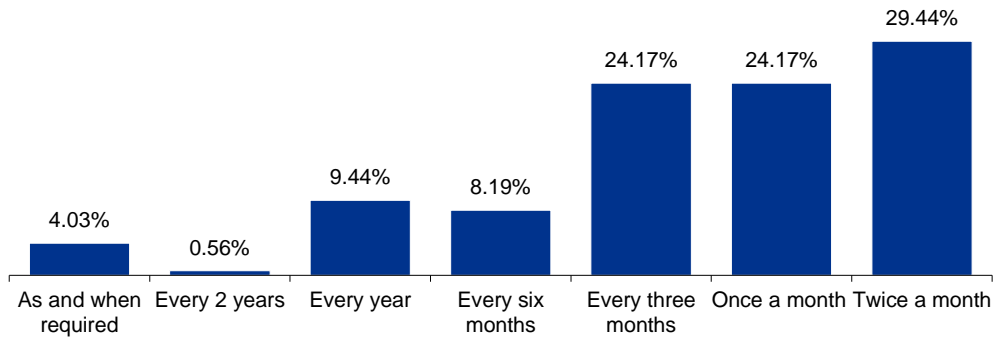


Figure 41 Frequency of Accessing Healthcare by Respondents in Barmer, Rajasthan

Field Unit: Jalore, Rajasthan

Frequency of Accessing Healthcare by Respondents in Jalore, Rajasthan

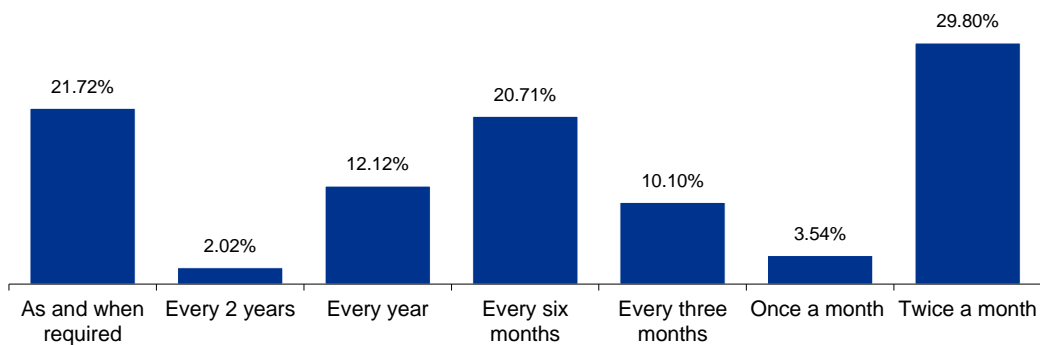


Figure 42 Frequency of Accessing Healthcare by Respondents in Jalore, Rajasthan

Average Annual Expenditure on Healthcare

- As per the primary data, 61.41 per cent of the population spent between 2000 INR and 5000 INR, while the per-capita total health expenditure for India is at INR 4,470.

- In Andhra Pradesh, 100% of the population spent less than INR 2000 annually. It must be noted that in the

Out-of-pocket health spending can force people to choose between spending on health and spending on other necessities¹⁴⁵. WHO has stated that out-of-pocket expenditure on health is a key driver for economic disadvantage compared to other factors, pushing people into poverty.

Respondents provided annual expenditures on healthcare in the ranges of <2000 INR, 2000 INR - 5000 INR and 5000 INR - 10000 INR. It must be noted that the majority of the respondents (61.41 per cent) across the field locations fall under the category of spending between 2000 INR and 5000 INR per year on healthcare.

Furthermore, it should be noted that there is a drastic difference between the out-of-pocket expenditure of the population in public versus private hospitals.

Difference between average expenditure in public and private hospitals (in INR)

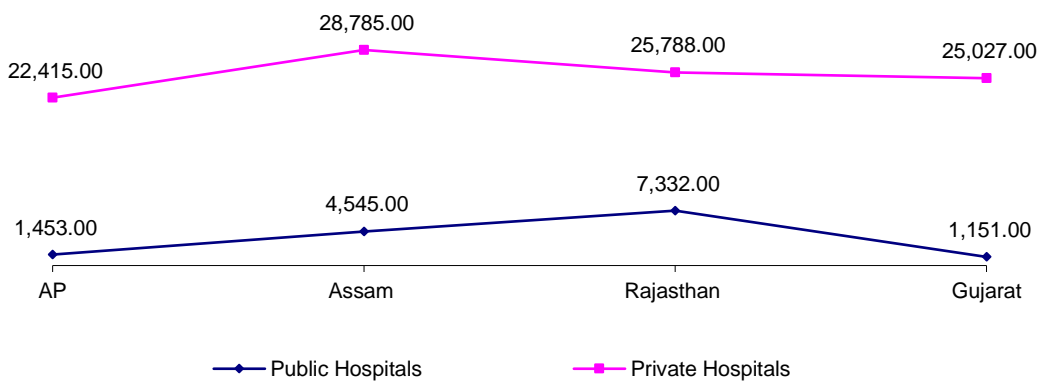


Figure 43 Difference between average expenditure in public and private hospitals (in INR)

In fact, there is a difference of 94 per cent between expenditure in public and private hospitals in Andhra Pradesh, 84 per cent in Assam, 72 per cent in Rajasthan and 95 per cent in

¹⁴⁵ <https://www.who.int/publications-detail-redirect/9789240005105>

Gujarat¹⁴⁶. In fact, according to WHO, the underfunding of the government and growth of private providers have contributed to a significant rise in medical treatment costs by households. The financial burden which is a result of this is pushing 55 million people into poverty each year and over 17 per cent of Indian households are incurring “catastrophic levels of health expenditures annually”¹⁴⁷.

Field Unit: East Godavari, Andhra Pradesh

In East Godavari operational area, the respondents were spending less than 2000 INR annually on healthcare.

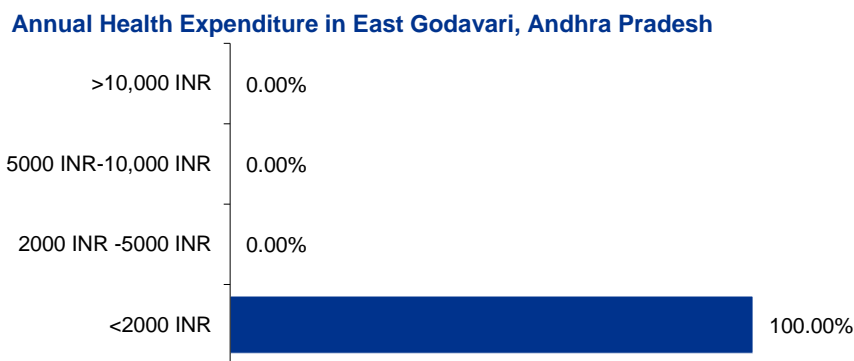


Figure 44 Annual Health Expenditure in East Godavari, Andhra Pradesh

In Andhra Pradesh, according to the National Health Accounts¹⁴⁸, the out-of-pocket expenditure on health by the population accounts for 74.7 per cent of the total health expenditure, which is extremely high. Further, according to the 75th NSS report on social consumption on health, the average medical expenditure (for non-hospitalized cases) for 15 days was 459 INR. When considered over a year¹⁴⁹, the average out of pocket expenditure for non-hospitalized treatment may be 5508 INR.

Thus, the field location presents a more favorable picture with the respondents spending under 2000 INR annually. Furthermore, the income levels of the respondents in the field location show that 17 per cent earn over 30,000 INR a month and only 18 per cent earn under 5000 INR a month. Thus, even for this 18 per cent of the population, health expenditure accounts for around 3 per cent of their annual income.

¹⁴⁶ NSS 75th Report on Social Consumption : Healthcare

¹⁴⁷ WHO (2022). India Health System Review. Health Systems in Transition. Vol 11, No. 1 2022. Asia Pacific Observatory on Health Systems and Policies. <https://apo.who.int/publications/i/item/india-health-system-review>

¹⁴⁸ https://main.mohfw.gov.in/sites/default/files/NHA_Estimates_Report_2015-16_0.pdf

¹⁴⁹ Considering once per month

Field Unit: Golaghat, Assam

In the field locations of Assam, the majority of the respondents (81.25 per cent) spend between 5000 INR and 10,000 INR a year. In fact, all the respondents in the field location of Golaghat spend that amount on healthcare a year, out of their own pocket.

Annual Health Expenditure in Golaghat, Assam

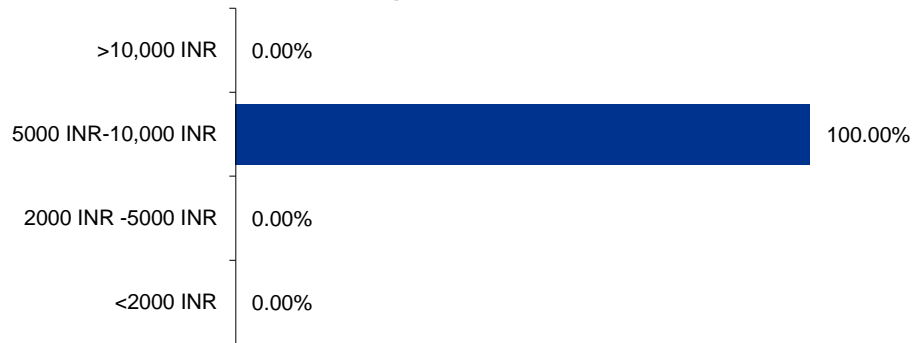


Figure 45 Annual Health Expenditure in Golaghat, Assam

In Assam, according to the National Health Accounts¹⁵⁰, the out-of-pocket expenditure on health by the population accounts for 55.1 per cent of the total health expenditure, which is high. Further, according to the 75th NSS report on social consumption on health, the average medical expenditure (for non-hospitalized cases) for 15 days was 1064 INR. When considered over a year¹⁵¹, the average out of pocket expenditure for non-hospitalized treatment may be 12,768 INR.

Thus, the field location presents a similar picture with all the respondents spending between 5000 and 10000 INR annually. However, the income levels of the respondents in the field location show that 50 per cent earn between 10,000 and 15,000 INR a month and 20 per cent earn under 5000 INR a month. Thus, for this 20 per cent of the population, health expenditure accounts for around 12.5 per cent of their annual income, on an average.

Field Unit: Jorhat, Assam

In the field locations of Assam, the majority of the respondents (81.25 per cent) spend between 5000 INR and 10,000 INR a year. In fact, 25 per cent of the respondents in the field location of Jorhat spend between 2000 and 5000 INR annually on healthcare a year, out of

¹⁵⁰ https://main.mohfw.gov.in/sites/default/files/NHA_Estimates_Report_2015-16_0.pdf

¹⁵¹ Considering once per month

their own pocket, while 62.5 per cent spend between 5000 and 10000 INR annually. 12.5 per cent of the respondents also spend over 10,000 INR annually.

Annual Health Expenditure in Jorhat, Assam

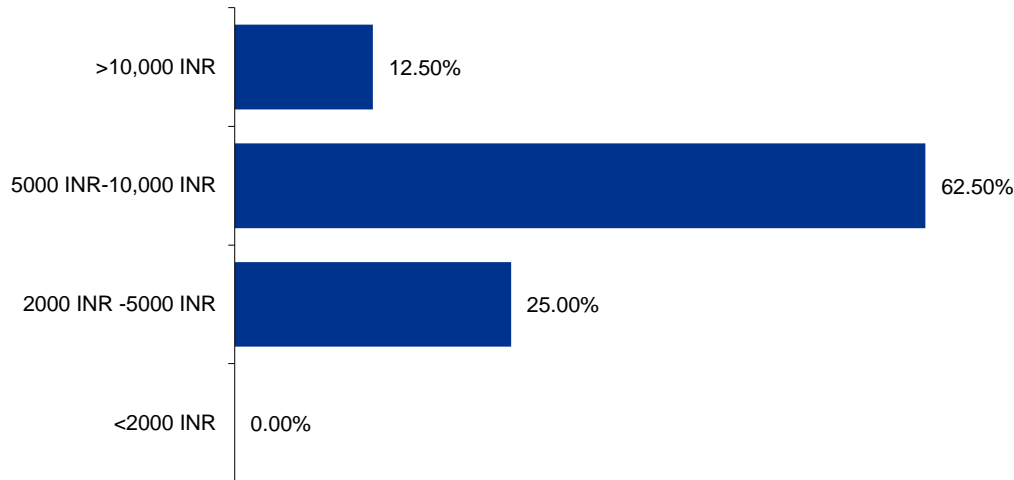


Figure 46 Annual Health Expenditure in Jorhat, Assam

Thus, the field location presents a similar picture to the state averages. Further, the income levels of the respondents in the field location show that 13 per cent of the respondents earn over 30,000 INR per month, 13 per cent spend between 15,000 and 20,000 INR, 20 per cent earn between 10,000 and 15,000 INR a month, 40 per cent earn between 5000 and 10,000 INR per month and 13 per cent earn under 5000 INR a month.

It is seen thus, in the field locations of Assam, while the expenditure on health by the respondents align with the average out-of-pocket expenditure of the state, it remains on the higher side.

Field Unit: Ahmedabad, Gujarat

In the field locations of Gujarat, the majority of the respondents (83.64 per cent) spend between 2000 INR and 5000 INR a year. In fact, 94.74 per cent of the respondents in the field location of Ahmedabad spend this amount annually on healthcare, while 2.63 per cent each spend between 5000 and 10000 INR and less than 2000 INR annually on healthcare.

Annual Health Expenditure in Ahmedabad, Gujarat

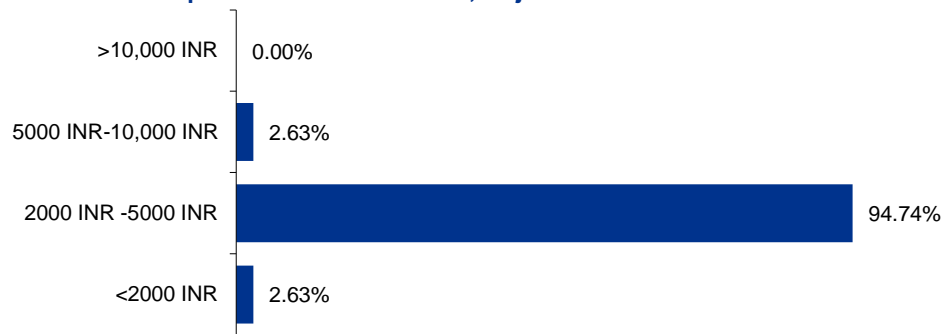


Figure 47 Annual Health Expenditure in Ahmedabad, Gujarat

In Gujarat, according to the National Health Accounts¹⁵², the out-of-pocket expenditure on health by the population accounts for 50.4 per cent of the total health expenditure, which is high. Further, according to the 75th NSS report on social consumption on health, the average medical expenditure (for non-hospitalized cases) for 15 days was 401 INR. When considered over a year¹⁵³, the average out of pocket expenditure for non-hospitalized treatment may be 4812 INR.

Thus, the field location presents a similar picture with the majority (95.74 per cent) spending between 2000 and 5000 INR. Further, the income levels of the respondents in the field location are on the higher side with 69 per cent earning over 30,000 INR per month. The least earning respondents (14 per cent) earned between 5000 and 10000 INR per month. Thus, even for this 14 per cent, on an average, healthcare expenditure would account for 3 per cent of their annual income.

Field Unit: Banas Kantha, Gujarat

In the field locations of Gujarat, the majority of the respondents (83.64 per cent) spend between 2000 INR and 5000 INR a year. In fact, 100 per cent of the respondents in the field location of Banas Kantha spend this amount annually on healthcare.

¹⁵² https://main.mohfw.gov.in/sites/default/files/NHA_Estimates_Report_2015-16_0.pdf

¹⁵³ Considering once per month

Annual Health Expenditure in Banas Kantha, Gujarat

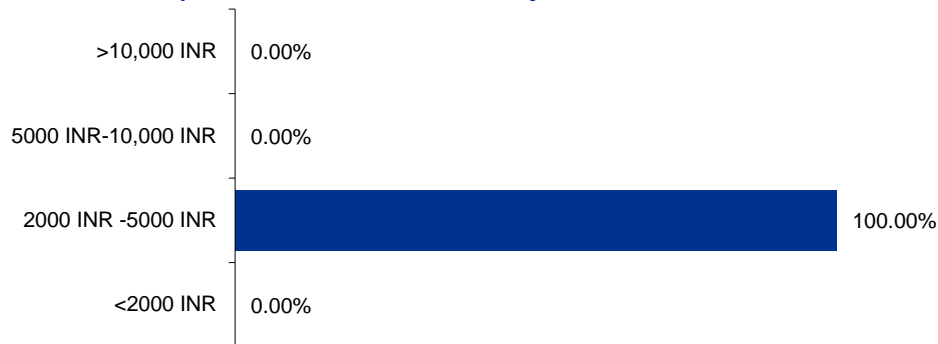


Figure 48 Annual Health Expenditure in Banas Kantha, Gujarat

The field location presents a similar picture compared to state average with all the respondents spending between 2000 and 5000 INR. Further, the income levels of the respondents in the field location is on the higher side with 58 per cent earning over 30,000 INR per month. The least earning respondents (5 per cent) earned between 5000 and 10000 INR per month. Thus, even for this 5 per cent, on an average, healthcare expenditure would account for 3 per cent of their annual income.

Field Unit: Bharuch, Gujarat

In the field locations of Gujarat, the majority of the respondents (83.64 per cent) spend between 2000 INR and 5000 INR a year. In fact, 80.36 per cent of the respondents in the field location of Bharuch spend this amount annually on healthcare while 19.64 per cent spend lesser than the average of Gujarat field locations, which is less than 2000 INR on healthcare per year.

Annual Health Expenditure in Bharuch, Gujarat

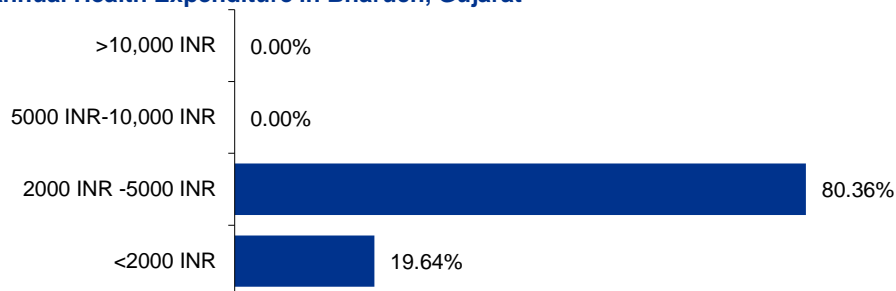


Figure 49 Annual Health Expenditure in Bharuch, Gujarat

The field location presents a similar picture compared to state average with 80.36 per cent of the respondents spending between 2000 and 5000 INR. It must be noted that 43 per cent of

the respondents in Bharuch earn between 5000 and 10000 INR per month and 31 per cent earn between 10,000 and 15,000 INR per month. 6 per cent of the respondents also earn under 5000 INR per month.

Field Unit: Jamnagar, Gujarat

In the field locations of Gujarat, the majority of the respondents (83.64 per cent) spend between 2000 INR and 5000 INR a year. In fact, 84.62 per cent of the respondents in the field location of Jamnagar spend this amount annually on healthcare while 15.38 per cent actually spend lesser than the average of Gujarat field locations, which is less than 2000 INR on healthcare per year.

Annual Health Expenditure in Jamnagar, Gujarat

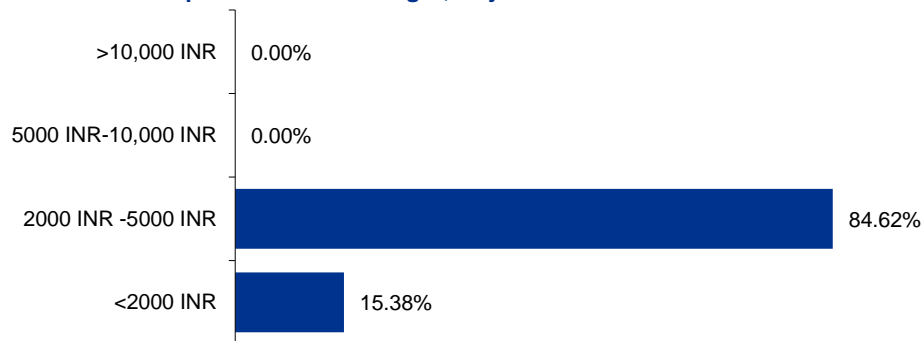


Figure 50 Annual Health Expenditure in Jamnagar, Gujarat

The field location presents a similar picture with 84.62 per cent of the respondents spending between 2000 and 5000 INR. It must be noted that 29 per cent of the respondents in Jamnagar earn between 5000 and 10000 INR per month and another 29 per cent earn over 30,000 INR per month. The rest earn between 10,000 and 30,000 INR per month. The least earning respondents (29 per cent of the respondents) would spend around 3 per cent of their income on healthcare.

Field Unit: Patan, Gujarat

In the field locations of Gujarat, the majority of the respondents (83.64 per cent) spend between 2000 INR and 5000 INR a year. In fact, 58.62 per cent of the respondents in the field location of Patan spend this amount annually on healthcare while 35.29 per cent actually spend lesser than the average of Gujarat field locations, which is less than 2000 INR on healthcare per year. 5.88 per cent of the respondents, however spend more than the average which is between 5000 and 10,000 INR.

Annual Health Expenditure in Patan, Gujarat

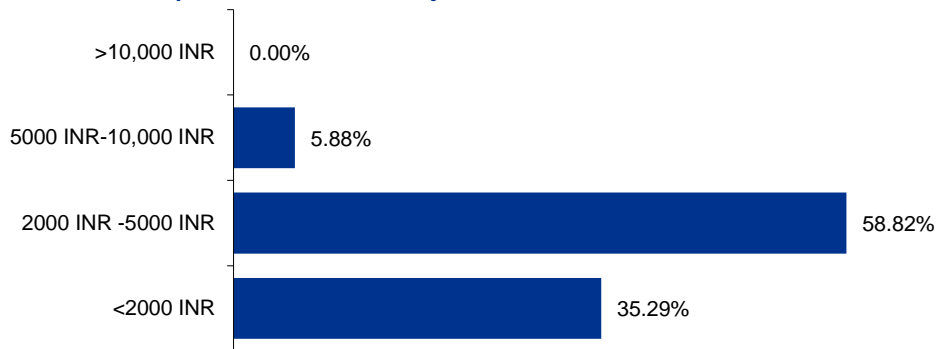


Figure 51 Annual Health Expenditure in Patan, Gujarat

In the field location while 58.82 per cent spend about the similar amount as per the state average, one observes that 35.29 per cent actually spend less than 2000 INR a year on out-of-pocket health expenditure, thus presenting a more favorable picture vis-à-vis the burden on the respondents to spend on healthcare.

Field Unit: Surat, Gujarat

In the field locations of Gujarat, the majority of the respondents (83.64 per cent) spend between 2000 INR and 5000 INR a year. In fact, 83 per cent of the respondents in the field location of Surat spend this amount annually on healthcare while 17 per cent actually spend lesser than the average of Gujarat field locations, which is less than 2000 INR on healthcare per year.

Annual Health Expenditure in Surat, Gujarat

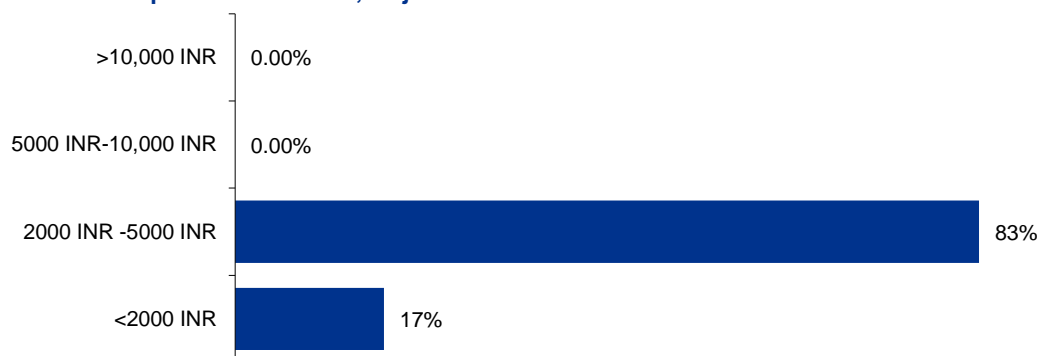


Figure 52 Annual Health Expenditure in Surat, Gujarat

The earning capacity in the field location is on the lower side compared to the other locations in Gujarat, with none of the respondents earning over 20,000 INR per month. In fact, the majority (66 per cent) earn between 5000 and 10,000 INR per month and 24 per cent earn

under 5000 INR per month. Therefore, for this 24 per cent of the respondents, 5.83 per cent (on an average) of their annual income is directed towards healthcare expenditure while for the majority (66 per cent of the respondents), 3 per cent is spent towards healthcare, on an average.

Field Unit: Barmer, Rajasthan

In the field locations of Rajasthan, the majority of the respondents (43.6 per cent) spend between 2000 INR and 5000 INR a year and 40.99 per cent spend between 5000 INR and 10,000 INR per year. In fact, similar to the average of both field locations in the state, 45.76 per cent of respondents in Barmer spend between 2000 INR and 5000 INR annually on healthcare while 43.12 per cent actually spend between 5000 INR and 10,000 INR. Furthermore, 10.71 per cent lesser than the average of Rajasthan field locations, which is less than 2000 INR on healthcare per year.

Annual Health Expenditure in Barmer, Rajasthan

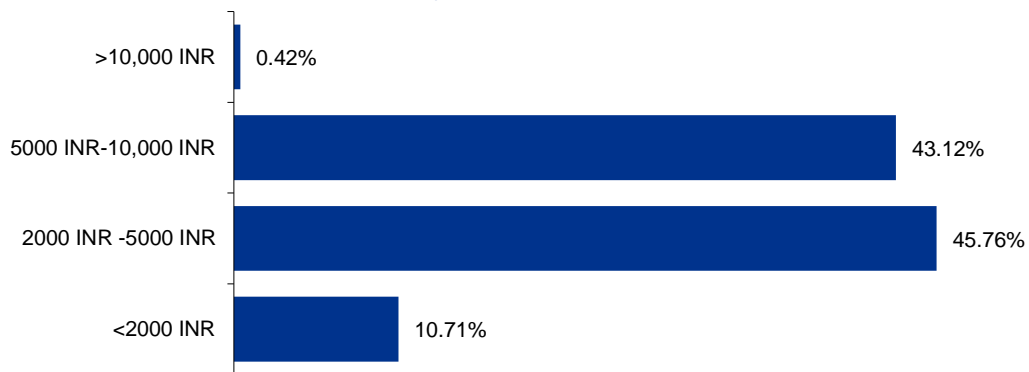


Figure 53 Annual Health Expenditure in Barmer, Rajasthan

In Rajasthan, according to the National Health Accounts¹⁵⁴, the out-of-pocket expenditure on health by the population accounts for 56.4 per cent of the total health expenditure, which is high. Further, according to the 75th NSS report on social consumption on health, the average medical expenditure (for non-hospitalized cases) for 15 days was 740 INR. When considered over a year¹⁵⁵, the average out of pocket expenditure for non-hospitalized treatment may be 8880 INR.

Thus, the field location presents a similar picture with the majority spending between 2000 INR and 10,000 INR on healthcare annually. It must be noted that 38 per cent of the

¹⁵⁴ https://main.mohfw.gov.in/sites/default/files/NHA_Estimates_Report_2015-16_0.pdf

¹⁵⁵ Considering once per month

respondents in Barmer earn between 5000 and 10000 INR per month and another 30 per cent earn between 10,000 and 15,000 INR per month. Around 10 per cent earn over 15,000 INR per month and 22 per cent earn less than 5000 INR per month. Given that 22 per cent earn less than 5000 per month or 60,000 INR per year and only 10.71 per cent spend less than 2000 INR per year on health, it is pertinent to note that for some of this lowest income group, 5.83 per cent of their income per year would be directed towards healthcare expenditure. If higher, it would be 12.5 per cent of their annual income.

Field Unit: Jalore, Rajasthan

In the field locations of Rajasthan, the majority of the respondents (43.6 per cent) spend between 2000 INR and 5000 INR a year and 40.99 per cent spend between 5000 INR and 10,000 INR per year. In fact, similar to the average of both field locations in the state, 41.45 per cent of respondents in Jalore spend between 2000 INR and 5000 INR annually on healthcare while 38.86 per cent actually spend between 5000 INR and 10,000 INR. Furthermore, 19.69 per cent lesser than the average of Rajasthan field locations, which is less than 2000 INR on healthcare per year.

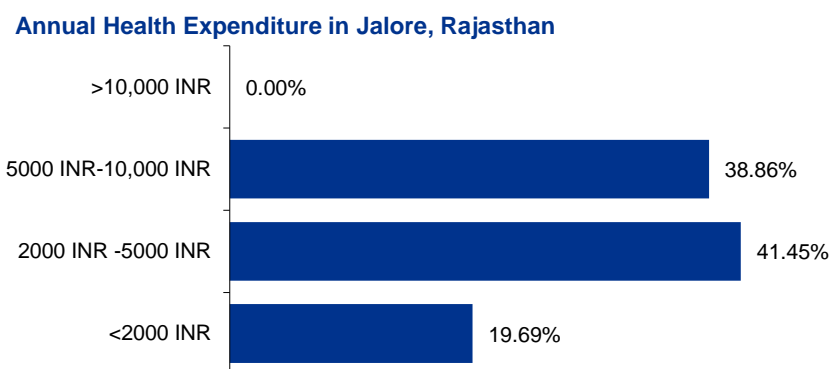


Figure 54 Annual Health Expenditure in Jalore, Rajasthan

The field location presents a similar picture as the state average with the majority spending between 2000 INR and 10,000 INR on healthcare annually. It must be noted that 52 per cent of the respondents in Jalore earn between 5000 and 10000 INR per month and another 15 per cent earn between 10,000 and 15,000 INR per month. Around 2 per cent earn over 15,000 INR per month and 30 per cent earn less than 5000 INR per month. The income levels of the respondents in the field location are lower than Barmer. Given that 30 per cent earn less than 5000 per month or 60,000 INR per year and 19.69 per cent spend less than 2000 INR per year on health, it is pertinent to note that for some of this lowest income group, 5.83 per cent

of their income per year would be directed towards healthcare expenditure. If higher, it would be 12.5 per cent of their annual income.

Availability of Services in Anganwadis

Anganwadi centres are the bedrock of the Integrated Child Development Services (ICDS) scheme of the government of India. They have been designed to provide a package of six services viz. supplementary nutrition, referral services, immunisation, health check-up, pre-school non-formal education and health and nutrition education to women and children. It is through accessing healthcare at the level of the Anganwadis themselves that a healthy lifestyle of an entire population starts.

While 95 per cent had stated that they were accessing Anganwadis, only around 67 per cent of the respondents across locations where there were children under 6 in the households had accessed any form of health education, awareness and camp activities through the Anganwadis. A more concerning fact was that only 32.3 per cent of households with children under 6 had taken their children for health check-ups in the field locations. Referral services were claimed only by respondents in Barmer wherein 48.15 per cent households with children under 6 stated the same. In fact, the nutritional status of children according to their families was largely considered to be healthy wherein the majority (93 per cent) stated that their children fell under the green category.

- **95% of the population across the field location accessed Anganwadi Centers. When it comes to availing the Anganwadi services across field locations, 67 per cent of the population having children under 6 years of age accessed on or other Anganwadi services like referral services, immunization, pre- schools education, health camps.**
- **93% of the children were found out to be green category across the field locations.**
- **Immunization services at Anganwadi remains low. Only 21 per cent of the respondents reported to access immunization services at Anganwadi centers. It must be noted that there are provision and availability of vaccines at government health institutions. Owing to the high access of health institutions it can be inferred that population across the field location is reliant at other government institutions for vaccination.**

Access to Anganwadi services by Households with Children under 6

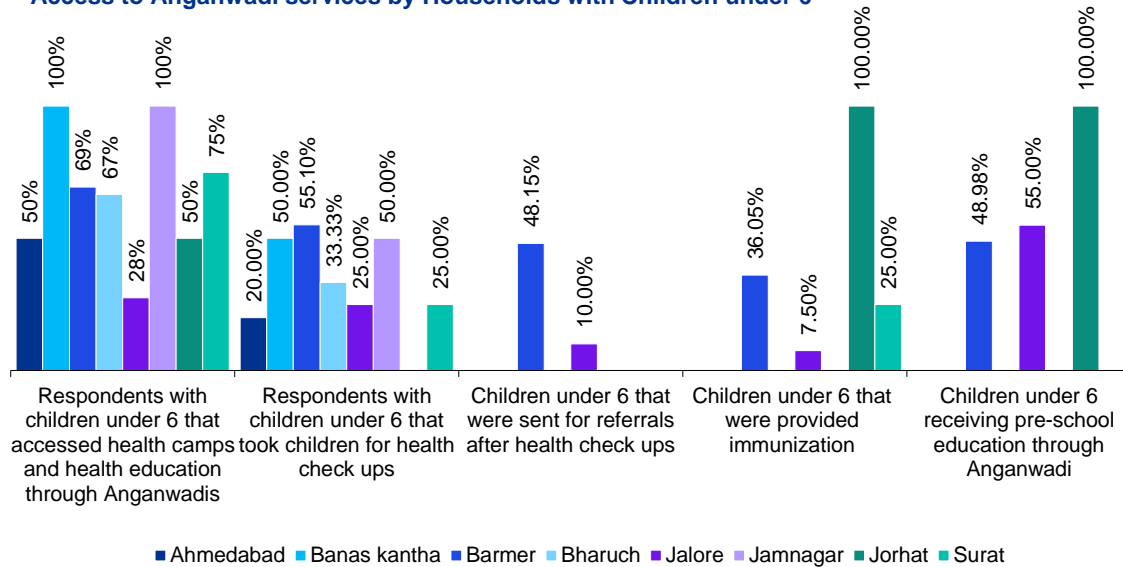


Figure 55 Access to Anganwadi services by Households with Children under 6

Perceived Nutritional Status of Children by Households with children under 6 years of age

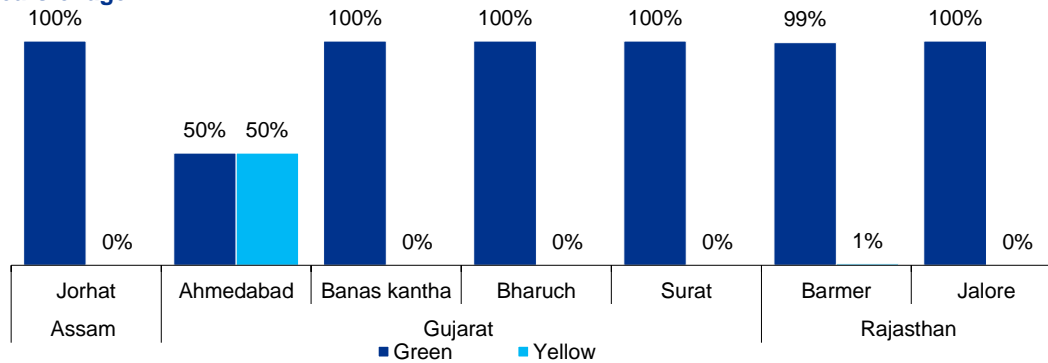


Figure 56 Perceived Nutritional Status of Children by Households with children under 6 years of age

Immunization of children at Anganwadi Centers under 6 was stated to be extremely low in the field locations with only 21 per cent of the households with children under the age of 6 stating that they had received immunization from Anganwadis.

Immunization of Children under 6

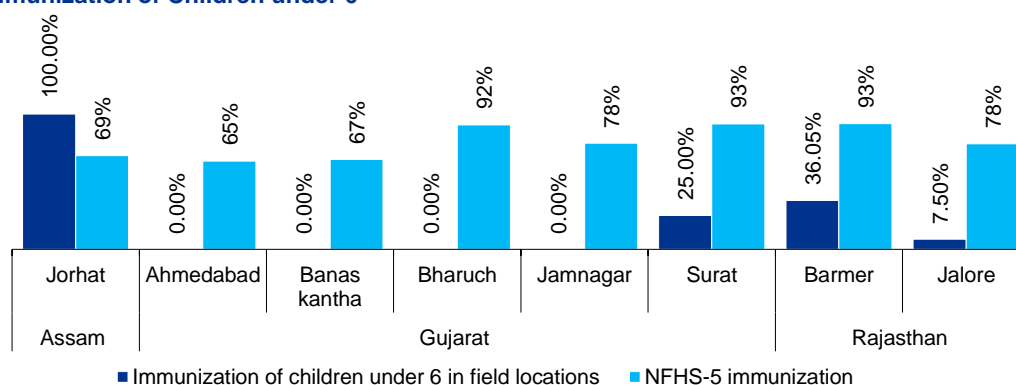


Figure 57 Immunization of Children under 6

Other than Jorhat where 100 per cent of the households stated that under 6-year-old children had all been immunized. In most districts in Gujarat, none of the children (other than 25 per cent in Surat) were immunized in the field location while the overall district average was higher.

Mode of Delivery

The National Health Mission in India has placed a strong emphasis on expanding institutional deliveries which has led to a significant increase in the share of deliveries in health facilities, from 43 per cent in 2004 to 83 per cent in 2018, with a sizeable rise in the share of deliveries in government health facilities (21 per cent to 53 per cent). However, it has further been observed, especially in remote locations that quality of delivery services, including difficulties in handling birth complications, shortfalls in emergency obstetric-care facilities, shortages of key essential medicines, diagnostics, etc., remain a concern¹⁵⁶.

According to WHO¹⁵⁷, a woman should have access to skilled care during childbirth to ensure that all complications are handled in a skilful manner and sterilized environment. This ensures that preventable maternal and child deaths are avoided. It must be noted that institutional birth does not necessarily signify quality of care as smaller private facilities may not necessarily be equipped to handle the complications that may arise during pregnancy and childbirth.

¹⁵⁶ WHO (2022). India Health System Review. Health Systems in Transition. Vol 11, No. 1 2022. Asia Pacific Observatory on Health Systems and Policies. <https://apo.who.int/publications/i/item/india-health-system-review>

¹⁵⁷ <https://www.who.int/data/gho/indicator-metadata-registry/imr-details/institutional-birth>

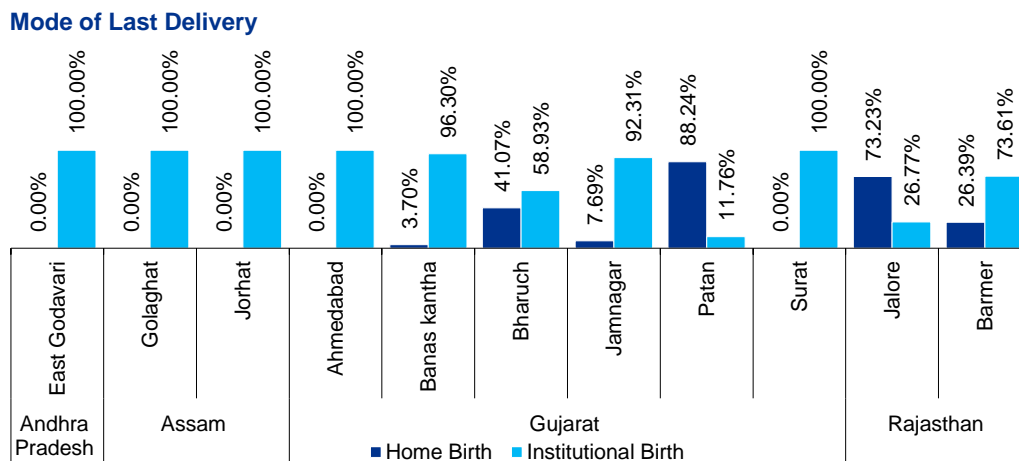


Figure 58 Mode of Last Delivery

In East Godavari, 100 per cent of the female respondents reported that their last mode of delivery was institutional whereas in the district the overall institutional deliveries carried out was 96.9 per cent, according to NFHS-5.

In Golaghat, 100 per cent of the female respondents reported that their last mode of delivery was institutional whereas in the district the overall institutional deliveries carried out was 90.4 per cent, according to NFHS-5 which is higher than the state average of 84.1 percent. On the other hand, 81.4 percent deliveries in Golaghat are taking place in public facilities as per NFHS-5 which is seven percent higher than the state average of 74.4 percent and 20 percent higher than the national average of 61.9 percent.

In Jorhat, 100 percent of the female respondents reported their last mode to delivery was institutional whereas the district average of institutional births in Jorhat is 96.5 percent. The percentage of births in public facilities in Jorhat is 74.9 percent, thus indicating that majority of the institutional births are taking place in public facilities.

In Ahmedabad, 100 per cent of the female respondents reported that their last mode of delivery was institutional whereas in the district the overall institutional deliveries carried out was 94.5 per cent, according to NFHS-5. However, institutional deliveries in public institutions in Ahmedabad as per NFHS- 5 is marginally higher than the state average but 18.6 percent lower (46.7 percent) than the national average of 61.9 percent.

In Banas Kantha, 96 percent of the female respondents reported that their last mode of delivery was institutional while at the district level the overall institutional deliveries carried out as per NFHS-5 is 92.9 percent which is higher than the national average of 88.6. While the

district average of institutional deliveries (29.1 percent) in public facilities is 14 percent lower than state and 32 percent lower than the national average. Thus, indicating that very few deliveries are taking place in public institutions in BanasKantha.

In Bharuch, 81 percent of the female respondents reported that their last mode of delivery was institutional which is 10 percent lower than the district average of 91.1 percent and about 7 percent lower than the national average of 88.6 percent. Also, 19 percent of the women stated that their last mode of delivery was conducted at home.

In Jamnagar, 100 per cent of the female respondents reported that their last mode of delivery was institutional whereas in the district the overall institutional deliveries carried out was 96.5 per cent, according to NFHS-5. However, institutional deliveries in public institutions as per NFHS- 5 remains low (55.4 percent).

In Patan, 100 per cent of the female respondents reported that their last mode of delivery was carried out at home whereas in the district the overall institutional deliveries carried out was 98.6 per cent, according to NFHS-5.

In Surat, all female respondents reported their last delivery was institutional. The NFHS-5 data on institutional births also indicates that a high percentage (97.7 percent) of deliveries were institutional based. This percentage is higher than the state average of 94.3 as well as the national average of 88.6 percent.

In Barmer, 54 percent of the women reported that their last mode of delivery was institutional. Which is 39.3 percent lower than the district average of 93.3 percent. Further, as per the NFHS-5 data 86 percent of the institutional deliveries in Barmer were carried out in public facilities however, the current baseline indicates that 46 percent of the female respondents had their last delivery at home thus indicating lack of access to health facilities in times to urgent need.

In Jalore, only 32 percent of the female respondents reported that their last mode of delivery was institutional. Whereas for majority (68 percent) of the female respondents their last delivery was conducted at home.

Access to Water Amenities

Safe drinking water and Sanitation is a crucial aspect for ensuring the health of communities. Water Contamination and poor sanitation are linked to transmission of diseases such as cholera, diarrhea, dysentery, hepatitis A, typhoid, and polio. Inadequate water and sanitation services expose individuals to preventable health risks.

33.51 per cent of the households had access to drinking water within their house or the periphery of the house while only 3.57 per cent had access to drinking water beyond 1 kilometer from their house. 26.6 percent of the population in Barmer and 50 percent population in Jalore had access to RO plants/Water ATMs.

Source of Drinking Water in Gujarat

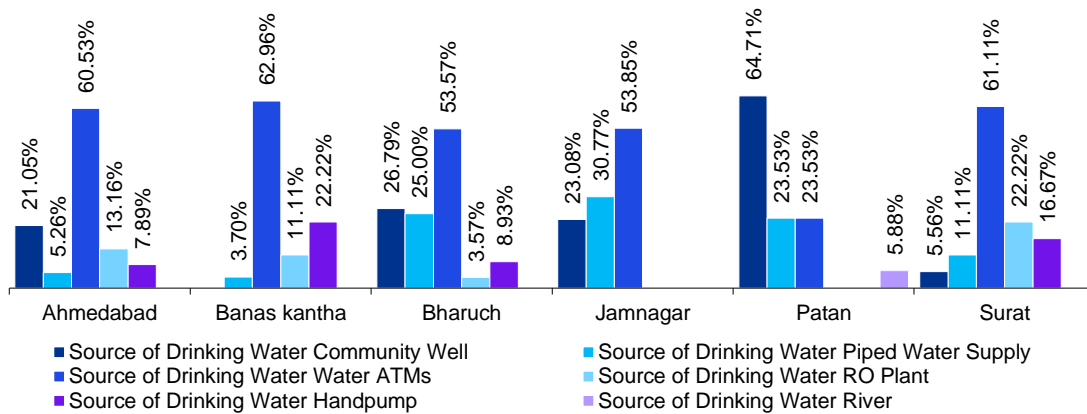


Figure 59 Source of Drinking Water in Gujarat

97.92 per cent of households in the districts where the field locations are present have access to improved sources of drinking water¹⁵⁸. According to the baseline data, water ATMs were the most accessed sources of water in the field locations of Gujarat. In fact, the respondents stated lower access to piped drinking water as compared to all other sources including community wells. However, similar to the districts, the field locations also have access to safe drinking water.

While, safe drinking water is accessible, only 10.8 per cent of the households in the field locations of Gujarat had drinking water available in their house or within the periphery of their

¹⁵⁸ NFHS-5

house. The majority (58.2 per cent) had to travel around 100 meters to access the same.

Source of Drinking Water in Andhra Pradesh

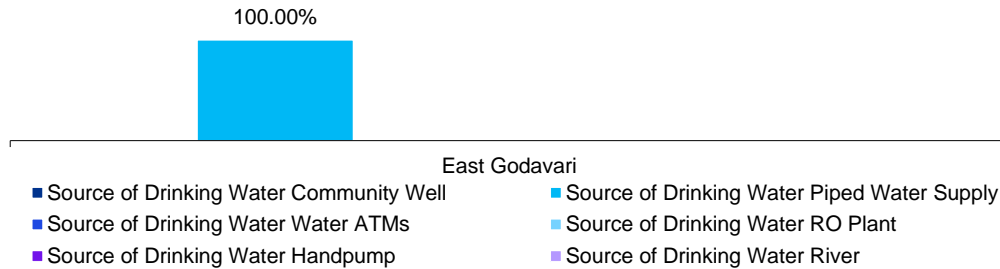


Figure 60 Source of Drinking Water in Andhra Pradesh

97.90 per cent of households in the district have access to safe drinking water¹⁵⁹. According to the baseline data, 100 per cent of the household members in East Godavari accessed piped drinking water supply and all had the source of drinking water present within the house or in its periphery. .

99.10 per cent of households in the districts where the field locations are present have access to improved sources of drinking water¹⁶⁰. 100 per cent of the respondent in Golaghat and 87. Per cent respondent in Jorhat had access to piped drinking water.

Source of Drinking Water in Assam

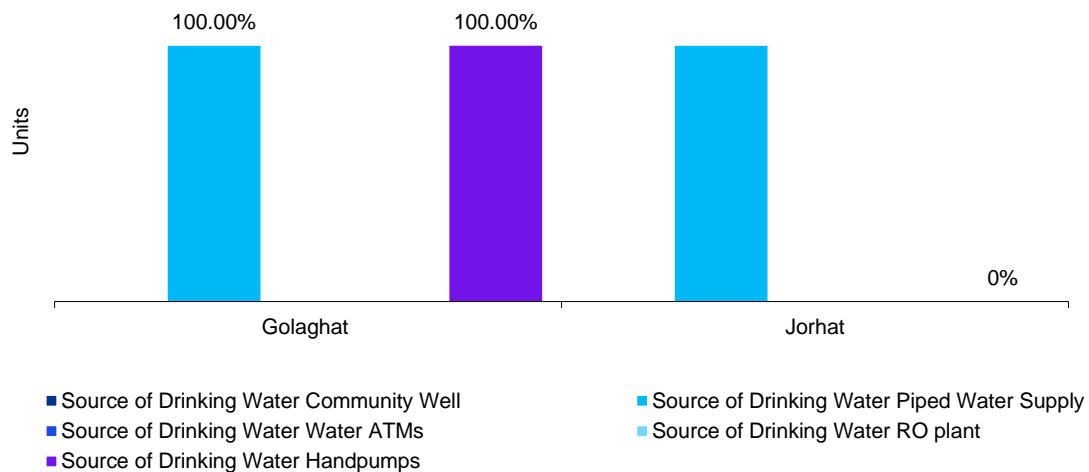


Figure 61: Source of Drinking Water in Assam

According to the baseline data, piped drinking water was the most common source in the field locations of Rajasthan. Similar to the districts, the field locations also have access to safe

¹⁵⁹ NFHS-5

¹⁶⁰ NFHS-5

drinking water. Further, not only is safe drinking water accessible, 68 per cent stated access to the same within their house or in the periphery. 10.8 per cent had to travel over 1 km to access drinking water.

Source of Drinking Water in Rajasthan

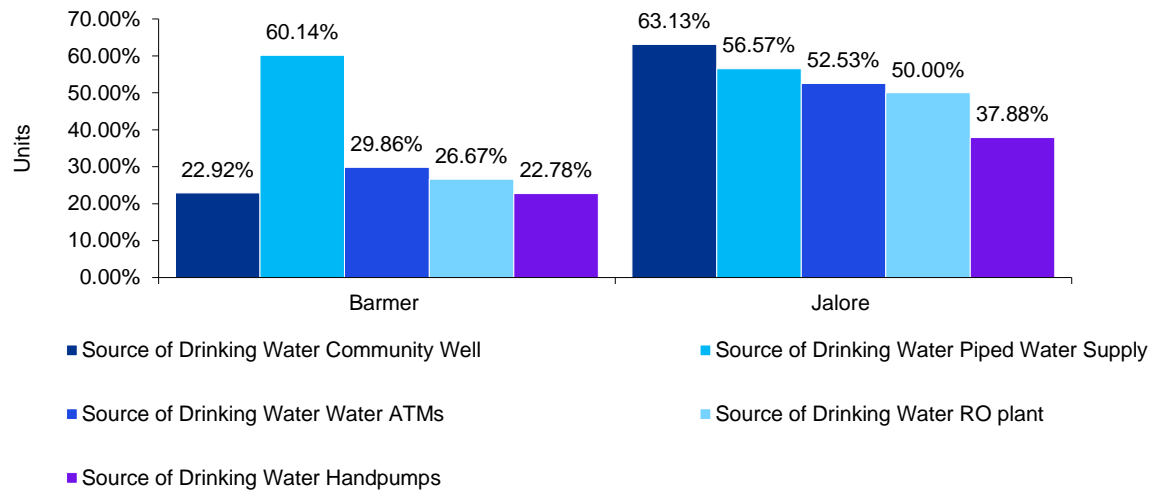


Figure 62: Source of Drinking Water in Rajasthan

Analysis and Way Forward

Improvements in Access to Healthcare

- 78 per cent of the population has access to MHVs
- 95 per cent of the population has access to Anganwadis
- 91 per cent of the population accesses healthcare at least once a year
- There has been a 100 per cent reduction in expenditure over 10,000 INR on healthcare as an out-of-pocket expenditure since the previous baseline where at least 24 per cent were spending over 10,000 INR per year.

Challenges

- Less than half the households are accessing public healthcare facilities such as district hospitals, CHCs, PHCs and sub centres. There is a shortage of manpower at these institutions as reported by the Rural health statistics (2020-2021).
- Despite parents reporting children to be healthy, only 56 per cent of households had taken their children for health checkup at Anganwadis.
- Referral services were accessed by only 36 per cent of children who had received health checkup.
- Immunization of children (between the ages of 0 and 6) stood at an average of 76.3 per cent whereas the state average was 80.4 per cent (NFHS-5).

Possible Solutions

- People visit healthcare institutions that are closest to them and hence investments required to equip them to meet the common ailments in the local area.
- CAIRN can work along with district hospitals to support critical care delivery through investment in manpower and infrastructure.

1 Investment in Local Infrastructure: As established in the previous section that the NCDs is the leading cause of Death in India. Secondary studies suggest that there are gaps in terms of availability of essential medicines, technologies, training of available human resources and counselling services for NCDs at primary and secondary level of healthcare.¹⁶¹

The access to PHCs and CHCs across the field locations remain low. Secondary data also suggest that the state average vacancies and shortfall of manpower in these locations is concerning. Investment is thus required, with the health department, to support these local level public healthcare institutions to be sufficiently equipped not only vis-à-vis facilities but further with manpower through capacity building. It must be noted that CAIRN has closely worked in the past to operationalise two CHCs in Barmer and one PHC in East Godavari District.

¹⁶¹<https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-021-06530-0>

Government Alignment: National Health Mission (<https://nhm.gov.in/>) provides financial support to states to strengthen the public health system including upgradation of existing or construction of new infrastructure. Under NHM high focus states can spend up to 33 per cent and other States up to 25 per cent of their NHM funds on infrastructure.

CAIRN may liaison with the District Health Department to leverage the funds for infrastructure development in public health institutions. For the operation and maintenance of the infrastructure, health staff can be supported with training along with the creation of operation and maintenance SOPs. Furthermore, at the local level, village health and sanitation committees can be leveraged to ensure community ownership and checks and balances between the public healthcare system as well as community.

- 2 Community Involvement in Increasing health seeking behaviour and bringing health behaviour change:** Disease risk due to poor nutrition, poor hygiene, lack of awareness has been found in the states where CAIRN is implementing their projects. In fact, in childhood, diarrhoea and neonatal diseases were found to be common. As the population ages, diseases related to digestion, respiration as well as heart were found to be the leading causes of death. As already discussed in the previous section, CAIRN has a strong connection with the community and has created effective community-based organizations in the areas that they operate. Given that health behaviour change is essential for increasing health seeking behaviour as well as increasing promotive healthcare, such community-based organizations can be leveraged for the same in a campaign mode. It is also acknowledged that CAIRN has been carrying out campaigns on special health days, however this can be bolstered along with these groups as a regular feature that peaks the attention of the rest of the community.
- 3 Secondary and Tertiary Facility Support:** While CHCs are present in all locations, the manpower deficit in the same vis-à-vis doctors and surgeons is a matter of concern. CAIRN may work along with the department of Health in these districts to ensure that at least secondary such as at the level of CHCs and DH, are maintained. This can further be done in alignment with the Swasth Gaon Abhiyan of Anil Agarwal Foundation which aims to modernize infrastructure and medical facilities in hospitals in 12 states in a phased manner.

2.3. Impact Assessment

2.3.1. Mobile Health Vans

Relevance

As per the Indian Public Health Standards (IPHS) norms, a Sub-Centre shall cover an average population of 3000-5000, a PHC shall cover an average population of 20000-30000 and CHC shall cover an average population of 80000-120000¹⁶².

- *52 per cent of the beneficiaries in Barmer and 43 per cent of the beneficiaries in Jalore reported that due to CAIRN's health intervention there is an improvement in access to health care facilities.*
- *MHV program in Rajasthan resulted in the timely availability of the health care services in Barmer and Jalore. 63 per cent of the respondent in Barmer and 33 per cent respondent in Jalore reported to have an increase in the timely availability of health care services.*
- *As per the primary data, the respondent reported to have a reduction of on average INR 1719 on the annual out-of-pocket health expenditure on health.*
- *56 per cent of the respondent households, who are dependent on the RO water, reported that the intervention has resulted in the decrease in the prevalence of the water borne diseases in the*

¹⁶² https://main.mohfw.gov.in/sites/default/files/Final_per_cent20R

Rajasthan with a total population of 68,548,437¹⁶³ has 13512 Sub-centers, 2082 PHCs and 517 CHCs.¹⁶⁴ Subcenters in Rajasthan were catering a population of 5073, PHC were catering a population of 32924 and CHCs were catering a population of 120050. As per the IPHS norms, Subcenters, PHCs and CHCs were not overburdened. However, rural public health institutions are plagued with lack of manpower. 3500 posts of doctors in CHCs and PHCs in rural Rajasthan are lying vacant and patients travel long distances to avail health care facilities.¹⁶⁵ As per the baseline data, 54 per cent of the respondent households were not accessing subcenters, while 60 per cent and 28 per cent of the respondent households were not accessing PHCs and CHCs respectively. However, the access to district hospitals was found to be 85 per cent. The long distance of the district hospital from the villages results in additional expenditure of travelling for patients and results in the timely unavailability of the medical facilities.

Indicator	Scoring
Relevance	Extremely Satisfactory
Coherence	Extremely Satisfactory
Effectiveness	Extremely Satisfactory
Efficiency	Moderately Satisfactory
Sustainability	Moderately Satisfactory

Similarly in Gujarat, there are 9166 Subcenters, 1476 PHCs and 362 CHCs. As per the Census 2011, the total population of Gujarat stands at 60,439,692¹⁶⁶. Subcenters in Gujarat were catering a population of 6594, PHC were catering a population of 40948 and CHCs were catering a population of 166960. As per the IPHS norms, public health institutions were found overburdened. Gujarat has a total shortfall of 1132 doctors at CHCs and 222 doctors at PHCS.¹⁶⁷ As per the primary data received from the respondent, the accessibility to the PHCs, CHCs and Subcenters was extremely low in Gujarat, while the accessibility to district hospital was reported by more than 95 per cent of the respondents in Gujarat. This depicts the lack of accessibility and availability of health care services in their nearby vicinity.

¹⁶³ <https://www.census2011.co.in/census/state/rajasthan.html>

¹⁶⁴ https://main.mohfw.gov.in/sites/default/files/Final_per_cent20RHS_per_cent202018-19_0.pdf

¹⁶⁵ <https://www.newindianexpress.com/nation/2022/mar/14/rajasthan-health-minister-to-crack-the-whip-against-doctors-who-avoid-rural-duty-2429893.html>

¹⁶⁶ <https://www.census2011.co.in/census/state/gujarat.html>

¹⁶⁷ https://main.mohfw.gov.in/sites/default/files/Final_per_cent20RHS_per_cent202018-19_0.pdf

Through its Mobile Health Van project CAIRN has been filling health care gaps in Rajasthan and Gujrat by bringing preventive and curative medical health care to the doorsteps of its beneficiaries. Before starting the project, a baseline was conducted by CAIRN and the project was designed based upon the findings of the baseline. This establishes the relevance of the project, and it was found to be extremely high.

Coherence

The project is well aligned to government policies and schemes. National Health Mission, now encompassing both National Rural Health Mission and National Urban Health Mission has provision to Mobile Health Units, to meet the health care needs of the communities living in far-flung areas and rugged terrains. The government envisages to meet the technical and services quality standards of Public Health Centers through these MHV.¹⁶⁸ Moreover, in 2015-15 the government of India under National Health Mission initiated NHM Free Drugs Service Initiative to move towards “Health for All”.¹⁶⁹ In 2008-09, Government of Rajasthan, launched “Mobile Medical Unit ” scheme to provide free medical services to the patient. Though the scheme the state has established the second largest network of operational mobile health units in the country after Tamil Nadu.¹⁷⁰ Government of Gujarat has also launched Mobile Medical Unit in 2020 to provide medical facilities to underprivileged communities.

The project is well aligned to SDG 3, that envisions to ensure healthy lives and promote well-being for all at all ages.¹⁷¹

SDG	SDGs target	How is it aligned?
	<p>– Target 4.1</p> <p>Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential</p>	<p>– The project provision to provide quality health services to the doorsteps of the community free of cost.</p>

¹⁶⁸ <https://nhm.gov.in/index1.php?lang=1&level=2&sublinkid=1221&lid=188>

¹⁶⁹ <https://nhm.gov.in/index1.php?lang=1&level=2&sublinkid=1218&lid=192>

¹⁷⁰ <https://timesofindia.indiatimes.com/city/jaipur/state-develops-second-largest-network-of-med-mobile-vans/articleshow/81609194.cms>

¹⁷¹ <https://unric.org/en/sdg-3/>

	<p>medicines and vaccines for all.¹⁷²</p>	
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Effectiveness

The effectiveness of the intervention was assessed on the secondary documentation for the program wherein the availability of the targets as well as the achievements against the same was considered. As per the documents provided by CAIRN, the project has achieved its defined targets. The target of decrease in out-of-pocket health expenditure, timely availability of health services and improvement in health of the beneficiaries was set for the project. As per the last impact assessment conducted by CAIRN, there has been a saving of **INR Rs. 1,26,72,000/- for first year, Rs. 1,42,31,923/- for second year and Rs. 1,59,83,873/- for third year through decrease in out-of-pocket expenditure. 26 per cent of respondents believed access to healthcare improved due to MHVs and 39 per cent stated improved health status.** It establishes the effectiveness of the program, and it was found extremely satisfactory.

Efficiency

The efficiency of the intervention was considered vis-à-vis the documents provided on the project including the agreements with the implementing partners, whether the intervention had adhered to its timelines, whether utilization was undertaken through the budget and whether the intervention aligned with the CSR policy of CAIRN. The Project is well aligned with the CSR policy of CAIRN to improve the quality and wellbeing of the community in and around the operational areas of the business. The project has been found to be adhering to the timelines defined in the MoUs. The budget of the program has been clearly documented in the MoUs. However, there has been an underspend of 5-10 per cent in the budget. There has also been a delay of 6-12 months in the timeline of the project.

¹⁷² <https://unric.org/en/sdg-3/>

Overall, the efficiency of the project has been moderately satisfactory.

Sustainability

The MHU project is working with an objective to improve the health and hygiene of the community at large by providing them with access to door-step healthcare services. The project team further provides support to the community through health and hygiene awareness camps thereby ensuring that they receive access to not only curative but preventive and promotive healthcare as well, ensuring **sustenance of change**. However, the MHV as an institution itself is currently dependent on CAIRN and its funding to provide such care to the communities. Therefore, the intervention is **Moderately satisfactory on the sustainability scale** and would further require tie-ups for the maintenance of such vans.

[OECD Scoring sheet provided in Annexure](#)

2.3.2. Doctor’s Support-Barmer District Hospital

Relevance

In Rajasthan, there is shortfall of 1829 specialist doctors in CHCs and there is short fall of 207 doctors in PHCs.¹⁷³ Public hospital across India face formidable challenges of deficient infrastructure, deficient manpower, unmanageable patient load, equivocal quality of services, and high out of pocket expenditure.¹⁷⁴

Relevance	Extremely Satisfactory
Coherence	Extremely Satisfactory
Effectiveness	Extremely Satisfactory
Efficiency	Moderately Satisfactory
Sustainability	Extremely Satisfactory

As per NITI Aayog’s Study, Best Practices in the Performance of District Hospitals, the district hospitals in Rajasthan have only 19 beds per one lakh of population. As per the IPHS guidelines, district hospitals shall have 22 beds per one lakh population. District hospital in Rajasthan have long waiting hours. As per the National Health Accounts report, the per-capita expenditure of India is INR 3314.¹⁷⁵ Meanwhile, the per-capita health expenditure of Rajasthan stands at INR 1,696, which is almost half of the

¹⁷³ https://main.mohfw.gov.in/sites/default/files/Final_per_cent20RHS_per_cent202018-19_0.pdf

¹⁷⁴ https://www.researchgate.net/publication/273596838_The_Challenges_Confronting_Public_Hospitals_in_India_Their_Origins_and_Possible_Solutions

¹⁷⁵ <https://www.telegraphindia.com/india/indias-per-capita-healthcare-expenditure-remains-near-stagnant/cid/1886259>

per-capita health expenditure of India.¹⁷⁶This clearly depicts the lack of focus of health care in Rajasthan.

It can be inferred that the public health institutions in Rajasthan are overburdened and are having formidable challenge of lack of manpower, lack of resources and unavailability of proper infrastructure.

To fulfill these infrastructural gaps in the district hospital of Barmer, CAIRN started its District Hospital support program. Under the project CAIRN has provided three medical specialists at district hospital of Barmer. These specialists include a female gynecologist, an ENT specialist, and a general surgeon. Apart from it, CAIRN has been ensuring cleanliness in and around the premises of the district hospital. This establishes the relevance of the project, and it was found out extremely satisfactory.



Specialist Doctor appointed by CAIRN examining his patients

Coherence

The project is well aligned to government policies and schemes. The project has been well aligned National Health Mission that envisages achievement of universal access to equitable, affordable & quality health care services that are accountable and responsive to people’s needs. The project is well aligned to SDG 3, that envisions to ensure healthy lives and promote well-being for all at all ages.¹⁷⁷

SDG	SDGs target	How is it aligned?
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¹⁷⁶ <https://www.downtoearth.org.in/news/health/rajasthan-s-right-to-health-bill-lacks-teeth-say-experts-85164>

¹⁷⁷ <https://unric.org/en/sdg-3/>

	<p>Target 4.1 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality, and affordable essential medicines and vaccines for all.¹⁷⁸</p>	<p>The project provision to provide quality health services to the doorsteps of the community free of cost.</p>
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Effectiveness

The effectiveness of the intervention was assessed on the secondary documentation for the program wherein the availability of the targets as well as the achievements against the same was considered. As per the documents provided by CAIRN, the project has achieved its defined targets. A target to improved access to quality healthcare services in the district hospital and to provide timely availability of treatment to the beneficiaries was set by CAIRN. As per the last impact assessment conducted by CAIRN, **73.4 per cent households reported that the programs brought an improvement in quality of health care and 75.1 per cent households reported money saved on medicine and healthcare.** This clearly depicts the effectiveness of the program, and it was found extremely satisfactory.

Efficiency

The efficiency of the intervention was considered vis-à-vis the documents provided on the project including the agreements with the implementing partners, whether the intervention had adhered to its timelines, whether utilization was undertaken through the budget and whether the intervention aligned with the CSR policy of CAIRN. The Project is well aligned with the CSR policy of CAIRN to improve the quality and wellbeing of the community in and around the operational areas of the business. The project has been found to be adhering to the timelines defined in the MoUs. The budget of the program has been clearly documented in the MoUs. However, there has been an underspend of 20 per cent in the budget.

Overall, the efficiency of the project has been satisfactory.

Sustainability

¹⁷⁸ <https://unric.org/en/sdg-3/>

The Doctor support program has been ensuring sustainability through the alignment with the district hospital and supporting the district with key resources, there is sustainability envisioned into the project itself

[OECD Scoring sheet provided in Annexure](#)

Impact of the Health Intervention

- *Through the efforts of the CAIRN, the district hospital of Barmer has received Quality Assurance Certificate from the government of India. Twice, the District Hospital, bagged first place under 'Mera Aspatal Project'.*
- *52 per cent of the beneficiaries in Barmer and 43 per cent of the beneficiaries in Jalore reported that due to CAIRN's health intervention there is an improvement in access to health care facilities.*
- *Due to MHV program, the 63 per cent of the respondent in Barmer and 33 per cent respondent in Jalore reported to have an increase in the timely availability of health care services.*
- *Due to CAIRN health intervention the beneficiaries reported to have an average additional income of INR 730 due to reduction in number of days of sickness.*
- *As per the primary data, the respondent reported to have a reduction of on average INR 1719 on the annual out-of-pocket health expenditure on health.*



Newspaper coverage of District Hospital, Barmer



CAIRN MHV at its halting point in Barmer

Impact of Health Interventions on Contamination of COVID-19

Since the advent of the COVID-19 Pandemic, CAIRN has been at the forefront to tackle the COVID-19 pandemic. CAIRN converged with Government of Rajasthan's initiative on raising awareness on COVID-19. CAIRN launched IEC material, distributed hygiene kits to frontline workers and deployed 9 awareness mobile Vans. CAIRN conducted regular awareness campaigns across 1156 villages in Andhra Pradesh, Gujarat and Rajasthan. CAIRN relentlessly worked on awareness generation in 55 wards of Barmer through a public

information dissemination system. It also launched an e-manual on COVID-19 in collaboration with district administration of Barmer.

CAIRN aided district hospital of Barmer with **1,100 PPE kits, 1,300 N95 masks, 4,000 hand gloves, 1,400 VTM kits, and 16 BIPAP ventilators during the pandemic.** CAIRN provided a fully equipped ambulance to Barmer district hospital to transport COVID-19 suspects. On the request of administration, CAIRN converted an ITI hostel into a 50 bedded COVID care center and further created a 40 bedded COVID-facility by converting a hotel. CAIRN ensured regular supply of essential items such as hot cooked meals, milk, fruits, and hygiene kits to the patients in the facilities. Moreover, **CAIRN provided 900 VTM kits to the district administration for COVID-19 testing.**

CAIRN launched '*Swasthya Saarthi*' initiative in collaboration with Health Department of Barmer to improve last mile access to medical care during the lockdown phase, with a special focus on pregnant women. Under the initiative, CAIRN provided 4 dedicated medical vans to the district administration. CAIRN also launched sanitization of villages in Rajasthan and Andhra Pradesh in partnership with local administration and Gram Panchayats.

CAIRN conducted **online capacity building** of 180+ frontline health workers on COVID-19 through NandGhars.

All these efforts resulted into contamination of COVID-19 pandemic in Barmer. As per the data, Rajasthan had 1911 COVID-19 cases/ Lakh population at the time of writing the report,¹⁷⁹ while these numbers are almost half when it comes to Barmer. Barmer has only 829 COVID-19 cases/ Lakh population.¹⁸⁰

Recommendation and Way Forward

Due to constant efforts from CAIRN, the district hospital has observed a palpable improvement in the health care services over years. People, not only from Barmer, but also outside the district have been availing quality health services from the district hospital. This has left the district hospital overburdened. During the seasonal diseases, the OPDs in the district hospital has been crossing 3500 and long que can be observed at the medicine counters.¹⁸¹ This can result in the long waiting hours of the people need in health care. Moreover, this has somehow reduced the reliance of the people on other public health

¹⁷⁹ <https://github.com/CSSEGISandData/COVID-19>

¹⁸⁰ <https://howindialives.com/gram/coronadistricts/>

¹⁸¹ <https://hindi.news18.com/news/rajasthan/barmer-barmer-district-hospital-opd-cross-3500-mark-due-to-seasonal-diseases-diarrhea-and-malaria-nodark-4695121.html>

institutions like CHCs and PHCs in the district. The population density of Barmer is 92/Kmsq, while the population density of Rajasthan is 400/Kmsq and the population density of India was 431/Kmsq.¹⁸² It can be inferred from this, that the population is widespread in Barmer and to avail the health care services at the district hospital, they need to travel long distance.

CAIRN shall focus on improving the health services in CHCs and PHCs by upgrading the facilities and providing health equipment and paraphernalia. As observed in Rajasthan, CHCs and PHCs lack manpower and availability of doctors. CAIRN can fill this gap by provisioning telemedicine at CHCs. This will further improve the accessibility of the beneficiaries living in far flung village and also reduce their travel cost for accessing health services at District Hospital. To overcome the financial and operational challenges of the project, CAIRN may handover the MHVs to the District Health Department. It can train the district health department on the efficient management of the MHVs.

2.3.3. PHC Support at Andhra Pradesh

Relevance of the Project

As per the Indian Public Health Standards (IPHS) Guidelines for Primary Health Centres- ***Public Health Centers (PHCs) are the cornerstone of rural health services- a first port of call to a qualified doctor of the public sector in rural areas for the sick and those who directly report or referred from Sub-Centres for curative, preventive, and promotive health care. It acts as a referral unit for 6 Sub-Centres and refer out cases to Community Health Centres (CHCs-30 bedded hospital) and higher order public hospitals at sub-district and district hospitals. It has 4-6 indoor beds for patients.***¹⁸³

The Public Health Centres across India suffer from myriad issues of unavailability of the doctors, inadequate physical infrastructure, and unavailability of quality medicine. These scenarios around PHCs are not very different in the state of Andhra Pradesh. Andhra Pradesh has 1142 PHCs. However, when it comes to manpower, there is shortfall of 1142 ANMs (Auxiliary Nurse Midwife) at Primary Health Centres in Andhra Pradesh (As per the IPHS guideline, there shall be one ANM per one PHC) there is a shortfall of 4822 Health Assistant at PHCS and 80 PHCs do not have Pharmacists.¹⁸⁴ All these scenarios can jeopardise the access to health care for the rural communities.

¹⁸² <https://www.census2011.co.in/density.php>

¹⁸³ <https://nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidelines-2012/primay-health-centres.pdf>

¹⁸⁴ https://hmis.nhp.gov.in/downloadfile?filepath=publications/Rural-Health-Statistics/RHS_per_cent2020-21.pdf

The average radial distance covered by each PHC in Andhra Pradesh is 6.18 km while average number of villages covered is 26.¹⁸⁵ The closest PHC from the Surasaniyanman village was about 20 km, making it difficult for villagers in Surasaniyanam to access in case of emergency.

To address the health needs of the community, Cairn in collaboration with the Department of Health and Medical Office, East Godavari district, constructed a Primary Health Centre (PHC) in Surasniyanam village. The intervention is related to both preventive and curative care at different levels. Cairn works on addressing the primary healthcare needs of the community in the village and surrounding villages by ensuring the required infrastructure and manpower at the PHC which remains a bottleneck at the state level. **This establishes the relevance of the project, and it is considered extremely satisfactory.**

Coherence of the Intervention

The project is well aligned to government policies and schemes. National Health Mission, now encompassing both National Rural Health Mission and National Urban Health Mission has provision of establishing Public Health Centers, to meet the health care needs of the communities living in rural areas. aligned to SDG 3, that envisions to ensure healthy lives and promote well-being for all at all ages.¹⁸⁶

Table 6.1 Alignment of PHC Construction with the SDGs

SDG	SDGs target	How is it aligned?
	Target 3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services, and access to safe, effective, quality and affordable essential medicines and vaccines for all ¹⁸⁷ .	The project ensures access to health services at the doorstep to all.

¹⁸⁵ <https://www.ijisrt.com/assets/upload/files/IJISRT20MAY709.pdf>

¹⁸⁶ <https://unric.org/en/sdg-3/>

¹⁸⁷ [Targets of Sustainable Development Goal 3 \(who.int\)](https://www.who.int/news-room/fact-sheets/detail/sustainable-development-goal-3-good-health-and-well-being)

Impact of the Intervention

When it comes to the functioning of PHC, one of the crucial aspects of the PHCs is providing the 24 x 7 Emergency, referral and normal delivery services.¹⁸⁸ Secondary studies have proved that improvement in availability of facilities is likely to increase the likelihood of delivering the child at PHC.¹⁸⁹ By establishing the PHC at the Surasniyanam village, CAIRN has ensured improved access to institutional deliveries for the community.

As per the National Health Family Survey 5, only 46 per cent of the deliveries were conducted at a public health facility. When it comes to the primary data, 100 per cent of the respondent households reported to have access to Public Health Facility.

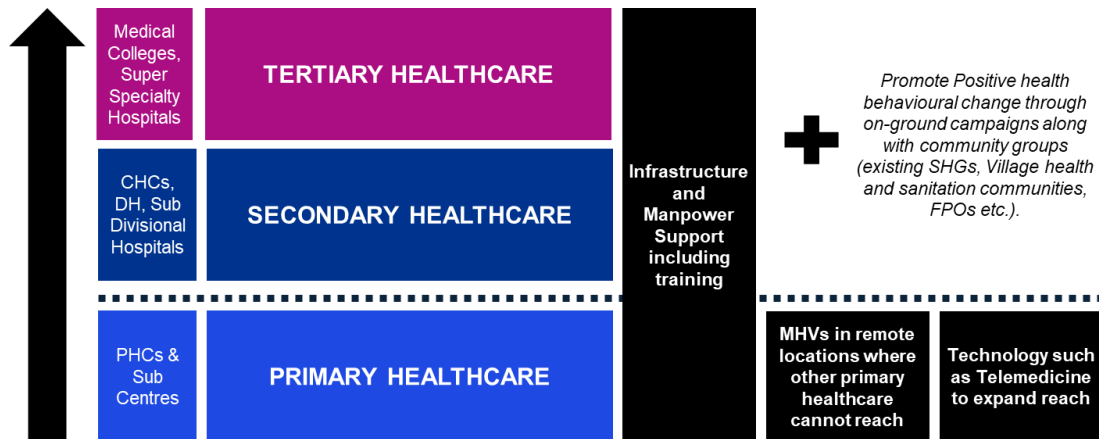
- ***The establishment of the PHC has also improved the access to OPD services in the area. As per the primary data received, 100 per cent of the respondent household reported to have access to OPD services. When it comes to the availability of the free medicine, 100 per cent of the respondent household reported to have access to free medicine.***

Way Forward

1. **Ensuring a Holistic Approach:** Mobile Health Vans and units are a key support structure in healthcare delivery; however, it cannot be present everywhere at once. It is thus essential to ensure that primary, secondary and tertiary healthcare institutions are not only sufficiently present and accessible but available to provide quality curative and preventive healthcare. CAIRN with its existing connect with the government health department may work alongside them to fulfil the gaps in infrastructure and healthcare training.

¹⁸⁸ <https://nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidlines-2012/primay-health-centres.pdf>

¹⁸⁹ <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-021-07254-x>



Focus on Curative as well as Preventive care at the foundational level of healthcare

- Digital Infrastructure to Expand Scale of Quality Healthcare Access:** Accessing MHV facilities is often a challenge for people residing in the interiors. The concept of telemedicine has grown in the last few years, especially due to the physical-distancing measures that were put into place due to the pandemic. Fast exchange of patient information, timely advice, and last-mile connectivity with patients are some of the reasons for its growing demand¹⁹⁰. Telemedicine can tackle inequity and lack of healthcare access. Where required, teleconsultation can ensure availing telemedicine services on-the-go and enhance healthcare¹⁹¹.

Government Alignment: eSanjeevani is the first-ever online OPD (outpatient) consultation service offered by the government of India to citizens. According to the government, this is the first time the government of a country is offering a service of this kind to its citizens. A few states like Jharkhand, Kerala, Punjab and Tamil Nadu, etc. have started offering specialized doctor consultation services also. It is also present on mobile phones.

However, a study conducted by Columbia University showed that there are access issues faced by remote populations due to unavailability of internet or devices to access internet. Furthermore, there remains a shortage of doctors and specialists, leading to long waiting time.

In order to ensure that telemedicine remains sustainable, it is essential to align with existing government services. However, given the challenges that persist, CAIRN may work alongside the Government in order to provide sufficient equipment as well as training to doctors at central locations to enhance availability of first level of care.

¹⁹⁰ Telemedicine in India: Healthcare System With Telemedicine: Knowledge Hub: Social Innovation: Hitachi (social-innovation.hitachi)

¹⁹¹ Telemedicine in India: Healthcare System With Telemedicine: Knowledge Hub: Social Innovation: Hitachi (social-innovation.hitachi)

3. Behaviour Change: While distribution of medicine remains a key target for MHVs, more work is being carried out by MHV partners to reduce the reliance of the community on unnecessary medicines. For example, a Civil Society Organization has a more holistic wellness approach and raising awareness on lifestyle changes. It utilizes MHV visits to entail behaviour change amongst the community members related to their health behaviour and diet. It also persuades the community members to seek health services at PHC and CHC level in order to ensure specialized attention and treatment for the beneficiaries.

CAIRN has already been doing awareness session with the community on health care. Further work would be required to raise awareness among the community to increase their frequency in accessing PHCs and CHCs at regular intervals, along with behaviour change geared towards nutrition and healthy lifestyles.

Best Practices: A prominent organization provides rural women information on maternal dietary diversity and complementary feeding practices. It reinforces messages on nutrition that these women hear in their SHGs and seeks to create more conversations in the household on this topic to hasten the adoption of these healthy practices. Diversifying content on the platform also led to an increased usage of the platform among other household members, especially men.

2.3.4. Project Borewell

Relevance

As per the Council on Energy, Environment and Water (CEEW), 68.8 million people inhabiting 90 per cent of the district of Rajasthan have become vulnerable to Drought.¹⁹² Rajasthan is the most water deficient state in the country and success droughts have further exacerbated the condition.¹⁹³

Indicator	Scoring
Relevance	Extremely Satisfactory
Coherence	Extremely Satisfactory
Effectiveness	Satisfactory
Efficiency	Satisfactory
Sustainability	Moderately Satisfactory

¹⁹² <https://www.ceew.in/how-a-drought-prone-village-is-reviving-water-management-climate-change-story>

¹⁹³ <https://hindi.indiawaterportal.org/content/water-crisis-rajasthan/content-type-page/53102>

When it comes to Barmer district, which lies in the arid climatic region, it has been receiving erratic rainfall in the last 5 years.¹⁹⁴ The district has been observing alarming eco-system changes from past couple of years. The total rainfall has increased in district. The district has also been observing uneven distribution of rains. The district receives rainfall only for two months, away from the normal monsoon of four months.¹⁹⁵ This paradox has created a drought like situation in the district in consecutive years.

Drought Affected Villages in Barmer District

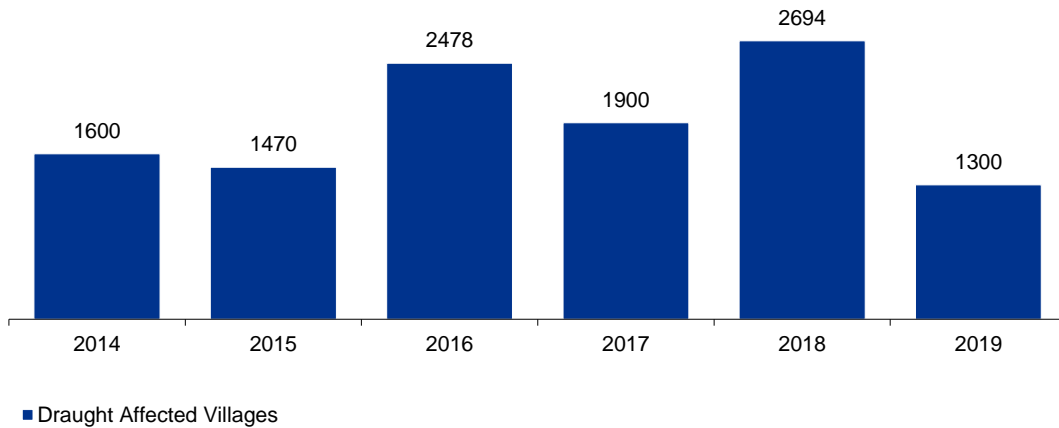


Figure 63: Year Wise Drought Affected Villages in Barmer; Source: Hindustan Times¹⁹⁶

In 2014, there were 1600 drought affected villages in Barmer. The number dropped to 1470 on 2015 and rose to 2478 in 2016. In year 2017, the district faced a flood like situation and 208 villages faced flood like situation due to excessive rains.¹⁹⁷ Despite this, the district authority declared 1900 villages as the drought hit villages. The number again rose to 2694 in 2018 and dropped to 1300 in 2019. It can be observed that drought remain persistent in the district.¹⁹⁸

The situation was further exacerbated with the introduction of the foreign flora species, such as the Israeli Tortilis and Prosopis Julifolra by the forest department in order to stabilize the sand, which resulted the disruption of local ecology and impacted natural phenomenon of

¹⁹⁴ <https://www.hindustantimes.com/jaipur/even-in-3-c-women-in-barmer-region-walk-3-5-km-everyday-for-water/story-N35V3dbvtNBhC0y33SQVFO.html>

¹⁹⁵ <https://www.firstpost.com/india/drought-in-rajasthan-poor-groundwater-situation-erratic-rains-in-barmer-indicate-ecological-distress-across-thar-desert-6306931.html>

¹⁹⁶ <https://www.hindustantimes.com/jaipur/even-in-3-c-women-in-barmer-region-walk-3-5-km-everyday-for-water/story-N35V3dbvtNBhC0y33SQVFO.html>

¹⁹⁷ <https://www.firstpost.com/india/drought-in-rajasthan-poor-groundwater-situation-erratic-rains-in-barmer-indicate-ecological-distress-across-thar-desert-6306931.html>

¹⁹⁸ <https://www.hindustantimes.com/jaipur/even-in-3-c-women-in-barmer-region-walk-3-5-km-everyday-for-water/story-N35V3dbvtNBhC0y33SQVFO.html>

sandstorm and rainfall distribution.¹⁹⁹ The species suck out huge quantities of water for its growth.²⁰⁰

Most of the villages in Barmer district have been dependent on rainwater harvesting structures like, Beris, Tankas and wells. With the looming drought situation over past years, the drinking water has not been sufficient from the structures. The structures that were accessible to all the villager's despite of someone owing them, the crisis has now been forcing owners to put the structures under lock and key. This has been pushing villagers to travel 3 to 5 Kms every day to fetch water from the villages where there is provision of tube wells and borewells.²⁰¹

The water crisis is not gender neutral. Women are increasingly being seen as the worst effected due to the water crisis around the world. For women of the households, water crisis is personal. Due to patriarchal structure of the society, women are being responsible for finding the source of water. Today, women around the world spend a collective 200 million hours collecting water. In addition to time spent collecting water, millions may also spend significant amounts of time finding a place to go.²⁰² These scenarios jeopardize the education, health, and safety of women especially girls. The situation is not very different when it comes to Rajasthan. As per the Jal Jeevan Mission, only 15.09 per cent of the households in the district have tap water connections.²⁰³ As per NSS Report on Drinking Water, Sanitation, Hygiene and Housing Condition in India, 32.6 per cent of the households in rural Rajasthan are dependent on public sources for drinking water and 5.76 per cent of the households travel more than 0.5 Kms for the drinking water purpose. In Barmer, women travel around 3 to 5 Kms every day to fetch drinking water.²⁰⁴

To meet the basic need of water in water-scarce regions of Barmer district, the borewell project was conceptualized in partnership with PHED, under the theme of "Access to Water for All". In phase 1, 10 community borewells along with 10,000 litres capacity water tank and cattle troughs were developed. These borewells cater to more than 30 villages and over 12,000 people in 10 Gram Panchayats. The operation and maintenance of these borewells

¹⁹⁹ <https://www.firstpost.com/india/drought-in-rajasthan-poor-groundwater-situation-erratic-rains-in-barmer-indicate-ecological-distress-across-thar-desert-6306931.html>

²⁰⁰ <https://www.thehindu.com/news/national/tamil-nadu/Forest-department-to-weed-out-prosopis-juliflora/article14489517.ece>

²⁰¹ <https://www.hindustantimes.com/jaipur/even-in-3-c-women-in-barmer-region-walk-3-5-km-everyday-for-water/story-N35V3dbvtnBhC0y33SQVFO.html>

²⁰² <https://water.org/our-impact/water-crisis/womens-crisis/>

²⁰³ https://ejalshakti.gov.in/jjmreport/Quality/WQMIS_Dashboard.aspx

²⁰⁴ <https://www.hindustantimes.com/jaipur/even-in-3-c-women-in-barmer-region-walk-3-5-km-everyday-for-water/story-N35V3dbvtnBhC0y33SQVFO.html>


is undertaken by Public Health and Engineering department. Besides installing RO plants, 10 community bore wells were established, along with cattle troughs in water constraint areas under the 'Access to water for all' project in collaboration with PHED.

The intervention works towards bridging the gaps highlighted in the previous section by providing access to potable water to the community. **Therefore, the intervention was found to be extremely satisfactory on the relevance scale in the regional context.**

Coherence of Intervention

The programme aligns with the Sustainable Development Goals (GOAL 6: Clean Water and Sanitation). At the National Level, the project is aligned with Jal Jeevan Mission that is envisioned to provide safe and adequate drinking water through individual household tap connections by 2024 to all households in rural India.²⁰⁵ The project has been implemented in convergence with the PHED department. Hence, the project is aligning with national and state priorities when it comes to drinking water. Therefore, the intervention is **extremely satisfactory on the coherence scale.**

Table 9.1 Alignment of Project Community Borewell with the SDGs

SDG	SDGs target	How is it aligned?
	<p>Goal 6. Ensure availability and sustainable management of water and sanitation for all</p> <p>Target 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all</p>	<ul style="list-style-type: none"> CAIRN is actively working towards creating borewells to meet the needs of the community in making safe drinking water accessible.

Effectiveness of Intervention

The effectiveness of the intervention was assessed on the secondary documentation for the program wherein the availability of the targets as well as the achievements against the same was considered. The target of improved quality of drinking water, decrease in water borne diseases and change in the cost of availing water had been set for the project. As per the last

²⁰⁵ <https://jaljeevanmission.gov.in/>

impact assessment report, 67 per cent of beneficiaries stated that water from the borewell is potable, 42 per cent of the respondents suggested improvement in the quality of water. Moreover, the communities in the intervention villages have been availing the water from CAIRN's borewell without any cost. The intervention has resulted in saving time for water collection and the beneficiaries were observed to spend save time on education and other productive activities. Therefore, solely on the past performance and beneficiary responses has the intervention been assessed as satisfactory on the effectiveness scale.

Efficiency of Intervention

The efficiency of the intervention was considered vis-à-vis the documents provided on the project including the agreements with the implementing partners, whether the intervention had adhered to its timelines, whether utilization was undertaken through the budget and whether the intervention aligned with the CSR policy of CAIRN. Information regarding budget was not available with the team. Thus, the project has been assessed as

Sustainability of Intervention.

The primary objective of the program was to provide the community with affordable and accessible drinking water. As can be inferred from the previous sections, the program has been largely successful in its objective of providing affordable drinking water to the rural population of Barmer. It is an essential service benefitting the most vulnerable sections of the community. Hence, it is important that program is sustainable in nature. The program has to helped to address woes of the population in terms of the environmental pollution caused by CAIRN. Further, it has created a positive difference in helping the community access clean sources of drinking water and reduce water borne diseases. Currently, the ownership of operation and maintenance lies completely with the PHED department. Significant gaps with respect to ownership of maintenance, awareness, lack of a coherent exit strategy and the cost towards the same result in a moderately satisfactory rating on the sustainability metric for Project Borewell.

[OECD Scoring sheet provided in Annexure](#)

Impact of the Project

The project bore well has helped the communities in the villages to meet their needs of clean drinking water.

Among the block stakeholders, Anganwadi Workers and Sarpanch interviewed in Barmer also emphasized that CAIRN's intervention had helped increase access to clean drinking water for people. Further, along with the Ward Panch, they felt that the wider interventions had helped decrease the occurrence of water-borne diseases in the community.

As per the primary data, 79 per cent of the respondent households reported to have an improvement in their access to clean drinking water. The access to the water from the borewells has also reduced the burden of the water borne diseases amongst the respondent households. 63 per cent of the respondent households reported in the decrease of water borne disease in their villages where CAIRN has established borewells.

Strength of the Project

The project has helped in making the communities water sufficient. In the hindsight of the looming scarcity of water in the Barmer district, which has been pushing the rural population especially women, to travel long distance for the water; the project has helped in providing the drinking water in the vicinity of their villages. The project has helped in improving the quality of drinking water and has helped in the reduction of water borne diseases.

Area of Improvement

As established earlier, Barmer has observed consecutive drought years. The district has dealt with famines in 61 seasons, of which 24 were severe famines, while the rest were medium in the last 100 years.²⁰⁶ These scenarios has pushed the farmers to adopt irrigation from the ground water. With easy access to pumping equipment, ground water has been drafted at an alarming and the around 2000 borewells have been dug up in the district in recent years.²⁰⁷ The high dependency on the ground water has led to the over exhaustion of the ground water in the district. As per the Government of India's Ministry of Water Resources report on Ground Information, Barmer district (2013), The stage of ground water development in the district was 114.22 per cent in 2013, which indicated that the scope for ground water development was already exhausted.²⁰⁸

²⁰⁶ <https://www.firstpost.com/india/drought-in-rajasthan-poor-groundwater-situation-erratic-rains-in-barmer-indicate-ecological-distress-across-thar-desert-6306931.html>

²⁰⁷ <https://www.firstpost.com/india/drought-in-rajasthan-poor-groundwater-situation-erratic-rains-in-barmer-indicate-ecological-distress-across-thar-desert-6306931.html>

²⁰⁸ http://cgwb.gov.in/District_Profile/Rajasthan/Barmer.pdf

Way Forwards

- *The population density of the Barmer district is 92/Sq Km.²⁰⁹ It can be said that the population in the Barmer district is scattered over a large geographical area as compared to the Rajasthan which has a population density of 200/Sq Km. As discussed in the earlier section that the district has been observing an increase in the average rainfall/ year. This improves the prospect of the rainwater harvesting potential in the district naturally. However, the geography of the district poses a problem in the natural process of trickling down of the rainwater to the ground water sources. The impermeable sub-layer of the gypsum at the surface blocks the water to drain out. Moreover, the sparsely populated district leaves the large area for an individual to cover if the person needs to collect the rainwater through rainwater harvesting.*
- *CAIRN can create small ground water recharge well across the district in liaison with Public Health Engineering Department to recharge the ground water sources.*
- *As the ground water in the Barmer District has high level of Total Dissolved Solids, there is a need to treat the water before consuming from the borewells. This can be done through filtering the water through multi-layer clothes after boiling the water and keeping it for few hours. The technique will bring the TDS in the water at the consumable level.*
- *CAIRN needs to initiate behavioral change campaigns in the villages for nudging the people to filter the water before consuming it from the borewell.*

²⁰⁹ <https://www.census2011.co.in/census/district/440-barmer.html>

2.3.5. Project Jeevan Amrit

Relevance

Rajasthan has the total population of 68.6 million. Despite of having the largest geographical area, Rajasthan homes only 5.66 per cent of the total population of India. Out of total population, only 24.87 per cent people live in urban areas, while 75.13 per cent of the population inhabits rural areas.²¹⁰

Indicator	Scoring
Relevance	Extremely Satisfactory
Coherence	Extremely Satisfactory
Effectiveness	Extremely Satisfactory
Efficiency	Satisfactory
Sustainability	Moderately Satisfactory

Rajasthan accounts 10 per cent of the total geographical area. Despite this, it only accounts for 1.2 per cent of the surface water and 1.7 per cent of the ground water available in India. About 90 per cent of the population is dependent on the ground water for drinking purpose.²¹¹ However, 16 per cent of the ground water sources in Rajasthan has excessive fluoride, 15 per cent have excessive nitrate and over 9 per cent have excess salinity. Other 25 per cent of the ground water sources have multiple problems and are not suitable for water. This leaves only 35 per cent of the ground water sources in the category of drinking water. Out of 8 blocks, 5 fell under “Overexploited” category, 2 under “Critical” category and 1 under “Safe” category.²¹² The scenario depicts the grim situation of the availability of ground water in the district.

When it comes to Barmer, the district has high level of fluoride.²¹³ Total Dissolved Solids (TDS), which indicates the water quality of salinity has to be in the range of 500 mg/L to 1000 mg/L for the drinking water, as per the World Health Organization (WHO). Barmer district has extremely high level of TDS and the ground water is not suitable for drinking. Similarly, the ground water in the district has high level of nitrates.²¹⁴ Exposure to high level of TDS for a long time can cause diseases like nausea, lung irritation, rashes, vomiting, dizziness etc. Drinking water with elevated amount of TDS for longer periods will expose body to various chemicals, toxins and may cause chronic health conditions like cancer, liver, kidney failures,

²¹⁰ <https://www.census2011.co.in/census/state/rajasthan.html>

²¹¹ <https://www.mdpi.com/2073-4441/7/10/5547>

²¹² https://www.researchgate.net/publication/336675984_ASSESSMENT_OF_GROUND_WATER_QUALITY_OF_RAJASTHAN_WITH_SPECIAL_REFERENCE_TO_JODHPUR_AND_BARMER_REGION

²¹³

https://www.researchgate.net/publication/292091215_Fluoride_contamination_in_ground_water_in_parts_of_Barmer_district_Rajasthan_India

²¹⁴ https://www.isroset.org/pub_paper/IJSRMS/2-IJSRMS-01251.pdf

nervous system disorders, weaken immunity and may also cause birth defects in the new born.²¹⁵ The high fluoride level can cause health problems like fluorosis, skeletal fluorosis, arthritis, bone damage, osteoporosis, muscular damage, fatigue and joint-related problems²¹⁶ while the excessive level of nitrates can cause methemoglobinemia (also known as blue baby syndrome). Bottle-fed babies under six months old are at the highest risk of getting methemoglobinemia.²¹⁷

Apart from the shortage of the water, the district has been facing grave challenge of pollution in the ground water sources. The major sources of pollution in the study area are poor unregulated landfills, contaminated from industry and drain systems.²¹⁸ The contaminated and untreated water cater can cause diarrhea amongst children.²¹⁹ As per the Global Burden of Disease, 2016 (GBD, 2016), diarrheal disease cause 1.7 million deaths globally and nearly 0.8 million of these deaths occurred in India of which 90 per cent were due to unsafe drinking water, sanitation and hygiene. In the same year 47 thousand deaths were caused by diarrheal disease and intestinal infections (mainly typhoid and paratyphoid) in 2016, constituting 8.7 per cent of all deaths in the state.²²⁰ As per the NFHS 9.4 per cent of the children under age 5 were found to have diarrhea in Barmer district in the 2 weeks preceding the survey.²²¹

To address this concern, a pilot initiative was undertaken by setting up 32 community-run RO plants in FY'13. Based on the response received from the community and following the project's success, the company further expanded the project (in FY'16) in partnership with Public Health & Engineering Department (PHED, Rajasthan) and has established 124 RO units across Barmer district. An Annual Maintenance Contract (AMC) of these plants have been given to Swajal Pvt Ltd and Rural Development Organisation. The intervention works towards bridging the gaps highlighted in the baseline and providing access to potable water to the community.

²¹⁵ <https://www.netmeds.com/health-library/post/how-salts-in-drinking-water-can-affect-health#:~:text=High per cent20levels per cent20of per cent20TDS per cent20means,conditions per cent20like per cent20cancer per cent20C per cent20liver per cent20C per cent20kidney>

²¹⁶ <https://pubmed.ncbi.nlm.nih.gov/34597567/>

²¹⁷ [https://www.health.state.mn.us/communities/environment/water/contaminants/nitrate.html#:~:text=Consuming per cent20too per cent20much per cent20nitrate per cent20can per cent20affect per cent20how per cent20blood per cent20carries per cent20oxygen,known per cent20as per cent20blue per cent20baby per cent20syndrome\).](https://www.health.state.mn.us/communities/environment/water/contaminants/nitrate.html#:~:text=Consuming per cent20too per cent20much per cent20nitrate per cent20can per cent20affect per cent20how per cent20blood per cent20carries per cent20oxygen,known per cent20as per cent20blue per cent20baby per cent20syndrome).)

²¹⁸ https://www.isroset.org/pub_paper/IJSRMS/2-IJSRMS-01251.pdf

²¹⁹ <https://www.who.int/news-room/fact-sheets/detail/drinking-water#:~:text=Microbiologically per cent20contaminated per cent20drinking per cent20water per cent20can,000 per cent20diarrhoeal per cent20deaths per cent20each per cent20year.>

²²⁰ <https://www.copenhagenconsensus.com/publication/rajasthan-priorities-water-sanitation-larsen>

²²¹ http://rchiips.org/nfhs/NFHS-5_FCTS/RJ/Barmer.pdf

Therefore, the intervention was found to be extremely satisfactory on the relevance scale in the regional context.

Coherence of Intervention

The programme aligns with both national priorities as well as with the Sustainable Development Goals (GOAL 6: Clean Water and Sanitation). Therefore, the intervention is **extremely satisfactory on the coherence scale.**

Table 9.2 Alignment of Project Jeevan Amrit with the SDGs

SDG	SDGs target	How is it aligned?
	<p>Goal 6. Ensure availability and sustainable management of water and sanitation for all</p> <p>Target 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all</p>	<ul style="list-style-type: none"> CAIRN is actively working towards providing water purifiers to meet the needs of the community in making safe drinking water accessible.

Effectiveness of Intervention

The effectiveness of the intervention was assessed basis the secondary documentation for the program wherein the availability of the targets as well as the achievements against the same was considered. The main objective of the program was to address the shortage of safe drinking water and provide access to treated water to communities. It was highlighted in the last impact assessment that 7 out of 16 Ros in the sampled villages were dysfunctional due to multiple reasons including that the concept of buying water was alien to the community. Even though the time taken to access the RO Plant had increased the time to collect water, but 92 percent of the beneficiary respondents were satisfied with the quality of the water. As per the primary survey of the previous impact report, 18 percent of people have shifted from consuming water (as primary source of drinking water) from open wells, handpump, groundwater, rainwater, and river/pond/lake to consuming RO water from Cairn’s RO plant. Further, as per the previous impact report, the objective behind the intervention was to provide accessible, affordable, and safe drinking water to the population of the intervention area. The program had helped in providing affordable safe drinking water which is priced at ₹ 5 per 20 litres for room temperature drinking water and ₹10 per 20 litres for chilled drinking water,

whereas the RO water from private vendor was priced at ₹25 - ₹35 per 20 litres. This indicates that the objective to provide safe drinking water has been met. The target completion has still been in the range of 40 per cent- 60 per cent. **Therefore, solely on the past performance and beneficiary responses has the intervention been assessed as satisfactory on the effectiveness scale.**

Efficiency of Intervention

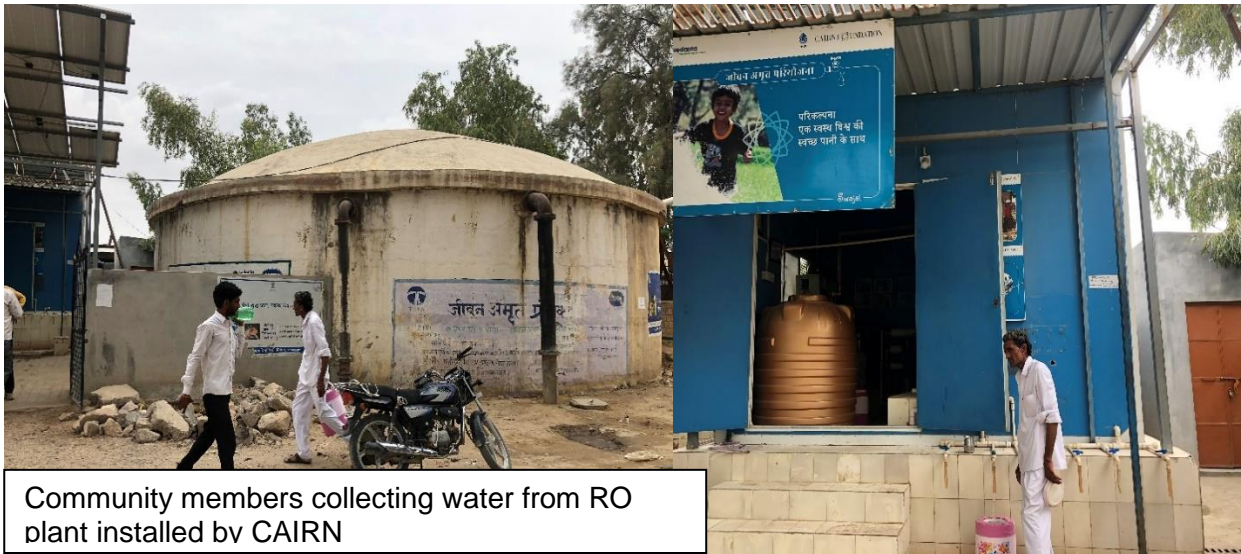
The efficiency of the intervention was considered vis-à-vis the documents provided on the project including the agreements with the implementing partners, whether the intervention had adhered to its timelines, whether utilization was undertaken through the budget and whether the intervention aligned with the CSR policy of CAIRN. Information regarding budget was provided and as per utilisation data the budget was underspent by more 20 per cent. Thus, the intervention is satisfactory on the efficiency scale. It is further understood that COVID-19 has posed as a significant barrier in utilization of budgets across the development sector and thus has led to certain underutilizations.

[OECD Scoring sheet provided in Annexure](#)

Sustainability of Intervention

The sustainability plan for this project was the local capacity building of SHGs and community members to maintain the infrastructure created. There is also a need to properly dispose of toxic wastewater of the RO. There was also a lack of awareness campaigns that were conducted regarding health hazards resulting from consumption of non-purified water. Within the community, the understanding is that if the water is not salty, it is safe to drink.

Significant gaps with respect to maintenance, awareness, lack of a coherent exit strategy and the cost towards the same result in **a moderately satisfactory rating on the sustainability metric for the Jeevan Amrit project.**



Community members collecting water from RO plant installed by CAIRN

Impact of Intervention

As per the NSS Report on 49.9 per cent of the households in the rural Rajasthan consume untreated water.²²² As established earlier that only 35 per cent of the ground water sources in Rajasthan come in the category of potable water and the ground water in Barmer has excessive level of fluoride, nitrate and TDS. In the absence of water treatment of the ground water, the direct consumption of the water from the ground water sources can jeopardize the health of the community member especially of children. Through its Jeevan Amrit Project, Cairn has made great strides, in ensuring quality drinking water through Water RO plants in far-flung villages of Barmer District.

- ***As per the primary data received from the ground, 56 per cent of the respondent households, who are dependent on the RO water, reported that the intervention has resulted in the decrease in the prevalence of the water borne diseases in the community. This is attributed to the fact that they are consuming pure and treated water from the RO plants.***

²²² <https://nss.gov.in/>

- **Moreover, 62 per cent of the respondent households reported to have an improvement in the access to clean drinking water.**

CAIRN has created a positive difference in helping the community access clean sources of

Among district stakeholders, Mr. Ramesh (Junior Engineer, Public Health Engineering Department), highlighted CAIRN's efforts in the right direction in targeting the requirement for potable water in the region. Mr. Ramesh expressed concern over the villages in Barmer that have severe water issue as the TDS level is extremely high. In some places it was observed that despite installing a RO plant there was hardly any water that could be used as the TDS was almost 6000. However, he appreciated the work that CAIRN has been doing to address the issue of water in the district.

drinking water and reduce water borne diseases. It has invested in the physical infrastructure required towards providing access to clean drinking water hence setting the foundation for the community to build on. Further, the program has helped in creating livelihood opportunity for community members from the village. Since the RO plant operator are hired from the local community it provides them with employment and also involves the community participation.

Strengths

CAIRN has created a positive difference in helping the community access clean sources of drinking water and reduce water borne diseases. It has invested in the physical infrastructure required towards providing access to clean drinking water hence setting the foundation for the community to build on. Further, the program has helped in creating livelihood opportunity for community members from the village. Since the RO plant operator are hired from the local community, it provides them with employment and involves the community participation.

Best Practices

A prominent organization leases its water purification technology/equipment to franchise owners in the locality. The franchise owner pays an upfront fee which constitutes a proportion of the cost of the filtration unit. It helps the franchise owner mobilize finances from micro-lending institutions. In addition, it provides training, payment solutions, phone-based customer service, marketing materials and sustained service and maintenance for each

franchisee. Revenue is generated by the franchisee by selling clean water to the consumer at a hugely affordable price of 30 paisa/ litre.

Areas of Improvement

As observed during the data collection, RO plants keep facing the challenges in terms of unavailability of operators, poor management of RO plants and maintenance problems. Distance of the RO plant was also observed an issue in the villages.

Way Forward

The relevance of a drinking water programme in the area cannot be underestimated. The very fact that 55.20 per cent of all households in India have access to tap connections while in Rajasthan only 29.41 per cent of the households do. Further, within Rajasthan, only 28.5 per cent and 14.89 per cent of the respective households in Jalore and Barmer have access to taps²²³. Hence, the thematic area of intervention is extremely relevant to the geography of operation. Yet, the current programme structures are lacking, especially on the sustainability front, to achieve the desired outcomes.

- To ensure the proper functioning of the ROs, there is a need to establish a robust governance mechanism. CAIRN needs to delve into partnership with organization that can provide better monitoring, management, and maintenance of the RO plants. Moreover, there can be a provision to transport the water to the households at long distance from the RO plant.
- It is important to generate the necessary awareness among the community members and capacitate them to test the water they are consuming. This is done under JJM where field testing kits (FTKs) are distributed and SHG members or other community members may be trained on the same²²⁴. Strengthening community water management models and exploring convergence with government flagship schemes like Jal Jeevan Mission would help further the cause of achieving access to potable water for 100 per cent of the households in Barmer and Jalore.

2.4. Business Drivers for Health and Water Programmes

CSR is a pivotal management concern given that in order to expand their wealth creation role in society, businesses must proactively manage risks and take advantage of opportunities vis-à-vis reputation and engagement with stakeholders²²⁵. Based on the perception survey, the internal stakeholders of CAIRN believe that companies having a focus on key business

²²³ [JJM Dashboard \(ejalshakti.gov.in\)](http://ejalshakti.gov.in)

²²⁴ https://jalshakti-ddws.gov.in/sites/default/files/JJM_Operational_Guidelines.pdf

²²⁵ https://www.iisd.org/system/files?file=publications/csr_guide.pdf

drivers focused on sustainability have a greater chance of success and further believe that such companies are more attractive to investors.

“CSR is essentially a strategic approach for firms to take to anticipate and address issues associated with their interactions with others and, through those interactions, succeed in their business endeavours”.

- Hohnen, Paul (2007). Corporate Social Responsibility: An Implementation Guide for Business. International Institute for Sustainable Development Source: https://www.iisd.org/system/files?file=publications/csr_guide.pdf

The CSR management personnel interviewed felt that Vedanta's focus of Business Drivers over the last 3 years have improved community relations. Particularly with respect to drinking water programmes, 33 per cent of the CSR management interviewed across geographies felt that Drinking Water and Sanitation was among the top 3 areas of CSR interventions that contributed to strengthening their social license to operate.

Business Case for Project Jeevan Amrit and Project Borewell:

CAIRN carried out strategic thinking, rigorous on ground need assessments and a thorough assessments of national and international priorities in the development of both Project Jeevan Amrit and Project Borewell (addressed above in the sub section on [Relevance](#)). Both the programmes are being executed in collaboration with the PHED department with the same aim to generate multiple sources of potable drinking water hence have similar business drivers. The programmes have successfully supported in improving access to clean drinking water and decreasing the occurrence of water borne diseases. Focus on drinking water, not only aligns with the national and international goals on universalizing quality access but has the capability to make a real and lasting difference in the lives of the beneficiaries.

CAIRN has generated shared values²²⁶ between its internal and external stakeholders, incorporating the interest of a wide range of stakeholders and enhancing the trust

²²⁶ <https://www.sciencedirect.com/science/article/pii/S0148296322000613>

between the company and its external stakeholders. It is important to build a healthy population that is capable enough to take rational decisions. Investment in the Water facilities of the communities can ensure a thriving and healthy workforce. Investment in the Water can increase productivity, reduce absenteeism, and improves punctuality amongst the workforce of the community. The investment in Water ensures a high return on investment and further bolsters the economy of the region. A thriving workforce will further reduce the burden on the business unit to provide direct employment.

Business Case for Mobile Health Units:

Health is a global agenda which demands a large amount of technical as well as financial focus from all governments. In the backdrop of COVID-19, provision of preventive, curative as well as promotive healthcare has become one of the top priorities across the world. Not only is it necessary to ensure that a country has a healthy population for its economy, but a population which has access to adequate, affordable and quality healthcare can invest in its own development and wellbeing. **The project Mobile Health Unit, by providing access to healthcare at the doorstep of the beneficiaries, has become a partner in healthcare development in the field locations it operates in.** Not only is it one of the goals of CAIRN to ensure the overall wellbeing of the communities it works with, the focus on healthcare paves the way to ensure that the population's other basic needs such as livelihood and education do not suffer during those days lost to sickness. ***A healthy and content community recognizes the value of the business unit in complementing the efforts of the public healthcare system.*** It further reduces the stress on the government health systems, as a partner to the local stakeholders of the area to meet the goals of ensuring a healthy population. This further has ***incremental effects on a thriving economy, which further reduces the pressure on the business unit to provide direct employment.*** The programme is widely appreciated and is one of the most popular ones run by CAIRN. In fact, 43 percent of the respondents across Gujarat and Rajasthan ranked this programme as number 1.

Business Case for Vedanta Hospital:

Health is a global agenda which demands a large amount of technical as well as financial focus from all governments. In the backdrop of COVID-19, provision of preventive, curative as well as promotive healthcare has become one of the top priorities across the world. Not only is it necessary to ensure that a country has a healthy population for its economy, but a

population which has access to adequate, affordable, and quality healthcare can invest in its own development and wellbeing.

The project Barmer Hospital, by providing access to quality healthcare to the inhabitant of business by provision specialized doctors, has become a partner in healthcare development in the field locations it operates in. A healthy and content community recognizes the value of the business unit in complementing the efforts of the public healthcare system.

It further reduces the stress on the government health systems, as a partner to the local stakeholders of the area to meet the goals of ensuring a healthy population. This further has **incremental effects on a thriving economy, which further reduces the pressure on the business unit to provide direct employment.** The programme is widely appreciated by the community and the stakeholders.



SUSTAINABLE LIVELIHOOD

3. Thematic Area: Sustainable Livelihood

3.1. Executive Summary

CAIRN has shown significant concern regarding the sustainable livelihood of the communities around which they carry out their business operations. In a country such as India which is one of the world's fastest growing economies, it is often assumed that there is a direct correlation between growth in the economy and in the job sector. However, it has been noted that "a 10 per cent increase in GDP now results in less than 1 per cent increase in employment"²²⁷. Thus, there is a clear need to focus on the meaningful livelihood generation for the population in the country. Furthermore, given that the majority of the population continues to be engaged in the agricultural sector, support is required to be focused there.

Key Highlights of the Baseline Assessment:

- Unemployment in the field locations is 27 per cent lesser than the district averages (census 2011). However, 29 per cent of household members remain unemployed wherein 62.74 per cent of these are women.
- 73.28 per cent more of the respondents are earning over 10,000 INR a month compared to the district averages.
- 98.54 per cent of agricultural households using mechanised farming equipment where available to them.
- The average expenditure on agriculture is 45 per cent more than the state average.
- 63.21 per cent of the farmers continue to follow flood irrigation.
- Only 14.89 per cent of farmers have received support with market linkages.
- There are 16.32 per cent more marginal farmers in the field locations compared to the state averages.

Key Highlights from Impact Assessment

Project Barmer Unnati- There has been an increase in income of on average INR 16862. The input cost has been reduced by 4526 annually.

²²⁷ https://cse.azimpremjiversity.edu.in/wp-content/uploads/2019/02/State_of_Working_India_2018-1.pdf

Dairy Development Project – The project ensured an additional income of INR 110/day to the beneficiaries. 48 per cent of the beneficiaries associated with SHGs in the project intervention areas reported increase in monthly saving.

Key Recommendations

- 1. Nutritional Security Enhancement:** This can be carried forward through ‘*biofortification*’ which refers to nutritionally enhancing food crops. It increases the micronutrient content of commonly consumed staple crops, which comprise the backbone of all food systems, and it provides an important safety net for vulnerable populations in low and middle-income countries whose sustenance relies on these relatively inexpensive staples for much of their die
- 2. Increase Association of Farmers with FPOs:** While CAIRN has already worked to establish FPOs on the ground, there remains a significant number of community members engaged in agriculture who are not benefitting through the association of FPOs. It is thus a key recommendation to increase association.
- 3. Access to Financial Services and Subsidies:** Despite input support, the amount being spent by the population on agriculture annually is extremely high and would thus require additional subsidies as well as modern methods and technologies to reduce cost.
- 4. Expansion of Modern Irrigation Methods Required:** It is recommended that the business unit focuses its efforts on government convergence and advocacy to increase access to modern methods of irrigation given that flood irrigation is continued by a majority of the community members engaged in farming.
- 5. Technological Innovation for Technical Training:** In alignment with practrices of Digital Green and ITC wherein technology has been leveraged to support farmers with critical infromation as well as training material through IVR, text messages as well asyoutube (to name a few mediums), it is recommended that CAIRN either collaborate or create their own roster of material that is easily accessible to farmers (not only in current intervention locations but beyond).

3.2. Baseline Assessment

India is one of the world's fastest growing economies. Stability in such growth can only be achieved through ensuring meaningful, secure and remunerative employment viz. sustainable livelihood. According to a State of Working India report 2018, economic growth in the country is not accounting for a growth in jobs. In fact, "a 10 per cent increase in GDP now results in less than 1 per cent increase in employment"²²⁸. Furthermore, while real wages have grown between 3 to 4 per cent in most sectors (other than agriculture where growth happens only once every two decades), wage adjusted for inflation has grown at 2 per cent per annum for organized manufacturing, 4 per cent for unorganised manufacturing, 5 per cent for unorganised services, and 7 per cent for agriculture (for the last, growth has collapsed since 2015)²²⁹.

Chambers and Conway (1992) provide a working definition for sustainable livelihood. They suggest that a sustainable livelihood is one that has the capability to cope with and recover from stresses and shocks (i.e., social sustainability) and maintain or enhance capabilities and assets while not undermining the natural resource base (i.e. economic and environmental sustainability). Bernstein, Crow, and Johnson (1992) suggest that sustainable livelihoods provide livelihood opportunities to future generations (i.e., equity).²³⁰

India is the 7th largest country geographically in the world with 328 Mha area and has about 160 Mha of arable land that is second largest in the world. About 50 per cent of its total geographical area is cultivated which ranks it among the top user of the land for agriculture. Agriculture has been central to the economy for the sustainable and inclusive economic growth of the country. The sector engages 49.6 per cent of the workforce and accounts for about 17 per cent share in India's Gross Domestic Product (GDP).²³¹

Since the independence there has been an improvement in the overall crop production and overall food grain production increased from 51 Mt in 1950-51 to over 314 Mt in 2021-22. From being food scarce till 1950 to transforming itself into food shortage by 1960, food sufficient by 2000, food secured by 2010, India became food surplus by 2010 onwards. A blend of science, technology, extension, and policy has contributed to this journey of transforming the country from food scarce to food surplus nation.²³²

²²⁸ https://cse.azimpremjiversity.edu.in/wp-content/uploads/2019/02/State_of_Working_India_2018-1.pdf

²²⁹ *ibid*

²³⁰ [Sustainable-Livelihoods-in-India Demand webversion.pdf \(avpn.asia\)](https://www.avpn.asia/wp-content/uploads/2018/05/Sustainable-Livelihoods-in-India-Demand-webversion.pdf)

²³¹ <https://icar.org.in/Indian-Agriculture-after-Independence.pdf>

²³² <https://icar.org.in/Indian-Agriculture-after-Independence.pdf>

Livestock sector has also witnessed all round growth after Independence. With the launching of Operation Flood in 1970, one of the largest rural development programmes of the world, the milk production grew steadily at 6.4 per cent, well above the global annual growth rate of 2.2 per cent.

Many institutions were established for the promotion of agriculture in India post-independence. Commission for Agricultural Costs & Prices (CACP) and the Food Corporation of India (FCI) were established to assist the farmers with price support operations and ensure the productivity gains reaching the consuming sector through the Public Distribution System (PDS). In the year 1982, the National Bank for Agriculture and Rural Development (NABARD) was established to undertake the agricultural credit related functions of the Reserve Bank of India. Further to provide support to farmers financially, government of India launched Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) scheme.²³³

India has now several national priorities such as **enhancing farmers income (200 per cent), reducing fertilizer use (25 per cent) and water use (20 per cent), increasing renewable energy use (50 per cent), reducing GHG emission intensity (45 per cent) and rehabilitating degraded land (26 Mha) to achieve.**²³⁴

With the expected population of over 1.6 billion and annual food demand of 400 Mt by 2050, the country requires minimum 4 per cent annual growth in agriculture. The challenges of environment Indian Agriculture tremendous pressure. From rising temperature to extreme climatic events are impacting the production of food grains.²³⁵

Hence it becomes inevitable to have sustainable agricultural practices for ensuring food security to increasing population. India has 121 Mha i.e., 36 per cent of the geographical area degraded with soil erosion, salinity, alkalinity, acidity, water logging and other edaphic stresses. With 4 per cent of world's renewable water resources, the country has only 43 Mha fully irrigated, 23 Mha partially irrigated and 74 Mha rainfed land. In the recent past, both drought and floods have been seen to be stress factors in farming. Fertilizers are being leaked into the environment through volatilization, leaching or emissions resulting in multiple adverse effects on terrestrial and aquatic systems and on human health.²³⁶

²³³ <https://icar.org.in/Indian-Agriculture-after-Independence.pdf>

²³⁴ <https://icar.org.in/Indian-Agriculture-after-Independence.pdf>

²³⁵ <https://icar.org.in/Indian-Agriculture-after-Independence.pdf>

²³⁶ <https://icar.org.in/Indian-Agriculture-after-Independence.pdf>

The way forward for Indian agriculture, therefore, should focus on precision agriculture, reducing chemical footprints, nature-friendly farming; use of nano-fertilizers, with more synergy in crop, weather and water cycles and crop planning using ecosystem approaches.

Rajasthan is divided into two parts by the Aravali range. The Western region is largely desert, while the eastern side is fertile. The major crops that are grown in the region are rapeseed and mustard, wheat, coarse cereals, pearl millet, gram, soya bean, seed spices etc. 31 per cent of the land is irrigated, 66 per cent of the overall population is engaged in agriculture and 26 per cent of the SDP is contributed by Agriculture²³⁷. According to NITI Aayog, small and marginal farmers in Rajasthan constitute more than 58.4 percent share in total area of cultivable land. On the other hand, farmers with holding size of 10 hectares hold 33.33 percent of the total area. According to them, the “highly skewed distribution of land itself is a major barrier to make effective intervention in the advancement of agriculture”²³⁸

Gujarat is the largest cash crop producer of the country and has diverse landforms from the deserts of Kutch in the northwest to fertile coastal plains in the southeast. The farmers in Gujarat are primarily involved in the cultivation of oilseeds, cotton, tobacco, and sugarcane.²³⁹ More than 50 percent of the total available land in Gujarat is used for agricultural purposes. Further, according to the agriculture census 2015-16, the total number of cultivators in Gujarat has gone up from 48.85 lakh in 2010-11 to 53.19 lakh in 2015-16, showing a rise of around 4.34 lakh. Around 18.15 lakh marginal farmers were recorded during the 2010-11 census in Gujarat. This number reached 20.17 lakh in the last census, indicating a rise of 2.02 lakh marginal farmers. Similarly, there were 14.29 lakh small agriculturists in 2010-11, which went up to 16.15 lakh in 2015-16, indicating a rise of 1.86 lakh. Notably, the number of farmers having large land holdings dropped from 48,771 in 2010-11 to 39,893 in 2015-16, indicating a fall of 8,878.²⁴⁰

Assam's economy is fundamentally based on agriculture. Agriculture sector continues to support more than 75 percent of the State directly or indirectly providing employment of more than 53 percent of the total workforce. Assam occupies a geographical area of 7.8 million hectares of which total cropped area is 4.0 million hectares. However, only 5.4 percent of the gross cultivated area is irrigated, and the average cropping intensity of the state is 145.9 percent. The cropping pattern in Assam has been more or less stable with only marginal

²³⁷https://farmer.gov.in/imagedefault/handbooks/BookLet/RAJASTHAN/20150120164649_Rajasthan_per_cent20Agriculture_per_cent20Prosperity_and_Opportunity.pdf

²³⁸<https://www.niti.gov.in/writereaddata/files/Rajasthan-reports.pdf>

²³⁹[Farmers in Gujarat - Farmsnation](#)

²⁴⁰[Rise in number of small, marginal farmers in Gujarat: Govt | India.com](#)

changes in the importance of a few crops. Rice is the most important crop in Assam with a stable share in the total cultivated area. Rapeseed and mustard, and tea are the next most important crops, again with fairly stable shares. Wheat, pulses, jute, and sugarcane have witnessed a marginal decline in their shares while potato, banana, and chillies have gained importance over time. In Assam, the soil, topography, rainfall, and climate in general are conducive for agricultural activities mainly for paddy cultivation.²⁴¹

This study improves understanding of the factors that can help plan activities and assess the contribution that existing activities have made to sustaining livelihoods and agriculture. Sustainable livelihoods are a pressing need in the coming times as it empowers lives and broadens people's scope for economic opportunities through community-based approaches that can help in building resilient and inclusive society.

Occupations of Population

Field Unit: East Godavari, Andhra Pradesh

- *The proportion of unemployed population in the field locations is 27 per cent lesser than the district averages of non-workers (Census 2011).*
- *In Andhra Pradesh, while 45 per cent of the household members in the field locations were unemployed, none of the main respondents of the survey were unemployed. Similarly, in Assam where CAIRN is providing livelihood opportunities through Micro Level Intervention, none of the main respondents of the surveyed households are unemployed.*
- *Only 1.78 per cent of the main respondents in Jalore and 13.5 per cent of the main respondents are unemployed in the Barmer District. When compared to the Census-2011, the proportion of non-workers amongst the respondent households in Barmer is 27.22 per cent lower than the district average. Similarly, it is 8 per cent lower in Jalore than the district average. In both districts, CAIRN has been extensively working on the providing livelihoods through Project Barmer Unnati and Dairy Development Project.*

²⁴¹ [Assam Livelihoods – The Scenario | Assam State Rural Livelihood Mission \(ASRLM\) | অসম চৰকাৰ, India](#)

Occupation of Household Members in East Godavari, Andhra Pradesh

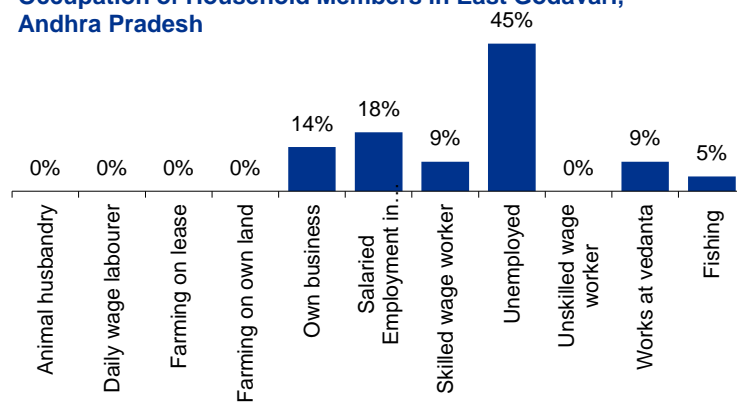


Figure 64 Occupation of Household Members in East Godavari, Andhra Pradesh

The majority of the working age household members surveyed in East Godavari field location, are unemployed (45 per cent), of this 60 per cent are women. 18 per cent of the working age members are employed in the Government and 14 per cent have their own business. It is further observed that 9 per cent are skilled wage workers and 9 per cent more are working at Vedanta. 5 per cent of the household members of working age are engaged in marine activities.

The proportion of unemployed working age population in the field location is high, however none of the main respondents of the households are unemployed i.e. while household members are unemployed, the majority of whom are women, the main respondents covered under the survey were not unemployed. Further, while compared to the non-workers as provided by Census 2011, one sees that the proportion was also 45 per cent.

Field Unit: Golaghat, Assam

Occupation of Household Members in Golaghat, Assam

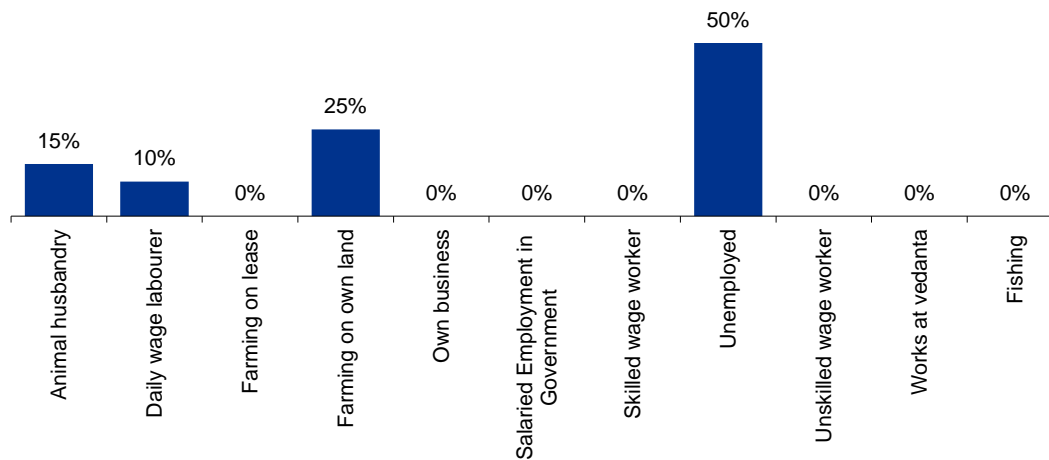


Figure 65 Occupation of Household Members in Golaghat, Assam

The majority of the working age household members surveyed in Golaghat field location, are unemployed (50 per cent), of this 50 per cent are women. 25 per cent of the working age members are farmers on their own land, 15 per cent are engaged in animal husbandry and 10 per cent are daily wage labourers.

The proportion of unemployed working age population in the field location is high, however none of the main respondents of the households are unemployed i.e. while household members are unemployed, the majority of whom are women, the main respondents covered under the survey were not unemployed. Further, while compared to the non-workers as provided by Census 2011, one sees that the proportion was 36 per cent. Thus, the overall unemployed proportion in field locations is 39 per cent higher in the field location.

Field Unit: Jorhat, Assam

Occupation of Household Members Jorhat, Assam

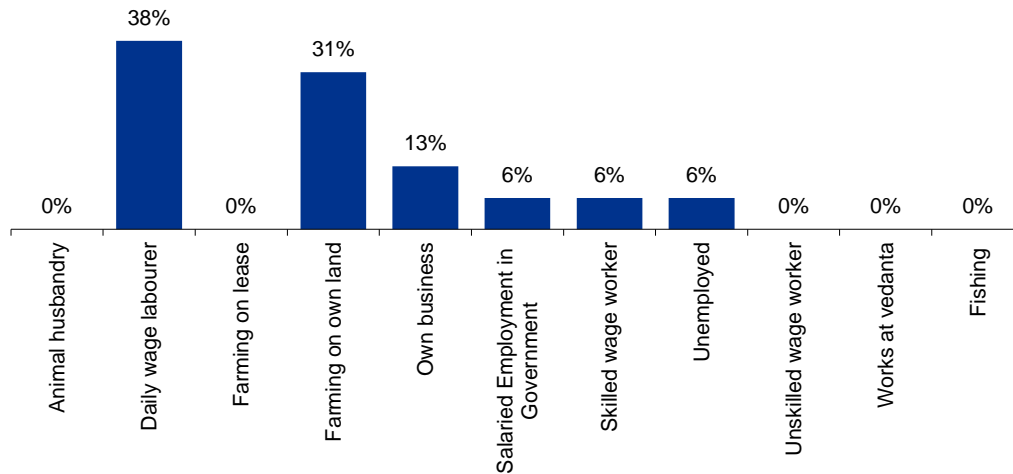


Figure 66 Occupation of Household Members Jorhat, Assam

The majority of the working age household members surveyed in Jorhat field location, are engaged as daily wage labourers (38 per cent), 31 per cent of the working age members are farmers on their own land, 13 per cent are engaged in their own business, it is also seen that 6 per cent each are engaged in Government jobs and as skilled wage workers. 6 per cent of the working age household members are unemployed

The proportion of unemployed working age population in the field location is driven entirely by women and none of the main respondents covered under the survey were unemployed. Further, while compared to the non-workers as provided by Census 2011, one sees that the proportion was 37 per cent which is 83 per cent higher than the proportion of unemployed in the field location as a whole.

Field Unit: Ahmedabad, Gujarat

Occupation of Household Members in Ahmedabad, Gujarat

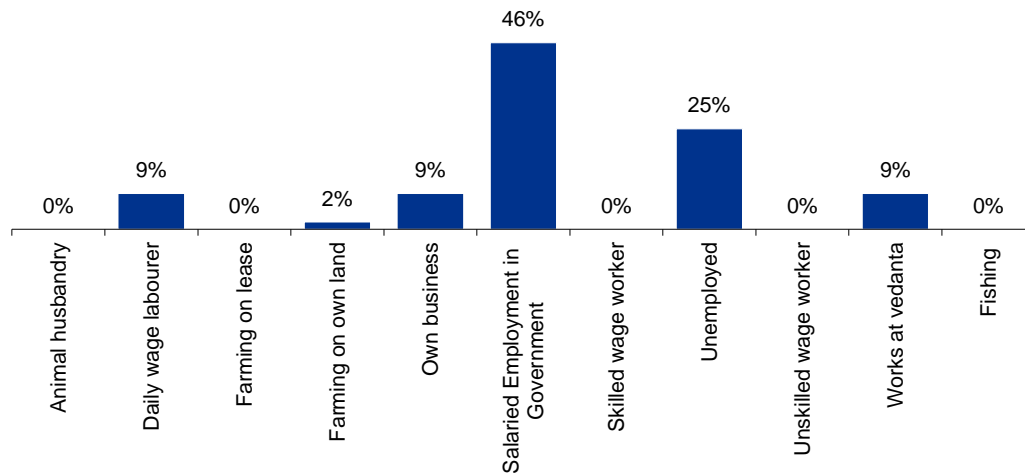


Figure 67 Occupation of Household Members in Ahmedabad, Gujarat

The majority of the working age household members surveyed in Ahmedabad field location, are engaged in Government jobs (46 per cent), 9 per cent each of the working age members are daily wage labourers, engaged in their own business or are working at Vedanta. Furthermore, 2 per cent are farmers on their own land. One further sees that 25 per cent of the working age household members are unemployed

32.26 per cent of the main respondents covered under the survey were unemployed of which over half were women. Further, while compared to the non-workers as provided by Census 2011, one sees that the proportion was 78 per cent which is 68 per cent higher than the proportion of unemployed in the field location as a whole.

Field Unit: Banas Kantha, Gujarat

Occupation of Household Members in Banas Kantha, Gujarat

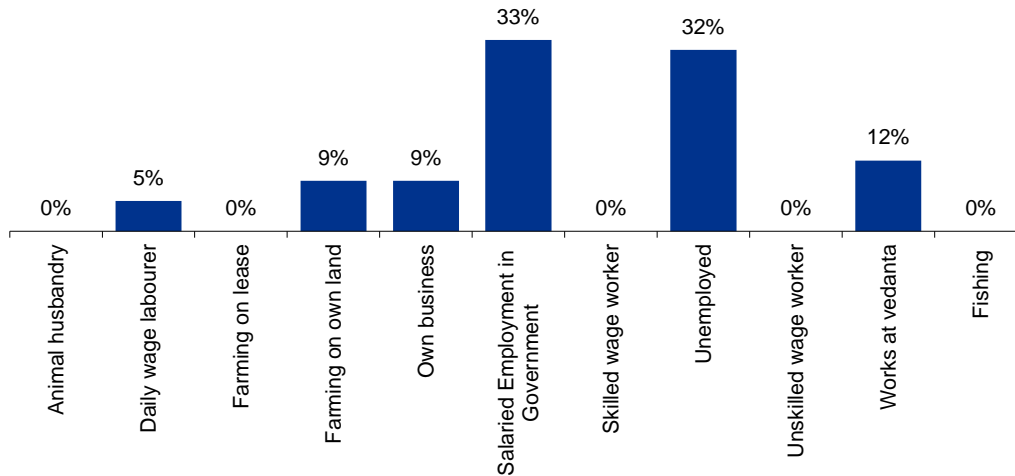


Figure 68 Occupation of Household Members in Banas Kantha, Gujarat

The majority of the working age household members surveyed in Banas Kantha field location, are engaged as salaried employees in Government (33 per cent), 12 per cent work in Vedanta and 9 per cent each of the working age household members are either farming on own land or own their own business. 5 per cent are also engaged as daily wage labourers. 32 per cent of the working age household members are unemployed

The proportion of unemployed working age population in the field location is high with 27.27 per cent of the main respondents of the households that are unemployed as well. The proportion of unemployed working age population in the field location is largely driven by women wherein 72 per cent of those unemployed are women. Further, when compared to the non-workers as provided by Census 2011, one sees that the proportion was 36 per cent which is 12 per cent higher than the proportion of unemployed in the field location.

Field Unit: Bharuch, Gujarat

Occupation of Household Members in Bharuch, Gujarat

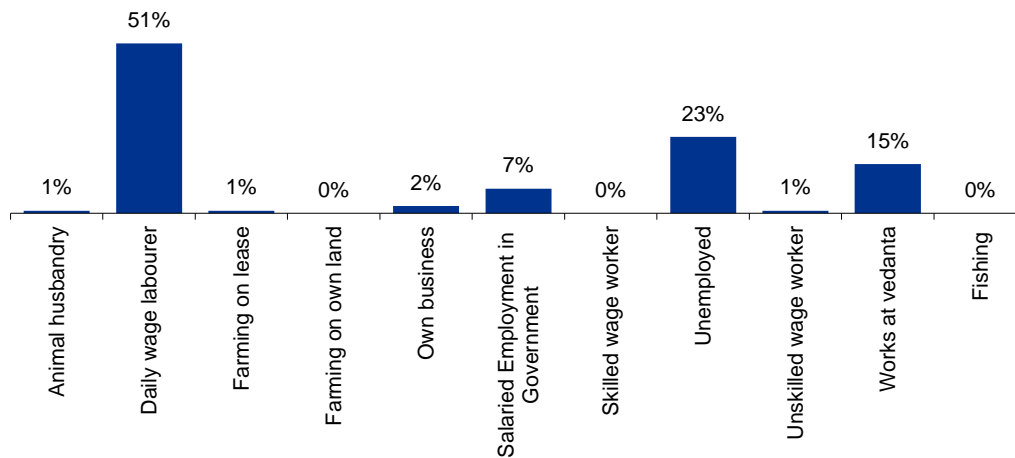


Figure 69 Occupation of Household Members in Bharuch, Gujarat

The majority of the working age household members surveyed in Bharuch field location, are engaged as daily wage labourers (51 per cent), 15 per cent work in Vedanta, 7 per cent work as salaried employees in Government and 2 per cent own their own business. 23 per cent of the working age household members are unemployed

The proportion of unemployed working age population in the field location is on the higher side, however only 7.41 per cent of the main respondents were unemployed. The proportion of unemployed working age population in the field location is largely driven by women wherein 58 per cent of those unemployed are women. Further, when compared to the non-workers as provided by Census 2011, one sees that the proportion was 74 per cent which is 69 per cent higher than the proportion of unemployed in the field location as a whole.

Field Unit: Jamnagar, Gujarat

Occupation of Household Members in Jamnagar, Gujarat

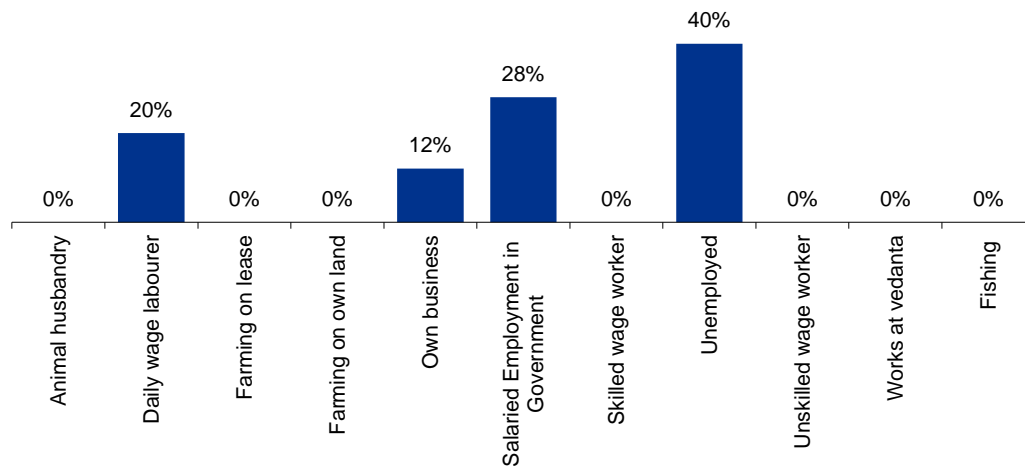


Figure 70 Occupation of Household Members in Jamnagar, Gujarat

The majority of the working age household members surveyed in Jamnagar field location, are unemployed (40 per cent), 28 per cent are engaged as salaried employees in Government, 20 per cent are engaged as daily wage labourers and 12 per cent own their own business.

The proportion of unemployed working age population in the field location is on the higher side, and 33 per cent of the main respondents were unemployed. The proportion of unemployed working age population in the field location is largely driven by women wherein 70 per cent of those unemployed are women. Further, when compared to the non-workers as provided by Census 2011, one sees that the proportion was 68 per cent which is 41 per cent higher than the proportion of unemployed in the field location as a whole.

Field Unit: Patan, Gujarat

Occupation of Household Members in Patan, Gujarat

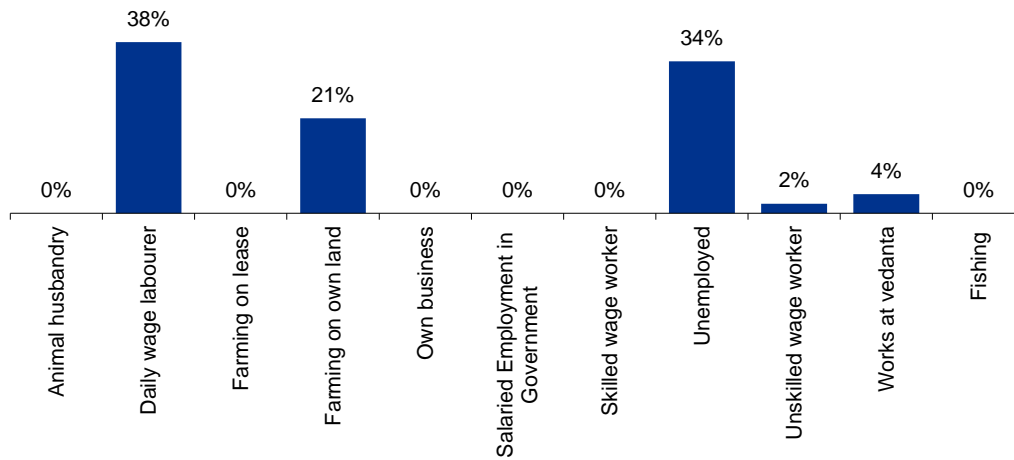


Figure 71 Occupation of Household Members in Patan, Gujarat

The majority of the working age household members surveyed in Patan field location, are engaged as daily wage labourers (38 per cent) and 21 per cent are engaged as farmers on their own land. It was also noted that 4 per cent work at Vedanta and 2 per cent are unskilled wage workers. 34 per cent are unemployed. .

The proportion of unemployed working age population in the field location is on the higher side, and 23.53 per cent of the main respondents were unemployed. Further, when compared to the non-workers as provided by Census 2011, one sees that the proportion was 68 per cent which is 50 per cent higher than the proportion of unemployed in the field location as a whole.

Field Unit: Surat, Gujarat

Occupation of Household Members in Surat, Gujarat

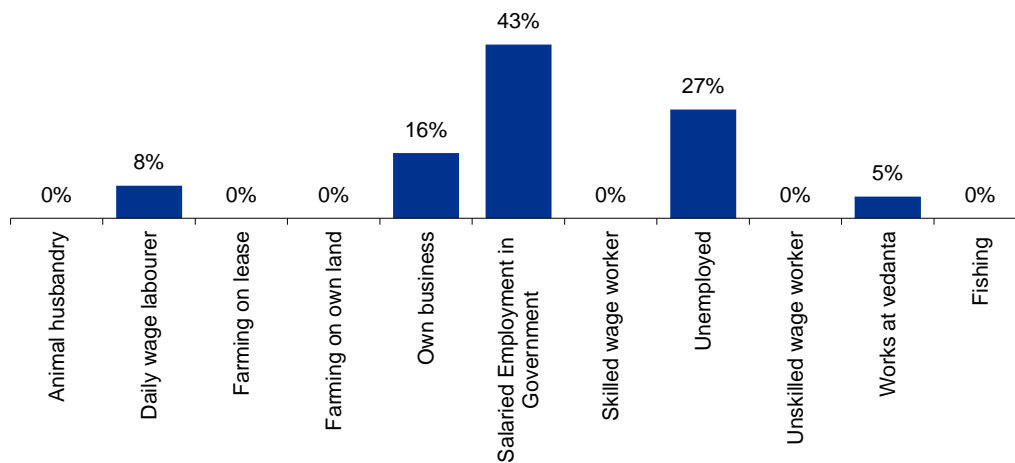


Figure 72 Occupation of Household Members in Surat, Gujarat

The majority of the working age household members surveyed in Surat field location, are engaged as salaried employees in Government (43 per cent), 16 per cent are engaged in their own business, 8 per cent are engaged as daily wage labourers and 5 per cent work at Vedanta. 27 per cent are unemployed.

The proportion of unemployed working age population in the field location is on the higher side, however only 6.25 per cent of the main respondents were unemployed. The proportion of unemployed working age population in the field location is largely driven by women wherein 70 per cent of those unemployed are women. Further, when compared to the non-workers as provided by Census 2011, one sees that the proportion was 66 per cent which is 59 per cent higher than the proportion of unemployed in the field location as a whole.

Field Unit: Barmer, Rajasthan

Occupation of Household Members in Barmer, Rajasthan

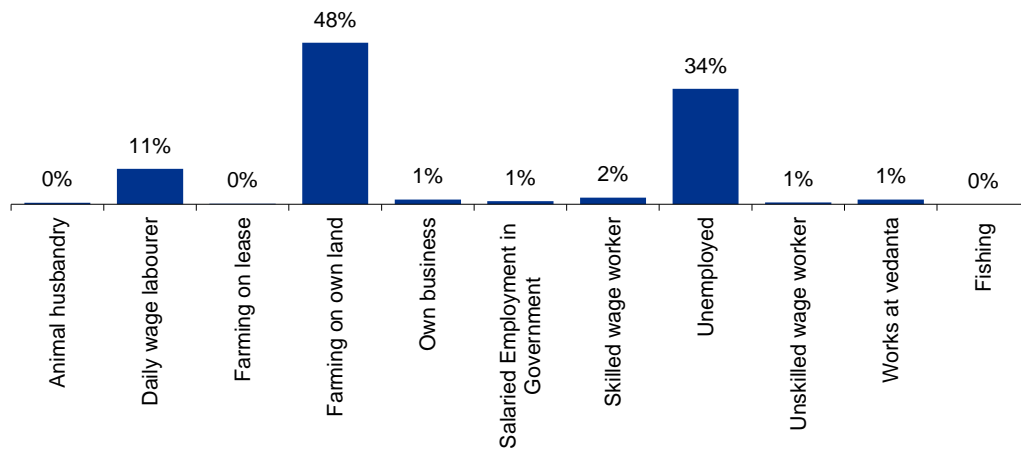


Figure 73 Occupation of Household Members in Barmer, Rajasthan

The majority of the working age household members surveyed in Barmer field location, are engaged as farmers on their own land (48 per cent), 11 per cent are engaged as daily wage labourers, 2 per cent are engaged as skilled wage workers and 1 per cent each are engaged in their own business, as government employees, unskilled wage workers and as workers in Vedanta. 34 per cent are unemployed.

The proportion of unemployed working age population in the field location is on the higher side, however of the main respondents, 13.52 were unemployed. The proportion of unemployed working age population in the field location is largely driven by women wherein 62.74 per cent of those unemployed are women. Further, when compared to the non-workers as provided by Census 2011, one sees that the proportion of non-workers was 50.4 per cent which is 27.22 per cent higher than the proportion of unemployed in the field location as a whole.

Field Unit: Jalore, Rajasthan

Occupation of Household Members in Jalore, Rajasthan

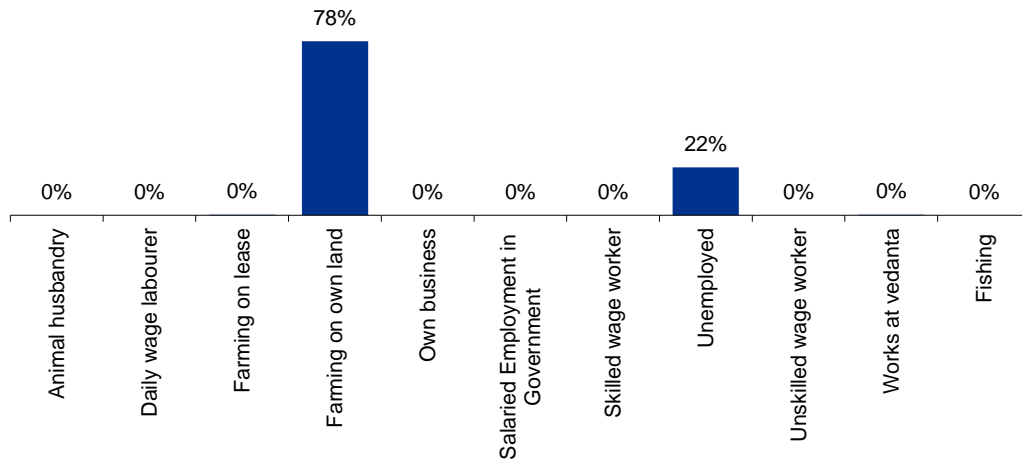


Figure 74 Occupation of Household Members in Jalore, Rajasthan

The majority of the working age household members surveyed in Jalore field location, are engaged as farmers on their own land (78 per cent). 22 per cent are unemployed.

The proportion of unemployed working age population in the field location is on the higher side, however only 1.78 per cent of the main respondents were unemployed. The proportion of unemployed working age population in the field location is largely driven by women wherein 53 per cent of those unemployed are women. Further, when compared to the non-workers as provided by Census 2011, one sees that the proportion was 20 per cent which is 8 per cent lower than the proportion of unemployed in the field location as a whole.

Landholding Pattern

As per the Situation Assessment of the Agricultural Households and Land Holdings of Households in Rural India, 2019 of NSS 77th Round, 83.50 per cent of the total rural households own less than 1 hectare of land in India. 65.5 per cent of the rural households in Rajasthan and 88.70 per cent of the households in Assam own less than 1 hectare of land. In Gujarat and Andhra Pradesh 79.5 per cent and 81.4 per cent of the farmers own less than 1 hectare of land respectively. Only 9.09 per cent of the farmers in India own land in the range of 1 to 2 hectares. In Rajasthan, Assam, Gujarat and Andhra Pradesh 16.60 per cent, 9.30 per cent, 11.0 per cent and 9.90 per cent of the rural households own land in the range of 1 to 2 hectares respectively. Only 1.5 per cent of the rural households in India own land in the range of 2 to 4 hectares. In Rajasthan 5.90 per cent of the total rural households own land in the range of 2 to 4 hectares. When it comes to Assam and Gujarat only 0.10 per cent and 2.40 per cent of the rural households own land in the range of 2 to 5 hectares respectively. Only 0.2 per cent of the households in India own more than 10 hectares of land. When it comes to Rajasthan. 0.8 per cent of the total rural households own more than 10 hectares of land. 0.2 per cent of the rural households in Gujrat and .50 per cent of the households in Andhra Pradesh own more than 10 hectares of land. In Assam, 0 per cent of the households own more than 10 hectares of land.²⁴²

- *When compared to the NSSO data, the average land holding of the farmers in the field locations is more than the average land holding of the farmers at the State level.*
- *90.85 per cent of the farmers own more than 1 hectare of land in Barmer, while as per the NSSO data, only 34.40 per cent of the household own more than 1 hectare of land in the state of Rajasthan. Similarly, in Jalore 72.77 percent of households own more than 1 hectare of land which is again more than the state average.*

It is apparent that the average landholdings of Assam lags behind the national average, while the rural households in Gujarat and Rajasthan possess more land than the national average. When it comes to Andhra Pradesh, the rural households in the state have similar land holdings as the national average.

²⁴²

<https://www.im4change.org/docs/Situation%20Assessment%20of%20Agricultural%20Households%20and%20Livestock%20Holdings%20of%20Households%20in%20Rural%20India%202019.pdf>

Percentage Distribution of Rural Households by Size Class of Land Possessed (ha) of India, Assam, Gujarat, Rajasthan and Andhra Pradesh

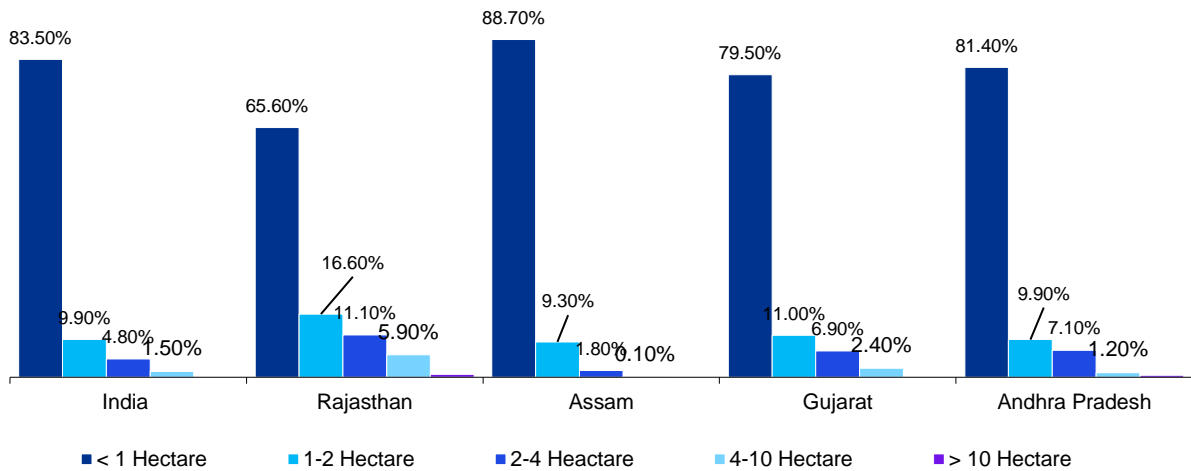


Figure 75: Distribution of Rural Households by Size of Land Possessed, Source: NSS

Landholding Pattern of the households surveyed

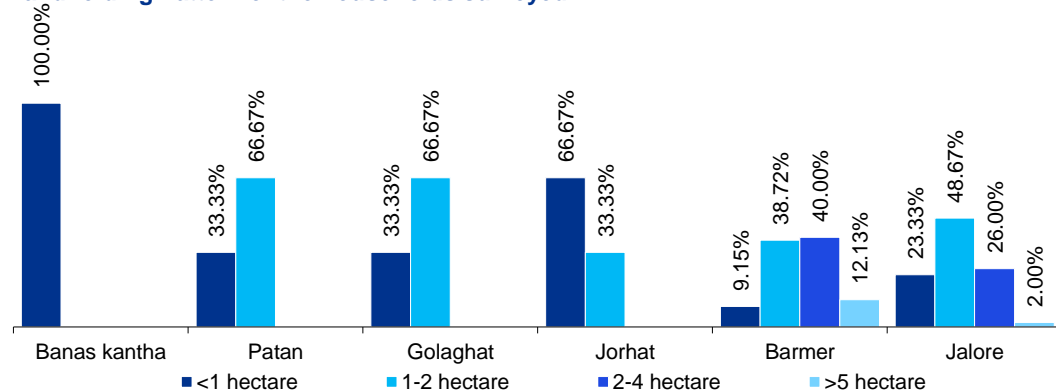


Figure 76 Landholding Pattern of the households surveyed

As per the survey in Gujarat, 100 per cent of those engaged as farmers on their own land from Banas Kantha had less than 1 hectare of land of their own. In Patan, 33.33 per cent of such farmers had less than 1 hectare and 66.67 per cent had between 1 and 2 hectares of land. The majority (66 per cent) of the farmers that farm on their own land in Gujarat are marginal farmers with less than 1 hectare of land.

In Assam, it was observed that of those engaged as farmers on their own land in Golaghat, 33.33 per cent had less than 1 hectare and 66.67 per cent had between 1 and 2 hectares of land. In Jorhat, of those engaged as farmers on their own land, 66.67 per cent had less than 1 hectare and 33.33 per cent had between 1 and 2 hectares of land. Half (50 per cent) of the

farmers that farm on their own land in Assam are marginal and small farmers with less than 1 hectare of land or 1 to 2 hectares of land.

In Rajasthan, it was observed that of those engaged as farmers on their own land in Barmer, 9.19 per cent had less than 1 hectare of land, 38.72 per cent of had between 1 and 2 hectares of land. Further 40 per cent owned land between 2 and 4 hectares and 12.13 per cent had land over 5 hectares. Similarly, in Jalore, 23.33 per cent had less than 1 hectare of land, 48.67 per cent of had between 1 and 2 hectares of land, 26 per cent owned land between 2 and 4 hectares and 2 per cent had land over 5 hectares. The majority (43.7 per cent) of the farmers that farm on their own land in Assam are small farmers with 1 to 2 hectares of land.

Cropping Pattern

A region's cropping pattern has a considerable impact on both the overall growth of its agriculture and the livelihood of farmers in the country. Cropping pattern helps in the production of more grains in a year. Different cropping patterns are mixed cropping, inter-cropping, and crop rotation. Analysis below is for the districts that had respondents working as farmers, either on their own land or on lease.

- 77.26 per cent of the respondent farmers in Barmer follow the single cropping pattern wherein they plant one crop in a single field. While 20.3 percent plant double crop and 2.44 per cent followed triple cropping pattern.
- In Jalore, 90.95 per cent practice single cropping, while 7.98 percent plant double crop. The respondents were sowing food crops like millet and pulses.

Cropping Pattern

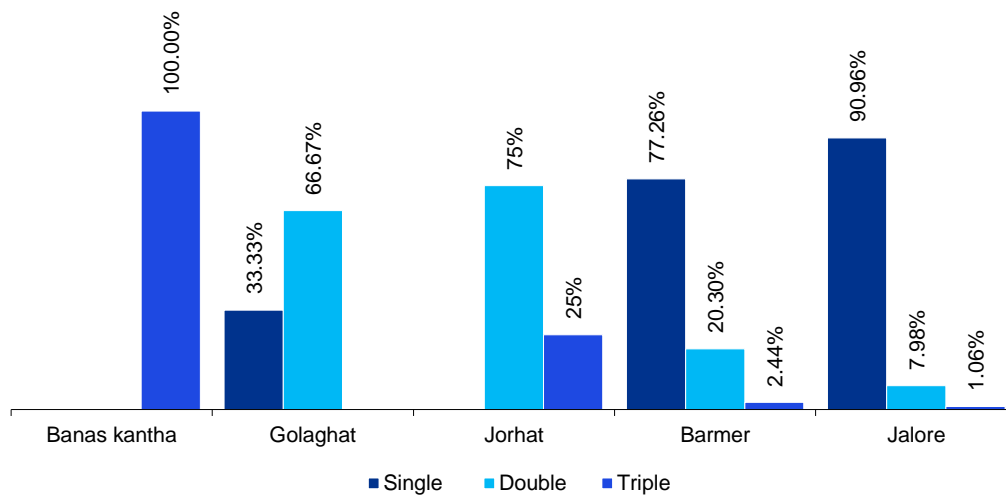


Figure 77 Cropping Pattern

100 per cent of farmers in Banas Kantha, Gujarat follow triple cropping pattern. The major crops cultivated in the district are Bajra, Castor, Pulses (such as clusterbeans, mungbeans, mothbeans)²⁴³.

Of those who are farming either on their own land or on leased land in Barmer, it was found that the majority (77.26 per cent) follow the single cropping pattern wherein they plant one crop in a single field. While 20.3 percent plant double crop and 2.44 per cent followed triple cropping pattern. The respondents were sowing food crops like millet and pulses. It should be noted that Rajasthan has the highest area under millet cultivation as well as highest production of the same²⁴⁴. Of those who are farming either on their own land or on leased

²⁴³ https://agricoop.nic.in/sites/default/files/GUJ1-Banaskantha_per cent203.2.2011.pdf

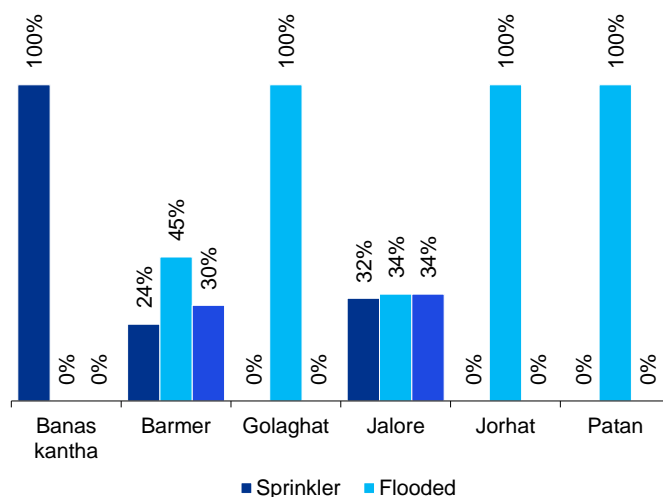
²⁴⁴ <https://www.thehindu.com/news/states/demand-to-promote-millet-in-rajasthan/article65847031.ece>

land in Jalore, it was found that the majority (90.95 per cent) practice single cropping pattern wherein they plant one crop in a single field to yield more variety in harvest. While 7.98 percent plant double crop. The respondents were sowing food crops like millet and pulses.

Of those who are farming either on their own land or on leased land in Golaghat, it was found that the majority (66.67 per cent) follow the double cropping pattern wherein they plant two crops in a single field to yield more variety in harvest. While 33.33 percent plant single crop. Of those who are farming either on their own land or on leased land in Jorhat, it was found that the majority (75 per cent) follow the double cropping pattern wherein they plant two crops in a single field to yield more variety in harvest. While 22 percent sow triple crops.

Mode of Irrigation

Irrigation Methods Followed by Farmers



- 63 per cent of farmers in the field locations continued to follow flood irrigation.
- In Barmer, 80% of the farmers are dependent on the rains for their crops. However, 100% of the respondent farmers in the field location reported to have irrigation facilities available to them. This must be noted that in Barmer, CAIRN has been extensively working to converse and ensure water to farmers through establishment of traditional runoff management structures (RMS) called Kandis.

Figure 78 Irrigation Methods Followed by Farmers

- In Barmer, 24 per cent of farmers used sprinkler as their mode of irrigation, while 30 per cent used drip irrigation. 45 per cent continued to use flood irrigation. In Jalore, 32 per cent of farmers used sprinkler as their mode of irrigation, 34 per cent used drip and another 34 per cent continued to use flood irrigation.
- In Banas Kantha, 100 per cent of farmers used sprinkler as their mode of irrigation, while 100 per cent of farmers in Patan continued to follow flood irrigation
- 100 per cent of the farmers in Golaghat and Jorhat field location continued to follow flood irrigation.

It has been observed that where irrigation is being carried out, the majority of respondents prefer and continue to use flood irrigation. This form of irrigation is one of the oldest methods of irrigating crops wherein water is delivered to the field either by ditch or pipe or any other means. Herein, the water implies flows over the ground through the crop. While effective it is not an efficient method of irrigation. Not only is it a water-intensive practice, there are studies to suggest that this method also changes soil salinity²⁴⁵.

Government Assistance in Farming

Agriculture contributes significantly to India's GDP and more than 60 per cent of the population of India still depends on the agriculture, agriculture has been the focus area of the Government of India. Government has taken several measures from subsidies to market linkages to provide impetus to the agriculture sector.

Several national and state government schemes have been aiding farmers for agriculture, yet access to these assistance remains a challenge due to myriad reasons. For example, the Rashtriya Krishi Vikas Yojana scheme by the government has been responsible for planning and executing programs for incentivizing investment in agriculture by providing the states considerable flexibility and autonomy²⁴⁶.

- *100% of the farmers in Assam are getting subsidies on the organic farming.*
- *In Barmer, 33.27 per cent of the farmers got assistance with seeds, while 21.9 per cent received subsidies on irrigation from the government.*
- *In Jalore, 49.47 per cent of the farmers got subsidies on irrigation, while 42.11 per cent received subsidies on farm machinery*

Field Unit: Golaghat, Assam

Of those engaged in farming and animal husbandry in Golaghat Assam, the majority got assistance with seeds (100 per cent). 100 per cent received subsidies on organic farming. 100 per cent received assistance with in capacity building and 100 per cent received support on veterinary services. Further 66.67 per cent also received subsidies on farm machinery.

²⁴⁵ [Flood Irrigation - an overview | ScienceDirect Topics](#)

²⁴⁶ <https://byjus.com/free-ias-prep/rkvy-raftaar/>

Government Support Being Received by Farmers and Animal Husbandry Practitioners in Golaghat, Assam

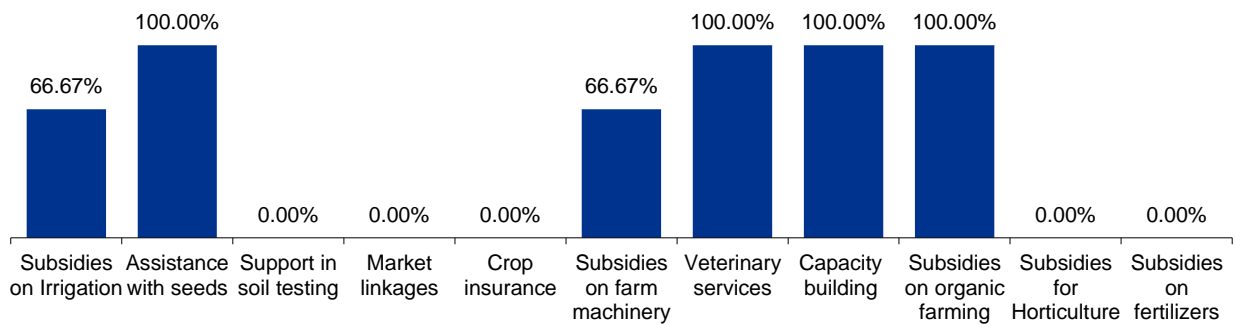


Figure 79 Government Support Being Received by Farmers and Animal Husbandry Practitioners in Golaghat, Assam

Field Unit: Jorhat, Assam

Of those engaged in farming and animal husbandry in Jorhat Assam, the majority got assistance with organic farming (100 per cent). 25 per cent received subsidies on irrigation. 50 per cent received assistance with capacity building and 50 per cent received support on veterinary services. Further 50 per cent also received subsidies on soil testing and 25 per cent were provided with market linkages.

Government Support Being Received by Farmers and Animal Husbandry Practitioners in Jorhat, Assam

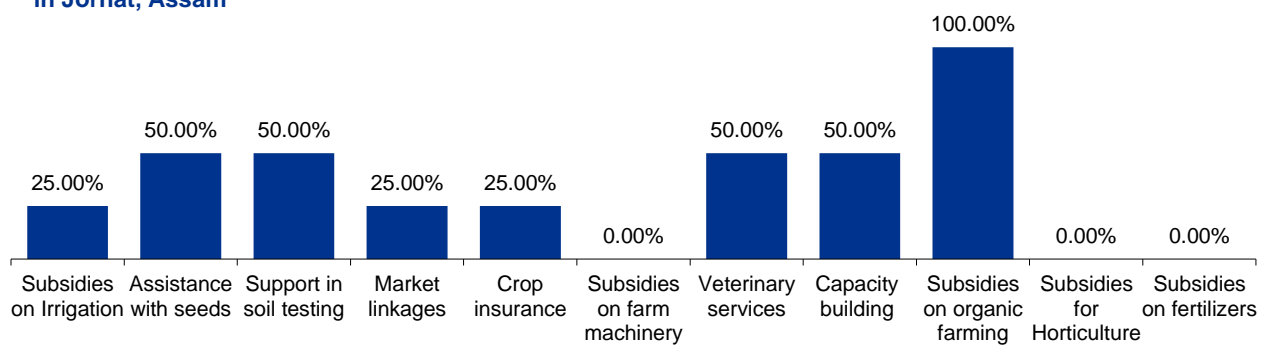


Figure 80 Government Support Being Received by Farmers and Animal Husbandry Practitioners in Jorhat, Assam

Field Unit: Banas Kantha, Gujarat

Of those engaged in farming and animal husbandry in Jorhat Assam, the only assistance they received from the government was the subsidies on Irrigation where 100 per cent of the respondent households involved in irrigation reported to have received subsidies.

Government Support Being Received by Farmers and Animal Husbandry Practitioners in Banas Kantha, Gujarat

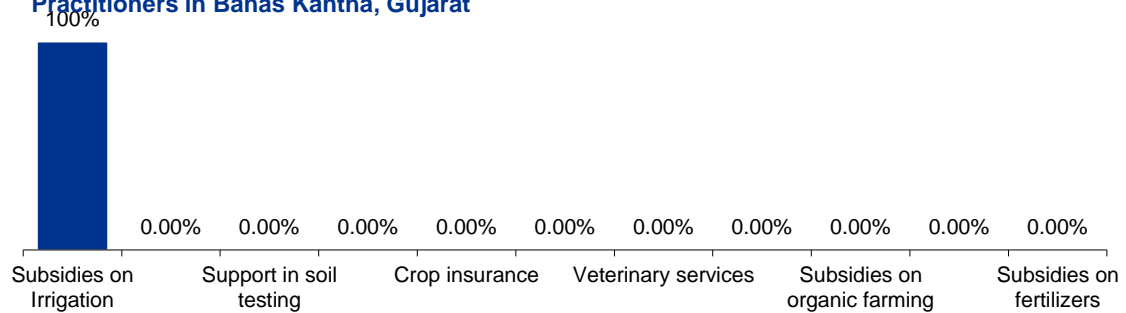


Figure 81 Government Support Being Received by Farmers and Animal Husbandry Practitioners in Banas Kantha, Gujarat

Field Unit: Barmer, Rajasthan

Of those engaged in farming and animal husbandry in Barmer, the majority got assistance with seeds (33.27 per cent). 21.9 per cent received subsidies on irrigation. 18.11 per cent received assistance with capacity building and 20 per cent received support on veterinary services. Further 23.23 per cent also received subsidies on soil testing and 22.12 per cent were provided with market linkages.

Government Support Being Received by Farmers and Animal Husbandry Practitioners in Barmer, Rajasthan

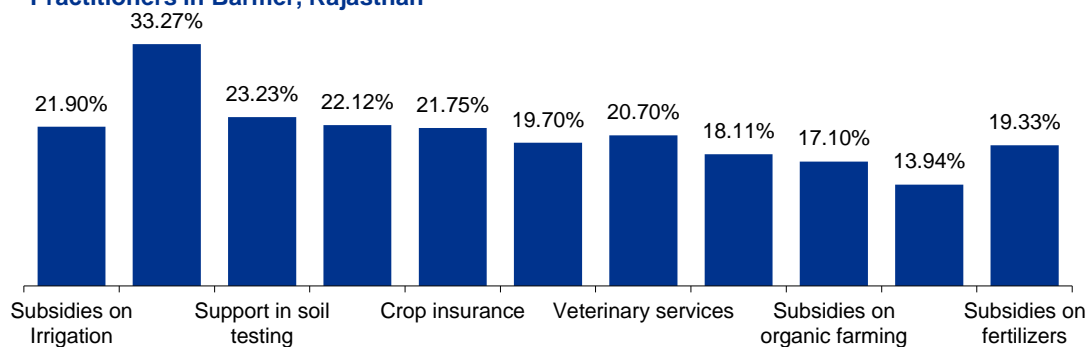


Figure 82 Government Support Being Received by Farmers and Animal Husbandry Practitioners in Barmer, Rajasthan

Field Unit: Jalore, Rajasthan

Of those engaged in farming and animal husbandry in Jalore, the majority got subsidies on irrigation (49.47 per cent). 42.11 per cent received subsidies on farm machinery. 45.26 per cent per cent received assistance with capacity building and 46.32 per cent received support on veterinary services. Further 39.47 per cent also received subsidies on soil testing and 42.11 per cent were provided with market linkages.

Government Support Being Received by Farmers and Animal Husbandry Practitioners in Jalore, Rajasthan

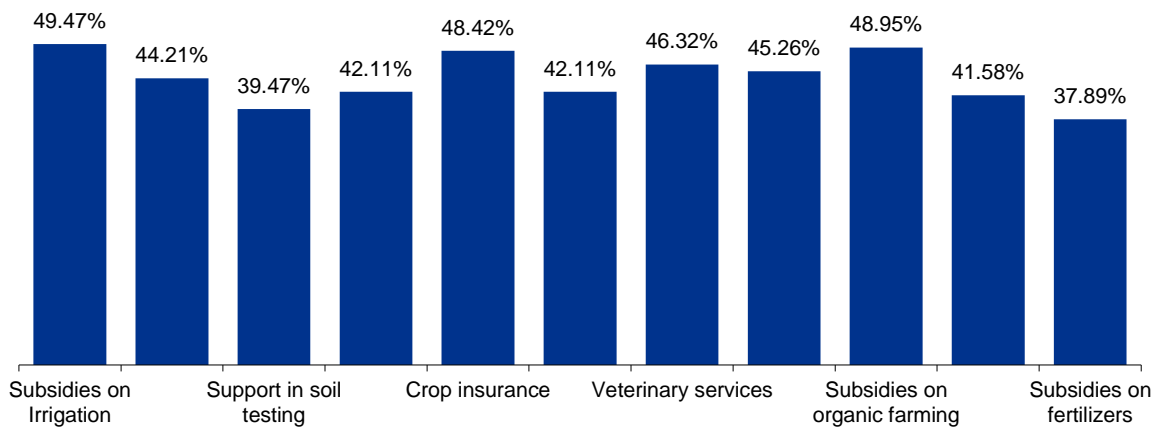


Figure 83 Government Support Being Received by Farmers and Animal Husbandry Practitioners in Jalore, Rajasthan

Monthly Income

The monthly income of the respondents provides an overview of a range earned by those employed within the field locations. It does not include children, retired individuals or those who are unemployed.

- 73.28 per cent respondents in the field locations earn more than 10,000 INR compared to the district averages when compared to data given in SECC 2011.
- In Barmer, where CAIRN has implemented its livelihood 'Project Barmer Unnati', the majority of the earning respondents (38 per cent) earn between 5000 INR and 10,000 INR per month, 30 per cent earn between 10,000 INR and 15,000 INR. 7 per cent earn between 15,000 INR and 20,000 INR and 2 per cent earn between 20,000 INR and 30,000 INR per month. When compared to the Socio-Economic Caste Census data, the monthly incomes of the respondents are higher than the state averages. Similar trends were observed in Jalore district, where CAIRN has its dairy development project.

Field Unit: East Godavari, Andhra Pradesh

Monthly Income in East Godavari, Andhra Pradesh

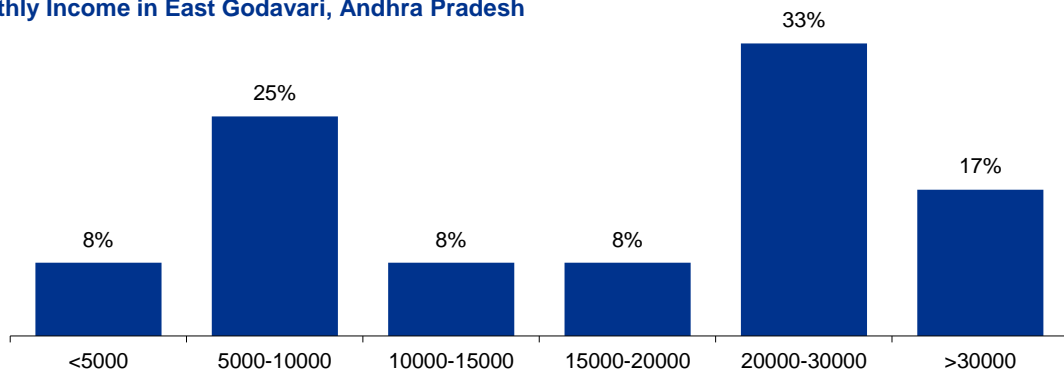


Figure 84 Monthly Income in East Godavari, Andhra Pradesh

In East Godavari field location, the majority of the earning respondents (33 per cent) earn between 20,000 INR and 30,000 INR. 25 per cent earn between 5000 INR and 10,000 INR, 8 per cent earn between 15,000 INR and 20,000 INR, 8 per cent earn 10,000 INR and 15,000 INR. 17 per cent earn more than 30,000 INR and 8 per cent earn less than 5000 INR.

According to district data (SECC)²⁴⁷, 87 per cent of households' highest earning member, earned less than 5000 INR and only 3 per cent of households' highest earning member earned over 10,000 INR. It must be noted that in the field locations, 67 per cent of the respondents earn more than 10,000 INR and thus 96 per cent more of the population in the field location, compared to the district average, earn more than 10,000 INR per month.

Field Unit: Golaghat, Assam

Monthly Income in Golaghat, Assam

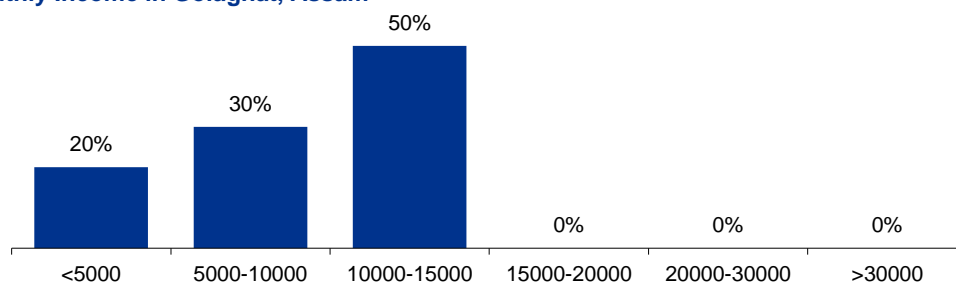


Figure 85 Monthly Income in Golaghat, Assam

²⁴⁷ <https://secc.gov.in/getAllCategoryIncomeSlabStateReport.htm/08>

In Golaghat field location, the majority of the earning respondents (50 per cent) earn between 10,000 INR and 15,000 INR. 30 per cent earn between 5000 INR and 10,000 INR and 20 per cent earn less than 5000 INR.

According to district data (SECC)²⁴⁸, 79.3 per cent of households' highest earning member, earned less than 5000 INR and only 7.79 per cent of households' highest earning member earned over 10,000 INR. It must be noted that in the field locations, 50 per cent of the respondents earn more than 10,000 INR and thus 84 per cent more of the population in the field location, compared to the district average, earn more than 10,000 INR per month.

Field Unit: Jorhat, Assam

Monthly Income in Jorhat, Assam

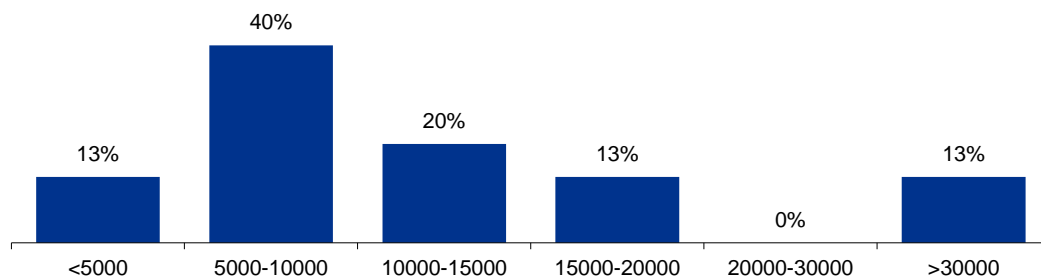


Figure 86 Monthly Income in Jorhat, Assam

In Jorhat field location, the majority of the earning respondents (50 per cent) earn between 5000 INR and 10,000 INR. 20 per cent earn between 10,000 INR and 15,000 INR, 13 per cent earn between 15,000 INR and 20,000 INR. 13 per cent earn over 30,000 INR per month and 13 per cent earn less than 5000 INR.

According to district data (SECC)²⁴⁹, 70.3 per cent of households' highest earning member, earned less than 5000 INR and only 13.58 per cent of households' highest earning member earned over 10,000 INR. It must be noted that in the field locations, 47 per cent of the respondents earn more than 10,000 INR and thus 71 per cent more of the population in the field location, compared to the district average, earn more than 10,000 INR per month.

²⁴⁸ <https://secc.gov.in/getAllCategoryIncomeSlabStateReport.htm/08>

²⁴⁹ <https://secc.gov.in/getAllCategoryIncomeSlabStateReport.htm/08>

Field Unit: Ahmedabad, Gujarat

Monthly Income in Ahmedabad, Gujarat

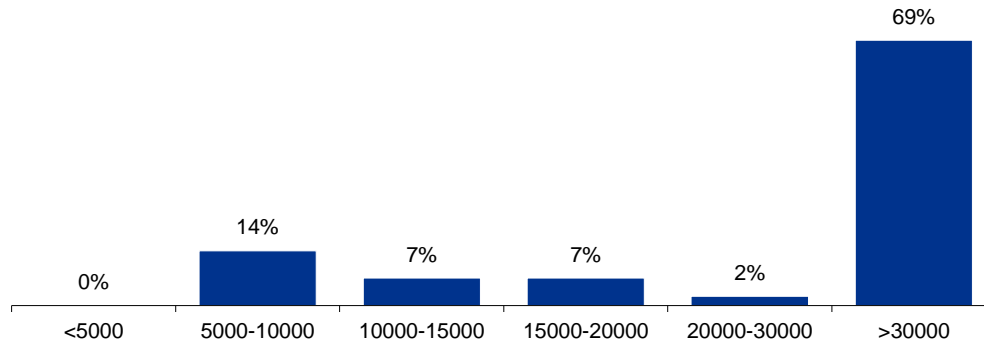


Figure 87 Monthly Income in Ahmedabad, Gujarat

In Ahmedabad field location, the majority of the earning respondents (69 per cent) earn over 30,000 INR per month 14 per cent earn between 5000 INR and 10,000 INR, 7 per cent earn between 10,000 INR and 15,000 INR. 7 per cent earn between 15,000 INR and 20,000 INR and 2 per cent earn between 20,000 INR and 30,000 INR per month.

According to district data (SECC)²⁵⁰, 71.62 per cent of households' highest earning member, earned less than 5000 INR and only 7.46 per cent of households' highest earning member earned over 10,000 INR. It must be noted that in the field locations, 86 per cent of the respondents earn more than 10,000 INR and thus 91 per cent more of the population in the field location, compared to the district average, earn more than 10,000 INR per month.

Field Unit: Banas Kantha, Gujarat

²⁵⁰ <https://secc.gov.in/getAllCategoryIncomeSlabStateReport.htm/08>

Monthly Income in Banas Kantha, Gujarat

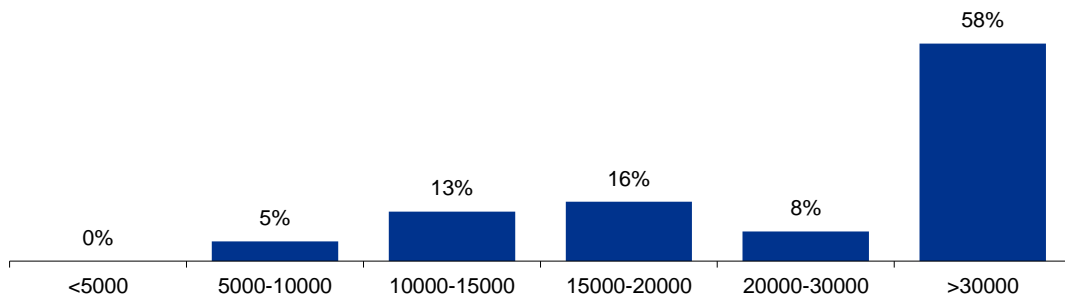


Figure 88 Monthly Income in Banas Kantha, Gujarat

In Banas Kantha field location, the majority of the earning respondents (58 per cent) earn over 30,000 INR per month 5 per cent earn between 5000 INR and 10,000 INR, 13 per cent earn between 10,000 INR and 15,000 INR. 16 per cent earn between 15,000 INR and 20,000 INR and 8 per cent earn between 20,000 INR and 30,000 INR per month.

According to district data (SECC)²⁵¹, 68.35 per cent of households' highest earning member, earned less than 5000 INR and only 9.88 per cent of households' highest earning member earned over 10,000 INR. It must be noted that in the field locations, 95 per cent of the respondents earn more than 10,000 INR and thus 90 per cent more of the population in the field location, compared to the district average, earn more than 10,000 INR per month.

Field Unit: Bharuch, Gujarat

Monthly Income in Bharuch, Gujarat

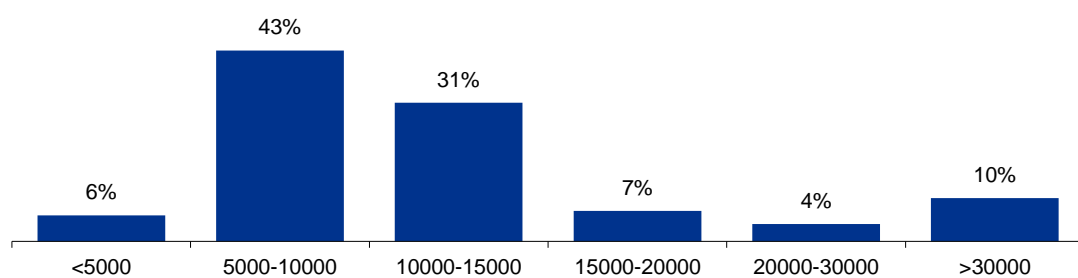


Figure 89 Monthly Income in Bharuch, Gujarat

In Bharuch field location, the majority of the earning respondents (43 per cent) between 5000 INR and 10,000 INR per month, 31 per cent earn between 10,000 INR and 15,000 INR. 7 per cent earn between 15,000 INR and 20,000 INR and 4 per cent earn between 20,000 INR and

²⁵¹ <https://secc.gov.in/getAllCategoryIncomeSlabStateReport.htm/08>

30,000 INR per month. 10 per cent earn over 30,000 INR per month and 6 per cent earn less than 5000 INR per month.

According to district data (SECC)²⁵², 64.15 per cent of households' highest earning member, earned less than 5000 INR and 12.22 per cent of households' highest earning member earned over 10,000 INR. It must be noted that in the field locations, 51 per cent of the respondents earn more than 10,000 INR and thus 76 per cent more of the population in the field location, compared to the district average, earn more than 10,000 INR per month.

Field Unit: Jamnagar, Gujarat

Monthly Income in Jamnagar, Gujarat

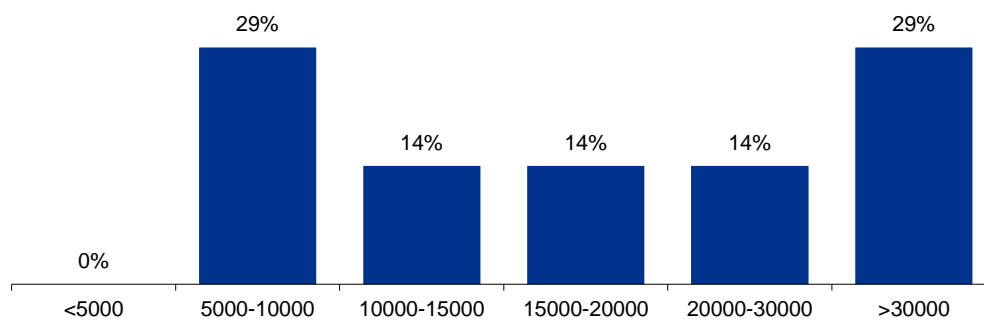


Figure 90 Monthly Income in Jamnagar, Gujarat

In Jamnagar field location, the majority of the earning respondents (29 per cent) between 5000 INR and 10,000 INR per month, 14 per cent earn between 10,000 INR and 15,000 INR. 14 per cent earn between 15,000 INR and 20,000 INR and 14 per cent earn between 20,000 INR and 30,000 INR per month. 29 per cent earn over 30,000 INR per month.

According to district data (SECC)²⁵³, 59.4 per cent of households' highest earning member, earned less than 5000 INR and 9.86 per cent of households' highest earning member earned over 10,000 INR. It must be noted that in the field locations, 71 per cent of the respondents earn more than 10,000 INR and thus 86 per cent more of the population in the field location, compared to the district average, earn more than 10,000 INR per month.

²⁵² <https://secc.gov.in/getAllCategoryIncomeSlabStateReport.htm/08>

²⁵³ <https://secc.gov.in/getAllCategoryIncomeSlabStateReport.htm/08>

Field Unit: Patan, Gujarat

Monthly Income in Patan, Gujarat

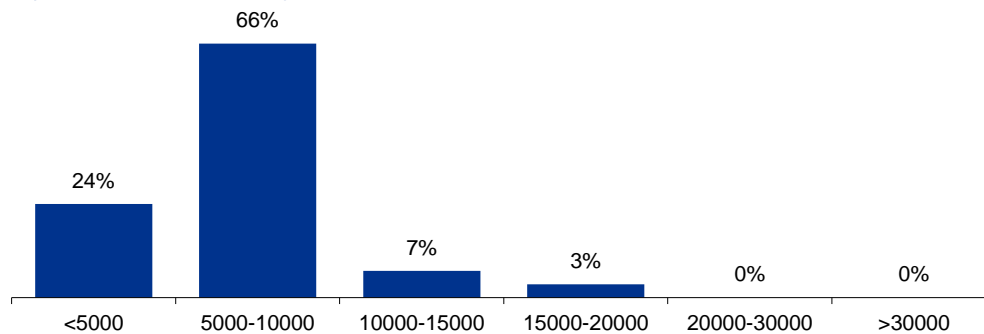


Figure 91 Monthly Income in Patan, Gujarat

In Patan field location, the majority of the earning respondents (66 per cent) between 5000 INR and 10,000 INR per month, 7 per cent earn between 10,000 INR and 15,000 INR and 3 per cent earn between 15,000 INR and 20,000 INR. 24 per cent earn less than 5000 INR per month.

According to district data (SECC)²⁵⁴, 74.8 per cent of households' highest earning member, earned less than 5000 INR and 7.73 per cent of households' highest earning member earned over 10,000 INR. It must be noted that in the field locations, only 10 per cent of the respondents earn more than 10,000 INR, yet 25 per cent more of the population in the field location, compared to the district average, earn more than 10,000 INR per month.

Field Unit: Surat, Gujarat

²⁵⁴ <https://secc.gov.in/getAllCategoryIncomeSlabStateReport.htm/08>

Monthly Income in Surat, Gujarat

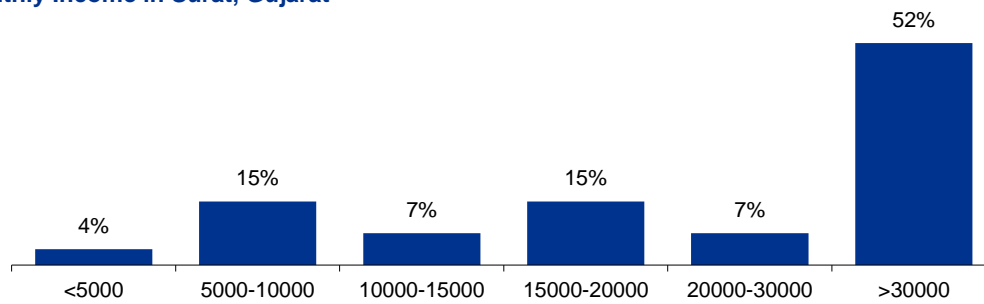


Figure 92 Monthly Income in Surat, Gujarat

In Surat field location, the majority of the earning respondents (52 per cent) earn over 30,000 INR per month. 15 per cent earn between 5000 INR and 10,000 INR per month, 7 per cent earn between 10,000 INR and 15,000 INR. 15 per cent earn between 15,000 INR and 20,000 INR and 7 per cent earn between 20,000 INR and 30,000 INR per month. 4 per cent earn less than 5000 INR per month.

According to district data (SECC)²⁵⁵, 63.5 per cent of households' highest earning member, earned less than 5000 INR and 11.86 per cent of households' highest earning member earned over 10,000 INR. It must be noted that in the field locations, 81 per cent of the respondents earn more than 10,000 INR and thus 85 per cent more of the population in the field location, compared to the district average, earn more than 10,000 INR per month.

Field Unit: Barmer, Rajasthan

Monthly Income in Barmer, Rajasthan

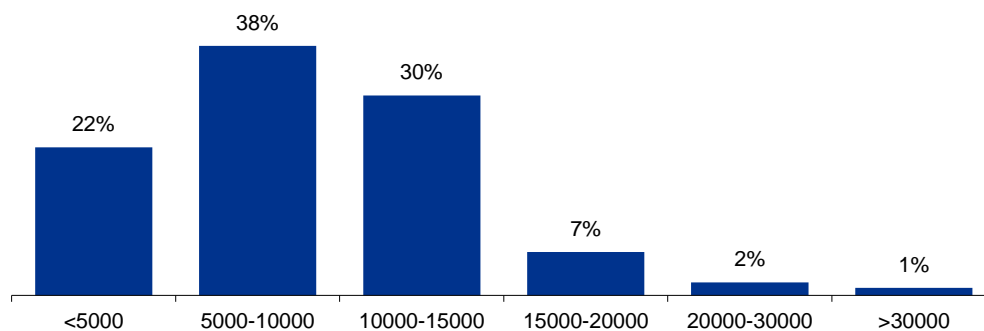


Figure 93 Monthly Income in Barmer, Rajasthan

In Barmer field location, the majority of the earning respondents (38 per cent) earn between 5000 INR and 10,000 INR per month, 30 per cent earn between 10,000 INR and 15,000 INR.

²⁵⁵ <https://secc.gov.in/getAllCategoryIncomeSlabStateReport.htm/08>

7 per cent earn between 15,000 INR and 20,000 INR and 2 per cent earn between 20,000 INR and 30,000 INR per month. 1 per cent earn over 30,000 INR per month and 22 per cent earn less than 5000 INR per month.

According to district data (SECC)²⁵⁶, 75.99 per cent of households' highest earning member, earned less than 5000 INR and 8.22 per cent of households' highest earning member earned over 10,000 INR. It must be noted that in the field locations, 40 per cent of the respondents earn more than 10,000 INR and thus 79 per cent more of the population in the field location, compared to the district average, earn more than 10,000 INR per month.

Field Unit: Jalore, Rajasthan

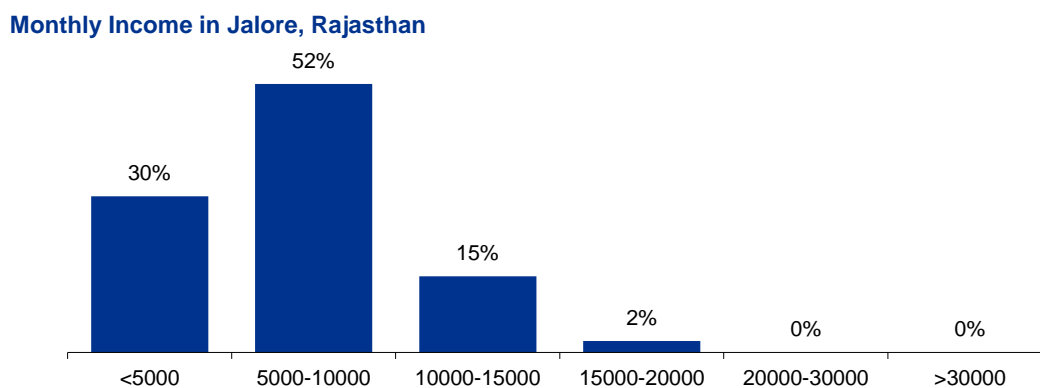


Figure 94 Monthly Income in Jalore, Rajasthan

In Jalore field location, the majority of the earning respondents (52 per cent) earn between 5000 INR and 10,000 INR per month, 15 per cent earn between 10,000 INR and 15,000 INR and 2 per cent earn between 15,000 INR and 20,000 INR. 30 per cent earn less than 5000 INR per month.

According to district data (SECC)²⁵⁷, 68 per cent of households' highest earning member, earned less than 5000 INR and 9.58 per cent of households' highest earning member earned over 10,000 INR. It must be noted that in the field locations, only 17 per cent of the respondents earn more than 10,000 INR and yet 44 per cent more of the population in the field location, compared to the district average, earn more than 10,000 INR per month.

²⁵⁶ <https://secc.gov.in/getAllCategoryIncomeSlabStateReport.htm/08>

²⁵⁷ <https://secc.gov.in/getAllCategoryIncomeSlabStateReport.htm/08>

Expenditure on Agriculture

As per the NSS 77th round, the average monthly expenditure for the crop production in rural households in India is INR 2959. When it comes to Assam the monthly expenditure on crop production in Assam is almost half of the national average (INR 1202). The monthly expenditure in Gujarat and Rajasthan is lesser than, on an average, 19 per cent that the average monthly expenditure at the nation level. When it comes to Andhra Pradesh, the rural households spend three times more monthly on the crop production than the national average.

- *The average expenditure on agriculture is 45 per cent more than the state averages. This is due to the fact that the average landholdings of the farmers in the field areas of CAIRN is higher than the state averages.*

Average Monthly Expenditure(in INR) for Crop Production in India, Assam, Gujarat and Rajastha

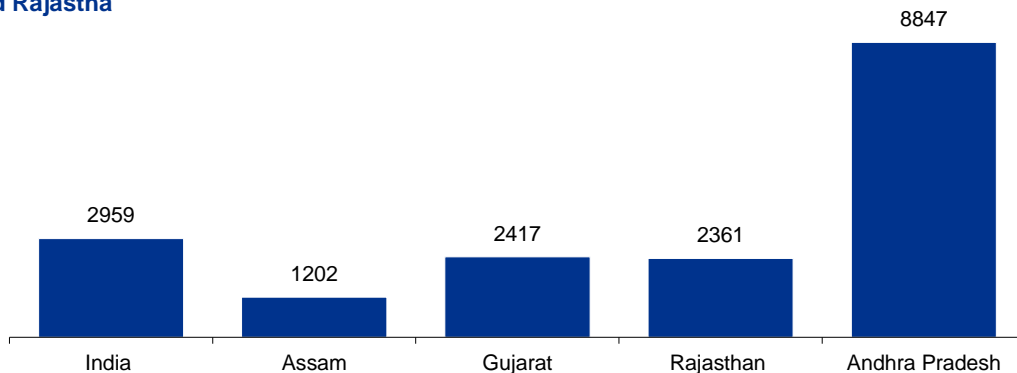


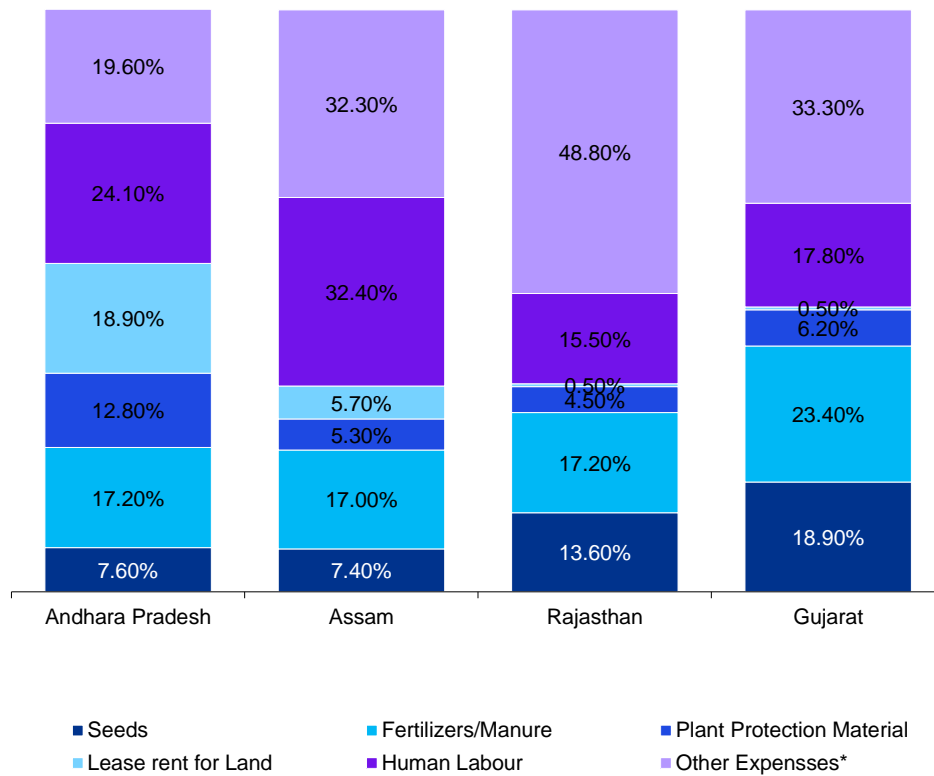
Figure 95: Average Monthly Expenditure for Crop Production Source NSS

The major expense across the states for the crop production is on fertilizers and expenses including diesel, electricity, cost of hiring machinery and equipment for crop production, cost of crop insurance and any other expenses for crop production. In Rajasthan, 48.80 per cent of total expenditure was on diesel, electricity, cost of hiring machinery and equipment for crop production, cost of crop insurance etc. It was 33.30 per cent in Gujarat, 32.30 per cent in Rajasthan and 19.60 per cent in Andhra Pradesh. Cost of fertilizers contributed to 17.20 per cent, 17.00 per cent, 17.20 per cent and 23.40 per cent in Andhra Pradesh, Assam, Rajasthan and Gujarat respectively.²⁵⁸

²⁵⁸

<https://www.im4change.org/docs/Situation%20Assessment%20of%20Agricultural%20Households%20and%20Livestock%20Holdings%20of%20Households%20in%20Rural%20India%202019.pdf>

Percentage Distribution of Average Monthly Paid out Expenditure for Crop Production by type of Input



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Figure 96: Percentage Distribution of Average Monthly Paid out Expenditure for Crop Production by type of Input, Source NSS

India’s public expenditure on agriculture as a fraction of total expense fell to 9.5 per cent in 2019-20 from 11 per cent in 2010-11 amid a sharp fall in the Union government’s expenditure on agriculture²⁶⁰.

Field Unit: Golaghat, Assam

* all other expenses include diesel, electricity, cost of hiring machinery and equipment for crop production, cost of crop insurance and any other expenses for crop production

²⁶⁰ <https://www.downtoearth.org.in/news/agriculture/declining-trend-public-spend-on-indian-agriculture-has-shrunk-in-a-decade-83079>

Expenditure on Agriculture by Farmers in Golaghat, Assam

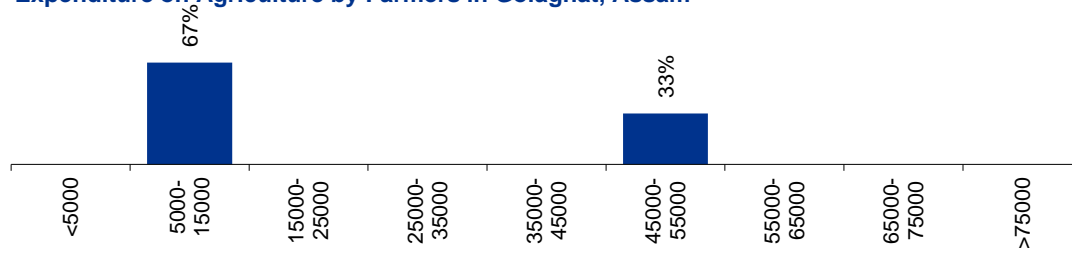


Figure 97 Expenditure on Agriculture by Farmers in Golaghat, Assam

As per the primary data, 67 per cent of the respondents who are farmers in Golaghat field location spend between 5000 INR and 15000 INR per year on agricultural inputs. The other 33 per cent in the field location spend between 45000 INR and 55000 INR. Furthermore, it is seen that the average expenditure is 20,000 INR which is 38 per cent higher than the state average.²⁶¹

Field Unit: Jorhat, Assam

Expenditure on Agriculture by Farmers in Jorhat, Assam

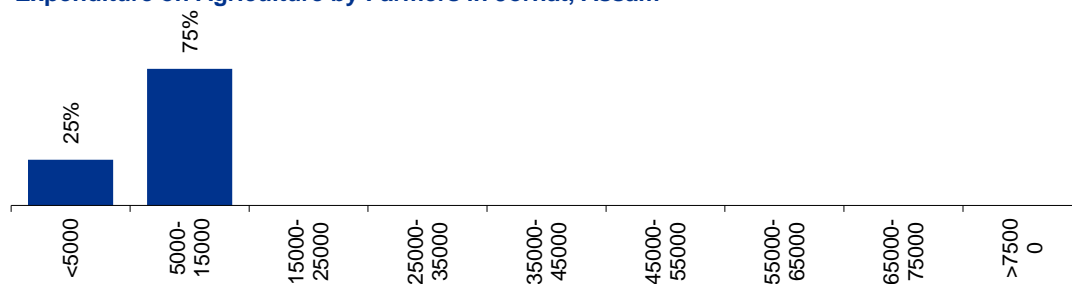


Figure 98 Expenditure on Agriculture by Farmers in Jorhat, Assam

75 per cent of the respondents who are farmers in Jorhat field location spend between 5000 INR and 15000 INR per year on agricultural inputs. The other 25 per cent in the field location spend less than 5000 INR per year. Furthermore, it is seen that the average expenditure is 7250 INR which is 44 per cent lesser than the state average which has been documented in the 77th NSS report²⁶².

²⁶¹ Situation Assessment of Agricultural Household and Land Holdings of Households in Rural India, 2019. Source: https://www.mospi.gov.in/documents/213904/301563/Report_587m1631267040957.pdf/

²⁶² Situation Assessment of Agricultural Household and Land Holdings of Households in Rural India, 2019. Source: https://www.mospi.gov.in/documents/213904/301563/Report_587m1631267040957.pdf/

Field Unit: Banas Kantha, Gujarat²⁶³

Expenditure on Agriculture by Farmers in Banas Kantha, Gujarat

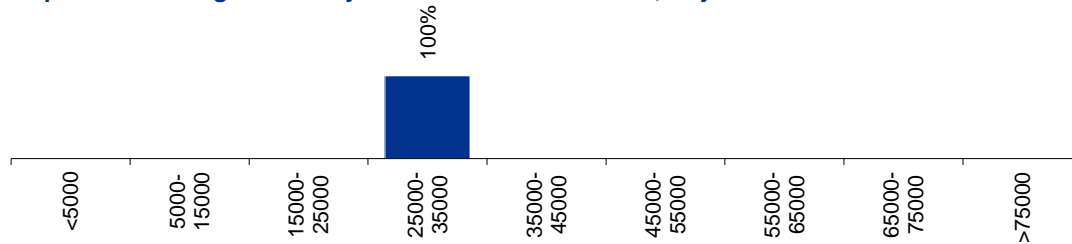


Figure 99 Expenditure on Agriculture by Farmers in Banas Kantha, Gujarat

100 per cent of the respondents who are farmers in Banas Kantha field location spend between 25000 INR and 35000 INR per year on agricultural inputs. Furthermore, it is seen that the average expenditure is 25000 INR which is 13 per cent lesser than the state average which has been documented in the 77th NSS report²⁶⁴.

Field Unit: Barmer, Rajasthan

Expenditure on Agriculture by Farmers in Barmer, Rajasthan

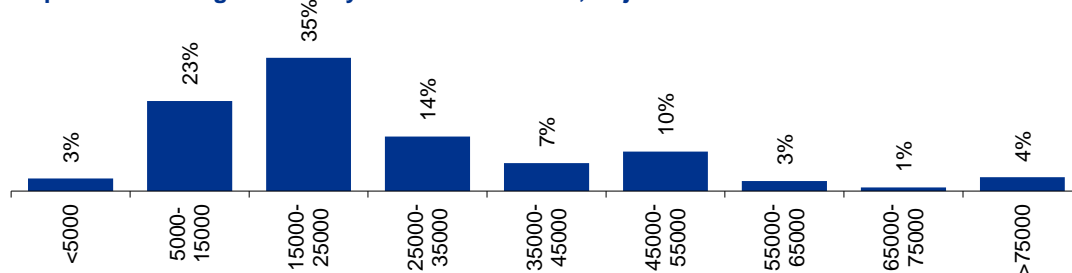


Figure 100 Expenditure on Agriculture by Farmers in Barmer, Rajasthan

3 per cent of the respondents who are farmers in Barmer field location spend less than 5000 INR, 23 per cent spend between 5000 INR and 15000 INR per year on agricultural inputs. 35 per cent in the field location spend between 15000 INR and 25000 INR, 14 per cent spend between 25000 INR and 35000 INR. 10 per cent spend between 35000 INR and 45000 INR, 3 per cent spend between 55000 INR and 65000 INR, 1 per cent spend between 65000 INR and 75000 INR and 4 per cent spend over 75000 INR. Furthermore, it is seen that the average

²⁶³ It must noted however that CAIRN has not carried out any Sustainable Livelihood intervention with farmers in Gujarat.

²⁶⁴ Situation Assessment of Agricultural Household sand Land and Holdings of Households in Rural India, 2019. Source: https://www.mospi.gov.in/documents/213904/301563/Report_587m1631267040957.pdf/

expenditure is 26,572.37 INR which is in the same lines with state average which has been documented in the 77th NSS report²⁶⁵.

Field Unit: Jalore, Rajasthan

Expenditure on Agriculture by Farmers in Jalore, Rajasthan

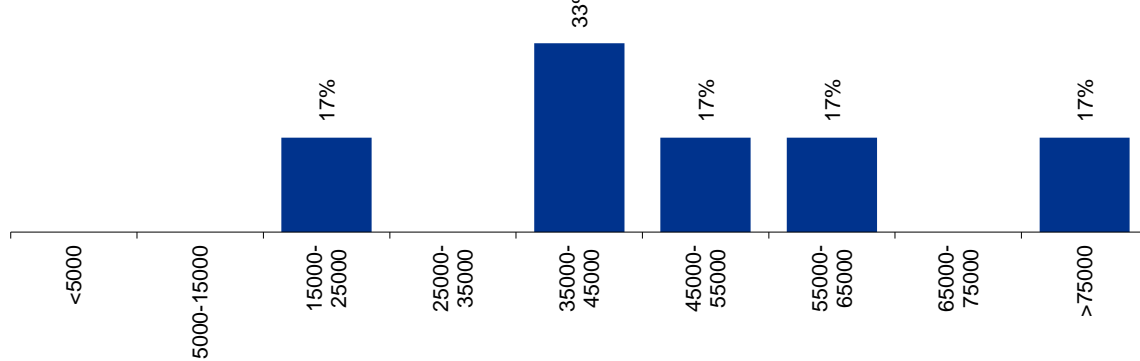


Figure 101 Expenditure on Agriculture by Farmers in Jalore, Rajasthan

17 per cent in the field location spend between 15000 INR and 25000 INR, 33 per cent spend between 35000 INR and 45000 INR, 17 per cent spend between 55000 INR and 65000 INR and 17 per cent spend over 75000 INR. Furthermore, it is seen that the average expenditure is 1,01,666.67 INR which is 3 times than the state average which has been documented in the 77th NSS report²⁶⁶.

Access and Usage of Mechanised Farming Equipment

Mechanization of agriculture and farming process denotes the application of machine power to work on land which would usually be performed by bullocks, horses and other draught animals or by human labour. Greater use of mechanized equipment would imply the modernization of farming and thus would further support reducing effort and input to achieve the same results in agriculture.

- 50.38 per cent of the farmers in Barmer reported to have access to access to mechanized equipment for farming.
- In the field locations of Assam, 66.67 per cent of the farmers in Golaghat and 75 per cent of farmers in Jorhat reported to have the access to mechanized farming equipment.

²⁶⁵ Situation Assessment of Agricultural Household and Land and Holdings of Households in Rural India, 2019. Source: https://www.mospi.gov.in/documents/213904/301563/Report_587m1631267040957.pdf/

²⁶⁶ Situation Assessment of Agricultural Household and Land and Holdings of Households in Rural India, 2019. Source: https://www.mospi.gov.in/documents/213904/301563/Report_587m1631267040957.pdf/

Availability and Usage of Mechanised Farming Equipment by Farmers

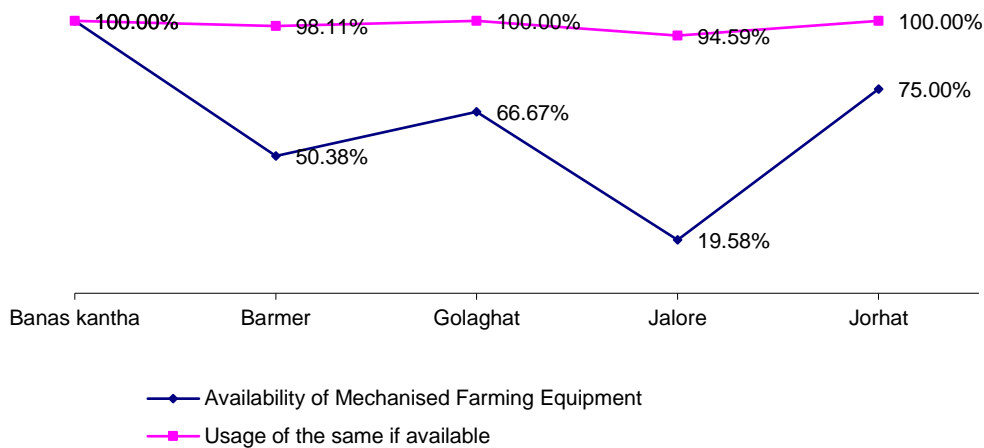


Figure 102 Availability and Usage of Mechanised Farming Equipment by Farmers

100 per cent of the farmers in Banas Kantha field location in Gujarat²⁶⁷ stated that mechanised farming equipment was not only available to them, but they also used the same.

In the field locations of Rajasthan, one sees that for 50.38 per cent of the farmers in Barmer, mechanised farming equipment was available and of those 98.11 per cent used the same. In Jalore, it was available to only 19.58 per cent, of which 94.59 per cent used the same.

In the field locations of Assam, it is observed that for 66.67 per cent of farmers in Golaghat, mechanised farming equipment was available which was used by 100 per cent of them. In Jorhat, 75 per cent stated its availability of which 100 per cent used the same.

Such mechanized farming seems to be available to a majority of the respondents and thus provides the following advantages²⁶⁸:

1. Increase of Production
2. Increase of Efficiency
3. Increase of Yield of land per unit of area
4. Lower Cost of Work
5. Improvements in agricultural technique

²⁶⁷ It must noted however that CAIRN has not carried out any Sustainable Livelihood intervention with farmers in Gujarat.

²⁶⁸ [Mechanization of Agriculture: Meaning, Benefits and Progress \(economicsdiscussion.net\)](https://www.economicsdiscussion.net/mechanization-of-agriculture-meaning-benefits-and-progress/)

Association with FPOs

Farmer Producer Companies (FPOs) are organizations of farmers that allow for benefit at scale. While individual farmers may not be able to handle large input costs and low returns, a group of farmers, together ensure better income for each.

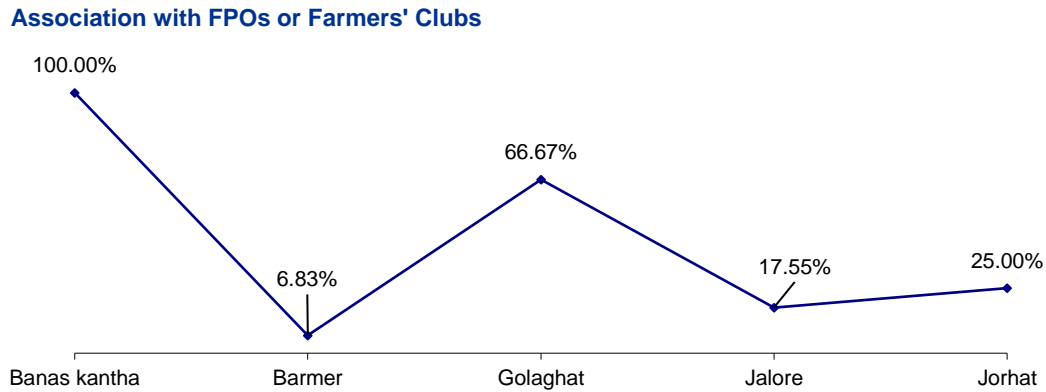


Figure 103 Association with FPOs or Farmers' Clubs

On an average, 43 per cent of the farmers in the field units were associated with FPOs. It was on the lower side for almost all the field units except in Banas Kantha where 100 per cent of the farmers stated such an associated²⁶⁹. In Assam, on an average 45 per cent were associated with the same wherein 66.67 per cent of farmers in Golaghat and only 25 per cent of farmers in Jorhat were associated with FPOs. In Rajasthan, the association was found to be at its lowest with only 12.19 per cent farmers as part of FPOs on an average, this was only 6.83 per cent in Barmer and 17.55 per cent in Jalore.

²⁶⁹ It must noted however that CAIRN has not carried out any Sustainable Livelihood intervention with farmers in Gujarat.

Analysis and Way Forward

Improvements in Livelihood

- Unemployment in the field locations is 27 per cent lesser than the district averages (census 2011).
- 73.28 per cent more of the respondents are earning over 10,000 INR a month compared to the district averages.
- 98.54 per cent of agricultural households using mechanised farming equipment where available to them

Challenges

- 63.21 per cent of the farmers continue to follow flood irrigation.
- Only 14.89 per cent of farmers have received support with market linkages.
- There are 16.32 per cent more marginal farmers in the field locations compared to the state averages.
- 29 per cent of household members remain unemployed wherein 62.74 per cent of these are

Way Forward

1. **Establishment of FPOs-** Interventions are required to facilitate the establishment as well as the involvement of farmers with FPOs in the field locations because there was a significant absence of support via them. It is imperative to establish such organizations as they can support farmers receive end-to-end services covering almost all aspects of cultivation from inputs, technical services to processing and marketing.

Government Alignment: In July 2020, the Government of India published detailed guidelines for the setting up of 10,000 new Farmer Producer Organisations (FPOs) in the country by 2024. These guidelines also serve as the base for many other schemes, such as the Agriculture Infrastructure Fund (which allows FPOs to further invest in creating agricultural infrastructure) or 'One District-One Product' initiative to boost natural farming.

2. **Access to Financial Services and Subsidies:** Despite input support, the amount being spent by the population on agriculture annually remains extremely high and

would thus require additional subsidies as well as modern methods and technologies to reduce cost.

3. **Expansion of Modern Irrigation Methods Required:** According to NITI Aayog, rainfall in Rajasthan is aberrant and uncertain. Further, given that over 60 per cent of the gross sown area in the state falls under arid or semi-arid zones in the state, agriculture in the state continues to be largely rain fed²⁷⁰. **However, CAIRN has extensively worked on ensuring water to the farmers through traditional water conservation structures called ‘Kandis’.** Still, a majority of the respondents carry out flood irrigation which is an outmoded and water-intensive activity, not recommended for areas which such water scarcity, especially Rajasthan. Moreover, many respondents have employed their own electric pumps that are cost-intensive and drives up the cost of agriculture. It is recommended that the business unit focuses its efforts on government convergence and advocacy to increase access to modern methods of irrigation.

The Rajasthan Government aims to set up a ‘Centre for Excellence for Micro Irrigation’ as part of their Micro Irrigation Mission. CAIRN can work alongside the government in this regard to enhance the use of modern methods of irrigation.

4. **Technological Innovation for Technical Training:** CAIRN has already been working towards capacity building of farmers on soil and water conservation. Through their CAIRN Agriculture Fellows(CAF), CAIRN envisages to provide technology support to the farmers. To provide best practices, tutorials, market trends, understanding of irrigation diversification and other agriculture and livestock related information to the farmers, mediums like WhatsApp, Facebook, Telegram, radio etc can be used for dissemination of online material. Support from the government should also be highlighted in this material in order to help the farmers converge their demands with the government assistance like that of Kisan Suvidha app developed by Department of Agriculture or Kisan Call Centre launched by Ministry of Agriculture in various vernacular languages.

²⁷⁰ <https://www.niti.gov.in/writereaddata/files/Rajasthan-reports.pdf>

***Best Practice:** In a pioneering move, a prominent FMCG set up village internet kiosks, which made real-time, up-to-date, relevant information on weather, price discovery, agri know-how and best practices, etc readily available. The kiosks are managed by trained local farmers who help the local agricultural community to access the information in their local language. With appropriate knowledge and services available virtually at the farm gate, farmers have been able to raise productivity, improve quality, manage risk and earn better prices.*

3.3. Impact Assessment

One of the key areas of intervention of CAIRN is in the sector of Agriculture and Animal Husbandry. There are two major projects running under this thematic intervention- Project Barmer Unnati and Dairy Development Project. Barmer Unnati aims to equip farmers with the technical know-how and training to promote diversification of crops and appropriate usage of natural resources at their disposal. This would help farmers decrease their input costs, increase productivity, and fetch better prices in the long run thereby contributing to increase in agricultural incomes. On the other hand, the Dairy Development project helps households diversify into alternate sources of income to decrease their reliance on just agriculture. It also engages women in an income generating activity and hence empowers them with employment.

- *There has been an increase in income of INR 16,862 for 58 per cent of the beneficiaries of Project Barmer Unnati.*
- *Due to Project Barmer Unnati, there was an average decrease of INR 4536 in the input cost of farmers annually*
- *64 per cent of the respondent beneficiaries of the project reported to have an improvement in food security owing to their association with Project Barmer Unnati.*
- *47 per cent of the beneficiaries reported to have an increase in the milk production between 5-10 liters/day, while 33 per cent stated to have an increase in the milk production by 10-15 liters.*
- *16 per cent of the beneficiaries stated to have an increase in milk production by 2-5 liters, while 4 per cent of the beneficiaries reported to have an increase in milk production by 15-20 liters.*

3.3.1. Project Barmer Unnati

Relevance

In the backdrop of the discovery of the oil in Barmer, the district has witnessed rapid industrialization in last couple of years. The contribution of agriculture in the district economy has dropped down from 23 percent in 2011-12 to 8.12 percent in 2019.²⁷¹ However, majority of population in Barmer is still

Indicator	Scoring
Relevance	Extremely Satisfactory
Coherence	Extremely Satisfactory
Effectiveness	Extremely Satisfactory
Efficiency	Satisfactory
Sustainability	Extremely Satisfactory

dependent on agriculture.²⁷² As per the primary data, 72 percent of the respondent households have agriculture as their primary occupation in Barmer. However, the agriculture sector has been plagued with many challenges in Barmer. 88 percent of the total irrigated land in the Barmer is rain-fed and the remaining area is majorly dependent on the open well for irrigation.²⁷³ Whereas 74 percent of the agricultural land in the district is Sandy.²⁷⁴ Furthermore due to its low water holding capacity and low nutrient value, Sandy soil has low agriculture potential and requires more water than other soil for crops. Barmer is one of the draughts affected district hot spot of India. Water scarcity, erratic and uncertain rains pose a sever challenge to agriculture in the district. As per the data received from the respondent households, 68 percent of them are involved in single crop. Water scarcity, climatic condition and low soil quality posit a grave challenge for the farmers in Rajasthan. From ensuring water availability to technology intervention, the agriculture sector in the region requires multifaceted interventions.

CAIRN, through its Project Barmer Unnati, has been developing livelihood models and value chain interventions, to increase the income of the farming communities by introducing and promoting new crops and technologies in the region, through natural resource management practices. Before starting the project, a baseline was conducted by CAIRN and the project was designed based upon the findings of the baseline. This establishes the relevance of the project, and it was found to be extremely high.

Coherence

Project Barmer Unnati aligns with the national and state priority as well as the SDG goals. The Project is well aligned with central and state government schemes likes Pradhan Mantri Krishi Sinchai Yojana(PMKSY) which was launched to expand cultivated area with assured irrigation, reduce wastage of water and improve water use efficiency, National Mission for

²⁷¹ <https://timesofindia.indiatimes.com/city/jaipur/barmer-vaults-to-no-1-in-per-capita-income/articleshow/68543841.cms>


²⁷² https://www.indiastatpublications.com/District_Factbook/Rajasthan/Barmer

²⁷³ <https://agricoop.nic.in/sites/default/files/RAJ10-Barmer-9.3.2012.pdf>

²⁷⁴ <https://agricoop.nic.in/sites/default/files/RAJ10-Barmer-9.3.2012.pdf>

Sustainable Agriculture which was formulated to enhancing agricultural productivity especially in rainfed areas focusing on integrated farming, water use efficiency, soil health management and synergizing resource conservation and Rajasthan Micro Irrigation Mission which aims for providing sustainable irrigation to the farmers. The project is well aligned to SDG 1²⁷⁵, that envisions to end poverty in all its manifestations and SDG 8 that envisions for promoting inclusive and sustainable economic growth, employment, and decent work for all.²⁷⁶

Table 7.1 Alignment of Project Barmer Unnati with the SDGs

SDG	SDGs target	How is it aligned?
	<p>Target 1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day</p> <p>Target 1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions</p> <p>Target 1.31 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance</p> <p>Target 1.5 By 2030, build the resilience of the poor and those in vulnerable situations and</p>	<ul style="list-style-type: none"> The project benefits the household in ensuring enhanced income through agriculture. It helps in ensuring food security, employment, promotion of technology in agriculture and promotion of environmentally friendly irrigation.

²⁷⁵ <https://unric.org/en/sdg-1/>

²⁷⁶ <https://unric.org/en/sdg-8/>

SDG	SDGs target	How is it aligned?
	<p>reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.²⁷⁷</p>	
	<p>Target 8.2</p> <p>Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors</p> <p>Target 8.4</p> <p>Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead</p> <p>Target 8.5</p> <p>By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value</p>	<ul style="list-style-type: none"> The program promotes the use of technology for agriculture to improve efficiency and improving the yield of the product. The program covers and provides decent employment to the men and women of the beneficiary households.

Effectiveness

The effectiveness of the intervention was assessed on the secondary documentation for the program wherein the availability of the targets as well as the achievements against the same was considered. As per the documents provided by CAIRN, the project has achieved its

²⁷⁷ <https://www.sdg4education2030.org/the-goal>

defined targets. The target of an income enhancement of INR 20,000-INR 25,000 after 3 years of intervention was set for the project. As per the last impact assessment conducted by CAIRN, the direct beneficiaries of the project reported an income enhancement of INR 26000 through agriculture. Another target of the project was to make the Gram Panchayats water positive. The project has helped in establishing 781 Khadins to harvest surface runoff water. Not only it helped in generating an additional revenue of INR 15,39,075 to the beneficiaries of the project, but also it helped the beneficiaries in providing sufficient water for agriculture in one of the most water scarce district of India. The project clearly achieved its target, and it establishes the effectiveness of the project, which was found extremely satisfactory.

Efficiency

The efficiency of the intervention was considered vis-à-vis the documents provided on the project including the agreements with the implementing partners, whether the intervention had adhered to its timelines, whether utilization was undertaken through the budget and whether the intervention aligned with the CSR policy of CAIRN. The Project is well aligned with the CSR policy of CAIRN to improve the quality and wellbeing of the community in and around the operational areas of the business. The project has been found to be adhering to the timelines defined in the MoUs. The budget of the program has been clearly documented in the MoUs. However, there has been an underspend of 20 percent in the budget. Overall, the efficiency of the project has been satisfactory.

[OECD Scoring sheet provided in Annexure](#)

Impact of the project

Increase in Income

The project has created significant impact on incomes of the beneficiaries. As per the latest NSO data, in absolute terms, the nominal income from crop production or cultivation per agricultural household was increased by 23 percent from 2012-13. However, in real terms it has declined by 8.9 percent.²⁷⁸ COVID-19 further exacerbated the economic condition of the rural households. Due to Covid 19 pandemic, the income of rural households dropped significantly.²⁷⁹ COVID-19 further pushed rural households into debt trap.²⁸⁰

²⁷⁸ <https://www.hindustantimes.com/india-news/farm-income-rose-16-but-share-from-cultivation-droppednsodata-101631298840933.html>

²⁷⁹ <https://www.hindustantimes.com/india-news/how-household-incomes-were-affected-by-covid-101639519177238.html>

²⁸⁰ <https://www.businesstoday.in/latest/economy/story/covid-19-impact-rural-india-sinks-deeper-into-debt-as-household-incomes-slump-300585-2021-07-06>

As per the previous impact assessment, the beneficiaries of the program reported an increase in INR 26,000 in their annual income.

- ***In the current impact study, on an average there has been an increase in income of INR 16,862 for 58 per cent of the beneficiaries involved in agriculture.***
- ***Data shows that 74 percent of the beneficiaries reported to have an increase in income within a range of INR 5000-10,000 annually, followed by 13 percent of the respondent households that reported to have an annual increase in income in the range of INR 1000-2000 while 8 percent of the beneficiaries reported to have an increase in income within a range of INR 1000- INR 5000.***
- ***5 per cent of the respondent households reported to have an increase in the income in the range INR 20000-50000.***

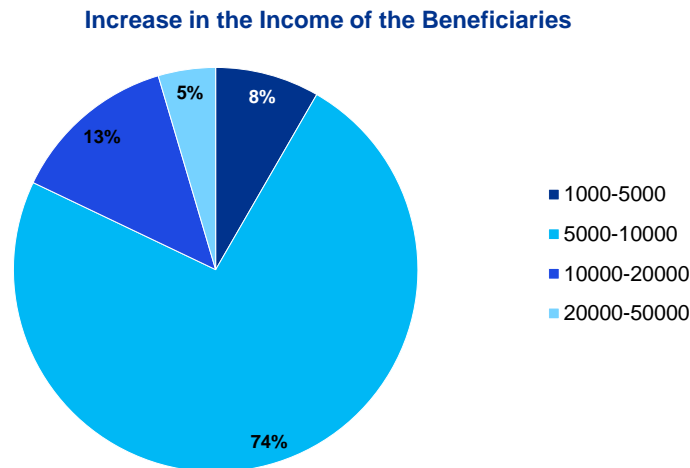


Figure 104: Increase in the Income of Beneficiaries

Decrease in Input Cost

Notwithstanding, an increase in the farms out-put in the recent years, the purchasing power of the farmers remains low in India. The main reason behind this paradox is the substantial rise in the farm input costs.²⁸¹ With a supply chain disruption around the industries, COVID-19 pandemic further aggravated the situation in India. The COVID-19 pandemic resulted in the shortage of fertilizers, pesticides, and other farm inputs in the country, which further resulted in the price rise of farm inputs in India. Rajasthan has also observed a sharp increase

²⁸¹ <https://economictimes.indiatimes.com/news/economy/agriculture/farm-input-cost-set-to-rise-with-increase-in-fertiliser-prices/articleshow/81971698.cms?from=mdr>

in the prices of fertilizers, pesticides and on rents of agriculture machinery due to COVID-19 pandemic.²⁸²

On contrary to the national and state scenarios, the beneficiaries of the project reported to have decrease in the input cost of agriculture. Due to construction of Khadins, leveraging government funds, capacity building of farmers in the efficient use of fertilizers, **there was an average decrease of INR 4536 in the input cost of farmers annually.** Further, in Barmer **84 percent** of the beneficiaries reported to have a decrease in input cost between a range of INR 1000- INR 2000. **5 per cent** of the respondent beneficiaries reported a decrease in between INR 500- INR 1000 in the input cost, while 2 per cent of the beneficiaries reported a decrease in the input cost between a range of INR 5000- INR 20,000.

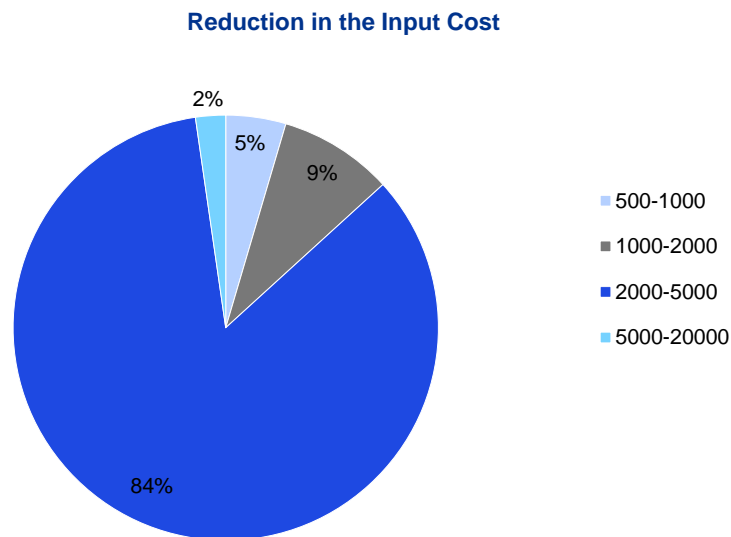


Figure 105: Reduction in the Input Cost of Beneficiaries

Improvement in Food Security

Food security is a critical factor involved in the cognitive, physical and emotional development of individuals. It has impacts not only on nutrition but on education, livelihood and general health and development. Through the interventions of the business unit on sustainable livelihood, they have provided many households with increased food security. Though, not all households could determine this impact, it is also because these field locations are not food

²⁸² https://www.nabard.org/auth/writereaddata/tender/1211203145Impact_per_cent20Assessment_per_cent20of_per_cent20COVID.pdf

scarce. However, to those who felt this impact, this would have inter-dimensional and inter-generational positive shifts.

As per the 'Food Security Atlas of Rural Rajasthan of World Food program, the food availability index of Barmer is extremely low. Moreover, it was worst performer amongst all the district of Rajasthan in food availability Index. The three indicators which were considered to formulate the food availability index were, irrigation extent (proportion of net irrigated area to net sown area), per capita value of agricultural output, and rural road connectivity. It depicts that extent of food insecurity amongst the rural population of Barmer.²⁸³ However, due to project interventions, there has been an improvement in the yield of agricultural produce and income enhancement, **64 per cent of the respondent beneficiaries of the project reported to have an improvement in the food security owing to the association with the project.**

Reduction in Outward Migration

Due to persistent draughts in Barmer, families which are dependent on agriculture, have been leaving the villages in hordes in last few years. They have been usually migrating to southern and western areas of the state and end up working as a daily wage labourer in factories. Often, the migrant labourers are paid less than the minimum wage decided by the Government of Rajasthan and end up being entangled in the poverty trap.²⁸⁴

The project, has however, addressed the environmental and climatic risk to the agriculture through the introduction of sustainable agriculture practices. The project has ensured secured and sustainable income to its beneficiaries and has helped in reduction of outward migration in beneficiary households.

As per the baseline data received, 20 per cent of the respondent households reported that the project has reduced the chances of the outward migration of the family by ensuring secured and sustainable income.

Sustainability of the Project

CAIRN has been ensuring the sustainability of the project in various ways. The program has been building the capacity of the farmers in agriculture technology, soil, and water conservation. CAIRN has been promoting community leader through CAIRN Agri Fellowship, who have been building the capacity of the farmers on agriculture. The BU has also been

²⁸³ https://www.ihdindia.org/pdf/FSA_Rural-Rajasthan.pdf

²⁸⁴ <https://www.firstpost.com/india/drought-in-rajasthan-migrants-live-on-fringes-as-exodus-to-southern-eastern-regions-leaves-behind-elderly-6316401.html>

converging with government schemes like Soil Card Health Scheme and linking the beneficiaries to the schemes. Moreover, the Khandis created under the project requires less maintenance and has been monitored and maintained by farmers of the respective villages with limited intervention from CAIRN.

Strengths

Project intervention has led to a decrease of an average decrease of INR 4365 in the input cost of farmers annually. Further, in term of income increase data shows that there has been an average increase of INR 16,611. Additionally, 11 percent of the respondent households reported that the project has reduced the chances of the outward migration of the family by ensuring secured and sustainable income.

Way Forward

1. **Access to financial services-** As per All India Rural Financial Inclusion Survey conducted by NABARD (2016-17), only 29 per cent of agricultural households reported savings in their previous year from banks, post offices or SHGs while 52.5 per cent stated having debts. Further, only 29 per cent of these households have any type of crop insurance and 1.7 percent had livestock insurance.

It is crucial for the farming communities to have access to financial services which would help them financially and educate them about better saving practices that would eventually increase their household income and create economic stability. There savings can further support them diversify their agriculture activities. In order to create sustainable livelihood options for farmers, the establishment and accessibility of Kisan Seva Kendras and Agriculture Credit Cooperative Societies is also necessary.

2. **Convergence with various stakeholders to improve market linkage and reduce input costs:** Cairn has associated with the Rajasthan government's "Mukhyamantri Jal Swavlamban Abhiyan (MJSA)", a scheme by the Government of Rajasthan to make villages self-sufficient in water through effective implementation of water harvesting and conservation activities in rural areas. Similarly, CAIRN can convergence with the other government schemes and policies like Rashtriya Krishi Vikas Yojana, National Agricultural Insurance Scheme, National Horticulture Mission, while aligning to the integrated rural department and regional rural banks is one step towards collaboration.

***Best Practice:** An international NGO has developed low-cost digital platforms such as community radio, interactive voice response (IVR) systems, text messages, radio to provide information on agronomic practices, nutrition etc by working across different media channels. Further, it has created a mobile app that enables farmers to access markets more efficiently by helping them aggregate their perishable produce.*

- 3. Nutritional Security Enhancement:** As per the primary day, through its 'Project Barmer Unnati' CAIRN as already ensured food security to 64 per cent of its beneficiaries. This can be further be strengthened by providing nutritional security through 'biofortification' which refers to nutritionally enhancing food crops. It increases the micronutrient content of commonly consumed staple crops, which comprise the backbone of all food systems, and it provides an important safety net for vulnerable populations in low and middle-income countries whose sustenance relies on these relatively inexpensive staples for much of their diet.

Best Practice: An organization working towards improving nutrition and health of vulnerable populations through crop portfolio has scaled-up delivery of staple crops that have been conventionally bred to contain higher amounts of vitamin A, iron, or zinc—three nutrients that together are associated with the largest global nutritional disease burden.

In 2019, they collaborated with the **World Food Programme (WFP)** to increase the production and consumption of biofortified crops in Zambia. One of the main goals was to increase the **quantity** of biofortified crops available for the home-grown school meals programme, including vitamin A maize and orange sweet potato, and iron beans. HarvestPlus is providing **training to farmers** and WFP staff on production, postharvest handling, and marketing of biofortified crops; **link farmers and processors** with the WFP-supported **aggregator system** to ensure quality and traceability of biofortified crops; and together with WFP, provide **technical advice and support to relevant government ministries on biofortification**.

CAIRN can support farmers with this endeavor to move from an income-enhancement model (which has been successful) to a nutritional enhancement mission which has spillover effects on health of the population as well.

3.3.2. Dairy Development Project

Relevance

In 2019, global milk production (81 per cent cow milk, 15 per cent buffalo milk, and 4 per cent goat, sheep, and camel milk combined) increased by 1.3 per cent, to approximately **852 million tonnes (Mt)**. This is further projected to grow at a 1.6 per cent annual rate (to

Indicator	Scoring
Relevance	Extremely Satisfactory
Coherence	Extremely Satisfactory
Effectiveness	Extremely Satisfactory
Efficiency	Satisfactory
Sustainability	Extremely Satisfactory

997 Mt by 2029), outpacing most other major agricultural commodities.²⁸⁵ India is the world's largest producer and consumer of milk, with the largest dairy herd in the world, consisting of water buffalo and indigenous and crossbred cattle. As per a FICCI report, total milk production in 2018-19 was 187.7 million tonnes. Since 2000, the annual increase in milk production and

²⁸⁵ <https://www.oecd-ilibrary.org/sites/aa3fa6a0-en/index.html?itemId=/content/component/aa3fa6a0-en>

consumption has averaged 4.2 per cent, and India has also established itself as a minor net exporter of dairy goods.²⁸⁶ India boosted milk production in 2019 by 4.2 per cent to 192 Mt.²⁸⁷

Milk being perishable in nature, the transaction and distribution of dairy and dairy products is a very complex socio-economic phenomena. According to the Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture & Farmers Welfare, GOI- Uttar Pradesh (16 per cent), Rajasthan (13 per cent), Madhya Pradesh (9 per cent), Andhra Pradesh (8 per cent), and Gujarat (7 per cent) are India's five major milk-producing states (2018-19), accounting for more than half of the country's production.²⁸⁸ Dairy farming is not only an economic entity, but involves fabrics of social, cultural, and economic aspects.²⁸⁹

In India, the dairy value chain is comprised of small, medium, and large-scale producers. These producers provide milk to end customers via a variety of channels, including milk sellers, cooperatives, private players, and stores. In rural India, around 48 per cent of total milk output is consumed by farmers or sold to non-producers. The remaining 52 per cent is marketable surplus milk that may be sold to urban customers. The unorganized sector dominates the Indian dairy sector. Only around 40 per cent of milk sales is expected to be handled by the organized sector (16.93 million farmers are already covered by roughly 1,90,516 village-level Dairy Corporative Societies) (DCS) as of March 2019.²⁹⁰

In Rajasthan, 23.67 million tonnes of milk were produced in 2018-19, making it the second largest milk producing state in India (FICCI Paper on Development of Dairy Sector in India, 2020). The milk production in the state is facilitated by almost 13,000 cooperative societies headed by a state level apex organization, the RCDF (Rajasthan Co-Operative Dairy Federation or "Saras"). Under Saras, the state adopted various infrastructural facilities to increase resilience of the value chain, improve income of dairy farmers and ensure good quality milk being supplied to consumers.

The population of bovine in Jalore district increased by 36 per cent in 2016.²⁹¹ Jalore contributes 2.83 per cent in the total livestock population of Rajasthan. However, the district

²⁸⁶ Landes, M., Cessna, J., Kuberka, L., & Jones, K. (2017). India's Dairy Sector: Structure, Performance, and Prospects. United States Department of Agriculture. Link here

²⁸⁷ <https://www.oecd-ilibrary.org/sites/aa3fa6a0-en/index.html?itemId=/content/component/aa3fa6a0-en>

²⁸⁸ <https://animalbusiness.com.br/colunas/suplemento-internacional/india-dairy-and-products-annual-2021/#:~:text=Milk per cent20Distribution per cent20and per cent20Processing per cent3A per cent20India's,liters per cent2Fday per cent20at per cent20producer per cent20companies.>

²⁸⁹ Marketing and Progress of Dairy Development in Uttar Pradesh: A Comparative Study of Two Regions. Journal of Economics and Sustainable Development (www.iiste.org) ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online) Vol.11, No.22, 2020

²⁹⁰ <https://ficci.in/spdocument/23304/Development-Dairy-Sector.pdf>


²⁹¹ https://www.nddb.coop/sites/default/files/NDDDB_Rajasthan_21-9-16_Final.pdf

has the lowest number of Veterinary institutions in Rajasthan.²⁹² Being in the arid zone, the climatic condition of the district posits a grave challenge for the dairy farmers of the district. Non-availability of green feeder, high cost of dry feeder, lack of irrigation facilities for producing green fodder, long distance of veterinary hospitals, lack of veterinary staff and lack of dairy infrastructure and limited presence of milk cooperatives societies in the villages are the challenges faced by the livestock/dairy farmers in the district.²⁹³

CAIRN through its Dairy Development Project, that has a high presence in Jalore district, has been addressing regional problems such as adulteration of milk, less remunerative prices, lack of bargaining power, poor veterinary services, increased exploitation of local villagers by vendors by organizing SHGs in cooperative. The project runs Mobile veterinary van to provide door to door service and has also set up of milk collection centers in communities. This establishes the relevance of the project and it as found to be extremely satisfactory.

Coherence

The project is well aligned with national and state priorities as well as SDGs. The project is well aligned with central government schemes like Animal Husbandry Infrastructure Development Fund, National Program for Dairy Development, Dairy Processing and Infrastructure Development Fund, National Dairy Plan and Scheme for Integrated Cold Chain and Value Addition Infrastructure under Pradhan Mantri Kisan Sampada Yojana and with state government schemes like Doodh Utpadan Sambal Yojana (Milk Production Support Scheme). The project is well aligned to SDG 1²⁹⁴, that envisions to end poverty in all its manifestations and SDG 8 that envisions for promoting inclusive and sustainable economic growth, employment, and decent work for all.²⁹⁵

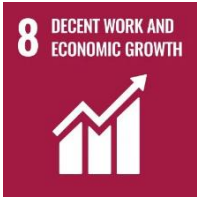
SDG	SDGs target	How is it aligned?
	<ul style="list-style-type: none"> • Target 1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day • Target 1.2 	<p>The project benefits the household in ensuring enhanced income through dairy interventions. It helps in ensuring food security, employment,</p>

²⁹²https://www.spuvvn.edu/academic_centres/agro_economic_centre/research_studies/169.Assessmen_the_Status_of_Dairy_and_Potential_to_Improve_Socio-Economic_Status_of_the_Milk_Producers_Convergence_Rajasthan.pdf

²⁹³ <https://www.bibliomed.org/mnsfulltext/68/68-1598430165.pdf?1666761046>

²⁹⁴ <https://unric.org/en/sdg-1/>

²⁹⁵ <https://unric.org/en/sdg-8/>

	<p>By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions</p> <ul style="list-style-type: none"> • Target 1.31 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance ▪ Target 1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.²⁹⁶ 	<p>promotion of technology in dairy.</p>
	<ul style="list-style-type: none"> • Target 8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors • Target 8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead 	<p>The program promotes the use of technology for to improve efficiency and improve the yield of the milk. The program covers and provides decent employment to the men and women of the beneficiary households.</p>

²⁹⁶ <https://www.sdg4education2030.org/the-goal>

	<ul style="list-style-type: none"> • Target 8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value 	
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Effectiveness

The effectiveness of the intervention was assessed on the secondary documentation for the program wherein the availability of the targets as well as the achievements against the same was considered. As per the documents provided by CAIRN, the project has achieved its defined targets. The target of increase in the milk production from 12500 to 17500 liters/day was set in the intervention villages of the project. As per the last impact assessment conducted by CAIRN, the milk production increase to 16974 liters/day in the intervention villages. Another target of improved quality and access to veterinary services was set for the project. As per the last impact assessment, 57 per cent beneficiaries observed an increase in the veterinary services of the project. This establishes the effectiveness of the project, and it was found extremely satisfactory.

Efficiency

The efficiency of the intervention was considered vis-à-vis the documents provided on the project including the agreements with the implementing partners, whether the intervention had adhered to its timelines, whether utilization was undertaken through the budget and whether the intervention aligned with the CSR policy of CAIRN. The Project is well aligned with the CSR policy of CAIRN to improve the quality and wellbeing of the community in and around the operational areas of the business. The project has been found to be adhering to the timelines defined in the MoUs. The budget of the program has been clearly documented in the MoUs. However, there has been an underspend of 20 per cent in the budget.

Overall, the efficiency of the project has been satisfactory.

Impact of the Project

Increase in the Milk Production

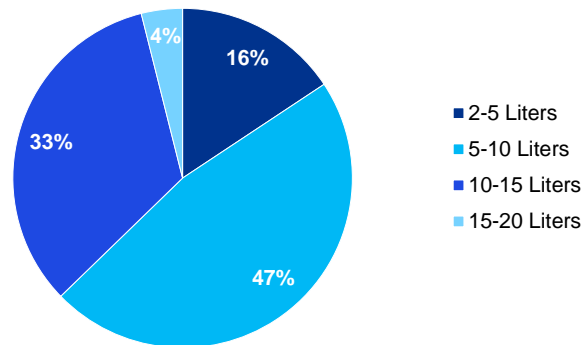


Figure 106: Increase in the Milk Production

- 47 per cent of the beneficiaries reported to have an increase in the milk production **between 5-10 liters/day**, while 33 per cent stated to have an increase in the milk production **by 10-15 liters**.
- 16 per cent of the beneficiaries stated to have **an increase in the milk production by 2-5 liters**, while 4 per cent of the beneficiaries reported to have an increase in milk production **by 15-20 liters**.
- As per the data received from the beneficiaries of project, there was an average **increase of 9.2 liters of milk/day/beneficiary**. A farmer earns around INR 35/liters from selling the milk to sate dairy cooperatives and other dairy players.²⁹⁷ The average production cost of the per liter milk comes around INR 23. Taking the consideration of the cost involved in the production and selling, farmer earns INR 12/liter of milk. And the project ensured an additional income of INR 110/day to the beneficiaries.

Sustainability

CAIRN has been ensuring operational sustainability of the project through capacity building of the SHG women on handling the equipment like MCC and BMC provided to the community under the project. It has also been converging with dairy cooperatives like Bans and Saras dairy for the procurement of milk. The program has established a robust backward and forward linkages of the project, which ensures its sustainability, and it was found extremely satisfactory.

Impact on Women empowerment

²⁹⁷ <https://actascientific.com/ASAG/pdf/ASAG-03-0528.pdf>

Under the project CAIRN has also been engaging with women. These women are trained in allied activities and linked with financial institutions. ***Data indicates that 48 per cent of the beneficiary women reported to increase in the monthly savings.***

[OECD Scoring sheet provided in Annexure](#)

Strengths

Through the Dairy Development Project, CAIRN has substantially impacted the beneficiary household. In Dairy, which remains an unorganized sector and where 42 percent of the milk has been self-consumed and sold to non-producers, CAIRN has helped in providing forward market linkages through State Cooperatives. It has helped in increase in the income of INR 110/day to the beneficiary farmers. It is recommended the program shall continue and increase its outreach.

3.4. Business Drivers for Sustainable Livelihood Programme

CSR is a pivotal management concern given that in order to expand their wealth creation role in society, businesses must proactively manage risks and take advantage of opportunities vis-à-vis reputation and engagement with stakeholders²⁹⁸. Based on the perception survey, the internal stakeholders of CAIRN believe that companies having a focus on key business drivers focused on sustainability have a greater chance of success and further believe that such companies are more attractive to investors.

“CSR is essentially a strategic approach for firms to take to anticipate and address issues associated with their interactions with others and, through those interactions, succeed in their business endeavours”.

- Hohnen, Paul (2007). Corporate Social Responsibility: An Implementation Guide for Business. International institute for Sustainable Development Source: https://www.iisd.org/system/files?file=publications/csr_guide.pdf

The majority did believe that the focus on certain key drivers for business have improved community relations. In fact, the focus on these business drivers has a direct relation to improving relationships with local communities, increasing trust, improving the reputation of CAIRN as well as contributing to the national and international social development goals. Therefore, CAIRN leadership’s perception on such benefits is both inward and outward

²⁹⁸ https://www.iisd.org/system/files?file=publications/csr_guide.pdf

looking and encompassing a varied group of stakeholders. Specifically, according to the study 66 per cent of the CAIRN's internal stakeholders **considered “supporting social development of the local community” and “providing equal economic opportunities to the local community”** are the twin key business drivers for their CSR. Specifically, within the area of providing equal economic opportunities, 33 per cent of the internal stakeholders considered that supporting existing farmers with inputs, introduction of new technologies and trainings for their income enhancement, is the strongest business driver for sustainable livelihood programmes run under CSR.

When it comes to women empowerment, within the area of providing equal economic opportunities, 66 per cent of the internal stakeholders considered that supporting women with entrepreneurship opportunities, is the strongest business driver for women empowerment programmes run under CSR.

Business Case for Project Barmer Unnati:

Businesses are seen as engines for “growth and development” and therefore in order to underpin their license to innovate, operate and grow the business, they have a critical role to play in accelerating progress towards development overall²⁹⁹. In fact, the World Business Council for Sustainable Development (WBCSD) believes that the leading companies of the future will be those that align profitable business ventures with the needs of society³⁰⁰. For any business, investments into the livelihood of communities that are marginalized or have lower incomes, supports in the growth of the communities they work in, which in turn **improves the landscape for carrying out business operations**. A community that is satisfied with the support they are receiving from the business to improve their livelihood conditions is more likely to **support the business in its own growth and further reduces the expectation of the community for employment from the business unit**.

Business Case for Diary Development Project:

Through the programme Diary Development Project, the business is able to enhance the economic empowerment of women in the field locations which in turn has an impact on their decision making, seen through the impact assessment. This, therefore, ensures that **CAIRN is positioned as an organization that is an ally for women's empowerment**, bolstered by their *People Practices* which state “*We are committed to promote gender equality and*

²⁹⁹ <https://journals.openedition.org/factsreports/840>

³⁰⁰ *ibid*

women's empowerment in the workplace, marketplace, and community"³⁰¹. It must be noted that there is a growing interest of companies to invest in women empowerment due to the heightened awareness that **"empowering women yields a high return on investment"**³⁰². According to a pre-conference during Women Deliver 2016, private sector leaders agreed that **"by investing in women, business drives growth, productivity, and innovation—and creates a better world"**³⁰³. This is due to the fact that the business is recognized to follow an integrated approach wherein not only are their internal practices in alignment with such principles, but they are equally **invested in supporting the community in inculcating the same principles of equality.**

CAIRN has instrumentally supported the women in becoming leaders in the social change process in the communities where they are working, thus driving ownership of the community members while further ensuring recognition by the community on the strengths of these women. This in turn further ensures that CAIRN has the support of influential community leaders.

³⁰¹ <https://www.hzindia.com/sustainability-management/pdf/Human-Capital-Management.pdf>

³⁰² <https://www.icrw.org/wp-content/uploads/2016/10/The-Business-Case-for-Womens-Economic-Empowerment.pdf>

³⁰³ <https://womendeliver.org/accelerating-private-sector-action-womens-empowerment/>



SKILLING

4. Thematic Area: Skilling

4.1. Executive Summary

Skill Building of the youth of the country is one of the key priorities for India at the moment, given the demographic dividend as well as stark unemployment. In order to ensure that the growing young population of the country is meaningfully employed and further provided with opportunities outside of the traditional confines of their birth.

Key Highlights of the Baseline Assessment:

- 14.32 per cent of the population is interested in tertiary skills such as IT, communications, enterprise development as well as financial management.
- Only 13.52 per cent of the main respondents were unemployed.
- 43.21 per cent of the households in the field location have at least one unemployed member.
- Only 24 per cent are willing to pay for skill training.
- The main reason provided for the unemployment in the region was the lack of available opportunities.

Key Highlights from Impact Assessment

CAIRN EXCELLENCE CENTRE:

- 100 per cent of the Barmer and 100 per cent beneficiaries from Jalore reported to receive career counselling through Cairn Enterprise Centres. Similarly, 100 per cent of the beneficiaries reported to receive placement opportunities through Cairn Enterprise Centers.
- In Barmer, 37.5 per cent of the beneficiaries reported to have an increase in income in the range of INR 3000-5000, while 62.5 per cent of the respondent beneficiaries staed to have an increase in income in the range of INR 5000-10000. In Jalore, 32.3 per cent of the respondent beneficiaries reported to have an increase in income in the range of INR 3000-5000, while 67.7 per cent of the respondent households reported to have an increase of INR 5000-10000.

Key Recommendations

- 1. Linkage between vocational education and formal skill training:** It is recommended to ensure a continuum of vocational education in schools and skill training to build on the existing interests of the youth while further providing avenues for career counselling at an earlier stage.
- 2. Improve Job Retention through enhanced Career Counselling and Job Mapping:** It is essential to map skills based on available local opportunities and provide greater career counselling to the youth as stakeholders further stated that they were interested in only getting jobs within the plants which was not possible for all. Furthermore, CAIRN may include psychometric test as part of the career counselling of candidates. Psychometric tests measure a range of skills from cognitive abilities, knowledge to assessing your personality. They are an extremely popular tool in business recruitment.
- 3. Enhance Reach of Skilling Centres:** The skilling centres in Barmer and Jalore are limited in capacity but there is a requirement of more as unemployment is a major issue as highlighted by all district and BU level stakeholders.
- 4. Focus on initiatives such as E-Dukaan:** E-Dukaan is a novel initiative within this programme wherein beneficiaries are taught how to setup their own venture of e-shops. Support may further be provided to more batches of students to set up their own ventures of e-shops to tackle the issue of out-migration required for skilled jobs while further building an enterprise culture within the field locations

4.2. Baseline Assessment

India has one of the youngest populations with around 62.5 percent of its population in the working age group of 15-59 years³⁰⁴. India's demographic dividend³⁰⁵ is estimated to peak around 2041 when the share of the working-age population is expected to rise to 59 percent³⁰⁶. Although this demographic opportunity holds significant potential for progress, there are certain prerequisites for harnessing the same such as a skilled working population,

³⁰⁴ <https://www.livemint.com/Opinion/zgCdZ3GrDwtDpQWD95HenO/Opinion--Indias-demographic-dividend-will-play-out-over-a.html>

³⁰⁵ The term "demographic dividend" describes the potential for economic growth that can result from changes in the age structure of a population, particularly when the share of the working-age population, which is defined as those between the ages of 15 and 64, is higher than the non-working-age population. Source: <https://www.imf.org/external/pubs/ft/fandd/2006/09/basics.htm>

³⁰⁶ Source: Economic Survey 2018-19

gainful employment opportunities, access to education and vocational training, and a healthy populace³⁰⁷.

According to the data from the Centre for Monitoring Indian Economy (CMIE), India's labour force participation rate for the age-group 15-59 years has fallen to 40 percent in 2022 from 47 percent in 2016-17³⁰⁸. This suggests that the country's labour force has further decreased to less than half of the total working-age population, amounting to approximately 435 million out of 1,085 million³⁰⁹ individuals. Hence, the nation needs to create more jobs and enhance skills to increase employability among the young population.

While 37.1 per cent of the youth are in the labour force, there is a large difference between the participation rate of men (57.1 per cent) and that of women (12.7 per cent)³¹⁰. India's rigid patriarchal structure and gender disparity reveals that 3 out of every 4 women do not take part in any recognised economic activity³¹¹. In such a situation, when more than half of our youth do not participate in the formal labour force, it is difficult to realise India's demographic advantage. Further the Government of India has ambitious plans to transform India into a competitive, high-growth, and highly productive middle-income country³¹². The economy is in transition from being largely agriculture-based to a manufacturing and service-based economy. However, these plans depend on the availability of jobs in the market and the quality of the labour force. In India, it is estimated that for the next two decades, over 12 million young people between 15 and 29 years of age will join the workforce every year³¹³. Thus, there is a need for around 109 million skilled workers across key industry sectors as per the government's skill gap analysis³¹⁴.

Reasons for Unemployment or Underemployment

³⁰⁷ <https://thewire.in/rights/world-population-day-withering-demographic-dividend>

³⁰⁸ Centre for Monitoring Indian Economy (CMIE)

³⁰⁹ <https://www.thehindu.com/business/Economy/only-40-indians-are-employed-or-seeking-work-cmie/article65354550.ece>

³¹⁰ [India's Labour Force Participation Rate \(drishtias.com\)](https://www.drishtias.com/india-labour-force-participation-rate/)

³¹¹ [Skilling And Employment Of Women: A Priority For India's Progress \(outlookindia.com\)](https://www.outlookindia.com/skilling-and-employment-of-women-a-priority-for-indias-progress/)

³¹² [Skilling India \(worldbank.org\)](https://www.worldbank.org/skilling-india/)

³¹³ Ibid

³¹⁴ Ibid

The COVID-19 pandemic has changed the “architecture of the job market”³¹⁵. Not only is the proportion of those unemployed high in the states and districts wherein CAIRN operates, but the overall unemployment rate of Rural India also currently stands around 8 per cent³¹⁶. In fact, in Rajasthan, unemployment has been shooting up since the pandemic began³¹⁷ and currently stands at 24.5 per cent³¹⁸.

- As compared to the Census data, the proportion of non-workers in the field location is around 27 per cent lower than the district averages.
- As per the primary data, the main reason for unemployment across the field locations is the lack of employment opportunities.

Unemployed Population in the Field Locations and Districts

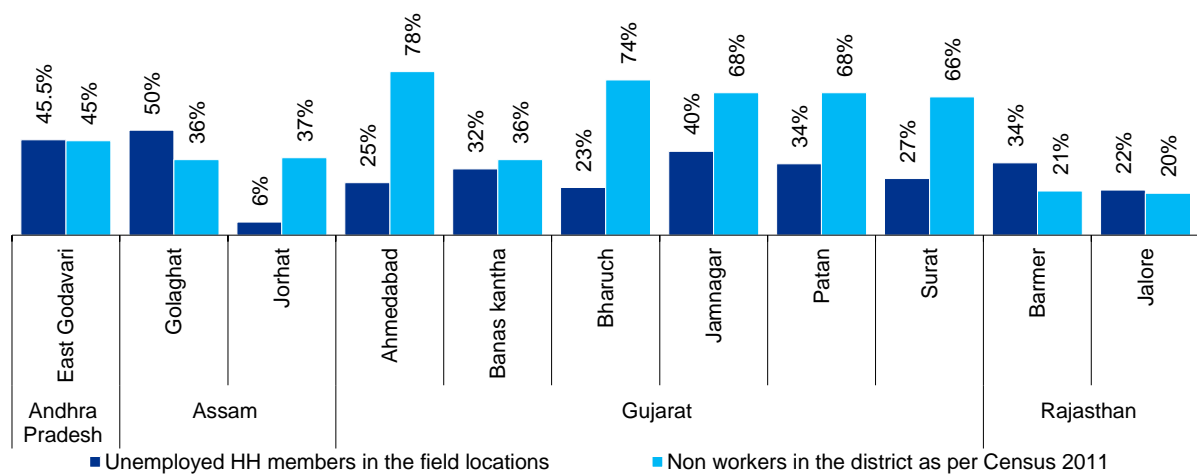


Figure 107 Unemployed Population in the Field Locations and Districts

On an average, the proportion of non-workers (from the working age population) in the districts is 50.4 per cent³¹⁹ while in the field locations is 29.26 per cent. While lower than the district and the state averages, the figures still provide for a concerning outlook for the state of employment in these locations.

Thus, it is pertinent to understand why the population remains unemployed. According to the baseline data collected, on an average 21 per cent of the population considers that unemployment and underemployment exists since there is a lack of training in skills of

³¹⁵ <https://timesofindia.indiatimes.com/city/jaipur/unemployment-rate-in-raj-at-record-high-as-mfg-remains-laggard/articleshow/81499825.cms>

³¹⁶ <https://www.cmie.com/kommon/bin/sr.php?kall=warticle&dt=20221102183258&msec=706>

³¹⁷ <https://timesofindia.indiatimes.com/city/jaipur/unemployment-rate-in-raj-at-record-high-as-mfg-remains-laggard/articleshow/81499825.cms>

³¹⁸ <https://unemploymentinindia.cmie.com/>

³¹⁹ Census 2011

interest, 70 per cent believe that it is due to lack of opportunities and 9 per cent believe it is because skill trainings do not translate into sustainable livelihood opportunities.

However, it is important to note that despite the existence of unemployed members in the households in the field locations of Ahmedabad, East Godavari, Jamnagar and Surat, there were no reasons provided for unemployment or underemployment. While CAIRN does not run skill development activities in these locations, the significant unemployment, especially given that there is a gender imbalance in workforce participation in these locations, points to the need of the community for support towards career counselling, especially livelihood of women.

Reasons for Unemployment and Underemployment in the Community

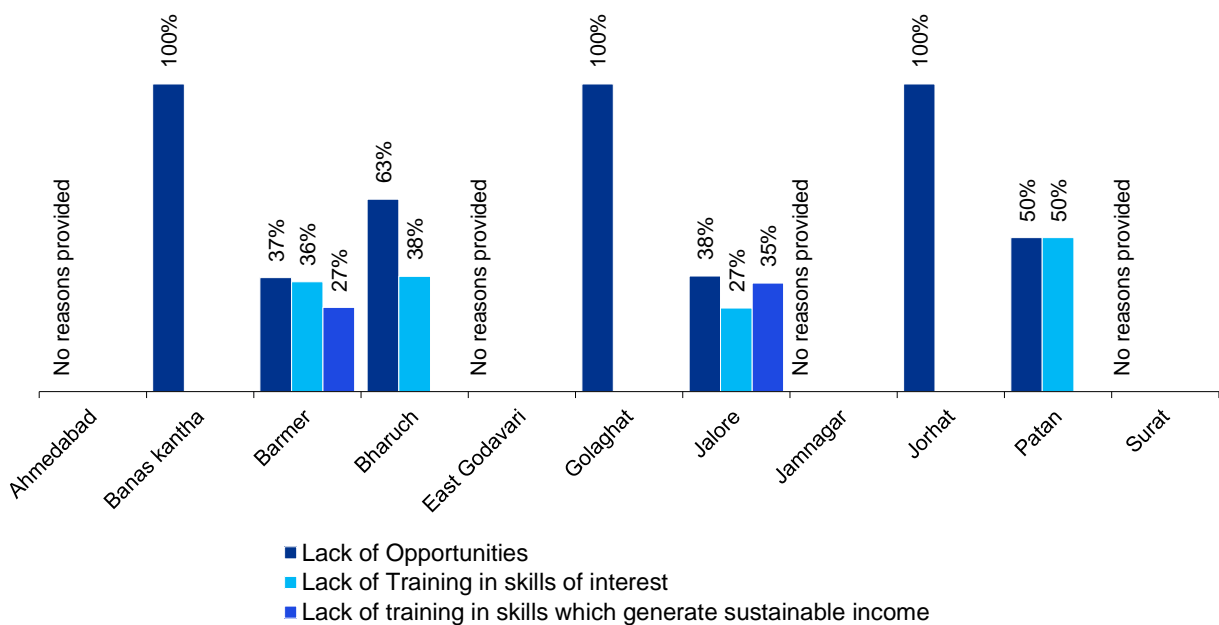


Figure 108 Reasons for Unemployment and Underemployment in the Community

Field Unit: Golaghat, Assam

The respondents in Golaghat stated that the chief and only reason for unemployment and underemployment in the field location was the *lack of opportunities*.

Field Unit: Jorhat, Assam

The respondents in Jorhat stated that the chief and only reason for unemployment and underemployment in the field location was the *lack of opportunities*.

Field Unit: Banas Kantha, Gujarat

The respondents in Banas Kantha stated that the chief and only reason for unemployment and underemployment in the field location was the *lack of opportunities*.

Field Unit: Bharuch, Gujarat

63 per cent of the respondents in Bharuch stated that the chief reason for unemployment or underemployment in the field location was the lack of opportunities followed by 37 per cent who stated that the reason was due to the lack of training in skills of interest.

Field Unit: Patan, Gujarat

Half the respondents in Patan stated that the chief reason for unemployment or underemployment in the field location was *the lack of opportunities*. The other half stated that the reason was due to *the lack of training in skills of interest*.

Field Unit: Barmer, Rajasthan

38 per cent of the respondents in Barmer stated that the chief reason for unemployment or underemployment in the field location was the lack of opportunities followed by 27 per cent who stated that the reason was due to the lack of training in skills of interest. Another 27 per cent of the respondents stated that there was lack of training in those skills that would lead to sustainable employment.

Field Unit: Jalore, Rajasthan

37 per cent of the respondents in Jalore stated that the chief reason for unemployment or underemployment in the field location was the lack of opportunities followed by 36 per cent who stated that the reason was due to the lack of training in skills of interest. Another 35 per cent of the respondents stated that there was lack of training in those skills that would lead to sustainable employment.

Interest in Skill Training

To capture the interest in skill training, the working age respondents were asked whether they would be interested in any form of skill training from the choices such as “on-farm skills”, “mending and repairing”, “animal husbandry”, “IT Skills”, “Communication Skills”, “Financial Management”, “Enterprise development” etc. The results have been recorded from across the different occupations the respondents are currently engaged in, including those who are unemployed. It must be noted that each respondent had the choice to include more than one area of skill training.

- In Andhra Pradesh, majority of the population was found to be interested in learning communication skills, financial management and enterprise development.
- In Assam, majority of the population was interested in learning Enterprise Development, IT skills and Animal Husbandry.
- In Gujrat, most of the respondents reported to be interested in learning on farm skills.
- In Barmer, most of the respondents reported to learn on-farm skills. It must be noted that in Barmer, CAIRN has implemented ‘Project Barmer Unnati’ to support farmers. The project led to the enhancement of the income of the beneficiaries and it may be the case that the impact of the project motivated the respondents to learn on-farm skills.

Field Unit: East Godavari, Andhra Pradesh

In East Godavari, 55.6 per cent of the respondents showed interest in learning communication skills. Further, 55.6 per cent of the respondents reported to learn financial management and enterprise development skills.

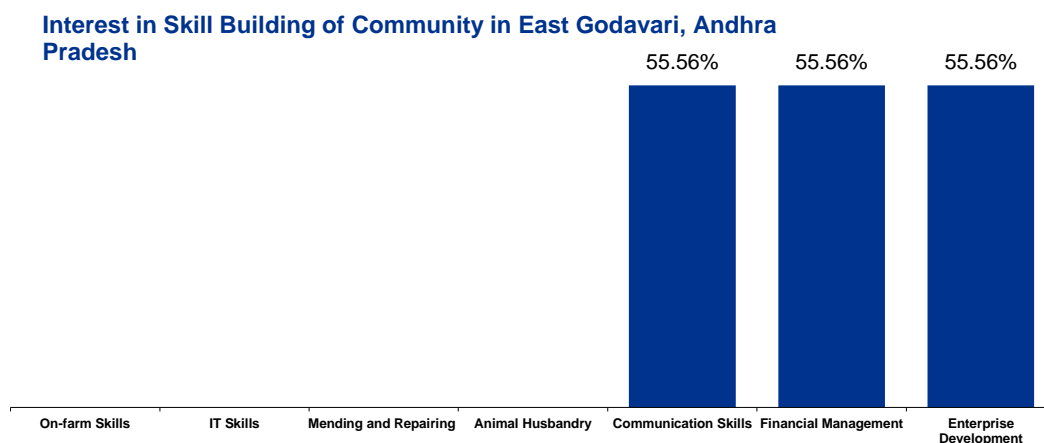


Figure 109 Interest in Skill Building of Community in East Godavari, Andhra Pradesh

Field Unit: Golaghat, Assam

In Golaghat, 60 per cent of the respondents reported to learn IT skills and 100 per cent of the respondent showed interest in Enterprise Development.

Interest in Skill Building of Community in Golaghat, Assam

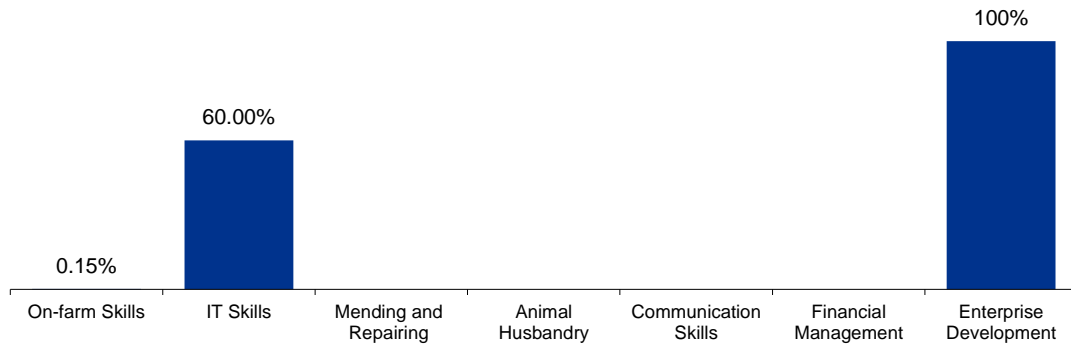


Figure 110 Interest in Skill Building of Community in Golaghat, Assam

Field Unit: Jorhat, Assam

In Jorhat, 87.50 per cent of the respondent households reported to learn Animal Husbandry, while 25 per cent of the respondents reported to learn enterprise development.

Interest in Skill Building of Community in Jorhat, Assam

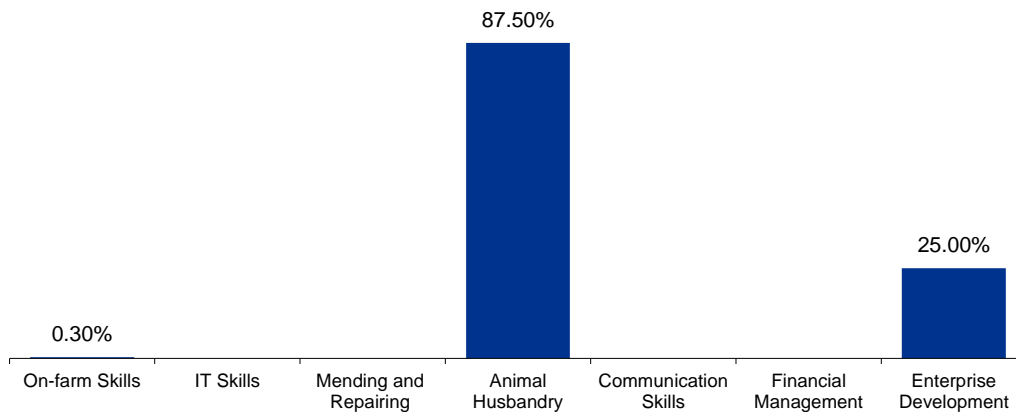


Figure 111 Interest in Skill Building of Community in Jorhat, Assam

Field Unit: Banas Kantha, Gujarat

Interest in Skill Building of Community in Banas Kantha, Gujarat

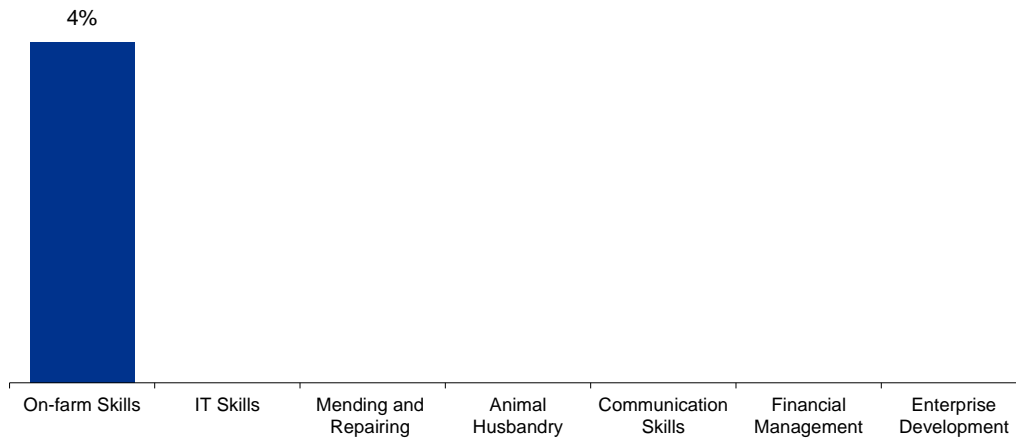


Figure 112 Interest in Skill Building of Community in Banas Kantha, Gujarat

Only 4 per cent of the respondent showed interest in skill learning in Banas Kantha, Gujarat. All of them showed interest in learning on-farm skills.

Field Unit: Bharuch, Gujarat

In Bharuch, 8.93 per cent of the respondent households reported to learn IT skills and only 7 per cent of the respondents showed interest in learning on-farm skills.

Interest in Skill Building of Community in Bharuch, Gujarat

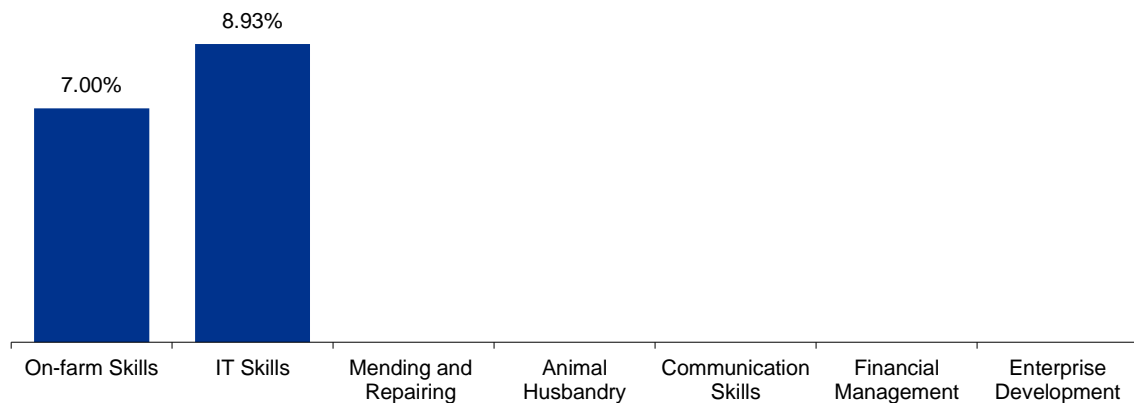


Figure 113 Interest in Skill Building of Community in Bharuch, Gujarat

Field Unit: Patan, Gujarat

In Patan, 41.8 per cent of the respondents reported to learn on-farm skills. Same percentage of the respondents showed interest in IT skills also.

Interest in Skill Building of Community in Patan, Gujarat

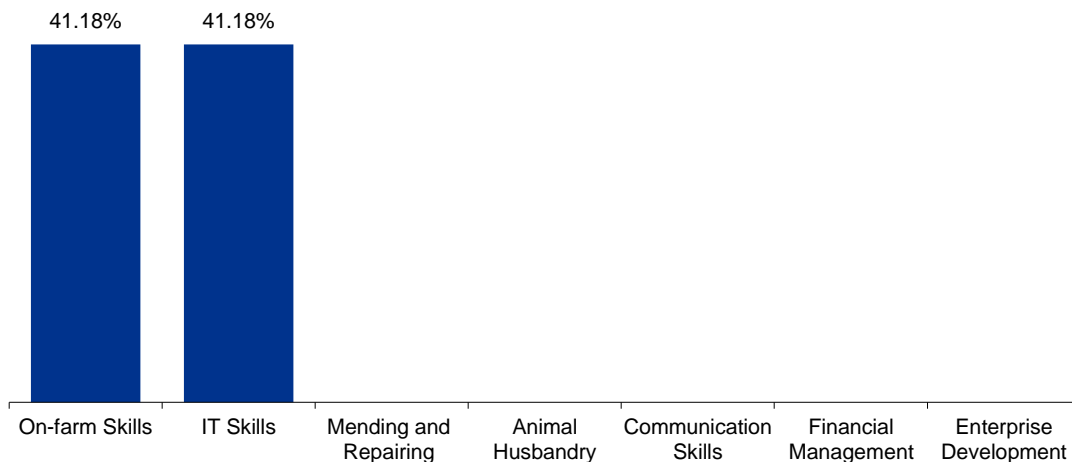


Figure 114 Interest in Skill Building of Community in Patan, Gujarat

Field Unit: Barmer, Rajasthan

The main occupation of the people and chief source of economic activity in Barmer is agriculture. It is one of the twelve districts in Rajasthan currently receiving funds from the Backward Regions Grant Fund Programme (BRGF). An NSDC report³²⁰ highlights that some of the major employment engagement in the district happens in the sectors of mines and minerals, furniture, and manufacturing sector. While a substantially good number of workforce form the service backbone of the district and are engaged in various industries, households etc. as daily wagers. forming the unorganized sector.

³²⁰ <https://skillsip.nsdcindia.org/sites/default/files/kps-document/rajasthan-skill-gap-report.pdf>

Interest in Skill Building of Community in Barmer, Rajasthan

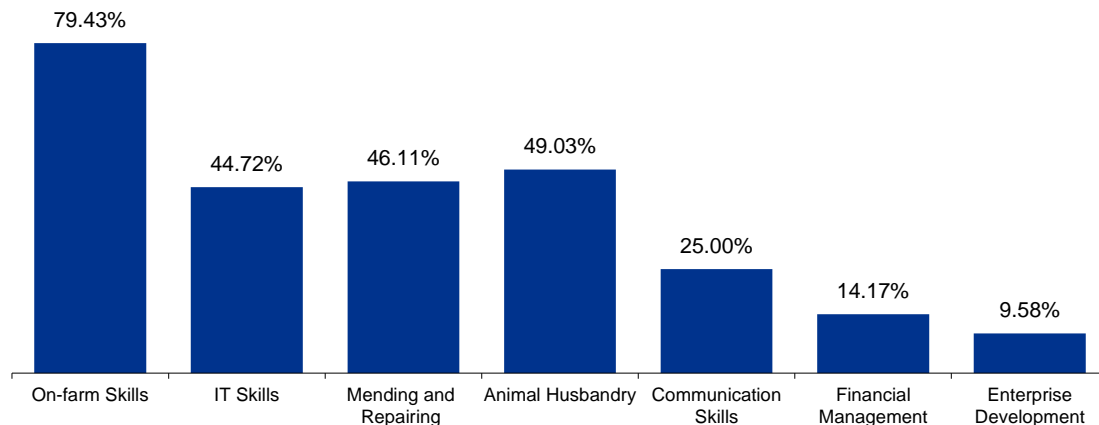


Figure 115 Interest in Skill Building of Community in Barmer, Rajasthan

The current baseline data indicates that majority (79.43 percent) of the respondents stated that they had an interest in training on farm skills. While 49 percent stated that they were interested in training on animal husbandry, 46 percent expressed interest in learning skills like mending and repair. Furthermore, 44.72 per cent also stated that they were interested in IT skills.

The majority of the respondents in the field location had stated that they were employed as farmers either on their own land or own lease. It is thus seen as a significant requirement in the field location to carry out awareness raising programmes on skill training in alternative livelihoods, offered both, by the business unit as well as the government.

Field Unit: Jalore, Rajasthan

The NSDC report³²¹ states that majority of the workforce in Jalore is engaged in subsistence agriculture and remains idle for the bulk period of the year. Tiles and stones, textiles and leather hold the key to future employment in the district. The requirement for semi-skilled workforce was also higher than the skilled workforce. In 2016-17 the total demand for manpower in the agriculture sector was 72 per cent in Jalore while for industry and service sector it was 11 per cent and 17 per cent respectively. Sectors with high requirement of semi-skilled labour were handloom, textile, mining, hospitality, construction, machinery and manufacturing. However, even though there are vocational training institutes, yet no specific training is provided on skills related to agriculture.

³²¹ <https://skillsip.nsdcindia.org/sites/default/files/kps-document/rajasthan-skill-gap-report.pdf>

Interest in Skill Building of Community in Jalore, Rajasthan

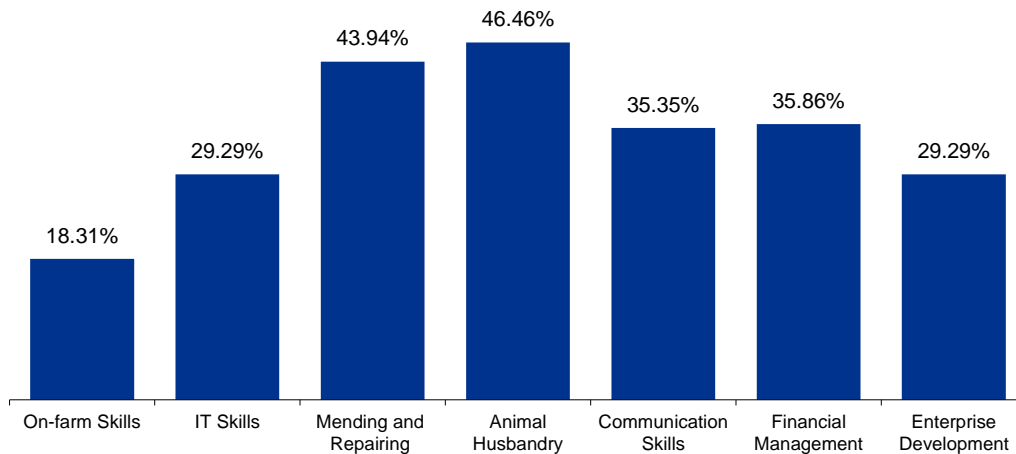


Figure 116 Interest in Skill Building of Community in Jalore, Rajasthan

It has been observed that most of the respondents (46.46 per cent) expressed interest in learning skills on animal husbandry. 43.94 per cent expressed interest in mending and repairing, 35.35 per cent further expressed a desire to learn skills on communication skills, while 35.86 per cent showed an interest in financial management.

The majority of the respondents in the field location had stated that they were employed as farmers either on their own land or own lease. It is thus seen as a significant requirement in the field location to carry out awareness raising programmes on skill training in alternative livelihoods, offered both, by the business unit as well as the government.

Willingness to Pay for Skill Training

- *The willingness to pay for skill training remains low across field location except Assam, where 100% of the respondents in both field locations were willing to pay for leaning skills.*
- *In Barmer, 21% of the respondents were willing to pay for skill training.*

Willingness to Pay for Skill Training

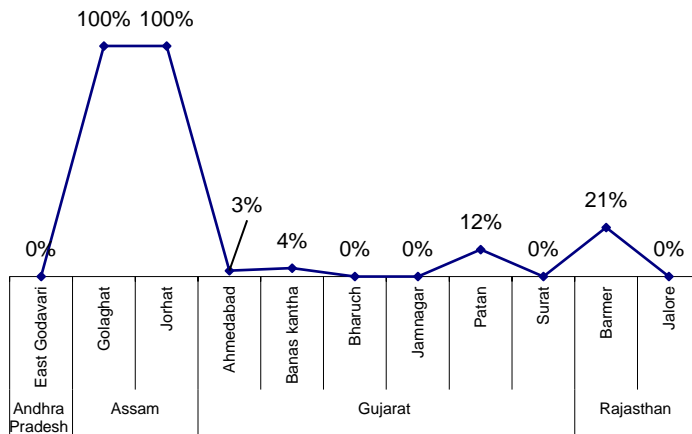


Figure 117 Willingness to Pay for Skill Training

The willingness of the respondents to spend on skill building is extremely low in most locations. In fact, unlike Golanghat and Jorhat field locations in Assam wherein 100 per cent of the respondents are willing to pay out of their own pocket to undertake skill development, in other locations, the enthusiasm remained low.

Thus, while there may be a desire to acquire certain new skills, it is not considered something that the respondents would pay for themselves. This further provides an indication as to why a majority of those currently employed as well as those unemployed who had stated any interest in skill building, were largely returning towards traditional forms of livelihood such as agriculture and animal husbandry. These are areas where the business unit has been providing support. Furthermore, while the farmers are encouraged to contribute on their own, it would still be considered cheaper for them to continue to be engaged in this kind of

livelihood where they are receiving support and have begun earning more and saving money on input costs.

Analysis and Way Forward

Improvements in Skilling

- 14.32 per cent of the population is interested in tertiary skills such as IT, communications, enterprise development as well as financial management.
- Only 13.52 per cent of the main respondents were unemployed.

Challenges

- 43.21 per cent of the households in the field location have at least one unemployed member.
- Only 24 per cent are willing to pay for skill training.
- The main reason provided for the unemployment in the region was the lack of available opportunities.

Way Forward

- 1 **Continuum of Vocational Education in School and Formal Skill Training:** According to the survey data collected, a majority of the respondents are interested in on-farm skill training above all other forms of trainings that are available and can be provided to them. Furthermore, willingness to pay for training is also low. It is recommended that given the large number of people who are engaged in agricultural and animal husbandry practices, skill training be continued for them in this field. In addition, a continuum of vocational education in schools (and skill training can be planned for children who are being benefitted under the educational programs currently, which are geared towards more technical areas such as those provided through it is.

4.3. Impact Assessment

4.3.1. CAIRN Enterprise Centre

Relevance

The Indian economy is set to transform from an agricultural-based to a manufacturing and service-based economy. Thus, the Government of India has ambitious plans to transform India into a competitive, high-growth, high productivity middle-income country. In fact, according to the National Skill India Mission “As India moves progressively towards becoming a ‘knowledge economy’ it becomes increasingly important that the country should focus on advancement of skills and these skills have to be relevant to the emerging economic environment”³²².

More than 12 million youth between 15 and 29 years of age are expected to enter India’s working age population every year for the next two decades. The government’s recent skill gap analysis concludes in next few years, another 109 million or so skilled workers will be needed in the 24 keys sectors of the economy.³²³ It should also be noted that according to the Global Business Coalition for Education (GBC-Education), United Nations Children’s Fund (UNICEF) and the Education Commission, more than 50 per cent of the Indian youth is not on track to have the education and skills necessary for employment by 2030³²⁴.

- 100 per cent of the beneficiaries reported to receive placement opportunities through Cairn Enterprise Centers.
- In Barmer, 37.5 per cent of the beneficiaries reported to have an increase in income in the range of INR 3000-5000, while 62.5 per cent of the respondent beneficiaries stated to have an increase in income in the range of INR 5000-10000.
- Similarly, in Jalore, 32.3 per cent of the respondent beneficiaries reported to have an increase in income in the range of INR 3000-5000, while 67.7 per cent of the respondent households reported to have an increase of INR 5000-10000.

Indicator	Scoring
Relevance	Extremely Satisfactory
Coherence	Extremely Satisfactory
Effectiveness	Extremely Satisfactory
Efficiency	Satisfactory
Sustainability	Moderately Satisfactory

³²² <https://nationalskillindiamission.in/policy/>

³²³ [Skilling India \(worldbank.org\)](https://www.worldbank.org/skilling-india)

³²⁴ <https://timesofindia.indiatimes.com/blogs/voices/the-aspiring-youth-and-the-skill-gap/>

India's working age population is estimated to be 98.22 crore, of which 43.51 per cent are within the labour force i.e., either working, willing to work or actively looking for work. Only 12.71 per cent of this population are women. Of all in the labour force, 5 per cent have either received or are undergoing the process of formal vocational training (60 per cent of these are from 5 states viz. Karnataka, Uttar Pradesh, West Bengal, Tamil Nadu, and **Rajasthan**³²⁵. It must be noted that of those who received training or are currently undergoing training, over 65 per cent are employed (across the country).

Jobs in India are diminishing as the unemployment rate was nearly 7.77 percent in October 2022, according to the Centre for Monitoring Indian Economy (CMIE). This is the highest unemployment rate witnessed in the country over the last three decades. As per CMIE data, in the state of Rajasthan, the unemployment rate in October 2022 was recorded to be at 30.7 percent, which is the second highest in the country after Haryana. In the last three years the unemployment rate in Rajasthan has increased from 6.4 percent to 30.7 percent.³²⁶ Coupled with this is the low literacy levels and the high rate of dropouts as well as out of school children. Further, it was found that employment for local youth still remains a challenge due to the gap in demand and supply of skill sets required. The survey found that there is a dearth of employment opportunities within the local communities, largely driven by the fact that they did not have the required skills nor were there enough opportunities to be trained in skills of interest.



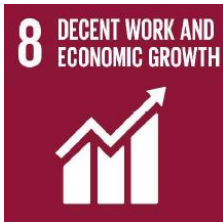
Coherence of Intervention

CAIRN Enterprise Centre Program in Rajasthan programme aligns with both national priorities on skilling as well as with the Sustainable Development Goals. The SDGs include Goal 1: End Poverty in all its forms, Goal 4: Quality Education and Goal 8: Decent Work for All. It also aligns with the skilling objectives under National Skill Mission and National Rural Livelihood Mission. Therefore, the intervention is **extremely satisfactory on the coherence scale**.

³²⁵ https://skillsip.nsdcindia.org/sites/default/files/kps-document/Estimating_per cent20the_per cent20Skill_per cent20Stock_per cent20in_per cent20India.pdf

³²⁶ [Unemployment \(cmie.com\)](https://www.cmie.com/unemployment)

Table 8.1 Alignment of Project with the SDGs

SDG	SDGs target	How is it aligned?
	<p>Goal 1. End poverty in all its forms everywhere</p> <p>Target 1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day</p>	<ul style="list-style-type: none"> • Providing access to a decent source of income and necessary skills to keep oneself employed would help individuals sustain themselves, their families and hence contribute to eradicating income poverty.
	<p>Target 4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship</p>	<ul style="list-style-type: none"> • The project contributes to ensuring access to relevant and quality skills to get employment
	<p>Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</p> <ul style="list-style-type: none"> • Target 8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value • Target 8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training 	<ul style="list-style-type: none"> • The project contributes to ensuring access to relevant and quality skills to get employment. Further, placement opportunities are provided to ensure access to jobs as well.

Effectiveness of Intervention

The effectiveness of the intervention was assessed on the secondary documentation for the program wherein the availability of the targets as well as the achievements against the same was considered. CEC programme, according to available documentation, aimed at training at least 1200 youths and ensuring placement of at least 75 percent of candidates. However, between 2016 and 2019, 3535 youth were enrolled, of which 81 percent completed the course. Of all enrolled, 67 percent received placement, however of those who received certificate, 83 percent received placement. The highest paid trade was industrial electrician and helper mason with an average salary of 9000/- per month

As per previous impact reports, as far as the perceived benefits of training were concerned, over four-fifth responded an increase in confidence level (87 percent) and getting employment (85 percent). Close to two-thirds (65 percent) reported an increase in employment opportunities as one of the benefits. Additionally, more than half reported increased decision-making power within the household (53 percent) and increased respect within community and household (55 percent) as the key benefits perceived by them.

Therefore, the intervention is extremely satisfactory on the effectiveness scale.

Efficiency of Intervention

The efficiency of the intervention was considered vis-à-vis the documents provided on the project including the agreements with the implementing partners, whether the intervention had adhered to its timelines, whether utilization was undertaken through the budget and whether the intervention aligned with the CSR policy of CAIRN. CEC programme aligned with the CAIRN policy however, the complete budget was not provided with indication of financials and utilisation. Thus, the intervention is **moderately satisfactory on the efficiency scale.**

Sustainability

The project is linked with government skill development programs and is drawing trainers and certificate programs from existing institutions. On the gender equity front, we witness that the program documents show less participation of women. This has also been highlighted as part of the previous impact study where barriers to participation of women were cited as

unwillingness of women to migrate for jobs as well a lack of a hostel facility to house women. The program is popular among the youth and tackles the key problem of unemployment.

It is important to note though as the program is fully sponsored by CAIRN Foundation, there is less scope for sustaining the CEC without monetary convergence from the government's end. **Hence, the program would score as moderately satisfactory on the sustainability parameter.**

[OECD Scoring sheet provided in Annexure](#)

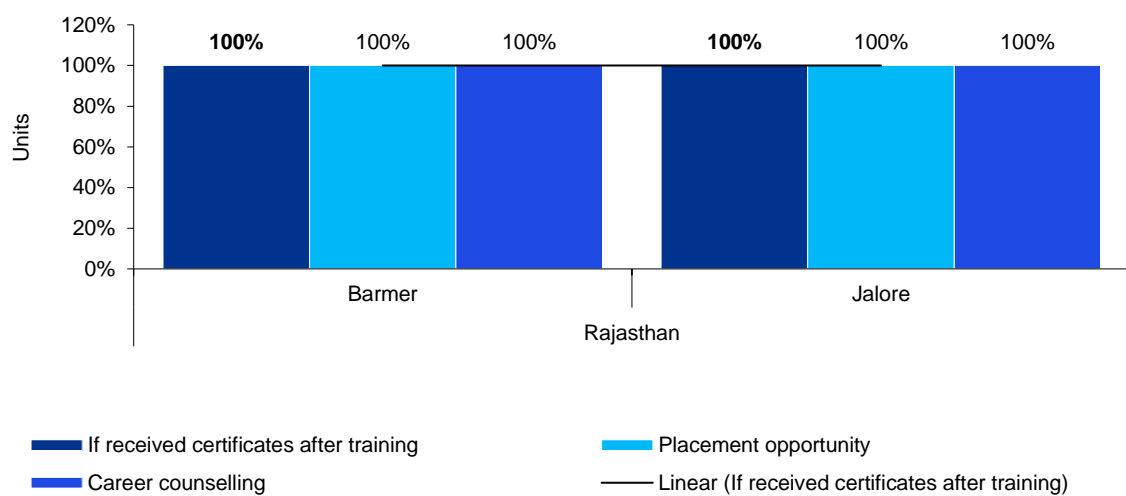
Impact of Intervention

Training and Placement Opportunities

Since a majority of our sample and extent of project intervention was in Jalore and Barmer, all the beneficiaries whose responses have been captured these two districts.

- *All the respondent beneficiaries reported who enrolled in the Cairn Enterprise Centre reported to receive certification after completing the training program.*
- *100 per cent of the beneficiaries from Barmer and 100 per cent beneficiaries from Jalore reported to receive career counselling through Cairn Enterprise Centres.*
- *Similarly, 100 per cent of the beneficiaries reported to receive placement opportunities through Cairn Enterprise Centers.*

Beneficiary Response to Training

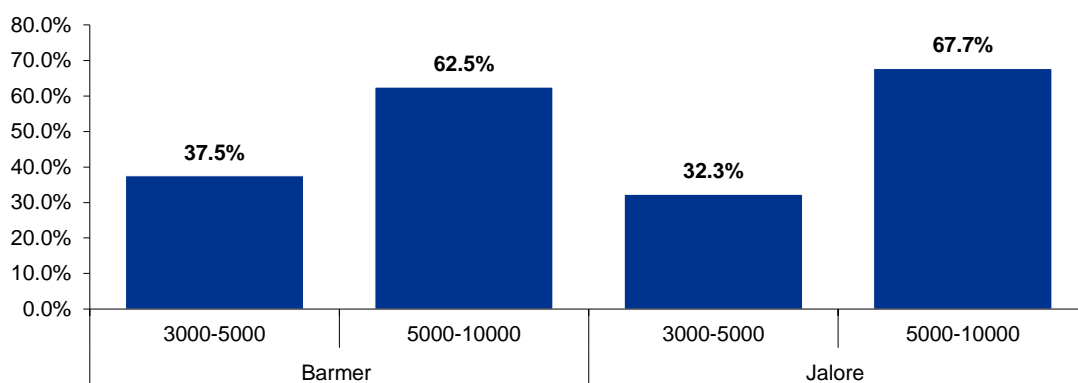


As per Pradhan Mantri Kaushal Vikas Yojna (PMKVY), a candidate is considered to be placed if the candidate is in continuous employment (wage or self-employment) for 3 months.³²⁷ As per the beneficiary data received, 100 per cent of the respondent in Barmer and 100 per cent of the respondent in Jalore reported to have continuous job for at least three months.

Increase in Income

All the beneficiaries who received the trainings and certification post completion of their training reported to have increase in income after getting placed.

Increase in Income of the Trainees



- ***In Barmer, 37.5 per cent of the beneficiaries reported to have an increase in income in the range of INR 3000-5000, while 62.5 per cent of the respondent beneficiaries stated to have an increase in income in the range of INR 5000-10000.***
- ***Similarly, in Jalore, 32.3 per cent of the respondent beneficiaries reported to have an increase in income in the range of INR 3000-5000, while 67.7 per cent of the respondent households reported to have an increase of INR 5000-10000.***

Strengths

All the interviewed beneficiaries of the project received placement and career counselling. The project helped the beneficiaries in the income enhancement.

³²⁷ http://www.pmkvyofficial.org/faq.php?cat_id=47

Challenges

The Job retention period of the beneficiaries was found out low. Only 16 per cent of the respondents reported to retain their job for 12 months or more. Almost half of the beneficiaries who received placement opportunities retained their job only for 3 months.

Job Retention Period of the Trainees Who Received Placement Opportunity

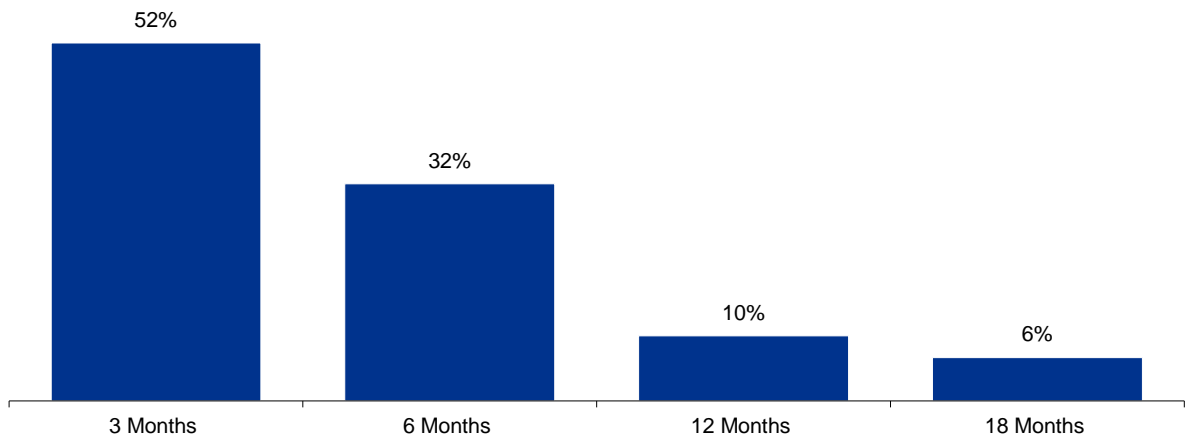


Figure 118: Job Retention Period of the Trainees Who Received Placement Opportunity

Way Forward

- 1. Improve Job Retention through enhanced Career Counselling and Job Mapping:** Skill training is one of the key requirements in the field locations with a significant number of unemployed. While income has increased for a majority of respondents due to association with projects such as Barmer Unnati and Dairy Development where income and savings have increased, there remain a significant portion of unemployed people who continue to show no interest in skill training either. Moreover, a lot of youth were placed but could not retain their jobs for over three months as they were placed outside their current hometown. Furthermore, the current baseline showed that the majority of the respondents regardless of their current occupation were interested in on-farm skills in Barmer. This can be attributed to the success of the Barmer Unnati project with income increase being reported by a majority. Yet, what is required is to map skills further based on local opportunities available and provide greater career counselling to the youth as stakeholders further stated that they were interested in only getting jobs within the plants which was not possible for all.

Furthermore, **CAIRN may include psychometric test as part of the career counselling of candidates.** Psychometric tests measure a range of skills from cognitive abilities, knowledge to assessing your personality. They are an extremely popular tool in business recruitment.

2. **Enhance Capacities of Skilling Centres:** The skilling centres have limited capacity but there is a requirement of more as unemployment is a major issue as highlighted by all district and BU level stakeholders. Expansion of the same through more trainers and batches can be explored.
3. **Support placed trainees with social security:** Despite a favourable placement rate, it was seen that job retention of the trainees was on the lower side with the majority only retaining their jobs for around three months. Furthermore, despite an interest in skill building, hesitancy was seen in paying for such trainings. Placement often takes youth to locations away from their households, the return on their investment into such trainings is unknown to them while there is an enhanced risk of a reduced social security net. It is recommended that the business unit may support trained youth in closing the loop through the creation of Worker Facilitation Centres, at source and destination sites. This centre may include linkages to social security and protection, financial inclusion, and health care to workers who migrate due to such placements.
4. **Focus on E-Dukaan:** E-Dukaan is a novel initiative within this programme wherein beneficiaries are taught how to setup their own venture of e-shops. Support may further be provided to more batches of students to set up their own ventures of e-shops in order to tackle the issue of out-migration required for skilled jobs while further building an enterprise culture within the field locations.

Best Practice: *Ajeevika Bureau has created a network of "Shramik Sahayata evam Sandarbh Kendra's" (Workers Facilitation Centres). These centres are located in rural blocks of south Rajasthan and correspondingly, in high density urban centres of Gujarat and Maharashtra. While a part of their intervention supports workers with skill training. In order to close the loop, Ajeevika offers legal aid, linkages to social security and protection, financial inclusion, and health care to migrant workers through Worker Facilitation Centres.*

4.4. Business Drivers for Skilling Programme

CSR is a pivotal management concern given that in order to expand their wealth creation role in society, businesses must proactively manage risks and take advantage of opportunities vis-à-vis reputation and engagement with stakeholders³²⁸. Based on the perception survey, the internal stakeholders of CAIRN believe that companies having a focus on key business drivers focused on sustainability have a greater chance of success and further believe that such companies are more attractive to investors.

“CSR is essentially a strategic approach for firms to take to anticipate and address issues associated with their interactions with others and, through those interactions, succeed in their business endeavours”.

- Hohnen, Paul (2007). Corporate Social Responsibility: An Implementation Guide for Business. International institute for Sustainable Development Source: https://www.iisd.org/system/files?file=publications/csr_guide.pdf

The majority did believe that the focus on certain key drivers for business have improved community relations. In fact, the focus on these business drivers has a direct relation to improving relationships with local communities, increasing trust, improving the reputation of CAIRN as well as contributing to the national and international social development goals. Therefore, CAIRN leadership’s perception on such benefits is both inward and outward looking and encompassing a varied group of stakeholders. Specifically, according to the study 66 per cent of the CAIRN’s internal stakeholders considered “*supporting social development of the local community*” and “*providing equal economic opportunities to the local community*” are the twin key business drivers for their CSR. Specifically, within the area of providing equal economic opportunities, 86 per cent of the internal stakeholders considered that supporting the youth of the local community with skill development and placement, is the strongest business driver for skilling programmes run under CSR.

Furthermore, 100 per cent internal stakeholders also stated that skilling is one of the most important thematic areas that CAIRN should focus on to enhance their social license to operate.

³²⁸ https://www.iisd.org/system/files?file=publications/csr_guide.pdf

Business Case for CAIRN Enterprise Centre:

Given that “Industries have a crucial role in impelling lasting economic development of the country, investment by them in skilling the workforce makes a strong business case”³²⁹. Investment in skill building through CSR is seen as a win-win opportunities for companies as they create wide ranging impacts and sustainability for a company’s stakeholders³³⁰. To act as a leader in the field of skilling the youth in the field locations where they operate and by supporting them with job placements as well as retention in modern industries, CAIRN not only **gains favour of the growing youth but also enhances the workforce portfolio of these locations**, supporting the government, the community as well as creating future workforce that could contribute to their own development. It may further **reduce the expectations of the community from the business in providing employment**.

³²⁹ <https://indiaccsr.in/scope-of-csr-for-contributing-to-skill-development-in-india/>

³³⁰ <https://www.shristicorp.com/skill-development-a-preferred-area-for-csr/>





EDUCATION

5. Thematic Area: Education

5.1. Executive Summary

CAIRN India has been carrying out significant efforts in the field of education, with a strong community and stakeholder connect. They have worked with complete synergy and cognizance with the stakeholders to develop and carry forward such projects through education indicators have seen a tremendous improvement as compared to 2019 survey³³¹ and other secondary state and district level trends.

Following the National Education Policy (NEP) 2020, the country has affirmed the right to universal and quality education to ensure economic growth, advancement, wellbeing and development. Additionally, since the Right to Education Act, there have been tremendous improvements in enrolment as well as ensuring efforts towards reducing the number of out of school children. However, the improvement in the overall educational status does not imply that all children in the country are receiving equitable education. In fact, not only there remains a need to improve the status of education within the country, but special focus also further needs to be provided to states that are lagging, such as Rajasthan and Gujarat. The projects pertaining to education were implemented in select districts of Rajasthan and Gujarat.

Key Highlights of the Baseline Assessment:

- Access to facilities in schools remain a challenge in Jalore and Barmer.
- Literacy has been improved by 15 percentage points across all the field location.
- Attainment of Secondary Education has been improved by 20 percentage point across all the locations
- Attainment of Higher Secondary Education has been improved by 13 percentage point across filed locations
- 17 per cent of the children in Barmer and 28 per cent of the children in Jalore have dropped out schools.
- Pupil teacher ration remains a challenge across schools in Barmer, Andhra Pradesh, Gujarat and Assam

³³¹ This survey is mentioned in the Project Ujjwal MoU

Key Highlights from Impact Assessment

Project E-Kasha

- 71 per cent of the respondents whose children were accessing digital education in Jalore and Barmer, have reported improvement in passing percentage and/or academic scores due to CAIRN's project interventions.

Project NandGhar

- 68 per cent of the respondent households who were accessing the Anganwadi Centers reported that there was increased access to supplementary nutrition owing to CAIRN's project interventions.

Project Ujjwal

- 72 per cent of the respondent households in Ahemdabad, Jamnagar , Surat and Banas Kantha where the Project Ujjawal has been implemented reported that there has been an improvement in the passing percentage of their children.

Key Recommendations

- **Improve school infrastructure and functioning through community involvement:** CAIRN has already shown success in fostering community connect not only through their projects but also through building strong community organizations such as SHGs. Such organizations play one of the most important roles in increasing community participation and inculcating ownership over programmes. It is recommended that such organizations are fostered to increase participation within school management committees and drive demand towards proper functioning of school infrastructure and development.

5.2. Baseline Assessment

Education is a basic human right of all children. As per the Declaration of Human Rights (Article 26)³³², everyone has the right to education and education shall be free, at least at the elementary/foundational levels. Elementary education is further meant to be compulsory while higher education shall be made accessible in an equal manner on the basis of merit. The aim of education is to ensure the full development of the human personality and further strengthen other human rights and fundamental freedoms. This is further bolstered in the Convention of the Rights of the Child (Article 28 and 29)³³³. It further expands the concept of the right to education from the Declaration of Human Rights. It includes obligations on the State to encourage regular school attendance and the reduction of dropouts. It further directs states to ensure the child's dignity within educational institutions. India ratified the Convention of the Rights of the Child (UNCRC) in 1992.

The National Education Policy 2020³³⁴ affirms that the provision of universal access to quality education as a key to ensure India's economic growth, scientific advancement, national integration, cultural preservation as well as ensuring social justice and equality within the country. It has been acknowledged that India will have the highest population of young people in the world within the next decade and thus high-quality educational opportunities will play a key role in determining the future of not only the youth of the country but the country itself.

The Right of Children to Free and Compulsory Education Act (2009) is what guarantees the right to education to all children in the country. It operationalizes the constitutional guarantee offered under Article 21 of the Indian Constitution.

Over the years, especially after the Right to Education Act 2009 came into place, India has made strides in education through improving the quality of education, increasing elementary school enrolment as well as ensuring efforts towards reducing the number of out of school children. However, the improvement in the overall educational status does not imply that all children in the country are receiving equitable education. In fact, not only there remains a need to improve the status of education within the country, but special focus also further needs to be provided to states that are lagging behind.

³³² <https://www.un.org/en/about-us/universal-declaration-of-human-rights#:~:text=Everyone%20has%20the%20right%20to%20education,only%20basis%20of%20merit>.

³³³ <https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-rights-child>

³³⁴ https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf

Level of Education

The achievement against the level of education cannot be judged simply against functional literacy, rather the improvement in achievement of higher levels of education are necessary. Moving ahead, functional literacy shall not be the sole judge of a community's growth, rather the progress achieved in reaching higher levels of education, skilling and further increasing one's overall agency and decision-making capabilities.

- Illiteracy has reduced by 9 percentage points in the field locations.
- As compared to Census 2011, 7 per cent more population of Rajasthan, 13 per cent more in Assam, 21 per cent more in Gujarat and 16 per cent more in Andhra Pradesh completed primary and secondary education.
- Similarly, 3 per cent more population in Rajasthan, 17 per cent more population in Assam, 18 per cent more population in Gujarat and 42.5 per cent population in Andhra Pradesh completed higher education.

Field Unit: Ahmedabad, Gujarat

Only 3 per cent of the total respondents in Ahmedabad continue to be illiterates, faring better than the district average where 12 per cent were noted as illiterates during the Census 2011 survey³³⁵.

Educational Attainment Levels in Ahemdabad

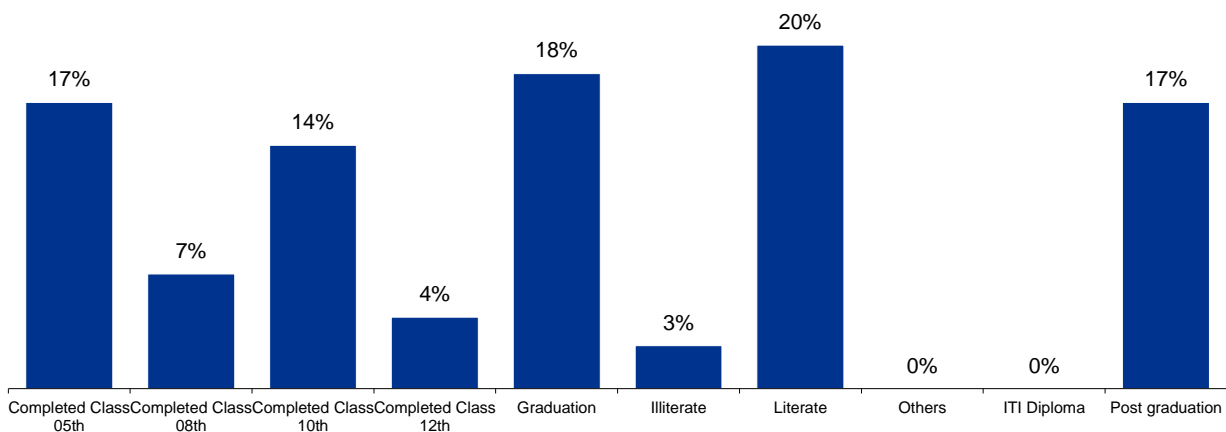


Figure 119 Educational Attainment Levels in Ahmedabad

³³⁵ <https://www.census2011.co.in/census/city/314-ahmedabad.html>

Education Levels in Ahemdabad as per Census2011

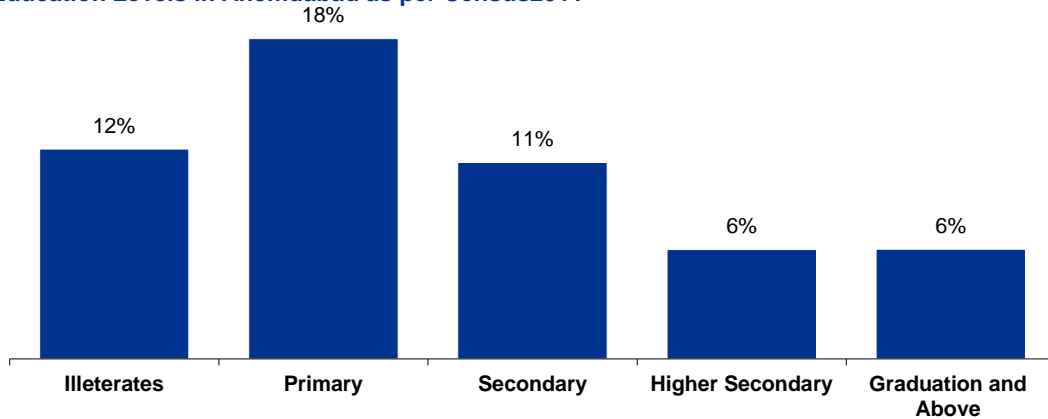


Figure 120: Education Levels in Ahmedabad as per Census 2011

In the field location, we see that 77 per cent of the population has completed primary education or above. Similarly, while it comes to secondary education only 11 per cent of the district population has completed secondary education as per the Census-2011, while 21 per cent of the respondents from the field location have completed secondary education. 35 per cent of the population has completed Graduation and above in the field location as per the primary data, while it is only 6 per cent as per the Census-2011. The attainment of Primary Education has reduced by 1 percentage point in the field location. The attainment of secondary has improved by 3 percentage point. The attainment of higher secondary education has reduced by 2 percentage point, while the attainment of higher education has improved by 29 percentage point.

Field Unit: Banaskantha, Gujarat

12 per cent of the population surveyed in Banaskantha continue to be illiterates, faring better than the district average where 34 per cent were noted as illiterates during the Census 2011 survey³³⁶.

Illiteracy has reduced by 22 percentage points in the field location

³³⁶ <https://www.census2011.co.in/questions/183/district-literacy/literacy-rate-of-banaskantha-district-2011.html>

Educational Attainment Levels in Banas Kantha, Gujarat

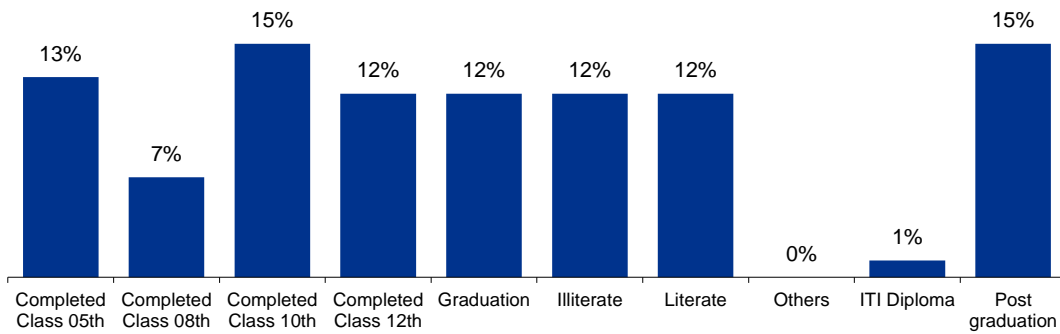


Figure 121 Educational Attainment Levels in Banas Kantha, Gujarat

As per the primary data, 13 per cent of the population completed primary education and this figure stood to 18 per cent as per the Census-2011. Similarly, 22 per cent of the population from the field location have completed secondary education. As per the Census-2011, only 6 per cent of the population completed secondary education. 12 per cent of the population has completed higher secondary education, while as per the Census 2011, only 4 per cent of the population completed secondary education. When it comes to higher education, 27 per cent of the population completed graduation and above in the field location. As per the Census-2011, only 2 per cent of the population completed graduation and above in the district.

The attainment of primary education has reduced by 5 percentage point as compared to the Census-2011, while the attainment of secondary and higher secondary education has improved by 16 percentage point and 8 percentage point as compared to Census-2011. Population completing higher education has increased by 25 percentage points amongst the surveyed population as compared to Census-2011.

Education Levels in Banas Kantha, Census-2011

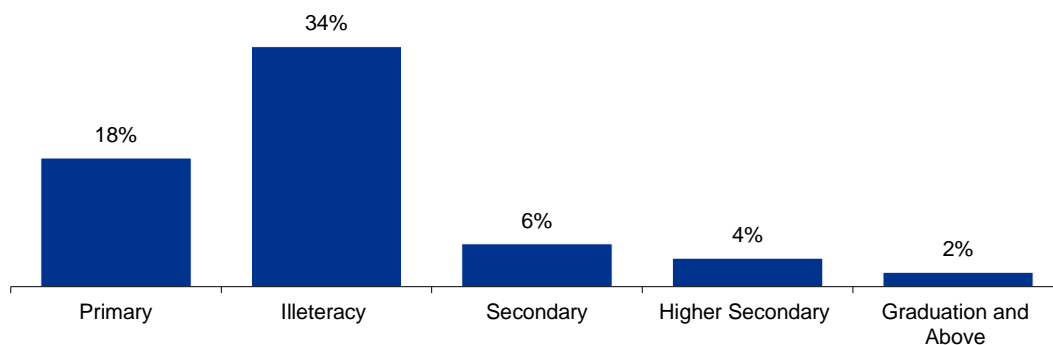


Figure 122: Educational Levels in Banas Kantha, Census-2011

Field Unit: Jamnagar, Gujarat

Illiteracy has reduced by 13 percentage point in the field location

7 per cent of the population surveyed in Jamnagar location continue to be illiterates, faring better than the district average where 20 per cent were noted as illiterates during the Census 2011 survey.

As per the primary data, 7 per cent of the population completed primary education and this figure stood to 21 per cent as per the Census-2011. Similarly, 56 per cent of the population from the field location have completed secondary education. As per the Census-2011, only 6 per cent of the population completed secondary education. 18 per cent of the population has completed higher secondary education, while as per the Census 2011, only 5 per cent of the population completed secondary education. When it comes to higher education, 7 per cent of the population completed graduation and above in the field location. As per the Census-2011, only 2 per cent of the population completed graduation and above in the district.

The attainment of primary education has reduced by 14 percentage point as compared to the Census-2011, while the attainment of secondary and higher secondary education has improved by 50 percentage point and 13 percentage point as compared to Census-2011. Population completing higher education has increased by 5 percentage points amongst the surveyed population as compared to Census-2011.

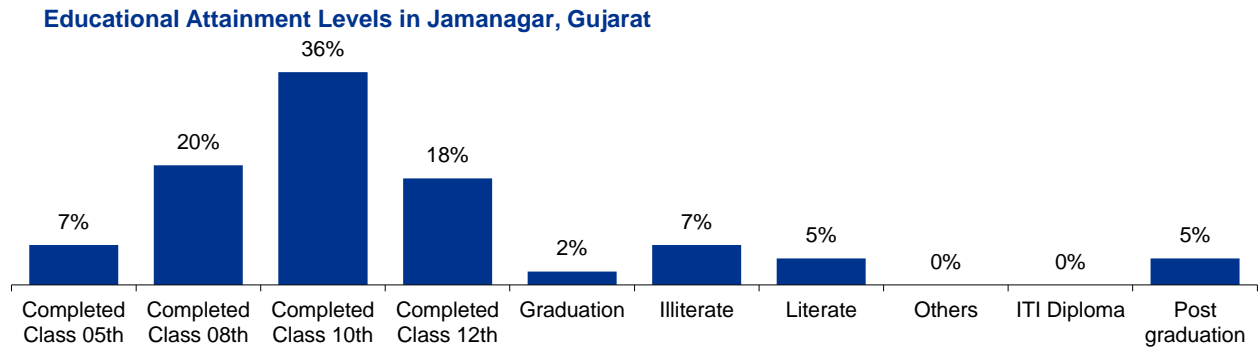


Figure 121: Educational Attainment Levels in Jamnagar, Gujarat

Education Levels in Jamnagar, Census 2011

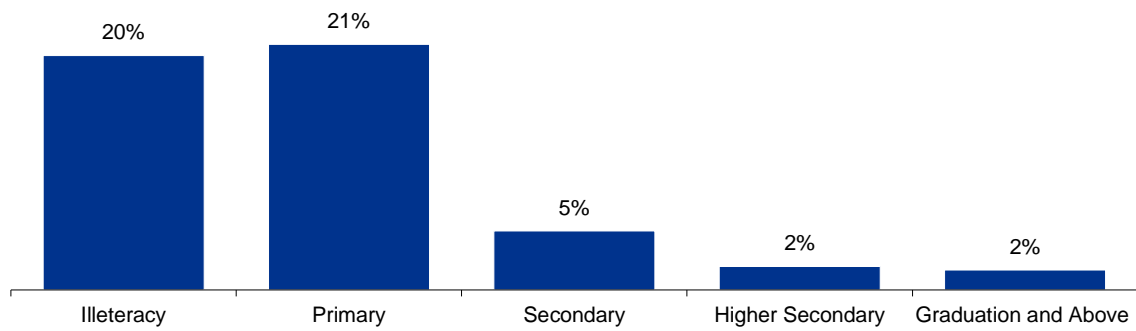


Figure 122: Education Levels in Jamnagar, Census-2011

Field Unit: Patan, Gujarat

Illiteracy has reduced by 23 percentage point in the field location.

Four per cent of the population surveyed in Patan continue to be illiterates, faring much better than the district average where 27 per cent were noted as illiterates during the Census 2011 survey.

As per the primary data, 37 per cent of the population completed primary education and this figure stood to 27 per cent as per the Census-2011. Similarly, 44 per cent of the population from the field location have completed secondary education. As per the Census-2011, only 9 per cent of the population completed secondary education. 12 per cent of the population has completed higher secondary education, while as per the Census 2011, only 5 per cent of the population completed secondary education. When it comes to higher education, 4 per cent of

the population completed graduation and above in the field location. As per the Census-2011, only 3 per cent of the population completed graduation and above in the district.

The attainment of primary education has increased by 10 percentage point as compared to the Census-2011, while the attainment of secondary and higher secondary education has improved by 32 percentage point and 7 percentage point as compared to Census-2011. Population completing higher education has increased by 1 percentage points amongst the surveyed population as compared to Census-2011.

Educational Attainment Levels in Patan, Gujarat

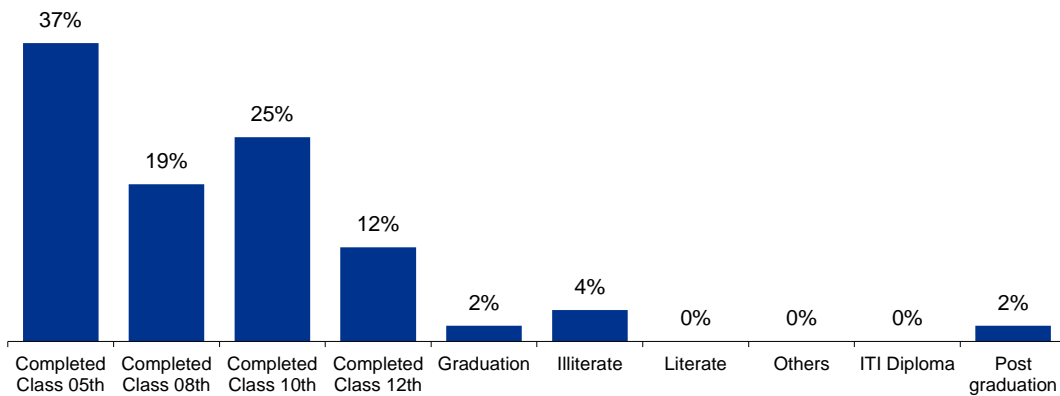


Figure 123 Educational Attainment Levels in Patan, Gujarat

Level of Education in Patan, Census 2011

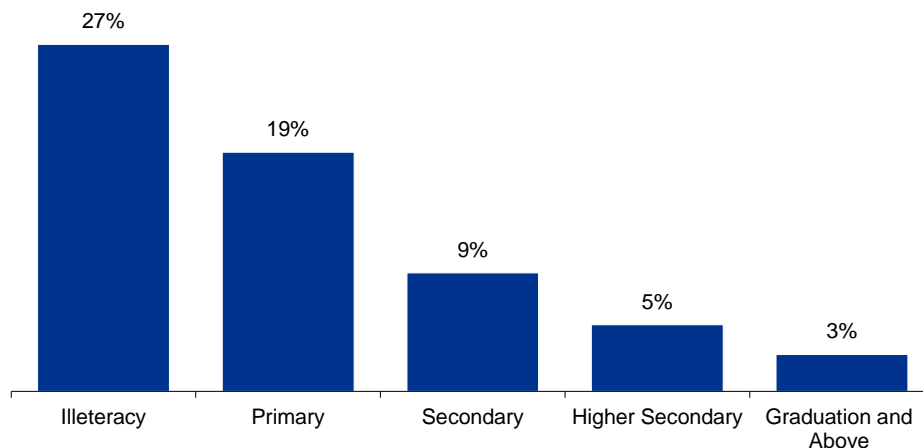


Figure 124: Level of Education in Patan, Census 2011

Field Unit: Surat, Gujarat

Illiteracy has reduced by 6 percentage point in the field location.

6 per cent of the population surveyed in Surat continue to be illiterates, faring better than the district average where 12 per cent were noted as illiterates during the Census 2011 survey.

Educational Attainment Levels in Surat, Gujarat

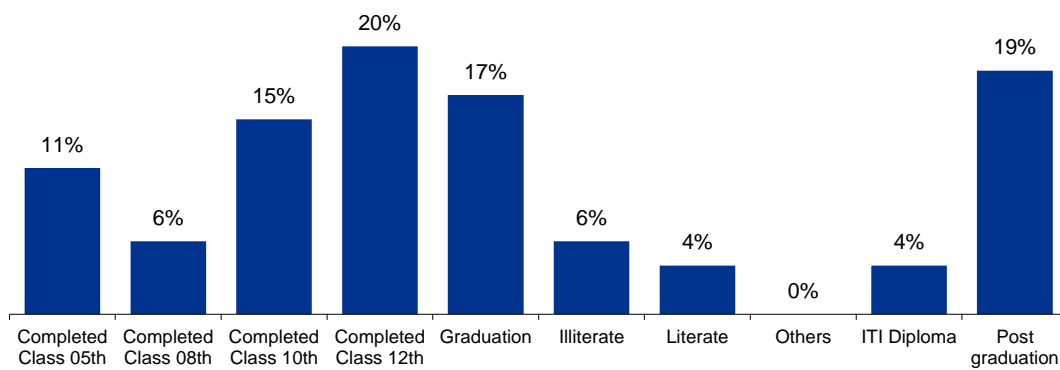
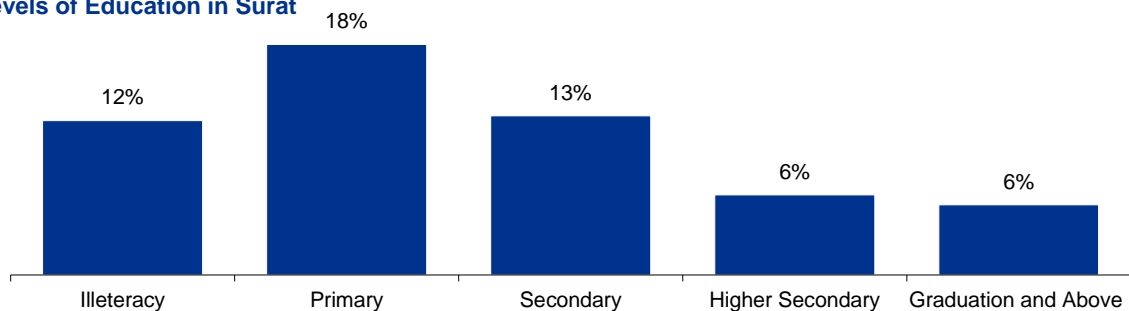


Figure 125 Educational Attainment Levels in Surat, Gujarat

Levels of Education in Surat



As per the primary data, 11 per cent of the population completed primary education and this figure stood to 18 per cent as per the Census-2011. Similarly, 21 per cent of the population from the field location have completed secondary education. As per the Census 2011, only 13 per cent of the population completed secondary education. 20 per cent of the population has completed higher secondary education, while as per the Census 2011, only 6 per cent of the population completed secondary education. When it comes to higher education, 36 per cent of the population completed graduation and above in the field location. As per the

Census-2011, only 6 per cent of the population completed graduation and above in the district.

The attainment of primary education has reduced by 7 percentage point as compared to the Census-2011, while the attainment of secondary and higher secondary education has improved by 8 percentage point and 14 percentage point as compared to Census-2011. Population completing higher education has increased by 30 percentage points amongst the surveyed population as compared to Census-2011.

Field Unit: Bharuch

Illiteracy has reduced by 6 percentage point in the field location.

6 per cent of the population surveyed in Patan continue to be illiterates, faring much better than the district average where 12 per cent were noted as illiterates during the Census 2011 survey.

As per the primary data, 22 per cent of the population completed primary education and this figure stood to 16 per cent as per the Census-2011. Similarly, 45 per cent of the population from the field location have completed secondary education. As per the Census-2011, only 13 per cent of the population completed secondary education. 12 per cent of the population has completed higher secondary education, while as per the Census 2011, only 6 per cent of the population completed secondary education. When it comes to higher education, 10 per cent of the population completed graduation and above in the field location. As per the Census-2011, only 5 per cent of the population completed graduation and above in the district.

The attainment of primary education has increased by 6 percentage point as compared to the Census-2011, while the attainment of secondary and higher secondary education has improved by 22 percentage point and 6 percentage point as compared to Census-2011. Population completing higher education has increased by 5 percentage points amongst the surveyed population as compared to Census-2011.

Educational Attainment Levels in Bharuch

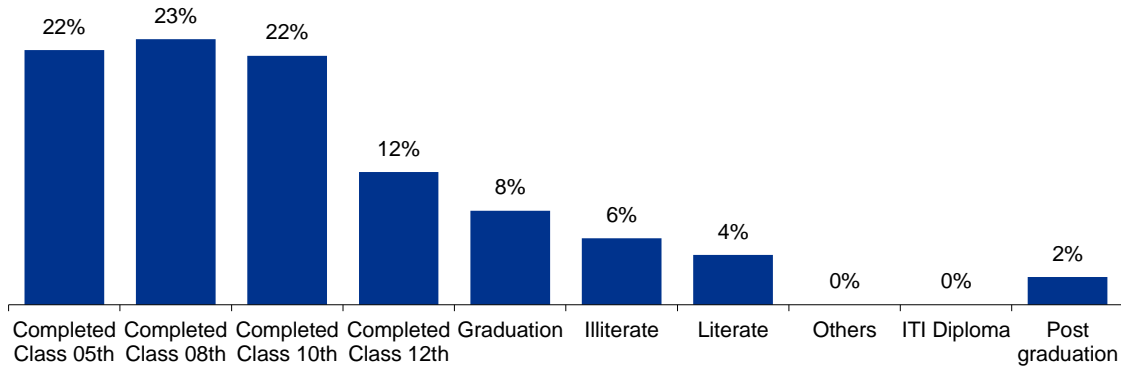


Figure 126: Educational Attainment Levels in Bharuch, Gujarat

Levels of Education in Bharuch, Census 2011

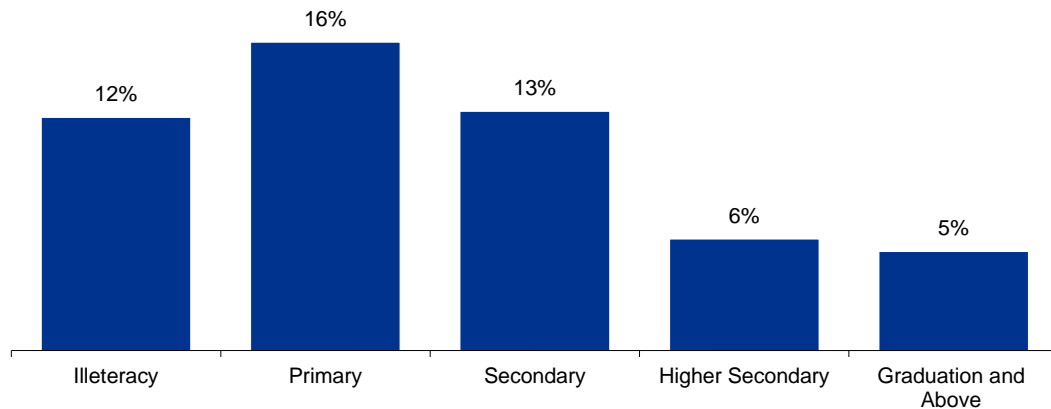


Figure 127: Levels of Education in Bharuch, Census 2011

Field Unit: Barmer

Illiteracy has reduced by 26 percentage point in the field location

18 per cent of the population surveyed in Barmer location continue to be illiterates, faring better than the district average where 44 per cent were noted as illiterates during the Census 2011 survey.

Educational Attainment Levels in Barmer

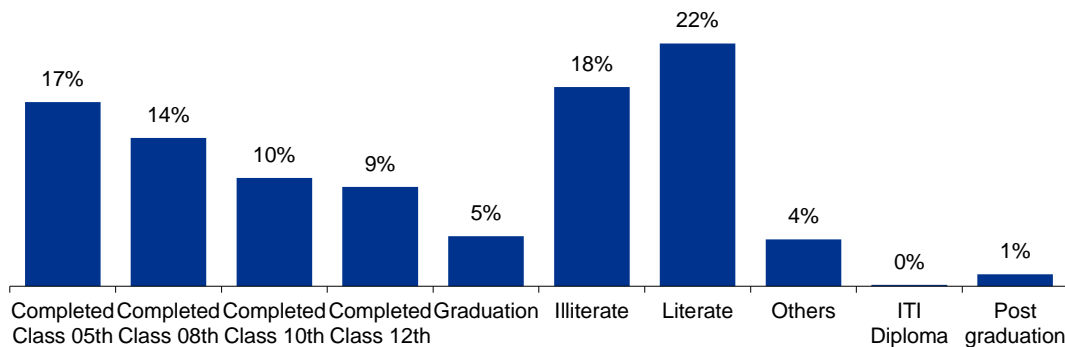


Figure 128 Educational Attainment Levels in Barmer

Education Levels in Barmer, Census 2011

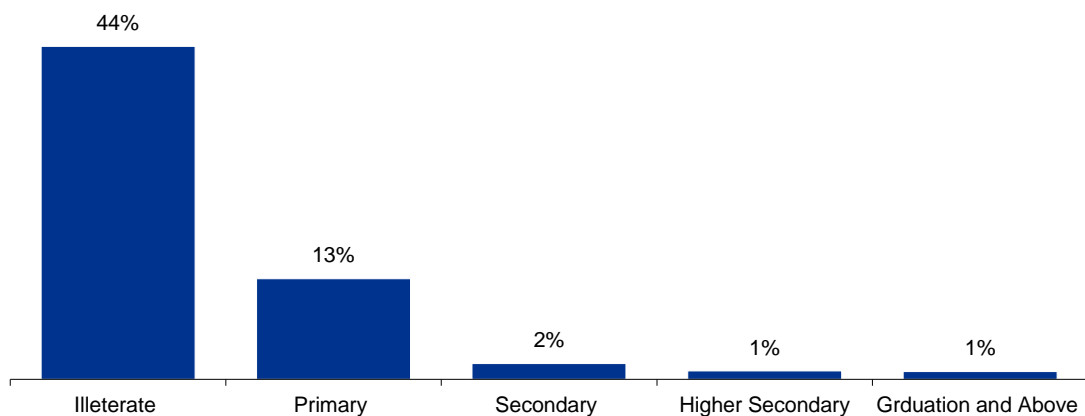


Figure 129: Education Level in Barmer, Census 2011

As per the primary data, 17 per cent of the population completed primary education and this figure stood to 13 per cent as per the Census-2011. Similarly, 24 per cent of the population from the field location have completed secondary education. As per the Census-2011, only 2 per cent of the population completed secondary education. 9 per cent of the population has completed higher secondary education, while as per the Census 2011, only 1 per cent of the population completed secondary education. When it comes to higher education, 6 per cent of the population completed graduation and above in the field location. As per the Census-2011, only 1 per cent of the population completed graduation and above in the district.

The attainment of primary education has increased by 4 percentage point as compared to the Census-2011, while the attainment of secondary and higher secondary education has improved by 22 percentage point and 8 percentage point as compared to Census-2011.

Population completing higher education has increased by 5 percentage points amongst the surveyed population as compared to Census-2011.

Field Unit: Jalore

Illiteracy has reduced by 24 percentage point in the field location

20 per cent of the population surveyed in Jalore continues to be illiterates, faring better than the district average where 44 per cent were noted as illiterates during the Census 2011 survey.

Educational Attainment Levels in Jalore, Rajasthan

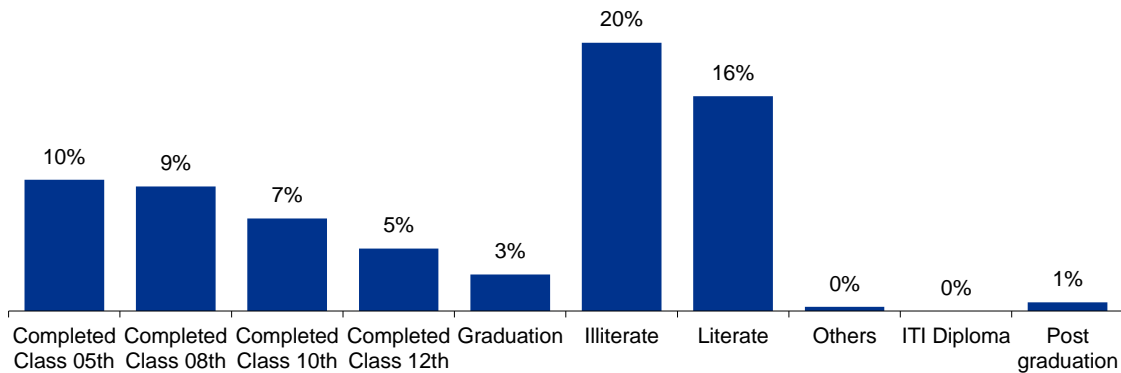


Figure 130: Educational Attainment Level in Jalore, Rajasthan

Education Levels in Jalore, Census 2011

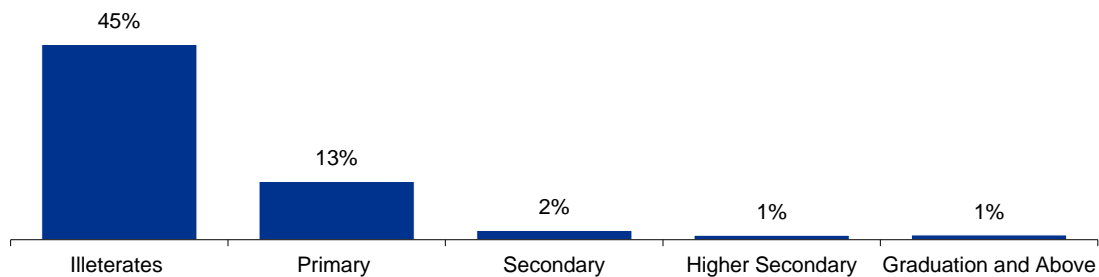


Figure 131: Education Level in Jalore, Census 2011

As per the primary data, 10 per cent of the population completed primary education and this figure stood to 13 per cent as per the Census-2011. Similarly, 16 per cent of the population from the field location have completed secondary education. As per the Census-2011, only 2 per cent of the population completed secondary education. 5 per cent of the population has completed higher secondary education, while as per the Census 2011, only 1 per cent of the

population completed secondary education. When it comes to higher education, 4 per cent of the population completed graduation and above in the field location. As per the Census-2011, only 1 per cent of the population completed graduation and above in the district.

The attainment of primary education has reduced by 3 percentage point as compared to the Census-2011, while the attainment of secondary and higher secondary education has improved by 14 percentage point and 4 percentage point as compared to Census-2011. Population completing higher education has increased by 3 percentage points amongst the surveyed population as compared to Census-2011.

Field Location: East Godavari

Illiteracy has reduced by 13 percentage point in the field location

No person in the population surveyed in East Godavari found out to be illiterate. The illiteracy has reduced by 13 percentage point in the field location from the Census 2011.

Educational Attainment Levels in East Godavari, Andhra Pradesh

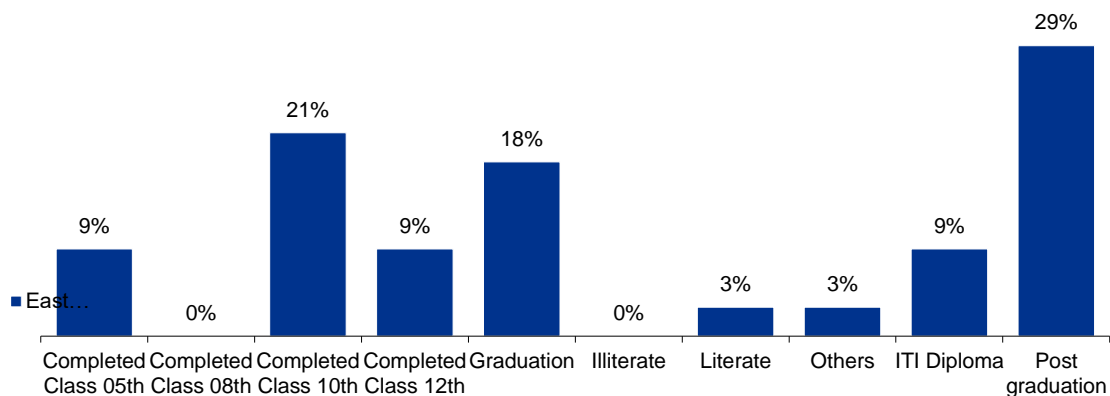


Figure 132: Educational Attainment in East Godavari, Andhra Pradesh

Education Levels in East Godavari, Census 2011

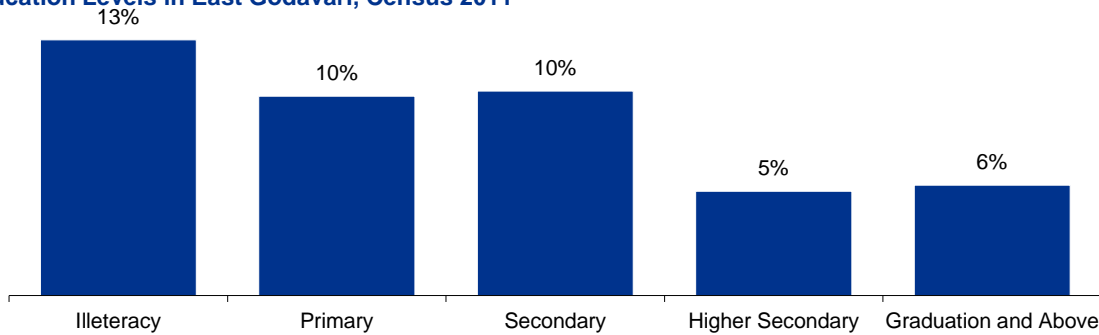


Figure 133: Education Levels in East Godavari, Census 2011

As per the primary data, 9 per cent of the population completed primary education and this figure stood to 10 per cent as per the Census-2011. Similarly, 21 per cent of the population from the field location have completed secondary education. As per the Census-2011, only 10 per cent of the population completed secondary education. 9 per cent of the population has completed higher secondary education, while as per the Census 2011, only 5 per cent of the population completed secondary education. When it comes to higher education, 47 per cent of the population completed graduation and above in the field location. As per the Census-2011, only 6 per cent of the population completed graduation and above in the district.

The attainment of primary education has reduced by 1 percentage point as compared to the Census-2011, while the attainment of secondary and higher secondary education has improved by 11 percentage point and 4 percentage point as compared to Census-2011. Population completing higher education has increased by 41 percentage points amongst the surveyed population as compared to Census-2011.

Field Location: Jorhat

Illiteracy has reduced by 6 percentage point in the field location

The illiteracy has reduced by 6 percentage point in the field location from the Census 2011.

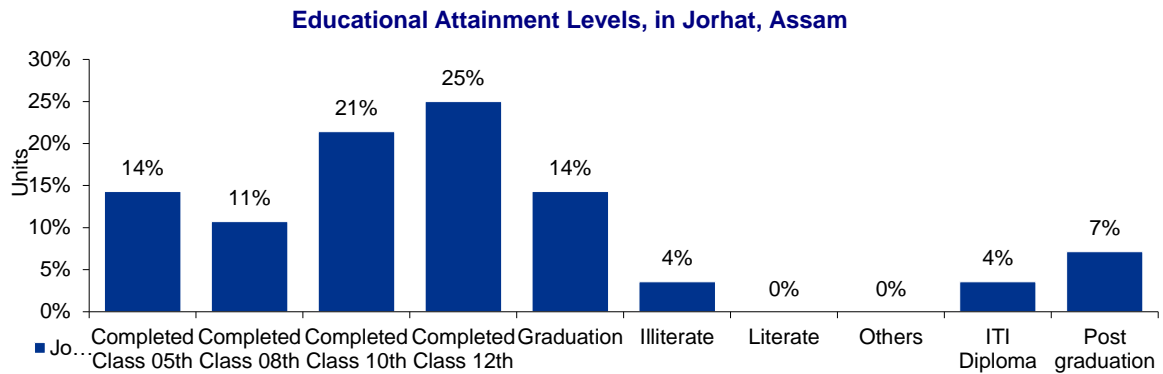


Figure 134: Educational Attainment Level in Jorhat, Assam

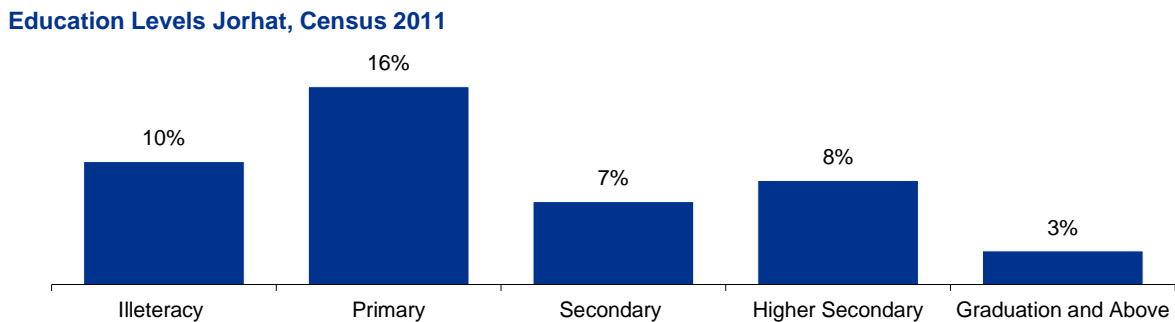


Figure 135: Education Level Jorhat, Census 2011

As per the primary data, 14 per cent of the population completed primary education and this figure stood to 16 per cent as per the Census-2011. Similarly, 22 per cent of the population from the field location have completed secondary education. As per the Census-2011, only 7 per cent of the population completed secondary education. 25 per cent of the population has completed higher secondary education, while as per the Census 2011, only 8 per cent of the population completed secondary education. When it comes to higher education, 21 per cent of the population completed graduation and above in the field location. As per the Census-2011, only 3 per cent of the population completed graduation and above in the district.

The attainment of primary education has reduced by 2 percentage point as compared to the Census-2011, while the attainment of secondary and higher secondary education has improved by 15 percentage point as compared to Census-2011. Population completing higher education has increased by 6 percentage points amongst the surveyed population as compared to Census-2011.

Field Location: Golaghat

Illiteracy has reduced by 23 percentage point in the field location

No person from the surveyed households were found illiterates.

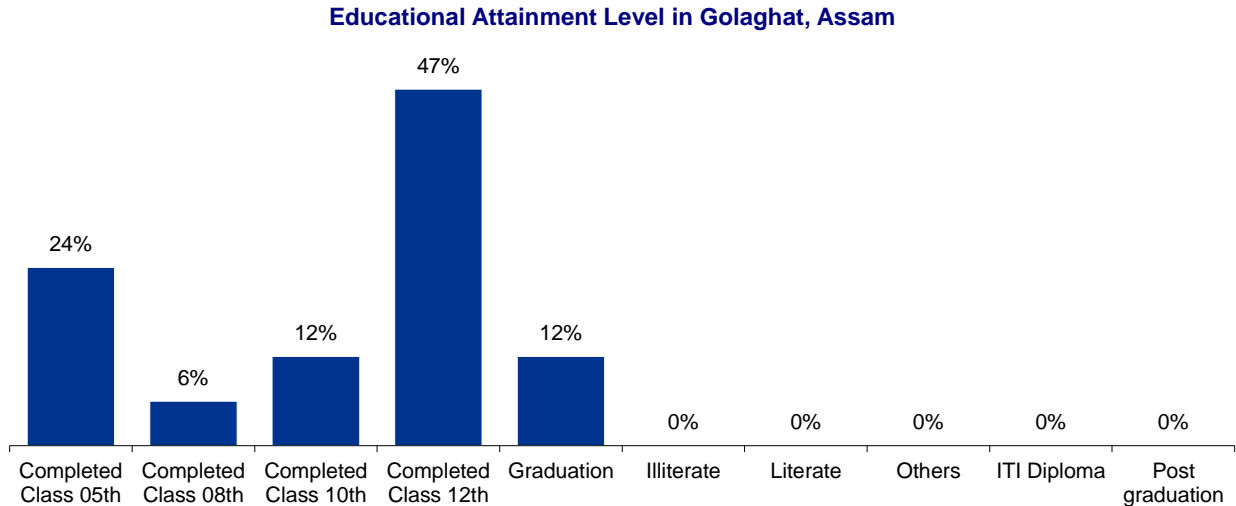


Figure 136: Educational Attainment Levels in Golaghat, Assam

Education Level, Golaghat, Census 2011

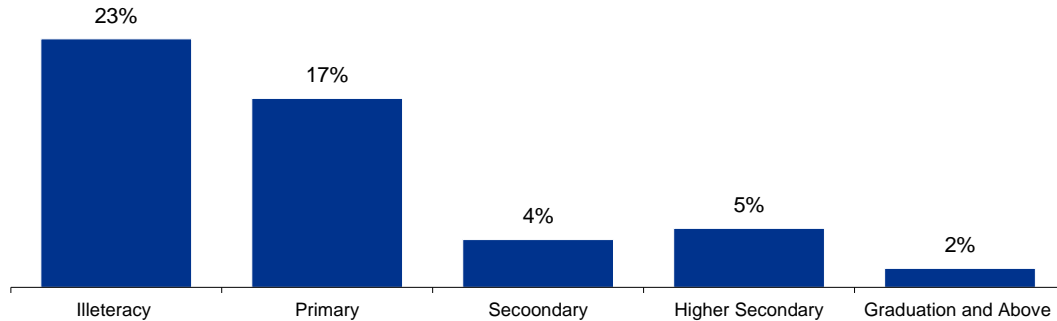


Figure 137: Education Level, Golaghat

As per the primary data, 24 per cent of the population completed primary education and this figure stood to 17 per cent as per the Census-2011. Similarly, 18 per cent of the population from the field location have completed secondary education. As per the Census-2011, only 7 per cent of the population completed secondary education. 47 per cent of the population has completed higher secondary education, while as per the Census 2011, only 5 per cent of the population completed secondary education. When it comes to higher education, 12 per cent of the population completed graduation and above in the field location. As per the Census-2011, only 2 per cent of the population completed graduation and above in the district.

The attainment of primary education has increased by 7 percentage point as compared to the Census-2011, while the attainment of secondary and higher secondary education has improved by 11 percentage point and 42 percentage point as compared to Census-2011. Population completing higher education has increased by 10 percentage points amongst the surveyed population as compared to Census-2011.

Facilities in Educational Institutions

About 69 per cent of all schools in the country are run by the government³³⁷. Furthermore, only 13 per cent of all schools in the country have achieved compliance against the RTE norms of teacher-student ratio of 1:30, provision of ramps, provision of drinking water, sanitation etc.³³⁸.

According to the World Bank physical infrastructure plays a significant role in children's enrolment, attendance, completion rates as well as learning outcomes³³⁹. Furthermore, ensuring adequate water, sanitation, and hygiene (WASH) facilities in schools 'improve access to education and learning outcomes, particularly for girls, by providing a safe, inclusive and equitable learning environment for all'³⁴⁰.

In 2018, in Rajasthan, only 82 per cent of schools were complying with the teacher-student ratio and 79.3 per cent were complying with the classroom-teacher ratio³⁴¹. In the same timeframe, we see that the percentage of schools sampled in Gujarat that were meeting the RTE norms on pupil teacher ratio and classroom teacher ratio were 83.5 per cent and 86.3 per cent respectively³⁴². Quality of teaching and teachers' education are central to delivering quality education for all. They enable education to achieve its transformative potential for individuals, communities and for overall national development³⁴³. Quality education is chiefly determined by teaching pedagogy and thus is not simply the process of acquiring knowledge

- *On an average, 70 per cent of the respondents stated that there was at least 1 teacher per classroom in the primary and secondary schools across field locations, 11 per cent lower than the state average as given in ASER 2018.*
- *100 per cent of respondents in the field locations of Golaghat, Ahmedabad, Banas Kantha and Surat stated the presence of all WASH facilities.*

³³⁷ U-DISE

³³⁸ https://www.orfonline.org/research/ten-years-of-rte-act-revisiting-achievements-and-examining-gaps-54066/#_edn1

³³⁹ <https://policytoolbox.iiep.unesco.org/policy-option/school-infrastructure/>

³⁴⁰ <file:///C:/Users/sakshijerath/Downloads/JMP-WASH-in-Schools-WEB.pdf>

³⁴¹ https://img.asercentre.org/docs/ASER_per cent202018/Release_per cent20Material/aserreport2018.pdf

³⁴² https://img.asercentre.org/docs/ASER_per cent202018/Release_per cent20Material/aserreport2018.pdf

³⁴³ <https://unesdoc.unesco.org/ark:/48223/pf0000379115>

and skills but assessing such knowledge, understanding its significance and value and constructively use the same for the emergence of the learner as a knowledgeable being. This thus requires the presence of adequate number of teachers or suitable alternatives to availability teaching aids that can bring forth equal attention towards the learning outcomes of the children.

Filed Location: Ahmedabad

100 per cent of the respondents reported to have access to functional toilets and separate toilets for girls in the primary schools in Ahmedabad. When it comes to drinking water facility, 100 per cent of the respondents reported to have access to drinking water facilities. 94.47 per cent of the respondents reported to have access to Mid-day meal facilities. Similarly, 100 per cent reported to have one Teacher/ Classroom.

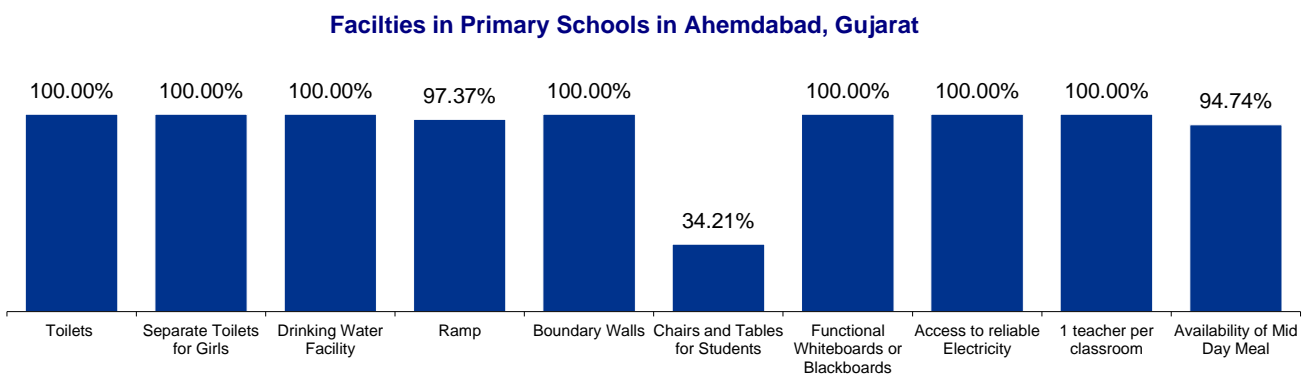


Figure 138: Facilities in Primary Schools in Ahmedabad

100 per cent of the respondents reported to have access to functional toilets and functional separate toilets for girls in secondary schools in Ahmedabad. Similarly, 100 per cent of the respondents reported to have access to drinking water facilities. 100 per cent of the respondent reported to have access to reliable electricity in the schools. 100 per cent of the respondents reported to have one teacher/classroom.

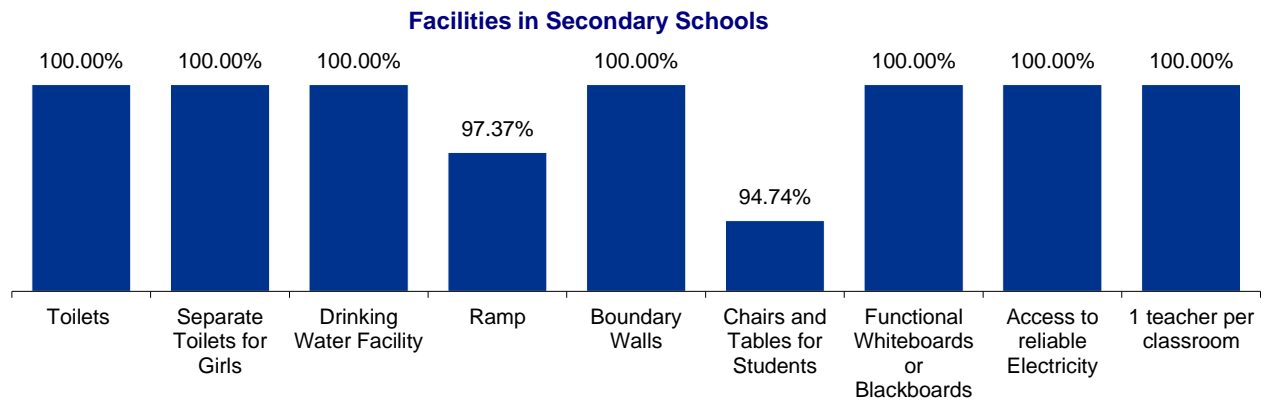


Figure 139: Facilities in Secondary Schools in Ahmedabad

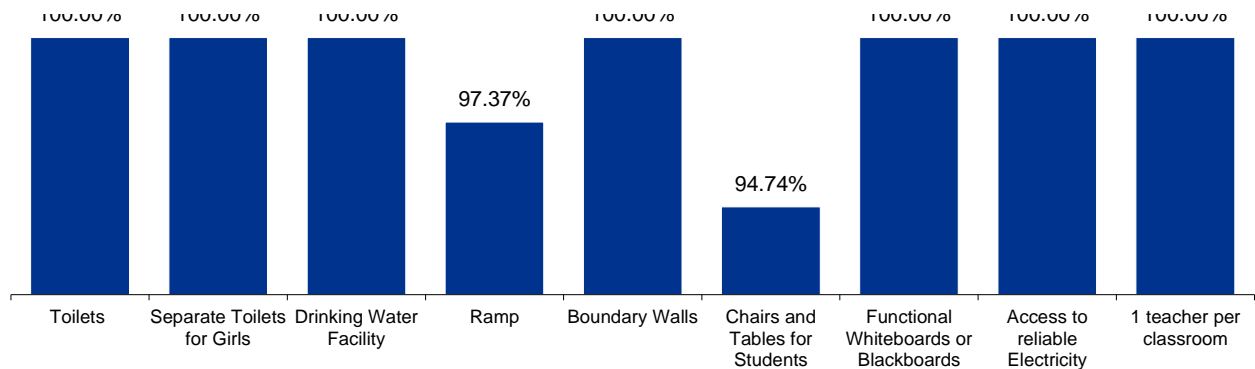


Figure 140: Facilities in Higher Secondary Schools in Ahmedabad

100 per cent of the respondents in Ahmedabad reported to have the access to functional toilets, functional separate toilets for girls and drinking water facilities in higher secondary schools in Ahmedabad. 100 per cent of the respondent reported to have access to reliable electricity and 100 per cent of the respondents reported to have one teacher/classroom.

Field Unit: Surat

Facilities in Primary Schools in Surat, Gujarat

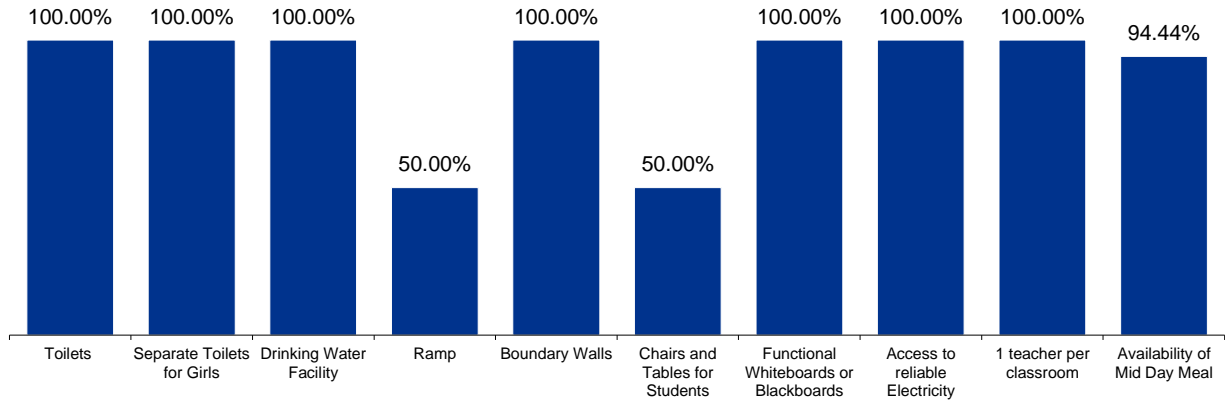


Figure 141: Facilities in Primary Schools in Gujarat

100 per cent of the respondent reported to have access to functional toilets and functional separate toilets for girls in the primary schools in Surat. 94 per cent of the respondent reported to have availability of mid-day meals in primary schools. 100 per cent of the respondents reported to have access to reliable electricity in the primary schools.

Facilities in Secondary Schools in Surat

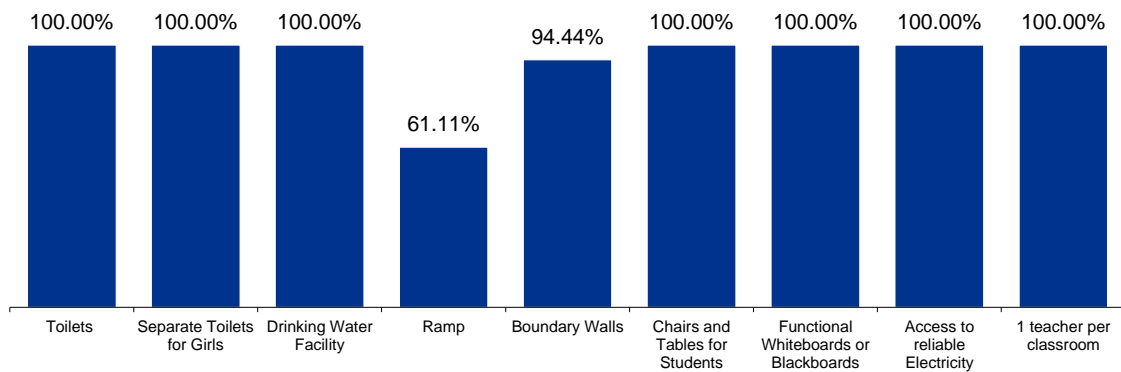


Figure 142: Facilities in Secondary Schools in Surat.

100 per cent of the respondents in Surat reported to have access to functional toilets and functional separate toilets for the girls in the secondary schools in Surat. When it comes to reliable electricity, 100 per cent of the respondent reported to have access of the same in secondary schools in Barmer. Similarly, 100 per cent of the respondents reported to have the availability of 1 teacher/classroom.

Facilities in Higher Secondary Schools in Surat

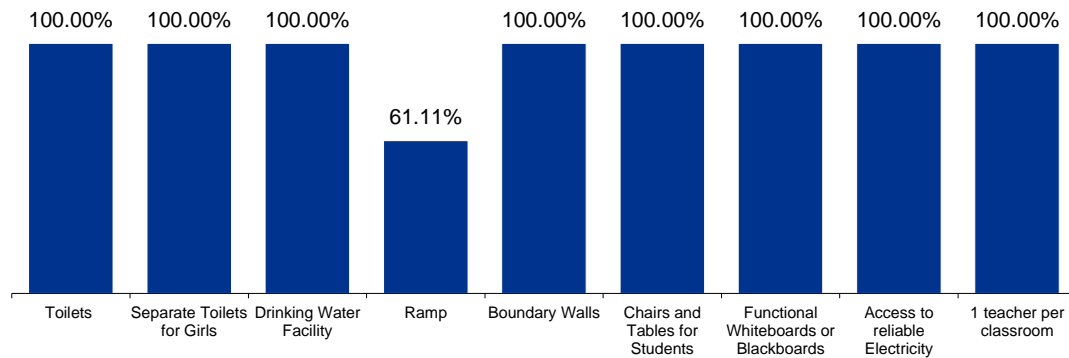


Figure 143: Facilities in Higher Secondary Schools in Surat

Except provision of Ramp, where only 61.11 per cent of the respondents reported to have access to the facility, all other facilities were accessible to 100 per cent of the respondent households.

Field Unit: Jamnagar

Facilities in Primary Schools In Jamnagar

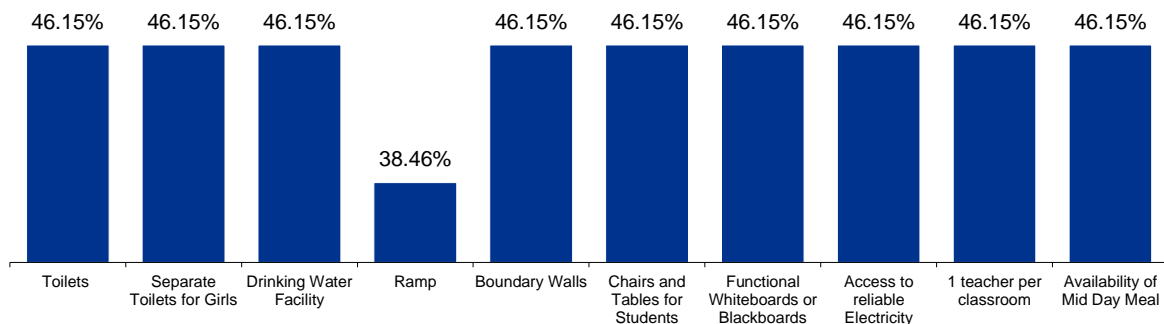


Figure 144: Facilities in Primary Schools in Jamnagar

In Jamnagar, only 46.15 per cent respondents reported to have access to toilets and separate toilets for girls in primary schools. 46.15 per cent of the respondents reported to have access to reliable electricity and mid-meals. 38.46 per cent reported to have availability of the ramps.

Facilities in the Secondary Schools

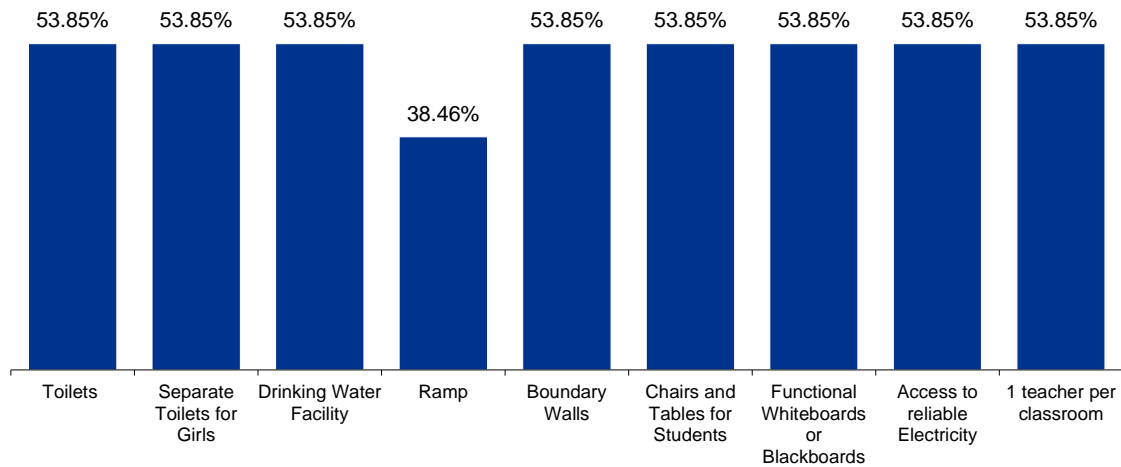
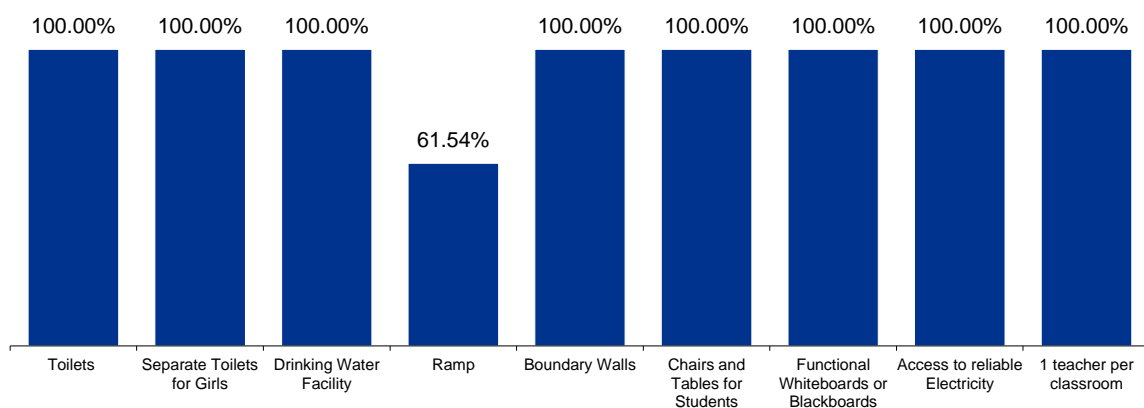


Figure 145: Facilities in Secondary Schools in Jamnagar, Gujarat

53.8 per cent of the respondents reported to have access to functional toilets and separate toilets for girls in secondary schools in Jamnagar. 53.85 per cent of the respondents reported to have access to reliable electricity in the secondary schools in Jamnagar.

Facilities in Higher Secondary Schools in Jamnagar, Gujarat



100 per cent of the respondents reported to have access to all the infrastructure amenities in the higher secondary schools in Jamnagar except ramps which was reported to be accessible to only 61.54 per cent of the respondent households.

Field Unit: Patan

Facilities in Primary Schools in Bharuch

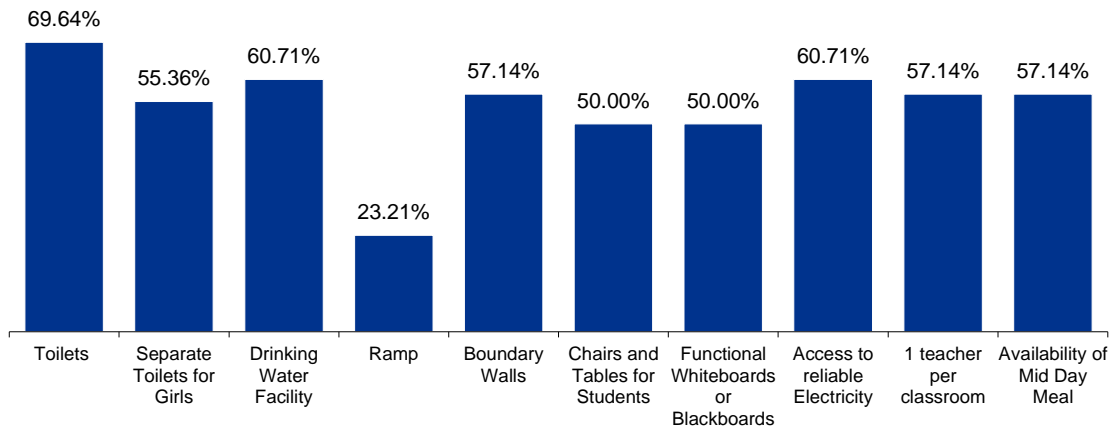


Figure 146:Facilities in Primary Schools in Bharuch

In Bharuch, 69.6 per cent of the respondents reported to have access to functional toilets and 55.3 per cent of the respondents reported to have access to separate toilets for girls in the primary schools. 57.14 per cent of the respondents reported to have access to mid-day meals. 60.71 per cent of the respondent households reported to have access to reliable electricity. When it comes to one teacher/ classrooms, 57.1 per cent of the respondents reported to have availability of the same.

Facilities in Secondary Schools in Bharuch, Gujarat

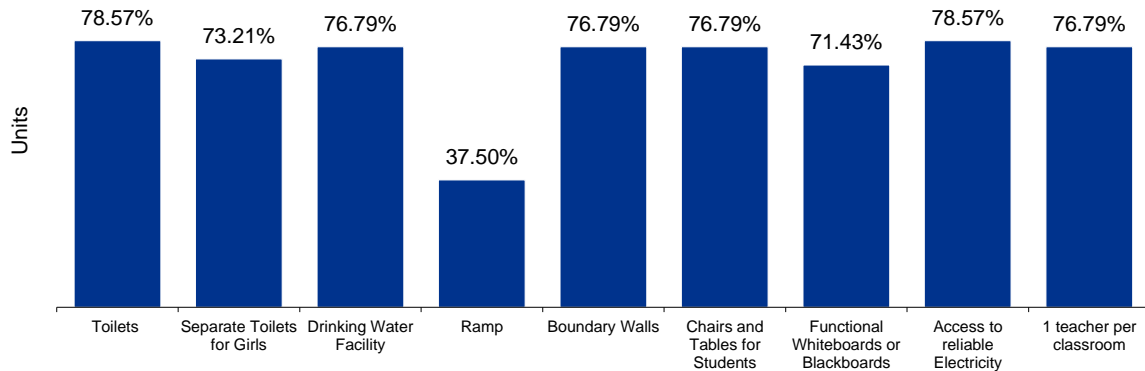


Figure 147: Facilities in Secondary Education in Bharuch

78.57 per cent of the respondents reported to have access to toilets in secondary schools in Bharuch. 73.21 per cent of the respondents reported to have access to functional separate toilets for girls. 78.57 per cent of the respondents reported to have access to reliable electricity. And 76.79 of the respondents reported to have the availability of one teacher/classroom.

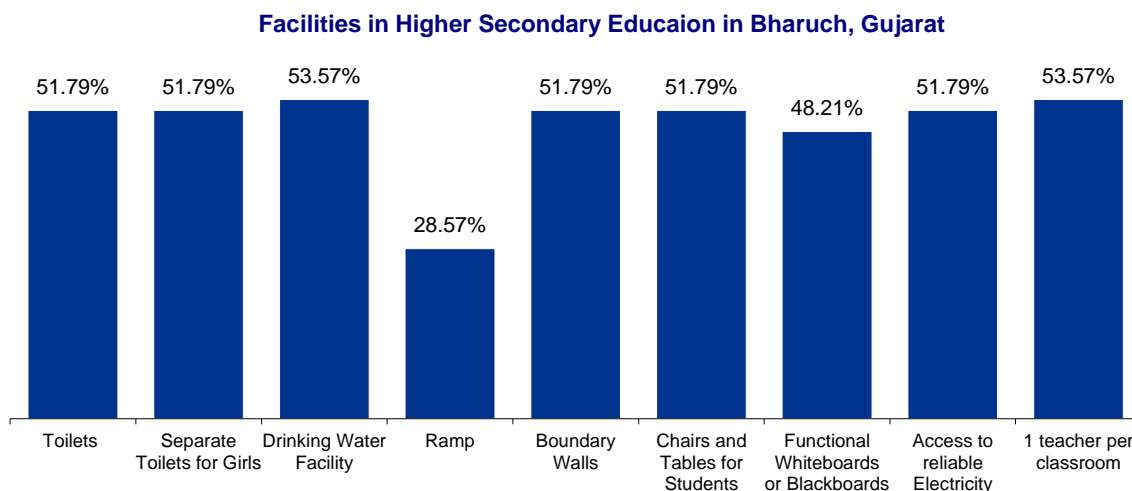


Figure 148: Facilities in Higher Education in Bharuch

51.79 per cent of the respondents reported to have access to functional toilets in Bharuch while 51.79 per cent of the respondent households reported to have access to separate toilets for girls. 53.57 per cent of the respondents reported to have availability of 1 teacher/ classrooms.

Field Unit: Banaskantha

100 per cent of the respondent households reported to have the accessibility of functional toilets and separate toiles for girls in primary schools. 100 per cent of the respondent households reported to have accessibility of reliable electricity. 92.59 per cent of the respondent households reported to have availability of mid-day meals in schools. 100 per cent of the respondent households reported to have availability of One Teacher/ Classroom.

Facilities in Primary Schools in Banaskantha

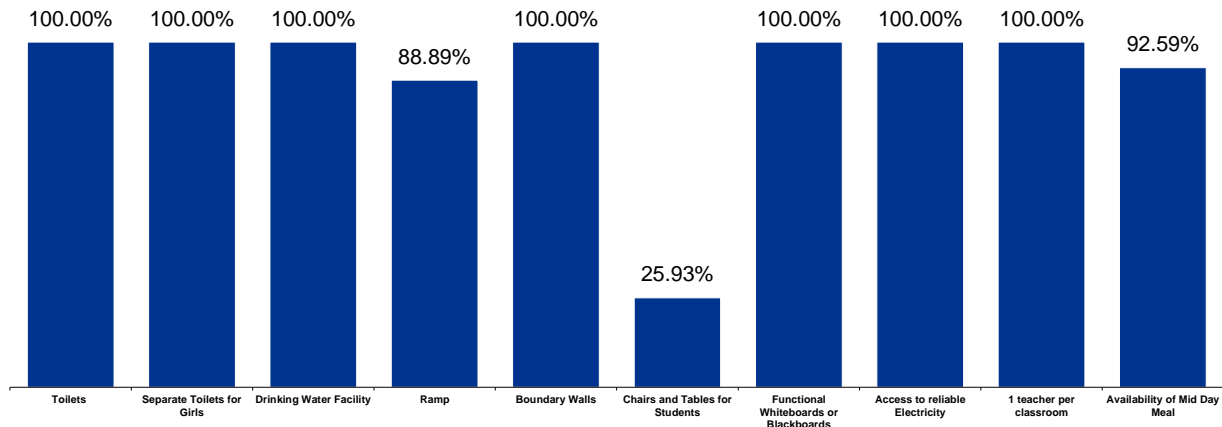
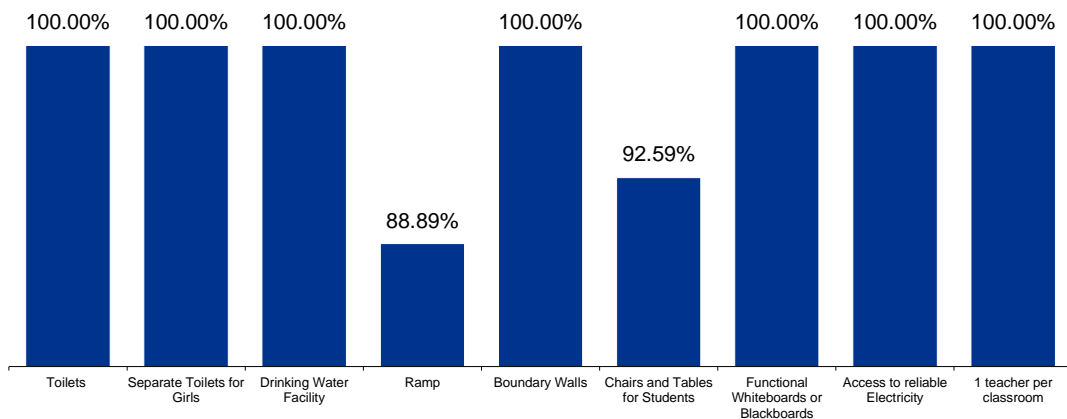


Figure 149: Facilities in Primary Schools in Banas kantha

100 per cent of the respondent households reported to have the availability of the toilets and 100 per cent of the respondent reported to have accessibility of separate toilets for girls. 100 per cent of the respondent households reported to have access to reliable electricity in Banaskantha.

Facilities in Secondary Schools in Banas Kantha



100 per cent of the respondent households reported to have accessibility of functional toilets in and separate toilets for girls in Banaskantha. 100 per cent of the respondents reported to have accessibility of reliable electricity and availability of one teacher/classroom.

Facilities in Secondary Schools in Banas Kantha

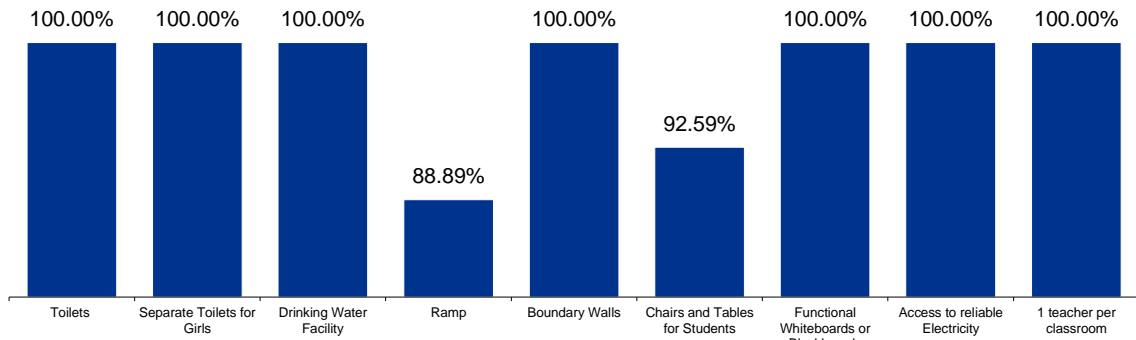


Figure 150: Facilities in Secondary Schools in Banas kantha

Filed Location: Barmer

Facilities in Primary Schools in Barmer, Rajasthan

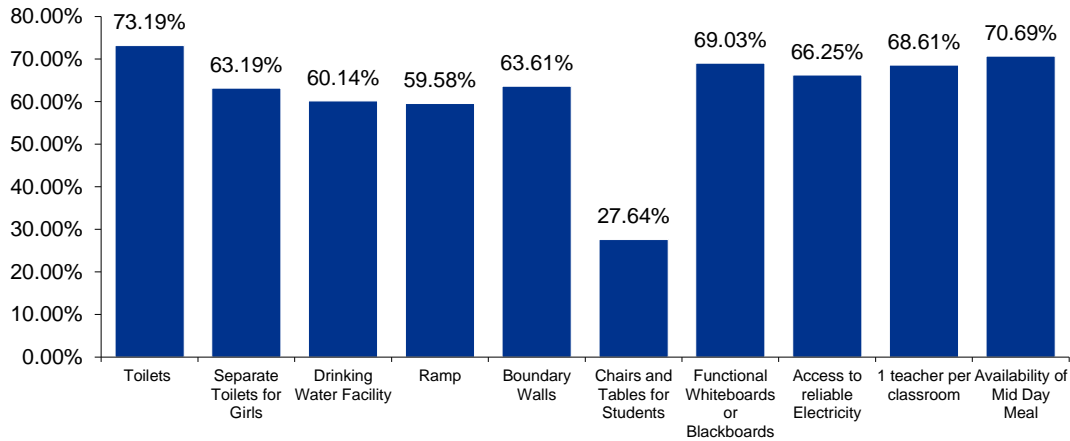


Figure 151: Facilities in Primary Schools in Barmer

In Barmer, 73.19 per cent of the respondents in Barmer reported to have access to functional toilets. When it comes to separate toilets for girls, 63.1 per cent of the respondents reported to have the facility. Midday meal is available to children of 70.69 per cent households. 66.2 per cent of the respondents reported to have access to reliable electricity. Only 68.6 per cent reported to have availability of 1 teacher/classroom.

Facilities in Secondary Schools in Barmer, Rajasthan

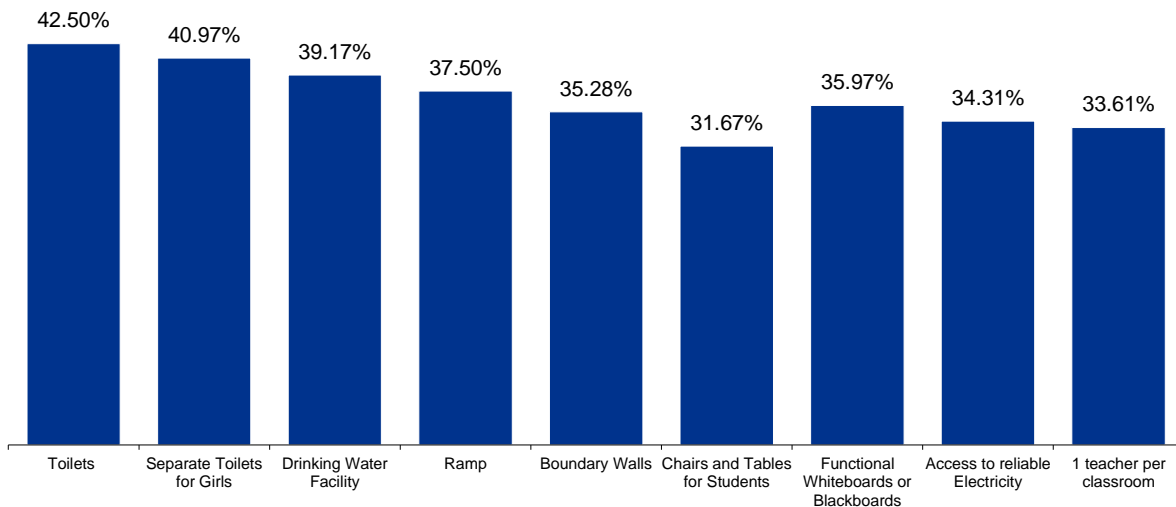


Figure 152: Facilities in Secondary Education

42.50 per cent of the respondent households reported to have accessibility to functional toilets. Only 40.97 per cent of the respondent households reported to have accessibility to separate toilets for girls. Only 34.31 per cent of the respondent households reported to have accessibility of reliable electricity. 33.61 per cent of the respondent households reported to have availability of 1 teacher/classroom.

Facilities in Higher Secondary Schools in Barmer

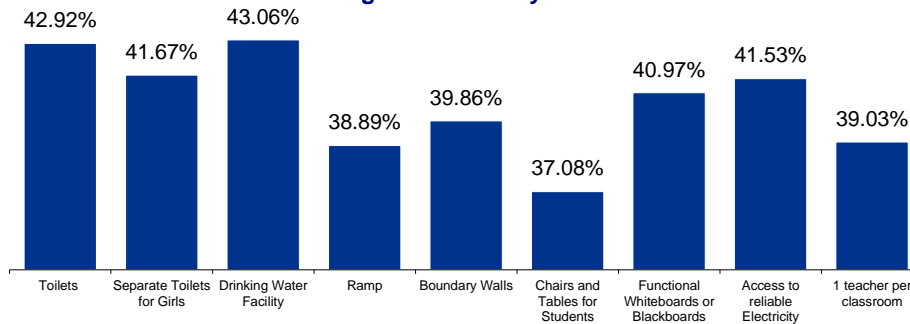


Figure 153: Facilities in Higher Secondary Schools in Barmer

42.9 per cent of the respondents reported to have access to functional toilets in higher secondary schools in Barmer. 41.67 per cent of the respondents reported to have access to separate toilets for the girls. Only 41.53 per cent of the respondents reported to have access to reliable electricity. 39.03 per cent of the respondents reported to have availability of one/teacher/ classroom.

Field Location: Jalore

Facilities in Primary Schools in Jalore, Rajasthan

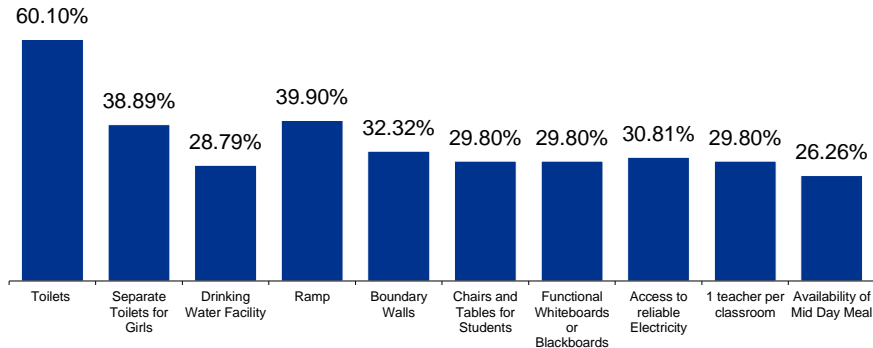
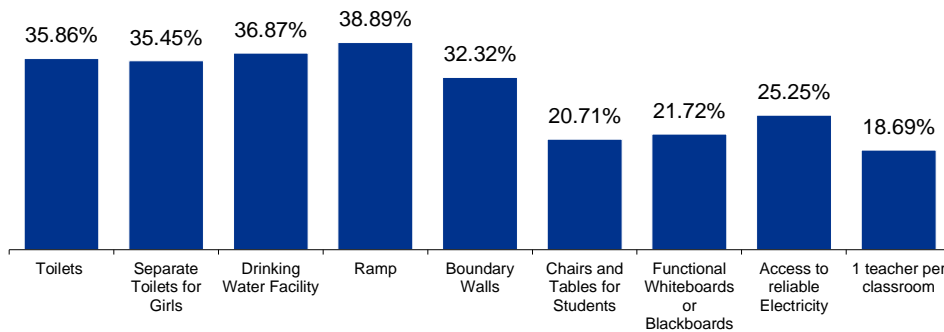


Figure 154:Facilities in Primary Schools in Jalore

60.1 per cent of the respondents reported to have access to functional toilets, while 38.89 per cent of the respondents reported to have access to separate toilets for girls. Only 28.79 per cent of the respondents reported to have availability of drinking water. 26.26 per cent of the respondents reported to have availability of midday meals for their children in primary schools. Only, 29.80 per cent of the respondents reported to have availability of one teacher/Classroom.

Facilities in Secondary Schools in Jalore, Rajasthan



35.86 per cent of the respondent households reported to have access to toilets while 35.45 per cent of the respondent households reported to have access to separate toilets for girls. Only 36.87 per cent of the respondent households reported to have access to drinking water facility in secondary schools in Jalore. 25.52 per cent of the respondent households reported to have access to reliable electricity in schools. Only, 18.86 per cent reported to have availability of one teacher/classroom.

Filed Unit: Golaghat

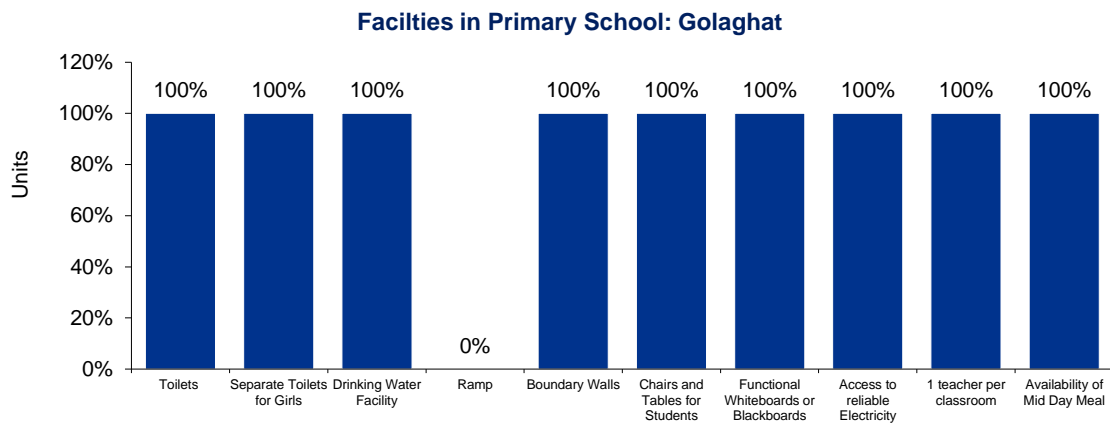


Figure 155: Facilities in Primary Schools in Golaghat

100 per cent of the respondents reported to have availability and accessibility of basic amenities in the primary schools in Golaghat except ramp.

Facilities in Secondary School in Golaghat, Assam

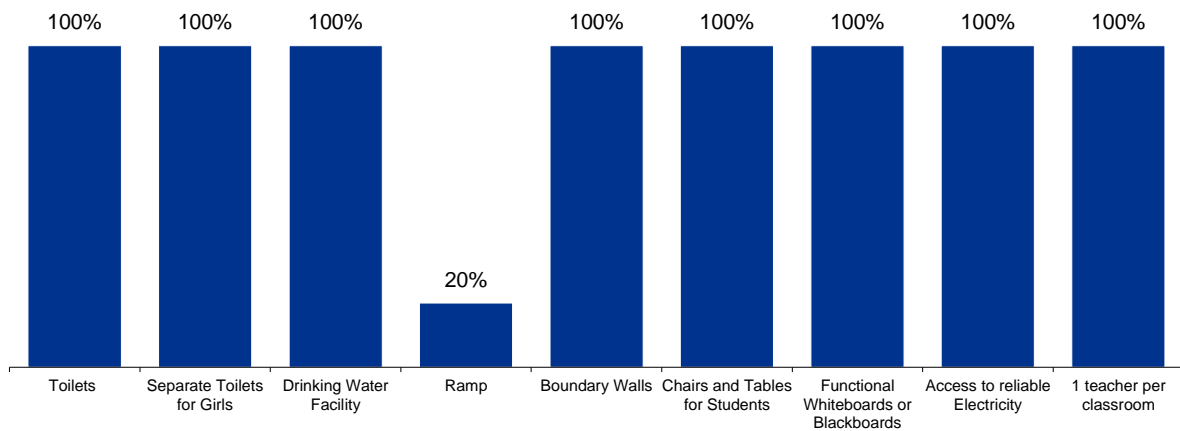


Figure 156: Facilities in Secondary Schools in Golaghat, Assam

100 per cent of the respondent households reported to have the availability of all the basic amenities in secondary schools excepts ramps which was accessible to only 20 per cent of the respondents.

Field Unit: Jorhat

Facilities in Primary School Jorhat, Assam

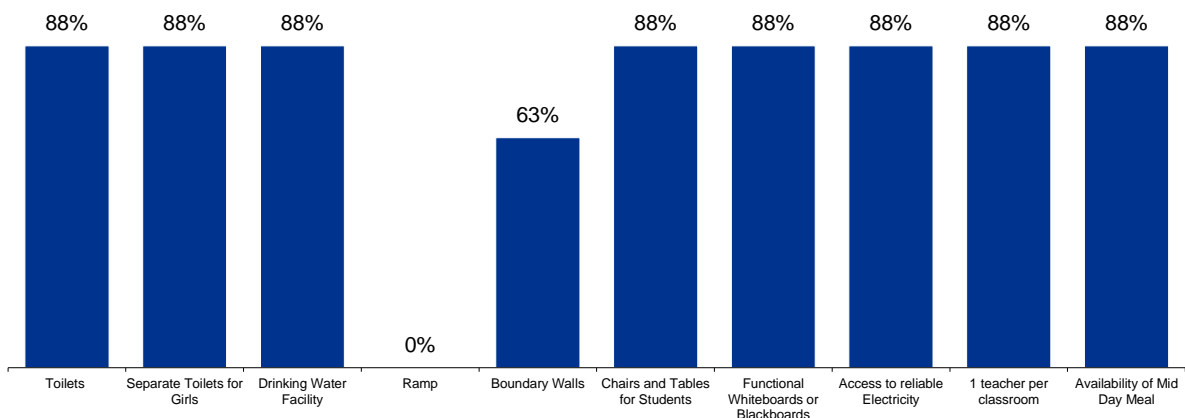


Figure 157: Facilities in Primary Schools in Jorhat

88 per cent of the respondents reported to have accessibility of functional toilets in primary schools. 88 per cent of the respondents reported to have accessibility of separate toilets for girls. Similarly, 88 per cent of the respondents reported to have availability of midday meals and one teacher per classroom.

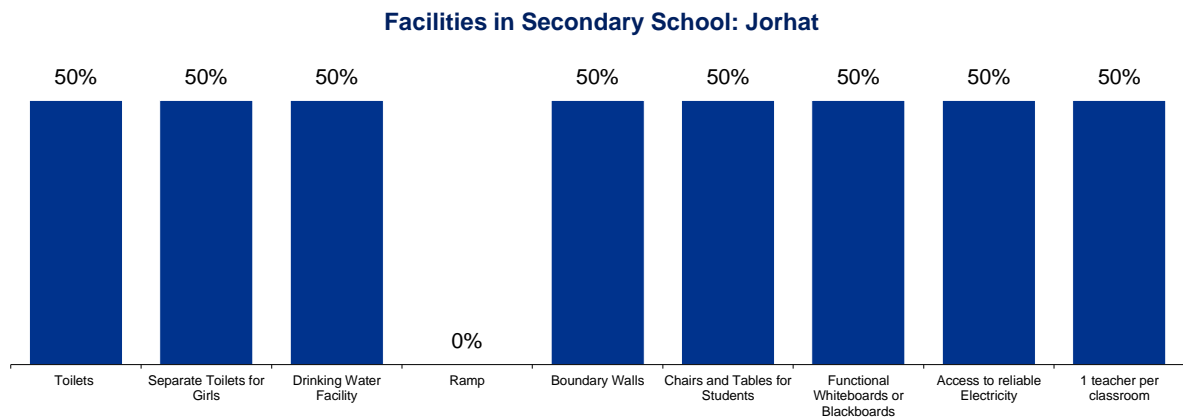


Figure 158: Facilities in Secondary Schools Jorhat

Only, 50 per cent of the respondents reported to have access to all the basic amenities in schools except ramps.

Dropouts

School enrolment in India is progressing towards the target of universal coverage, but around half the children drop out of schools before completing grade XI³⁴⁴. Various studies have revealed that a large proportion of children in grades four and five cannot read with comprehension even a simple paragraph in their first language or perform simple arithmetic operations with two digits.³⁴⁵ Such children are prone to illiteracy within a couple of years after leaving schools. Moreover, if this persists, then about half of Indian adults could remain functionally illiterate between 2025 and 2030.

- *No dropouts were reported in the majority of the field locations barring 17 per cent in Barmer and 28 per cent of the children in Jalore have dropped out schools.*
- *The most common reason for dropouts was stated as the school being far away, followed by the financial burden of sending children to school.*

According to UNICEF³⁴⁶, in 2014 there were 6.1 million children out of school in India, a figure that had reduced from 13.46 million in 2006. However, **29 per cent of children drop out of school before completing their elementary education and 50 per cent of adolescents do not complete secondary education in the country**³⁴⁷.

³⁴⁴ Institute for Policy Research Studies- National Survey for Estimation of Out- of School Children. 2020.

³⁴⁵ National Statistical Office (NSO) Survey: 2019.

³⁴⁶ <https://www.unicef.org/india/what-we-do/education>

³⁴⁷ <https://www.unicef.org/india/what-we-do/education>

Furthermore, it is to be noted that **in Rajasthan, 18.5 per cent of the population between the age of 3 to 35 has never enrolled in school and 34.8 per cent had been enrolled but did not attend**³⁴⁸. 13.2 per cent and 24.6 per cent of the total respective male and female population (3 to 35 years of age) surveyed in Rajasthan have never enrolled in school. 37.1 per cent and 32.1 per cent of the total respective male and female population surveyed (3 to 35 years of age) in Rajasthan have enrolled in school but are currently not attending.

Similarly, for Gujarat, 9.8 per cent of the population between the age of 3 to 35 has never enrolled in school and 49.5 per cent has enrolled in the past but is currently not attending. 8 per cent and 12 per cent of the total respective male and female population (3 to 35 years of age) surveyed in Gujarat have never enrolled in school. 50 per cent and 49 per cent of the total respective male and female population surveyed (3 to 35 years of age) in Gujarat have enrolled in school but are currently not attending.

Average Drop-out Rate of the Children Across Field Locations

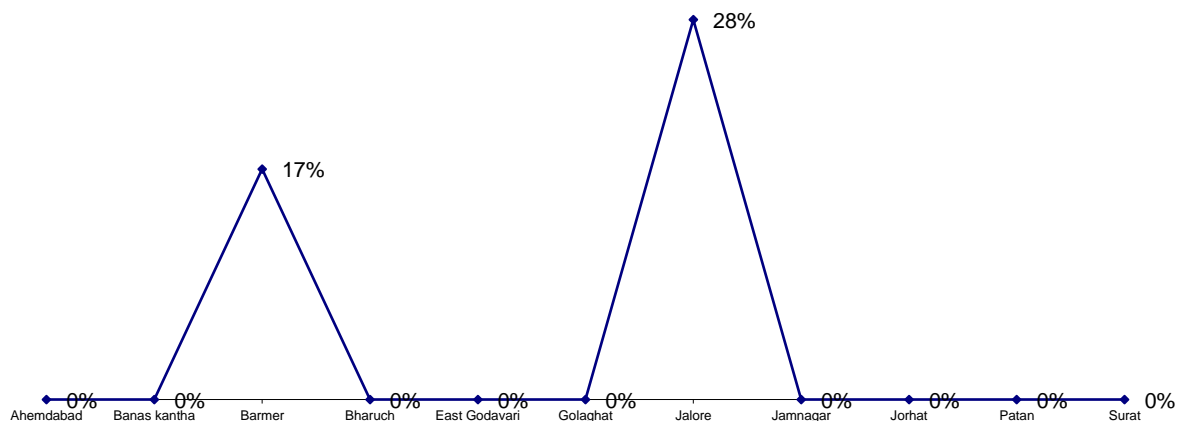


Figure 159: Average dropout rates across locations

As per the primary data, the dropout rates were found to be 0 per cent across the field location except Barmer and Jalore.

Field Location: Barmer

³⁴⁸ NSSO 75th Report on Education

In Barmer the average dropout rate amongst the children of school going age was 17 per cent.

Field Location: Jalore

In Jalore the average dropout rate amongst the children of school going age was 28 per cent.

Reason for Dropouts

Field Location: Barmer

66.67 per cent of the respondents reported that their children dropped out from the schools as the school was far away. 26.67 per cent of the respondents reported that their children dropped out of school because of the financial issues. 35.56 per cent of the respondents reported that tier children dropped out of schools because they work with them. 28.8 per cent of the respondents reported that their children dropped out because of the lack of quality education and 15.5 per cent of the respondents reported to dropout because of lack of quality education.

Reason for Drop-outs in Barmer and Jalore

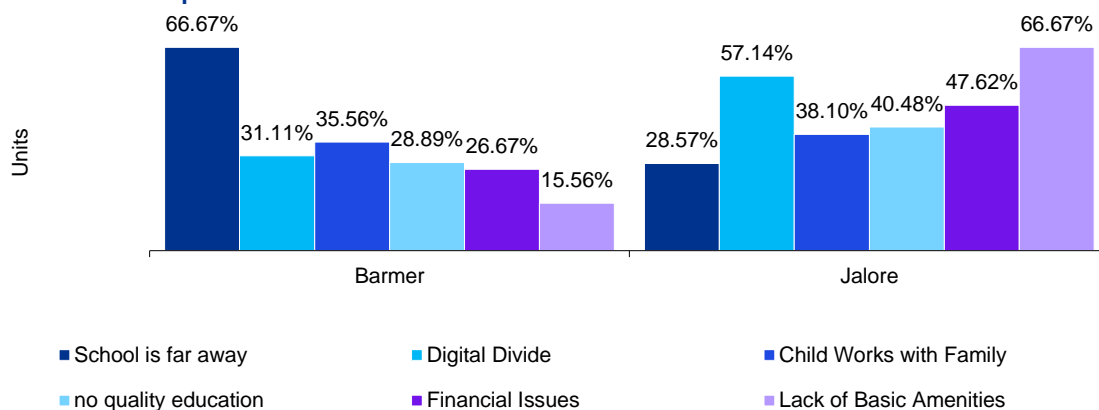


Figure 160: Reason for Dropout

Field Location: Jalore

57.14 per cent of the respondents reported that their children dropped out from the schools as the school was far away. 47.6 per cent of the respondents reported that their children dropped out of school because of the financial issues. 38.1 per cent of the respondents reported that tier children dropped out of schools because they work with them. 66.67 per cent of the respondents reported that their children dropped out because of the lack of quality

education and 40.48 per cent of the respondents reported to dropout because of lack of quality education.

Digital Education

The COVID-19 pandemic highlighted the necessary changes required in the Indian educational system with greater number of schools needing to adopt digital learning as part of their mainstream educational practices. The lack of this led to the discontinuation of education for scores of children across the country, where Rajasthan suffered as well. This led to greater number of dropouts, child marriage as well as child labour.

On an average, around 61 per cent of households with children attending school stated that they had access to digital education.

According to UNESCO, digital technology has the power to not only complement but to enrich and transform education as is practiced currently. It further has the potential to speed up progress towards Sustainable Development Goal 4 (SDG 4) for education through transforming the modes of learning and accelerating access to learning. India too is pushing towards the same in its national agenda. As per the National Education Policy 2020, **“Schools will develop smart classrooms, in a phased manner, for using digital pedagogy and thereby enriching the teaching-learning process with online resources and collaborations”**³⁴⁹.

However, the significant scope of digital education cannot be met until the digital divide in the country is reduced. Only 20 per cent of school-age children in India had access to remote education during the pandemic, of whom only half participated in live online lessons. Further, 38 per cent of households stated that at least one child had dropped out of school due to the pandemic³⁵⁰. Furthermore, according to a study by Azim Premji Foundation³⁵¹, only 32 per cent of children (from 5 states including Rajasthan) had easy access to Smartphones for online classes and around 60 per cent were not attending online classes at all during the pandemic. It must also be noted that only 30 per cent of schools in the state have internet access³⁵².

³⁴⁹ https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf

³⁵⁰ <https://timesofindia.indiatimes.com/world/rest-of-world/digital-divide-still-a-challenge-in-remote-teaching-learning-say-experts/articleshow/87700565.cms>

³⁵¹ <https://azimpremjiversity.edu.in/field-studies-in-education/myths-of-online-education>

³⁵² <https://unesdoc.unesco.org/ark:/48223/pf0000379115>

Access to Digital Education

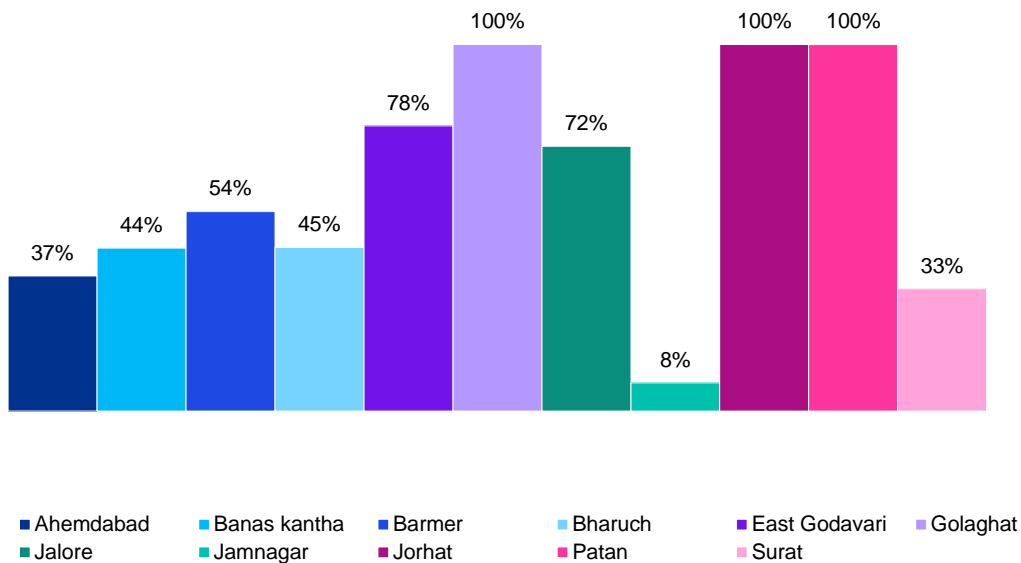


Figure 161: Access to Digital Education

Access to Digital Education remains low across field location except Patan , Jorhat Golaghat and Jamnagar.

Field Location: Barmer

Only 54 per cent of the children in the filed location has access to digital education.

Field Location: Jalore

In Jalore, 72 per cent of the children has access to digital education.

Field Location: East Godavari

78 per cent of the respondents reported to have access to digital education for their children in East Godavari.

Field Location: Golaghat

In Golaghat, 100 per cent of the respondents reported to have access to digital education for their children.

Field Location: Jorhat

In Jorhat, 100 per cent of the respondents reported to have access to digital education for their children

Field Location: Ahmedabad

In Ahmedabad, only 37 per cent of the respondents reported to have access to digital education for their children

Field Location: Patan

In Patan, 100 per cent of the respondents reported to have access to digital education for their children

Field Location: Bharuch

In Bharuch, 57 per cent of the respondents reported to have access to digital education for their children

Field Location: Banas Kantha

In Banas Kantha, only 44 per cent of the respondents reported to have access to digital education for their children

Field Location: Jamnagar

In Jamnagar, only 8 per cent of the respondents reported to have access to digital education for their children.

Field Location: Jamnagar

In Jamnagar, only 8 per cent of the respondents reported to have access to digital education for their children

Analysis and Way Forward

Improvements in Educational Attainment

The educational attainment levels across project locations considerably higher than the district average.

- *Literacy has been improved by 15 percentage points across all the field location.*
- *Attainment of Secondary Education has been improved by 20 percentage point across all the locations*
- *Attainment of Higher Secondary Education has been improved by 13 percentage point across filed locations*
- *There have been zero school dropouts across filed locations except Barmer and Jalore.*

Challenges

- *Access to facilities in schools remain a challenge in Jalore and Barmer.*
- *17% of the children in Barmer and 28% of the children in Jalore have dropped out schools.*
- *Pupil teacher ration remains a challenge across schools in Barmer , Andhra Pradesh, Gujarat and Assam*

Possible Solutions

- *Infrastructure Upkeep of classrooms*
- *Buses or vans to help children access the nearest source of quality education, especially in Barmer and Jalore*
- *Improvement of Quality of Education through increasing pupil-teacher ratio, introduction of technology for standardization, quality, efficiency, and enhanced reach.*
- *Focus on pre-primary education*

- 1 **Enhancement of Infrastructure-** Development of the classroom in terms of equipping it with proper infrastructure facilities within the schools (including proper functionality and usability) is necessary to ensure the proper learning environments. This in turn supports to ensure that children stay in school, enrolments for all increase, dropouts decrease and learning outcomes improve. To achieve equipping schools with the required infrastructure and maintaining the same, community involvement through the revival (where required) as well as proper functioning of School Management Committees (SMCs) could be ensured. Meetings of SMCs must be carried out regularly and suggestions of SMC members regarding improvement of school should be adopted. All the concerned block stakeholders in project intervention areas felt the SMC was functioning well but it's work was restricted to ensuring budget utilization. The ambit of the SMCs work should also include assessment of learning outcomes and alignment with community requirements. Furthermore, including periodic social audits would ensure accountability.

2 Quality of Education:

Government Alignment: *The government of India has approved a centrally sponsored scheme viz. PM SHRI Schools wherein 14500 schools will be strengthened including ensuring adequate, inclusive and safe infrastructure for all children. It will be administered through the Samagra Shiksha Abhiyan which further aims to universalize access to quality school education by expansion of schooling facilities through up-gradation of schools up-to senior secondary level.*

Best Practice: *A leading national foundation is working with the District Institute of Education and Training (DIET) in Jharkhand to build model schools wherein principals and teachers at these schools will receive 10-months training to develop them as "changemakers". As changemakers, these teachers and principals will become master trainers on specific subjects such as Science, English, Hindi, Social Science and Mathematics. CAIRN could connect teachers, principals and prominent SMC members training in collaboration with DIET in their intervention districts, teachers can be trained as master trainers for upcoming batches of other teachers. This will ensure that despite any transfer of government teachers or attrition, knowledge transfer*

- **Increase Pupil-Teacher Ratio:** Based on the National Educational Policy 2020, the ideal pupil teacher ratio should be 30:1. Moreover, it is not simply ensuring that the ideal number of students per teacher, but the quality of teaching maintains the standards required to

ensure universal education. Low teacher-pupil ration was observed across schools. It is recommended to work with the state department of education on curriculum development and train teachers accordingly. This can be done on a pilot basis to integrate further based on success. In Rajasthan particularly, as HZL is working in tribal areas like Zawar on similar training exercises, inter-team capacity could be built between CAIRN and HZL on designing and executing the intervention.

- 3 **Equity in Access to Education:** The enrolment in primary, secondary and higher secondary have increased on average, however, the enrolment figures of the government indicate the proportion of girls being enrolled into these institutions is often 90 percentage points lesser than boys on a yearly basis. Furthermore, dropouts among girls as well as the proportion of girls who have never been to school is higher than boys. In Gujarat in particular, while the gender parity index is 1 or above 1 for primary, upper primary and elementary levels; intervention is required at secondary and higher secondary level where it is less than 1353. A key need here is to carry out behaviour change campaigns in order to ensure gender parity in enrolment and continuance of education. Furthermore, linkage with existing government policies on scholarships can be made. Further details provided below.

Best Practice: *As part of a CSR project, a multi-lingual scholarship discovery and assistance platform was developed. This platform has curated information of scholarships worth more than INR 15,000 crore. The platform lists the minimum criteria required for each scholarship and further maps beneficiaries against the same.*

Government Scheme Alignment: *A key scheme in Rajasthan is the Chief Minister's Higher Education Scholarship Scheme offers 5000 INR per annum to children in to pursue higher education.*

³⁵³ UDISE 2021-22

5.3. Impact Assessment

5.3.1. E-Kaksha

Relevance of Intervention

As per the NSS 75th report on Key Indicators of Household Social Consumption on Education in India, only 31.4 per cent of the persons of age 15 years and above completed secondary and higher secondary education in rural Rajasthan. Further, only 15.7 per cent of the females of age 15 years and above completed secondary and above secondary education in rural Rajasthan as compared to 23.8 per cent of males of age 15 years and above who completed secondary and above secondary education.³⁵⁴ These scenario puts Rajasthan in the bottom three states in India when it comes to secondary education. However, the situation has improved since the last Census, where only 10 per cent of the people completed secondary and higher secondary education.³⁵⁵ As per the baseline data, only 17 per cent population in Barmer and 10 per cent population in Jalore completed class 5th in Barmer only 14 per cent of the population in Barmer and 9 per cent in Jalore completed class 8th, 10 per cent population in Barmer and 7 per cent in Jalore completed class 10th and 9 per cent population in Barmer and 5 per cent population in Jalore completed class 12th. When compared to the Census 2011 data of Rajasthan Barmer has observed an improvement, while Jalore still lags.³⁵⁶

- *46 per cent of the respondent whose children were accessing digital education, reported to have a decrease in out-of-pocket education expenditure due to E-Kaksha program.*
- *In a span of one year there is an increase of 25% (1.79K) subscriber on the YouTube of E-Kaksha.*
- *68 per cent of the respondent households who were accessing the Nand Ghar Centers reported that there was increased access to supplementary nutrition owing to CAIRN's project interventions.*
- *72 per cent of the respondent households in Villages in Ahemdabad, Jamnagar, Surat and Banas Kantha where the Project Ujjawal has been implemented reported that there has been an improvement in the passing percentage of their children.*

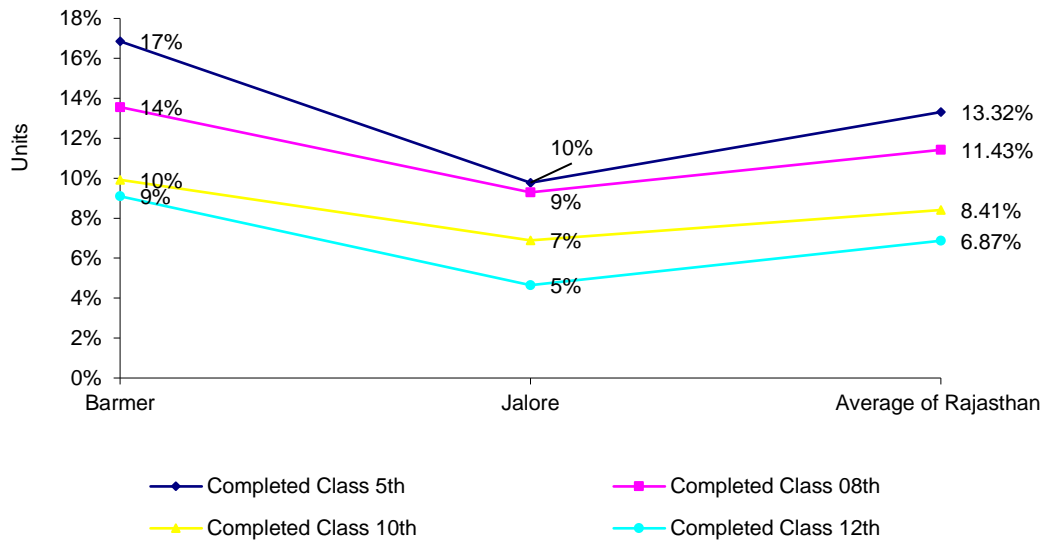
Indicator	Scoring
Relevance	Extremely Satisfactory
Coherence	Extremely Satisfactory
Effectiveness	Satisfactory
Efficiency	Satisfactory
Sustainability	Extremely Satisfactory

³⁵⁴ <https://mospi.gov.in/web/mospi/home>

³⁵⁵ <https://censusindia.gov.in/nada/index.php/catalog/2322/download/5399/DDW-0800C-08.xlsx>

³⁵⁶ ³⁵⁶ <https://censusindia.gov.in/nada/index.php/catalog/2322/download/5399/DDW-0800C-08.xlsx>

Attainment of Education in Barmer and Jalore



This scenario depicts a state of poor attainment of secondary and higher secondary education in Rajasthan. It can be observed that on an average 89 per cent of the persons did not complete secondary and higher secondary education across Barmer and Jalore.

From poverty to lack of quality education and lack of teachers in schools, there are myriad reasons amongst the students to drop-out from schools and not complete the education. The country has around 120,000 single-teacher schools, of which nearly nine in 10 are in rural areas, according to a 2021 UNESCO report³⁵⁷. Secondary education in India also faces a grave challenge of lack of teachers in India³⁵⁸. There are 131,655 vacant positions for secondary level teachers and 99,401 vacant positions of senior secondary teachers in Government schools India. 9,982 positions for secondary school teachers remain vacant in Rajasthan.

Poverty remains a major constraint amongst the students to obtain education in private schools. The per-capita income in Rajasthan, observed an average growth of 8 per cent from 2017 to 2020, but in the last financial year the per-capita income dropped down by 5 per cent. The per-capita income of the Rajasthan remains at INR 109,386 at current price, which is 18 per cent lesser than that of India. Moreover, the rural households earn half of their peers in the urban areas.

³⁵⁷ <https://qz.com/india/2182363/india-has-a-shortage-of-school-teachers-both-offline-and-online>

³⁵⁸ <https://zeenews.india.com/india/india-s-missing-teachers-amid-rajasthan-protests-a-look-at-staff-shortage-in-indian-schools-2521654.html>

Trends in Per Capita (at current price) Income in Rajasthan

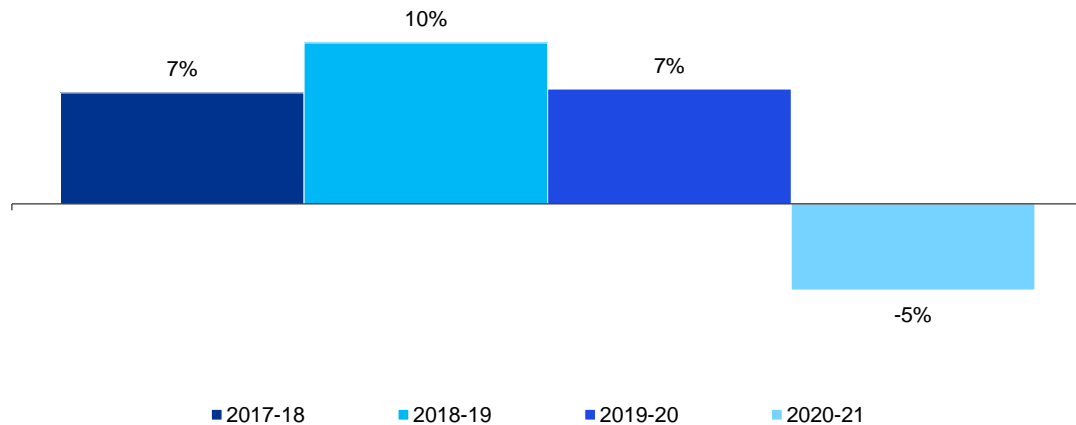


Figure 162 Trends in Per capita (at current price) Income in Rajasthan

According to UNESCO, digital technology has the power to not only complement but to enrich and transform education as is practiced currently. It further has the potential to speed up progress towards Sustainable Development Goal 4 (SDG 4) for education through transforming the modes of learning and accelerating access to learning. India too is pushing towards the same in its national agenda. As per the National Education Policy 2020, ***“Schools will develop smart classrooms, in a phased manner, for using digital pedagogy and thereby enriching the teaching-learning process with online resources and collaborations”***³⁵⁹.

However, digital education also faces myriad challenges. Almost 85 per cent of the population living in India does not speak English. The lack of access to standardized content in Hindi and other regional languages causes hindrance in adoption to the online content. There is lack of standardization of the content. Thus, curation of quality content from open sources tailored for the requirement of students in particular geography can improve the access and learning outcomes of the children. As per the NSS 75th assessment, a household spends on average INR 6319 (the average includes expenditure on primary, secondary and higher secondary) for education in India. Availability of quality education through free quality online sources can reduce the out-of-pocket expenditure on education.

³⁵⁹ https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf
<https://nss.gov.in/>

When it comes to the digital education, as per the NSS 75th round only 4 per cent of the households in rural India had computers in their homes and 14.9 per cent of the households had internet facilities, while 6.4 per cent of the households in rural Rajasthan have computers and 18.5 per cent of the households have internet facilities in rural Rajasthan.

The COVID-19 pandemic highlighted the necessary changes required in the Indian educational system with greater number of schools needing to adopt digital learning as part of their mainstream educational practices. The lack of this led to the discontinuation of education for scores of children across the country, where Rajasthan suffered as well. Particularly with respect to pandemic, nearly 240 million school going students in India had been homebound. The loss in learning in pandemic is estimated to be up to 50 per cent of the expected academic level.³⁶⁰ The impact could be life long and likely to be most significant for the disadvantaged and marginalized children. Moreover, this led to greater number of dropouts, child marriage as well as child labour.

To overcome these challenges, CAIRN launched e-Kaksha project a digital education program to provide free digital education for students of classes 9th to 12th. The aim of the program is to provide free and quality education to students enrolled in the Board of Secondary Education, Rajasthan (RBSE) and Central Board of Secondary Education (CBSE) countrywide. It aims to improve the accessibility as well as affordability of quality education, increase the enrollment and attendance of students (post lockdown) and enable digital transformation in rural education system.

Hence, E-Kaksha ranks as extremely satisfactory on the relevance metric.



Coherence of Intervention

E-Kaksha Program aligns with both national priorities on education as well as with the Sustainable Development Goals (Goal 4: Quality Education). At national level the program is aligned with "Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA)" that aims to usher digital literacy in rural India with a target to cover 6 crore rural households (one person per household) across the country. Furthermore, it works to complement government's goal on digital literacy as well as making education accessible to all. In Rajasthan, CAIRN collaborated with the district administration and education departments of all districts to

³⁶⁰<https://www.indianpediatrics.net/dec2020/dec11531165.htm#:~:text=Nearly per cent20240 per cent20million per cent20school per cent20going,expected per cent20academic per cent20level per cent20 per cent5B2 per cent5D>

ensure alignment with state’s priorities. Therefore, the intervention is extremely satisfactory on the coherence scale.

Table 5.1 Alignment of Project E-Kaksha with the SDGs

SDG	SDGs target	How is it aligned?
	<ul style="list-style-type: none"> • Target 4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes • Target 4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations 	<ul style="list-style-type: none"> • The project contributes to ensuring access to quality education across socio-economic divisions and specifically targeting barriers to education arising from differences based on economic class or gender.
	<ul style="list-style-type: none"> • Target 5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women 	<ul style="list-style-type: none"> • Access to technology would provide an opportunity for female students access to learning material and spaces which might otherwise be out of their reach due to constraints around mobility and expression.

Effectiveness of Intervention

The effectiveness of the intervention was assessed on the secondary documentation for the program wherein the availability of the targets as well as the achievements against the same was considered. Project E-Kaksha aims to address the discussed challenges including poor pupil to teacher ratio, lack of access to quality education and poor affordability to quality education by providing free education for students and improving accessibility and affordability of quality education through development of digital learning content for classes 9th to 12th. Further, to ensure update of the learning content, CAIRN collaborated with the district administration and education departments of all districts in Rajasthan³⁶¹. The targets

³⁶¹ Project MoU

involved achieving the number of videos required, number of views, and total time spent by viewers. According to Youtube data, there are over 148,610,191 views, over 10,000 videos and 8.87 lakh subscribers³⁶². **Therefore, the intervention is satisfactory on the effectiveness scale.**

Efficiency of Intervention

The efficiency of the intervention was considered vis-à-vis the documents provided on the project including the agreements with the implementing partners, whether the intervention had adhered to its timelines, whether utilization was undertaken through the budget and whether the intervention aligned with the CSR policy of CAIRN. E-Kaksha aligned with the CAIRN policy, clear timelines were articulated in the MoU provided and budgets were also included within the same. However, utilization data showed that the budget had been underutilized by over 20 per cent during the timeline assessed. **Thus, the intervention is satisfactory on the efficiency scale.**

It is further understood that COVID-19 has posed as a significant barrier in utilization of budgets across the development sector and thus has led to certain underutilizations.

Sustainability of Intervention

For Project E-Kaksha, the material made is now available freely to all on YouTube, thus there is sustenance of change. The learning videos developed under this project are being disseminated across all 33 districts of Rajasthan through government channels³⁶³. Though there is no clear exit strategy, there is sustenance of change through increasing access to learning material. Hence, **we can conclude that Project E-Kaksha scores as extremely satisfactory on the Sustainability metric.**

[OECD Scoring sheet provided in Annexure](#)

Impact of Intervention

The E-Kaksha project is an equal-opportunity platform for all students of Rajasthan. Specifically designed during the COVID-19 pandemic to address the issue of disruptions to continuation of education posed by the pandemic and to make education accessible from anywhere. During this project, **Mission Gyan** successfully created the first 'Digital Library' for

³⁶² <https://www.youtube.com/@ekaksha8385/about>

³⁶³ https://www.cairnindia.com/Documents/CAIRN_per cent20CSR_per cent20Annual_per cent20Report_per cent202021.pdf

students from Grade 6th to 12th covering all relevant subjects – this was a subject-specific videos repository created by experienced teachers. The concepts were designed to be relevant to the demands of the pandemic crisis and contemporary developments of the country.

E-Kaksha has been a boon for students affected by the pandemic and addresses traditional challenges to education, by bridging the gap between accessibility and quality education, digitally. By developing online lectures of each subject CAIRN has successfully managed to turn a challenge into an opportunity posed by the pandemic.

E-Kaksha is a shining example of CAIRN's dynamic approach to ensuring community well-being that can be seen in its operations and CSR initiatives in Rajasthan. CAIRN Oil & Gas was awarded in the 'Smart Education' category for its digital education project E-Kaksha at the 3rd edition of the FICCI Smart Urban Innovations Awards. Developed under a tripartite Memorandum of Understanding signed by CAIRN, Department of Education, and Mission Gyan, E-Kaksha endeavors to impart free and good quality digital education to students from grade 6 to 12 across Rajasthan under the Board of Secondary Education of Rajasthan (RBSE) and the Central Board of Secondary Examination (CBSE).

Within a span of few years, the outreach of the project has increased exponentially.

- ***The E-kaksha channel on Youtube, which was formed in May 2020, now has 153,615,415 views and 90.9 lakh subscriber.***
- ***The Project E-Kaksha has been implemented by the Government of Rajasthan in 66221 government schools in 87,13,460 students in Rajasthan.***

No. of Subscriber of E-Kaksha Cumulative

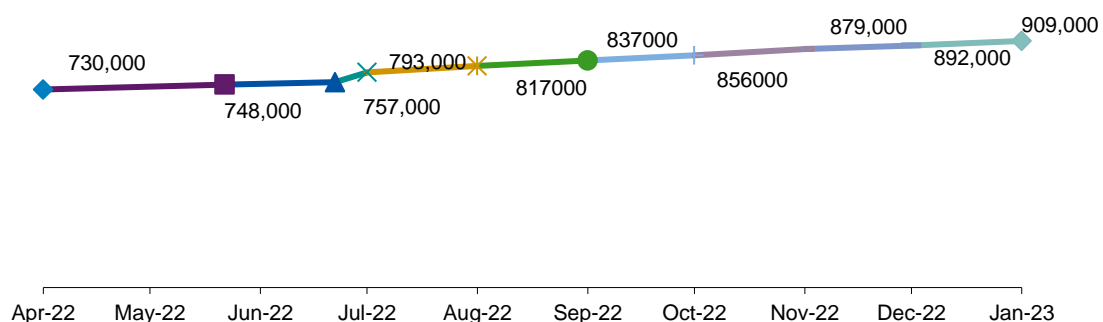


Figure 163: Month Wise Subscriber-E-Kaksha

The success of the project can be gauged by the fact that within a span of one year there is an increase of 25% (1.79K) subscriber on the YouTube channel. Similarly, the total views have been increased by 23% since from the last year.

No. of Views -Cumulative (In Crore)

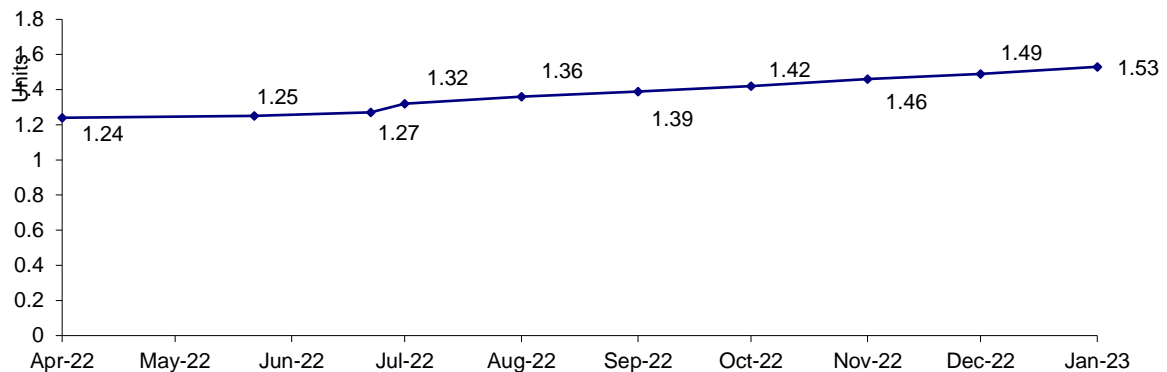


Figure 164: Number of Views-Cumulative

Through Project E-Kaksha, CAIRN has created many tangible and intangible impacts not only on the educational attainment and quality education for students but also on savings of the households by reducing the out-of-pocket expenditure of families.

- ***When it comes to the improvement in digital education, 71 per cent of the respondents whose children were accessing digital education in Jalore and Barmer, have reported improvement in passing percentage and/or academic scores due to CAIRN's project interventions.***

Reduction in Monthly Expenditure

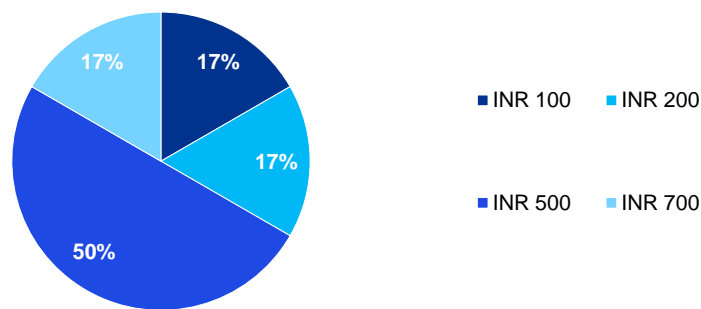
In fact, apart from providing free quality education to the children, the program has been reducing the financial burden on the households. The reduction in expenditure can also lead to improvement in the quality of life of beneficiaries.

When compared to the paid online learning curriculum of some organizations, the annual subscription cost of onile material is around INR 45000. By providing free quality online education, CAIRN has reduced the financial burden on households to send their children for tuitions (whether physically, or in the virtual space).

The savings in the out-of-pocket expenditure on education can improve the food security and nutrition of the household, asset creation, better health care facilities, and social mobility amongst the beneficiary households.

The reduction in the monthly expenditure on education has also been observed in Barmer and Jalore. Of the households who could recall whether there has been a reduction in the out-of-pocket expenditure on education or not, 46 per cent of the respondent households reported to have a decrease in out-of-pocket education expenditure.

Average Decrease in the Monthly Expenditure on Education



The amount of decrease in expenditure on education varied from household to household. 50 per cent of the households that reported a decrease in expenditure, reported that they were saving INR 500. 17 per cent of the households reported that they were saving INR 200, 17 per cent of the households reported that they were saving INR 1000 and also 17 per cent of the households reported that they were saving INR 700.

Strengths

CAIRN has made investments in the right direction in terms of addressing the pressing issue of loss in learning due to the pandemic which was estimated to be up to 50 per cent of the expected academic level. The impact could be life long and likely to be most significant for the disadvantaged and marginalized children³⁶⁴. This is especially relevant for the project intervention area considering its socio-economic composition. Project E-Kaksha intervened to address the discussed challenges including poor pupil to teacher ratio, lack of access to quality education and poor affordability to quality education by providing free education for students and improving accessibility and affordability of quality education through development of digital learning content for classes 9th to 12th. Further, to ensure update of the learning content, CAIRN collaborated with the district administration and education

³⁶⁴https://www.indianpediatrics.net/dec2020/dec11531165.htm#:~:text=Nearly_per cent20240_per cent20million_per cent20school_per cent20going,expected_per cent20academic_per cent20level_per cent20_per cent5B2_per cent5D

departments of all districts in Rajasthan³⁶⁵. E-Kaksha bridged the learning and access gap for disadvantaged and marginalized children through its project intervention. **The programme has supported children in the field locations by increasing the passing percentage and reduction in the out-of-pocket expenditure.**

As observed, the program played a palpable role in increasing access to digital literacy for children in the community. The adoption of digital learning post COVID-19 pandemic shows the resilience of the project in its entirety. Moreover, the programme was considered satisfactory by the stakeholders as observed on the ground during data collection. It establishes the fact that the CAIRN investments have been paying out and were in the right direction by equipping students in quality education.

Challenges

The programme has been focusing only on digital means for improving quality of education in secondary and senior secondary education. As per 2020 data from ASER, across age groups 7.4 per cent to 10.7 per cent of children of school going age are still not enrolled in schools. we see that enrolment rates are reducing drastically as children reach higher levels of education³⁶⁶. Especially in the project intervention area, we understand that there are significant gaps in basic infrastructure and facilities in school. Further, the distance towards travelling to school as well as requirement of children at home towards income generating activities further discourages parents from sending their children to school.

“Some challenge at the district level that children face with respect to education are that children do not have access to mobile phones. There is also irregularity in attendance due to lack of accessibility to schools”.

Jai Prakash Vyas
Assistant District Programme Coordinator, Education

As per the ASER report³⁶⁷ it had been observed that the learning levels of students in basic reading and arithmetic were dropping down in Rajasthan. Children in class 5th who can read at the class 2 levels decreased from 42.5 per cent in 2016 to 39.1 per cent in 2018 in government schools. 3.9 per cent of the students in class 5th couldn't even read the single letter. 12.3 per cent could only read the single letter and 14.1 per cent could only read a word. When it comes to arithmetic, only 32.3 per cent of the children in class 5th could recognize

³⁶⁵ Project MoU

³⁶⁶ UDISE+ 2021-2022 Booklet

³⁶⁷ https://img.asercentre.org/docs/ASER_per cent202018/Release_per cent20Material/aserreport2018.pdf

numbers between 10-99 and 2.2 per cent couldn't even identify numbers between 1-9. Only 23.4 per cent of the students in class 5th could carry out basic subtraction while only 23.3 per cent could carry out simple division. It clearly depicts that the quality of education in primary schools of Rajasthan is a miss.

There is thus an opportunity to expand focus on pre primary and primary education to a strong educational base for children. Additionally, to continue the momentum, focus should be provided on higher education.

Way Forward

- **Focusing on creating a strong learning foundation through intervention in preprimary and primary education:** As per the ASER report³⁶⁸ it had been observed that the learning levels of students in basic reading and arithmetic were dropping down in Rajasthan. Children in class 5th who can read at the class 2 levels decreased from 42.5 per cent in 2016 to 39.1 per cent in 2018 in government schools. 3.9 per cent of the students in class 5th couldn't even read the single letter. 12.3 per cent could only read the single letter and 14.1 per cent could only read a word. One of the reasons behind this could be the lack of learning support provided at the pre-primary and primary stage for children. CAIRN can consider structuring the impact of its interventions in such a way that go beyond capturing literacy, enrolment, and attendance to also incorporate learning outcomes-based approach.
- **Drive Demand, Uptake and Recognition of Existing Learning Material through Community and SMC Involvement:** CAIRN has already shown success in fostering community connect through their projects. Involving concerned community stakeholders and existing community organizations and SMCs to highlight CAIRN's achievements in education and further acknowledge the need for quality education would be helpful in furthering CAIRN's cause. Such community organizations play an essential role not only for the development of the individuals within them but further through increasing community participation in decision making and inculcating ownership over programmes run in the region. While CAIRN has created learning material and is disseminating it through public and government mediums, the impact reported has not been as enthusiastic as compared to Project Ujjwal. Disseminating the content created using existing institutions will households recognize the benefits of existing online learning material created.

³⁶⁸ https://img.asercentre.org/docs/ASER_per cent202018/Release_per cent20Material/aserreport2018.pdf

- **Bridging barriers to education arising due to distance of school from household –**
As understood from district stakeholders and beneficiaries, accessibility of schools due to the distance from project location is a major barrier preventing children from attending school. CAIRN may consider running a vehicle in project intervention areas to address this challenge. Further, post one time investment of procuring the vehicle, the costs of fuel and driver's salary may be recovered through nominal fare collected from households.
- **Self-Sustainable Teaching Environment:** Significant teacher absenteeism has been noted in the districts wherein CAIRN operates based on the baseline assessment. Along with providing digital support for continued learning, CAIRN can consider providing teacher training support to plug in the gaps in quality of teaching, ensuring the sustainability of the same can be carried out through the following means:
 - Build a community/forum of teachers to share their experiences, learnings and best practices. This forum can be hosted on whatsapp or facebook (easily accessible modes) where cross-learning can continue.
 - **Integration of Vocational Education:** Vocational Education is often provided to students in class 11 and 12. While necessary, in order to integrate vocational learning and ensure its translation into an actual vocation, the same could be introduced into the secondary schools by CAIRN. However, it should be noted that students passing out from higher secondary schools with vocational subjects often were not aware of the pathways to follow for higher education in their chosen vocations³⁶⁹. Therefore, career counselling is necessary not only in skill development programmes but integrated into the vocational education in schools.

“To improve the project and bring forth innovation, it is important to organize video conferencing with principals of schools to understand the work done by CAIRN and to also build a sense of responsibility within the school authorities. Further, there is a need to create a rigorous framework for monitoring of the project by the department”

Jai Prakash Vyas
Assistant District Programme Coordinator, Education

³⁶⁹ National Education Policy 2020

5.3.2. Project NanGhar

Relevance of Intervention

The Integrated Child Development Services (ICDS) scheme is the largest program for promotion of maternal and child health and nutrition in India. The scheme was launched in 1975 in pursuance of the National Policy for

Indicator	Scoring
Relevance	Extremely Satisfactory
Coherence	Extremely Satisfactory
Effectiveness	Extremely Satisfactory
Efficiency	Satisfactory
Sustainability	Extremely Satisfactory

Children. The beneficiaries are children up to 6 years, adolescent girls, pregnant and lactating women, and women in the age group of 15-44 years. The beneficiaries of ICDS are to a large extent identical with those under the Maternal and Child Health Program. The program provides an integrated approach for converging all the basic services for improved childcare, early stimulation and learning, health and nutrition, water and environmental sanitation aimed at the young children, expectant and lactating mothers, other women, and adolescent girls in a community.

To ensure the needs of children, smooth service delivery and proper function delivery of Anganwadi become crucial. Presence of proper infrastructure at Anganwadi centers ensure high enrolment rate of children, pregnant and lactating mothers. Secondary studies suggest that the Anganwadi centers with quality infrastructure have better influence on the overall development of pre-school children than the Anganwadi centers that lack proper infrastructure.³⁷⁰ Moreover, Health Indices like – Neo-natal mortality rate, child mortality rate, stunted growth, underweight, etc. have a direct correlation to the various services extended by Anganwadis under the ICDS scheme.

Anganwadi centers, as a part of Integrated Child Development Services (ICDS) play a crucial role in supporting low-income families by ensuring early childhood care. Under the umbrella of Integrated Child Development Services (ICDS) programme, Anganwadi centers cater to the nutrition, health and pre-education needs of children till six years of age as well as the health and nutrition of women and adolescent girls is one such scheme. Moreover, being the part of the India health care system, Anganwadi centers act as an entry point to health care by providing basic health care facilities to children in the age group of 0-6, to pregnant/lactating

³⁷⁰https://www.researchgate.net/publication/265490695_Influence_of_Infrastructural_Facilities_in_Anganwadis_on_Promoting_the_Allround_Development_of_Preschool_Children

women and adolescent girl. Role of Anganwadi center is palpable in meeting and ensuring the nutritional, health, and educational need of children from 0-6 age group.

However, Anganwadi Centers across the country face looming challenges of insufficient learning environment for children, lack of basic amenities lack of sufficient space and lack of education and training and education of Anganwadi Workers (AWWs).³⁷¹

Accessibility of existing health infrastructure is a major challenge, especially in rural areas which are hard to reach. There are around 62000 Anganwadi Centers in Rajasthan and the state require more Anganwadi Centers as the Anganwadi Centers are located at 5 to 6 kilometers from each other and posing a challenge in accessibility to women and children.³⁷² Apart from this, the exiting Anganwadi Centers in Rajasthan are plagued with lack of basic amenities, underpaid and overworked workforce. These scenarios further jeopardize the health and nutrition of children and pregnant and lactating mother.

In 2018, Government of India launched Poshan Abhiyan which aims at reducing the level of stunting, under-nutrition, Anemia and low birth weight in children, as also focus on adolescent girls, pregnant women and lactating mothers, thus holistically addressing malnutrition.³⁷³ Without strengthening the service delivery, basic infrastructure and capacity building of Anganwadi workers, the target of reducing undernutrition, anemia and stunting among children and women under the Poshan Abhiyan would not be achievable.

When it comes to Barmer, the infant mortality rate in Barmer is 58 per 1000 live births. This compares poorly to Rajasthan's IMR of 32 per 1000 live births. The MAM percentage for Barmer stands at 31.7. The percentage of children who suffer from SAM is 6.2 per cent for Barmer. In Barmer, 11.5 per cent of the children are stunted. Immunization percentages are comparatively on the higher end as 92.8 per cent are immunized in Barmer. Apart from the figures around SAM, MAM, and stunting, anemic cases are also a cause of grave concern. 49.4 per cent of the adolescent girls and women report as anaemic in Barmer.³⁷⁴ Hence, these areas were in dire need of intervention.

³⁷¹ <https://journalsofindia.com/anganwadis-services-problems-and-solutions/>

³⁷² https://www.business-standard.com/article/pti-stories/rajasthan-govt-asks-centre-to-sanction-more-anganwadi-centres-119120800362_1.html

³⁷³ <https://wcdhry.gov.in/schemes-for-children/poshan-abhiyan/#:~:text=Poshan per cent20Abhiyaan per cent20was per cent20launched per cent20by,from per cent200 per cent20D6 per cent20years per cent20age.>

³⁷⁴

Nandghar is a flagship programme of CAIRN through a tripartite public-private-people initiative reaching out to Anganwadis. It works in collaboration with the government in the Anganwadi centres to strengthen the efficacy of the Integrated Child Development Services (ICDS) programme, to improve health and well-being of children below 6 years of age in the state. In 2019, CAIRN entered into an agreement with Chetna NGO to strengthen the efficacy of government’s ICDS program in the 50 Nand Ghars that had been constructed and operationalised in Barmer.


Through this intervention CAIRN provides support in improving the health and hygiene and reduce malnourishment in the community, they encourage community connect and build capacities of the workers. Lastly, they also improve basic Anganwadi infrastructure.

Therefore, the intervention is **extremely satisfactory on the Relevance Scale.**

Coherence of Intervention

Nandghar programme aligns with both national priorities on health as well as with the Sustainable Development Goals (Goal 3: Good Health and Goal 4: Quality Education). Furthermore, it works very closely with the government department for health, integrating itself with the priorities of the integrated child development scheme. Therefore, the intervention is **extremely satisfactory on the coherence scale.**

Table 5. 2 Alignment of Project Nandghar with the SDGs

SDG	SDGs target	How is it aligned?
	<ul style="list-style-type: none"> Target 3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births Target 3.2 By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births 	<ul style="list-style-type: none"> The project benefits the household in ensuring awareness and access to appropriate nutrition resulting in improved mother, infancy and young child nutrition and health.

	<ul style="list-style-type: none"> Target 4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education 	<ul style="list-style-type: none"> The project contributes to ensuring access to an infrastructurally safe learning environment, access to technology that enables learning and quality learning material.
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Effectiveness of Intervention

The effectiveness of the intervention was assessed on the secondary documentation for the program wherein the availability of the targets as well as the achievements against the same was considered. The previous impact assessment reported that all Nandghar under the project had adequate learning material for children across age groups. Further, there was adequate supply of electricity, availability of weighing machines and space for outdoor activities. 83 per cent of the Nandghar, as per the last impact assessment, had a boundary wall and 70 per cent had functioning solar panels. Only 48 per cent of the Nandghar had reported toilets earlier though and none had working water purifiers. In spite of that, 82 percent of the respondents from the previous impact assessment felt that attractive building and activities/games has increased the interest level among the children while 50 percent respondents feel that facilities such as clean toilets, fan, light etc. were responsible for increased interest level among children. On the health front, it was observed that the awareness among the people about the health-related services in Nand Ghar is very high. The ANM visited Nand Ghar on every Thursday for regular health check-up of the children. 92 percent of the respondents were aware about the immunization services provided at Nand Ghar and 83 percent were aware about regular weight measurement. The MoU provided for Nanghar program pertained to a time past the last assessment. Therefore, solely on the availability of strong targets as well as past performance wherein benefits were received by all households that were impacted by the intervention, Nandghar is considered to be **extremely satisfactory on the effectiveness scale.**

Efficiency of Intervention

The efficiency of the intervention was considered vis-à-vis the documents provided on the project including the agreements with the implementing partners, whether the intervention had adhered to its timelines, whether utilization was undertaken through the budget and whether the intervention aligned with the CSR policy of CAIRN. The project aligned with the CAIRN policy, clear timelines were articulated in the MoU provided and budgets were also

included within the same. However, utilization data showed that the budget had been underutilized by 2 per cent during the timeline assessed. **Thus, the intervention is satisfactory on the efficiency scale.** It is further understood that COVID-19 has posed as a significant barrier in utilization of budgets across the development sector and thus has led to certain underutilizations.

Sustainability of Intervention

The intervention is aligned with government schemes and close collaboration with government departments as already mentioned. This builds on its merits, it provides a sustainability in action. Nandghar is a project implemented within government systems itself. Hence, the long-term strategy on building and operating has been charted out via the concerned government departments. The project also aligns well with Rajasthan's Janani Shishu Suraksha Yojna and Mukhya Mantri Jal Swavlamban Yojna. The project is also working towards building community ownership of the built infrastructure as well as local capability to ensure operational sustainability. Hence, **Nand Ghar ranks as extremely satisfactory on the sustainability metric.**

[OECD Scoring sheet provided in Annexure](#)



Nandghar in Barmer

Impact of Intervention

Increased Access to Supplementary Nutrition

In order to improve the nutritional status of women and children, the Government is providing additional nutrition through Supplementary Nutrition Programme (SNP) under Anganwadi Services (AWS) and Scheme for Adolescent Girls (SAG) under the Integrated Child Development Services (ICDS) Scheme to children (6 months to 6 years), Pregnant Women, Lactating Mothers and out-of-school Adolescent Girls (11-14 years). Furthermore, the POSHAN Abhiyan which was launched in 2018 has the objective to reduce malnutrition from the country in a phased manner and achieve improvement in nutritional status. POSHAN 2.0 which was announced in the previous financial year aims to strengthen nutritional content, delivery, outreach, and outcomes with focus on developing practices that nurture health, wellness and immunity to disease and malnutrition³⁷⁵. There is no secondary data at the district level to understand the current supplementary nutrition provided to children. However, according to the POSHAN tracker, in the month of September-October, over 5 lakh hot cooked meals had been provided in Rajasthan alone³⁷⁶

- ***68 per cent of the respondent households who were accessing the Anganwadi Centers reported that there was increased access to supplementary nutrition owing to CAIRN's project interventions.***

Improved Status of Nutrition

Severe Acute Malnutrition (SAM) is defined by very low weight-for-height/length (Z- score below -3SD of the median WHO child growth standards), a mid-upper arm circumference <115 mm, or by the presence of nutritional edema³⁷⁷. SAM significantly increases the risk of death in children less than five years of age. It can be an indirect cause of child death by increasing the case fatality rate in children suffering from common illnesses such as diarrhoea and pneumonia. Another category is moderate acute malnutrition (MAM), also known as wasting, is defined by a weight-for-height indicator between -3 and -2 z-scores (standard deviations) of the international standard or by a mid-upper arm circumference (MUAC) between 11 cm and 12.5 cm³⁷⁸.

³⁷⁵ <https://pib.gov.in/PressReleasePage.aspx?PRID=1742817>

³⁷⁶ [Poshan Tracker](#)

³⁷⁷ <https://health.rajasthan.gov.in/content/raj/medical/national-health-mission/en/nhm-additionality/e-Initiatives/poshan.html>

³⁷⁸ <https://actionagainsthunger.ca/what-is-acute-malnutrition/types-of-acute-malnutrition/>

Children with Severe Acute Malnutrition (SAM) have nine times higher risk of dying than well-nourished children³⁷⁹. In India, the prevalence of SAM in children remains high despite overall economic growth. In fact, in Rajasthan, 40.9 per cent of children under the age of five are underweight and 44.4 per cent are anaemic according to the Comprehensive National Nutritional Survey³⁸⁰. According to NFHS-5, stunting of under five children in Rajasthan (in 2019) stood at 30.3 per cent. Good nutrition is essential for children for a healthy immune system to fight diseases, support cognitive development, productivity and to achieve demographic dividend.

In Barmer as stated earlier, 22.6 per cent of children under the age of 5 are stunted, 17.4 per cent of the children are wasted and 23.5 per cent of children are underweight.

- ***In Barmer, 13 per cent of households reported that child moved from MAM to healthy.***
- ***12 per cent of the households reported that child moved from SAM to healthy and an overwhelming 63 reported that child moved from SAM to MAM.***

“Due to spread of awareness amongst community members people have now started to take their health seriously. They focus on nutritious diet and also seek medical advice as and when required.”

– Rakesh Bhatti,
ASHA coordinator

Strengths

In Barmer, 68 per cent of all households reported that there was increased access to supplementary nutrition owing to CAIRN’s project interventions. Attendance in Anganwadis had improved across all the Anganwadis in which CAIRN had intervened according to 100 per cent of the Anganwadi workers and village Sarpanch surveyed. As per the 2020 impact report shared, 91 per cent of the Nandghars maintained attendance registers. Further, the

Mr. Prahalad Singh Rajpurohit, Deputy Director, ICDS highlighted that the prevalence of malnourishment is one of the most severe health problems that haunts the district. The initiative of Nandghar has led to decreasing the number of SAM and MAM cases in the district. Children are now healthier due to CAIRN’s initiatives. Specifically, the nutrient rich ladoos provided by CAIRN are popular among children and have contributed to creating a positive impact on their health.

³⁷⁹ <https://health.rajasthan.gov.in/content/raj/medical/national-health-mission/en/nhm-additionality/e-Initiatives/poshan.html>

³⁸⁰ <https://www.hindustantimes.com/jaipur/in-rajasthan-40-children-underweight-44-anaemic-national-nutrition-survey/story-TMOqM5W6q6e7JPSoVBblwM.html>

same impact study reported an enrolment of around 92 percent in the 23 visited Nand Ghars while attendance is about 60 to 70 percent.

Areas of Improvement

Despite parents reporting children to be healthy, only 44 per cent per cent of households in Barmer had taken their children for health check-up at Anganwadis. Hence, there is a need to make parents aware about availing appropriate services to recognize concerning indicators regarding the child's health.

Way Forward

- **Focus on Early Childhood Education:** While attendance in Anganwadis has increased across all the Anganwadis in which CAIRN has intervened, the enrolment into the same at least vis-à-vis early childhood education needs to be bolstered across the districts. Pre-primary education is a priority both under ICDS as well as under the National educational policy, yet the data on enrolment of children under the age of six into such institutions is extremely low.
- **Nutritional Awareness among guardians of children under the age of 6:** Guardians are not able to recognize the issues that are there with their children and further acknowledge malnourishment as a disease. Awareness is being generated on healthy eating habits. However, it has been found that parents are not paying attention to the ill effects on the health of the child through the consumption of such packaged food. Greater focus on awareness is to be instituted to change the behaviour on nutrition across the community. CAIRN can work with Village Health and Sanitation committees at the Gram Panchayat level to mobilize the community to send their children and pregnant and lactating mother to the Anganwadi centres. Furthermore, existing community-based institutions can be leveraged for the same.
- **Use of Digital Technologies:** CAIRN may further support training Anganwadi workers on the use of digital technologies that have been provisioned under Poshan Abhiyan³⁸¹. This can be done in collaboration with the district health department whereby Anganwadi workers can use digital technology to carry out real-time monitoring of children, adolescents, pregnant and lactating mothers.

³⁸¹ <http://poshanabhiyaan.gov.in/#/>

5.3.3. Project Ujjwal

Relevance of Intervention

As per the NSS 75th report on Key Indicators of Household Social Consumption on Education in India, for 23.1 per cent of the persons of age 15 years in Gujarat, the highest level of education completed is primary

Indicator	Scoring
Relevance	Extremely Satisfactory
Coherence	Extremely Satisfactory
Effectiveness	Moderately Satisfactory
Efficiency	Satisfactory
Sustainability	Extremely Satisfactory

schooling. 20.4 per cent are not literate and never even got to primary school. Further, for 24.5 per cent of the females of age 15 years and above the highest level of education completed is primary schooling as compared to 21.8 per cent of males of age 15 years and above.³⁸² The level of attendance at the primary level is just 37.9 per cent in Gujarat. This is slightly lower for female students at 37.1 per cent.

From poor infrastructure, poverty to lack of quality education and lack of teachers in schools, there are myriad reason amongst the student to drop-out from schools and not complete the education. The country has around 120,000 single-teacher schools, of which nearly nine in 10 are in rural areas, according to a 2021 UNESCO report³⁸³. As published in a report by the Comptroller and Auditor General (CAG) of India, it is understood that Gujarat has not been able to provide basic infrastructure facilities in schools. The report further stated that the monitoring mechanism of the state was weak as Block Resource Centre Coordinators or Cluster Coordinators had not conducted the prescribed number of inspections of schools³⁸⁴.

As per an internal baseline conducted by CAIRN in Gujarat at the beginning of the project, it was highlighted that only 42 per cent of the households sent their children to government schools³⁸⁵. The main reasons of the lower enrolment attributed to lack of basic infrastructure facilities like lack of toilets, drinking water, no sports facilities as well as poor qualities of teaching. The government schools have developed an image for themselves as a place for availing mid-day meal services hence community members who can afford it, prefer to send their kids to private schools.

³⁸² <https://mospi.gov.in/web/mospi/home>

³⁸³ <https://qz.com/india/2182363/india-has-a-shortage-of-school-teachers-both-offline-and-online>

³⁸⁴ <https://www.indiatoday.in/education-today/news/story/gujarat-fails-to-provide-basic-facilities-in-govt-schools-after-7-years-of-rte-act-implementation-1345385-2018-09-21>

³⁸⁵ Project Ujjwal MoU


This scenario mostly gives the picture of lack of quality education and infrastructure in government schools in India and Gujarat. Basis findings from internal and external studies as well as in consultation with community stakeholders, CAIRN concluded that to improve attendance and academic results it was required to provide schools with basic amenities in school. To overcome the challenges of accessing and completing quality education, CAIRN started Project Ujjwal in partnership with Yuva Unstoppable in 33 select schools of Gujarat.

This establishes the relevance of Project Ujjwal.


Coherence of Intervention

Project Ujjwal aligns with the National and state priorities as well as the SDG goals. At Central level, the program aligns with Right to Education, which was launched in 2008 with the objective with the objective to enhance access to secondary education and to improve its quality. At the State level it is aligned with Sambalan Abhiyan Yojna to strengthen quality education in secondary schools. The project is well aligned to SDG 4, that envisions to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

Project Ujjwal aligns with both national priorities on education and sanitation as well as with the Sustainable Development Goals. With respect to the SDGs, we see alignment with Goal 4: Quality Education and Goal 6. Ensure availability and sustainable management of water and sanitation for all³⁸⁶. On national priorities, we see alignment with the Sarva Shiksha Abhiyan as well as the Swach Bharat Mission. Furthermore, it works to complement government’s goal making education accessible to all. **Therefore, the intervention is extremely satisfactory on the coherence scale.**

SDG	SDGs target	How is it aligned?
	<ul style="list-style-type: none"> Target 4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes Target 4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational 	<p>The project contributes to ensuring access to quality education and literacy for primary school going children.</p>

³⁸⁶ <https://sdgs.un.org/goals/goal4>

	<p>training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations</p>	
	<ul style="list-style-type: none"> • Target 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all • Target 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations 	<ul style="list-style-type: none"> • Access to sanitation would help bridge gender gaps in access to education • Access to safe toilets is also seen to reduce the incidence of crime against women

Effectiveness of Intervention

The effectiveness of the intervention was assessed on the secondary documentation for the program wherein the availability of the targets as well as the achievements against the same was considered. Project Ujjwal, according to such documentation aimed implement the education program in 33 identified schools across Gujarat with a focus on capacity building of the schoolteacher and improvement in academic results of students through setting up of digital classrooms. They would also work on improving the basic school infrastructure facilities, introduce and execute behavioural change sessions and develop IEC activities in these schools and its surroundings. As we do not have access to data on target achievement, we would not be able to provide an adequate score to the project on that aspect. **Therefore, the intervention is marginally satisfactory on the effectiveness scale, owing largely due to the unavailability of data for analysis.**

Efficiency of Intervention

The efficiency of the intervention was considered vis-à-vis the documents provided on the project including the agreements with the implementing partners, whether the intervention had adhered to its timelines, whether utilization was undertaken through the budget and whether the intervention aligned with the CSR policy of CAIRN. Project Ujjwal is aligned with the CAIRN policy; clear timelines were articulated in the MoU provided and budgets were also included within the same. However, utilization data showed that the budget had been underutilized by over 20 per cent during the timeline assessed. **Thus, the intervention is satisfactory on the efficiency scale.** It is further understood that COVID-19 has posed as a significant barrier in utilization of budgets across the development sector and thus has led to certain underutilizations.

Sustainability of Intervention

For Project Ujjwal, as part of the program itself, cleanliness groups of students were formed within the schools to ensure continuance of the change brought about through the awareness program as well as sanitation facilities. Further, rigorous training sessions are conducted to ensure students develop/improve hygiene practices. There is involvement of SMCs and quarterly community visits and household visits to ensure there is sustenance of behavioural change. As for other aspects of the project, though there is no clear exit strategy, but there is sustenance of change through either influencing behavior or increasing access to learning material, we can conclude that **Project Ujjwal scores extremely satisfactory on the Sustainability metric.**

[OECD Scoring sheet provided in Annexure](#)

Impact of Intervention

Improvement in passing percentage/academic scores

According to the National Achievement Survey 2017, the state of Gujarat was performing significantly better in learning outcomes in for class 7 and 8 as compared to the national average³⁸⁷. Though, the same data shows that for class 5, there is no significant difference in academic performance between the state and national average.

³⁸⁷ https://ncert.nic.in/pdf/NAS/WithReleaseDate_NPPTL.pdf

Through Project Ujjwal, CAIRN has created many tangible and intangible impacts not only on the educational attainment and quality education for students but also on savings of the households by reducing the out-of-pocket expenditure of families.

The Program through the provisions of providing safe learning environments and quality education in primary schools has helped in improving the attainment of primary education amongst the students across the field location.

Improvement in the Passing Percentage/Acedemic Score

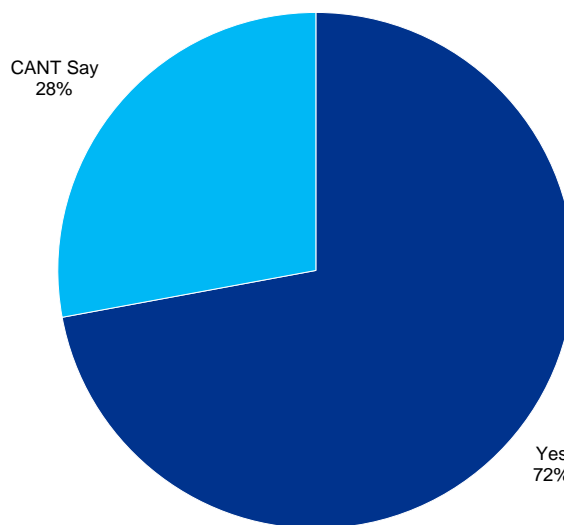


Figure 5.1 Decrease in the Monthly Expenditure on education

- **72 per cent of the respondent households in Villages in Ahmedabad, Jamnagar , Surat and Banas Kantha where the Project Ujjwal has been implemented reported that there has been an improvement in the passing percentage of their children.**

Reduction in Monthly Expenditure

Households were also interviewed on the impact of the intervention on expenditure on education. None of the households reported increase in expenditure on education.

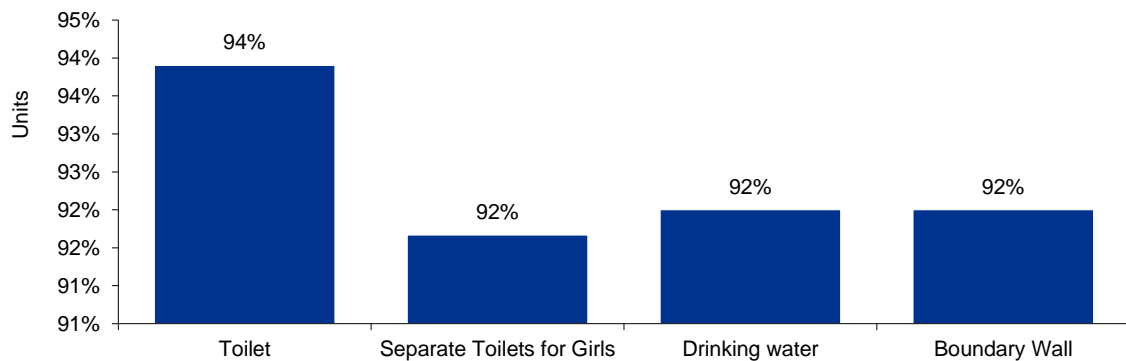
In fact, apart from providing free quality education to the children, the program has been reducing the financial burden on the households. The reduction in expenditure can also lead to improvement in the quality of life of beneficiaries. The savings in the out-of-pocket expenditure on education can improve the food security and nutrition of the household, asset creation, better health care facilities, and social mobility amongst the beneficiary households.

The reduction in the monthly expenditure on education has been observed across the field locations due the program.

- **100 per cent of the respondents in Ahmedabad reported a decrease in expenditure on education because of the project interventions.**
- **In Banaskantha, the number was 87 per cent, in Patan, 50 per cent, in Surat 53 per cent and in Jamnagar 8 per cent.**

Access to Facilities

Access to Facilities in Primary Schools



- **94 per cent of the respondent reported to have access to functional toilets in the schools under the project. 92 per cent of the respondents reported to have access to separate toilets for girls, drinking water and boundary walls.**

5.4. Business Drivers for Educational Programmes

Business Drivers for Programmes for Children’s Well Being and Education

CSR is a pivotal management concern given that in order to expand their wealth creation role in society, businesses must proactively manage risks and take advantage of opportunities vis-à-vis reputation and engagement with stakeholders³⁸⁸. There was a common consensus that socially responsible companies that have a strong orientation for sustainable practices are more attractive to the investors than other companies. Also, companies that focus on the key drivers for value addition have a greater chance of success.

The CSR management personnel interviewed felt that Vedanta's focus of Business Drivers over the last 3 years have improved community relations. Particularly with respect to educational programmes, 50 per cent of the CSR management interviewed across geographies felt that Children's well-being and education was among the top 3 areas of CSR interventions that contributed to strengthening their social license to operate

“CSR is essentially a strategic approach for firms to take to anticipate and address issues associated with their interactions with others and, through those interactions, succeed in their business endeavours”.

- Hohnen, Paul (2007). Corporate Social Responsibility: An Implementation Guide for Business. International institute for Sustainable Development Source: https://www.iisd.org/system/files?file=publications/csr_guide.pdf

Business Case for Project Ujjwal:

CAIRN carried out strategic thinking, rigorous on ground need assessments and a thorough assessments of national and international priorities in the development of the Project Ujjwal (addressed above in the sub section on [Relevance](#)). The programme has successfully supported in increasing the pass percentage, digital literacy and continued education of girls due to health and WASH interventions. Through this intervention, they directly work towards enhancing the social development of the local community and specifically focus on strengthening the base for pursuing higher levels of education and making quality education more accessible, especially for female students. 33 per cent of the CSR management felt that making digital education available to all played an important role in giving their social license to operate. Further, 83 per cent felt that renovation and construction of educational and health infrastructure in the community played an important role in strengthening their social license to operate. Both of these indicators are specifically relevant to Project Ujjwal's area of intervention. Focus on education, not only aligns with the national and international goals on universalising quality access but has the capability to make a real and lasting difference

³⁸⁸ https://www.iisd.org/system/files?file=publications/csr_guide.pdf

in the lives of the beneficiaries. *CAIRN has generated shared values³⁸⁹ between its internal and external stakeholders, incorporating the interest of a wide range of stakeholders and enhancing the trust between the company and its external stakeholders. An educated population further signifies greater rational thinking thereby equipping them with emotional skills to avoid non-objective thinking and attempts to sway their opinions for personal gains by external actors. This is supportive to the business in the long run given that the educated population will see more value in the industrial output of the company and understand the social and environmental actions undertaken by the business unit to advance society.*

Business Case for Project E-Kaksha:

CAIRN carried out strategic thinking, rigorous on ground need assessments and a thorough assessments of national and international priorities in the development of the Project E-Kaksha (addressed above in the sub section on Relevance). The programme has successfully supported in increasing the pass percentage, digital literacy and reduction of expenditure on education for predominantly economically disadvantaged households. Through this intervention, they directly work towards enhancing the social development of the local community and specifically focus on strengthening the base for pursuing higher levels of education and making quality education more accessible. 33 per cent of the CSR management felt that making digital education available to all played an important role in giving their social license to operate. Further, 83 per cent felt that renovation and construction of educational and health infrastructure in the community played an important role in strengthening their social license to operate. Both of these indicators are specifically relevant to Project E-Kaksha's area of intervention. Focus on education, not only aligns with the national and international goals on universalizing quality access but has the capability to make a real and lasting difference in the lives of the beneficiaries. *CAIRN has generated shared values³⁹⁰ between its internal and external stakeholders, incorporating the interest of a wide range of stakeholders and enhancing the trust between the company and its external stakeholders. An educated population further signifies greater rational thinking thereby equipping them with emotional skills to avoid non-objective thinking and attempts to sway their opinions for personal gains by external actors. This is supportive to the business in the long run given that the educated population will see more value in the industrial output of the company and understand the social and environmental actions undertaken by the business unit to advance society.*

³⁸⁹ <https://www.sciencedirect.com/science/article/pii/S0148296322000613>

³⁹⁰ <https://www.sciencedirect.com/science/article/pii/S0148296322000613>

Business case for Project Nandghar

Investment in early childhood development, safeguards the development of young children and lays the foundation for their success. Accordingly, companies are responding to this idea as of the smartest investments to make, leading to greater returns in education, health, productivity and economic growth³⁹¹. While the primary concern for any company is to run a successful enterprise, actions taken on early childhood development pays out dividends for multiple generations³⁹². It is further seen that investment into early childhood development has higher return on investments, not only because those who participate in “high-quality early childhood programs develop enhanced skills and become more productive workers”³⁹³, it further allows the business to make fewer investments at higher level of educations given that children would have strong foundational educational backgrounds³⁹⁴. The programme has also been appreciated by the local communities, block and district stakeholders and CSR management. Creation of Nandghar for Mother and Child health has been ranked among the top 3 projects Vedanta's social license to operate by 50 per cent of the CSR management interviewed.

Overall, children’s education and wellbeing has been ranked among the top 3 projects Vedanta's social license to operate by 50 per cent of the CSR management interviewed. Among the beneficiaries, 93 per cent of the beneficiaries in Gujarat and 49 per cent of the beneficiaries in Rajasthan expressed that early childhood care was an area demanding intervention.

³⁹¹https://d1zah1nkiby91r.cloudfront.net/s3fs-public/2018_10_-_akdn_-_early_childhood_development_and_csr.pdf

³⁹²<https://www.readynationinternational.org/documents/5>

³⁹³https://www.purdue.edu/hhs/hdfs/fii/wp-content/uploads/2015/07/s_wifis32c01.pdf

³⁹⁴<https://www.impact.upenn.edu/early-childhood-toolkit/why-invest/what-is-the-return-on-investment/>



WOMEN EMPOWERMENT

6. Thematic Area: Women Empowerment

6.1. Executive Summary

Gender development is a critical issue which requires substantive attention in order to support not only the wellbeing of women but of the larger community. Evidence suggests that the focus on women empowerment has intergenerational positive impacts on the community.

Key Highlights of the Baseline Assessment:

- 43.97 per cent lesser women in the field locations were married before they turned 18 compared to the overall average of the districts.
- 58.19 per cent women stated to always make independent decisions on their employment, family planning, mobility, right to vote, child's education as well as their finances.
- 16.57 percentage points more women in the field locations were associated with SHGs compared to the districts where the field locations are present.
- On an average 17.84 per cent of women never make any form of decisions on their own in these field locations, significantly in East Godavari, none of the female respondents made their own independent decisions.

6.2. Baseline Assessment

The Gender Development Index (GDI) measures gender inequality in three basic dimensions of human development³⁹⁵. In India, the GDI value is 0.849³⁹⁶ while the global GDI is 0.958. The Gender Inequality Index (GII) provides insights into gender disparities in health, empowerment, and the labour market. Unlike the GDI, higher values in the GII indicate worse achievements wherein India currently stands at 0.462. These provide standalone indicators for the existing gender disparity in the country. In fact, according to the World Economic Forum's Global Gender Gap Report 2022³⁹⁷, India is ranked 135 out of 146 countries indicating high gender disparities across all indicators.

Table 2 State wise GDI and GII

State	GDI	GII
India	0.849	0.462
Andhra Pradesh	0.909	0.361
Assam	0.765	0.598
Gujarat	0.908	0.425
Rajasthan	0.901	0.589

The GDI reveals the human development achievements distributed between women and men. It thus uses the same indicators of the HDI viz. education, income and life expectancy. Rajasthan, Gujarat, and Andhra Pradesh have been ranked as "**medium low equality with absolute deviation from gender parity of 7.5 to 10 per cent**"³⁹⁸. When it comes to GDI, Andhra Pradesh, Rajasthan and Gujarat have performed better than the national average. Assam, however, is amongst the low equality group with an absolute deviation of more than 10 percent.

The GII, however allows us to take a deeper view of the inequalities between these two genders given that the indicators are focused on the female side with distinct components of reproductive health, labour market participation and empowerment. Through these scores, one can see that the states of Rajasthan and Assam have performed far worse than India

³⁹⁵ This includes female and male life expectancy at birth; education, measured by female and male expected years of schooling for children and female and male mean years of schooling for adults ages 25 years and older; and command over economic resources, measured by female and male estimated earned income.

³⁹⁶ <https://hdr.undp.org/gender-development-index#/indicies/GDI>

³⁹⁷ https://www3.weforum.org/docs/WEF_GGGR_2022.pdf

³⁹⁸ [https://mospi.gov.in/documents/213904/301563//Report_per_cent20on_per_cent20Gendering_per_cent20Human_per_cent20Development_per_cent20\(1\)1617270984176.pdf/ab88fd0a-d5ee-77f9-a493-4238dfb3838c](https://mospi.gov.in/documents/213904/301563//Report_per_cent20on_per_cent20Gendering_per_cent20Human_per_cent20Development_per_cent20(1)1617270984176.pdf/ab88fd0a-d5ee-77f9-a493-4238dfb3838c)

while Gujarat and Andhra Pradesh have fared slightly better. Thus, indicating that gender inclusion is still left wanting in all locations and more so in Rajasthan and Assam.

Child and Early Marriage

There is a massive burden of child and early marriage in India which disproportionately impacts girls. Child marriage ends childhood and has negative impacts on the child's development, whether it be an end to their education, early pregnancy impacting their physical and cognitive health.

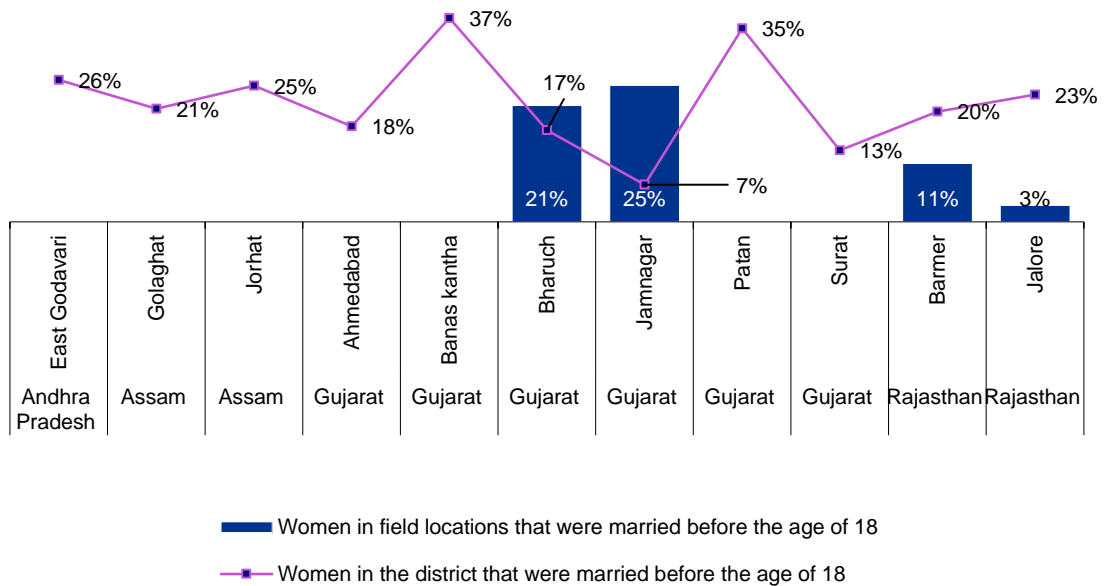
According to UNICEF³⁹⁹, each year, at least 1.5 million girls in India under the age of 18 are married, which indicates that India has the highest number of child brides in the world (and accounting for a third of all child brides globally). A girl who is married as a child is more likely to be out of school, not earn a livelihood later in life, she is even more likely to experience domestic violence and further also has more chances of dying through complications in early pregnancy.

While there has been progress, child marriage continues to impact millions of girls in the country and is highly driven by social norms. For those girls that survive, child marriage does not only have intergenerational impacts but also continues to impact a woman through her life, hampering her own decision-making abilities and further perpetuating the cycle of gender discrimination.

- *43 per cent lesser women were married before the age of 18 in the field locations compared to the district figures as provided by NFHS-5.*
- *In fact, in the field locations of East Godavari, Golaghat, Jorhat, Ahmedabad, Banas Kantha, Patan and Surat, no child marriage was reported by the respondents.*

³⁹⁹ [Ending child marriage and adolescent empowerment | UNICEF India](#)

Females that were married before the age of 18



43 per cent lesser women were married before the age of 18 in the field locations compared to the district figures as provided by NFHS-5.

In fact, in the majority of the field locations, none of the women stated that they were married before the age of 18, indicating no child marriage among the respondents and the females in their household. This was the case in the field locations of East Godavari, Golaghat, Jorhat, Ahmedabad, Banas Kantha, Patan and Surat.

In the field locations of Barmer and Jalore, there was presence of child marriage among females, however it was lower than the proportion married as children within the whole district in each.

In Bharuch and Jamnagar field locations the proportion of women that were married before the age of 18 is higher than the overall rate of child marriage in the district, as per NFHS-5. While CAIRN does not work on women empowerment in these locations, it is clearly reflective that the agency of girls is on the lower side in these locations, despite independent decision-making being reported by women.

Decision Making by Women

Decision-Making is a key indicator when it comes to women empowerment. The agency of a woman can be expressed through decision making wherein they are able to exercise influence, take decisions, establish their own goals, and take actions on such goals. The key decisions that impact a woman's life occur both within the private sphere (such as the household, interpersonal relations, and self) as well as public sphere (within the community and in public profiles). Empowered decision making is carried out when a woman is aware of her rights, voices her beliefs and acts on these decisions. In the study, it has been assessed whether a woman makes decisions across spheres such as financial decisions, family planning, employment, education of the child, as well as mobility.

- *43.97 per cent lesser women in the field locations were married before they turned 18 compared to the overall average of the districts.*
- *58.19 per cent women stated to always make independent decisions on their employment, family planning, mobility, right to vote, child's education as well as their finances.*
- *16.57 percentage points more women in the field locations were associated with SHGs compared to the districts where the field locations are present.*
- *On an average 17.84 per cent of women never make any form of decisions on their own in these field locations, significantly in East Godavari, none of the female respondents made their own independent decisions.*

The country has seen declining empowerment of women over the years, despite the incremental progress that had been achieved. The number of female ministers/political leaders declined from about 23 percent in 2019 to just 9 percent in 2021⁴⁰⁰. The female workforce participation rate also decreased from 24.8 percent in 2019 to 22.3 percent in 2021. Additionally, the share of women in senior and managerial positions also remains low. Moreover, women in India earn just one-fifth of what men earn which puts India among the bottom 10 globally on this indicator. Furthermore, one in four women endure intimate violence at least once in their lifetime. Although India has achieved gender parity with regard to educational attainment, illiteracy rates among women remain high⁴⁰¹.

According to the World Bank (2011), gender disparities make women and girls more susceptible to poverty than men and boys, and they have an impact on how both men and women respond to changes in their level of poverty⁴⁰². These inequities are caused by differences in gender norms, intra-household capital division, work and responsibility, and

⁴⁰⁰ [The Importance of Empowering Women in India - The Borgen Project](#)

⁴⁰¹ Global Gender Gap Report 2021

⁴⁰² (2011) World Development Report 2012: Gender Equality and Development. World Bank, Washington D.C.

power dynamics.⁴⁰³ Women typically have lower levels of education, less ownership and influence over assets, lesser say in decisions and worse social indicators than men do in many nations.⁴⁰⁴

Decision making power is the paradigm for the empowerment of the women. From nutrition of the children to household savings, decision making, exercised by women, can impact almost every aspect of wellbeing and quality of life in a household.

Below, the level of decision making across different parameters across field locations are provided.

Field Unit: East Godavari, Andhra Pradesh

Decision Making in East Godavari, Andhra Pradesh

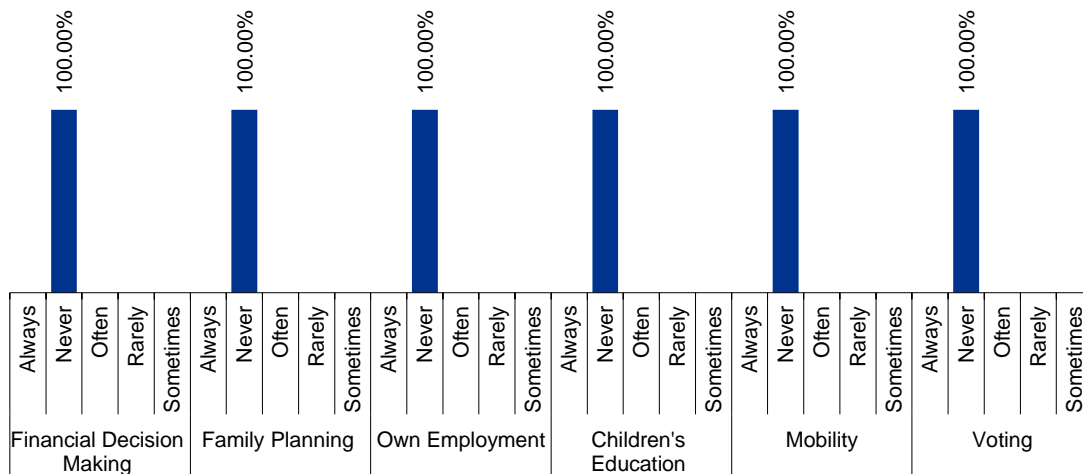


Figure 165 Decision Making in East Godavari, Andhra Pradesh

The female respondents in East Godavari field location never make their own independent decisions on finances, family planning, employment, child’s education, mobility or even voting.

⁴⁰³ Grown, Caren. (2014) Missing Women: Gender and the Extreme Poverty Debate.

⁴⁰⁴

Quisumbing, Agnes, Lawrence Haddad, and Christine Peña. (2001) Are Women Overrepresented Among the Poor? An Analysis of Poverty in 10 Developing Countries. Journal of Development Economics, 66: pgs. 225-269.

Field Unit: Golaghat, Assam

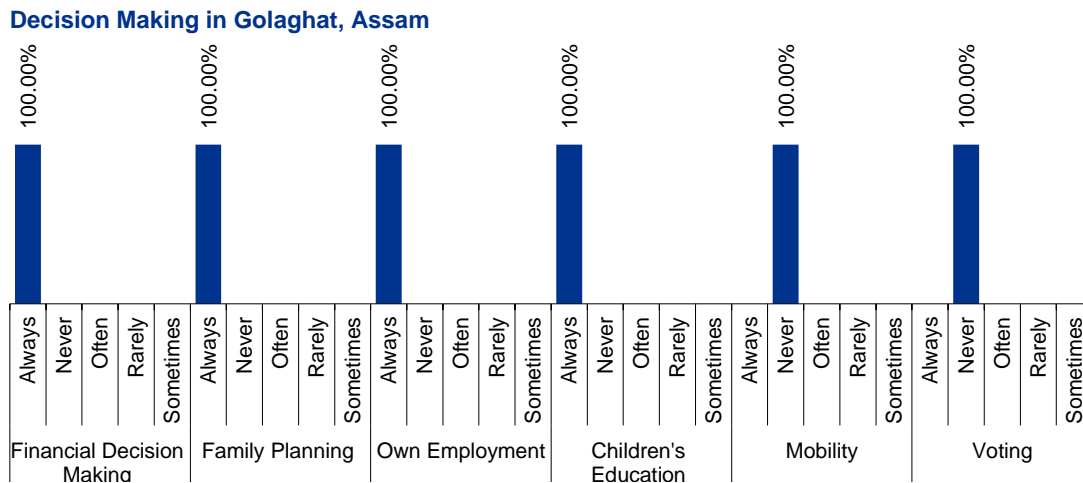


Figure 166 Decision Making in Golaghat, Assam

While 100 per cent of the female respondents in Golaghat field location always make their own independent decisions on finances, family planning, employment and child's education, all claimed that they never made such decisions on voting or their mobility.

Field Unit: Jorhat, Assam

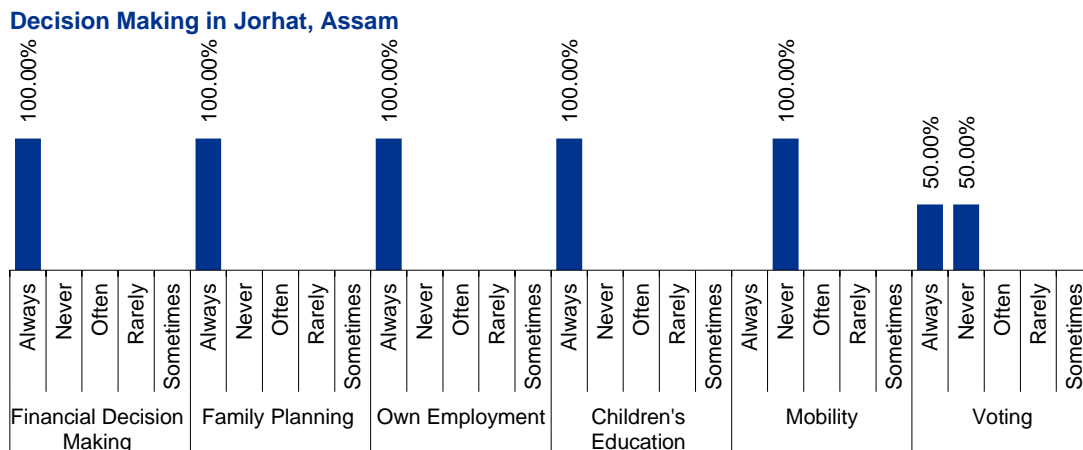


Figure 167 Decision Making in Jorhat, Assam

While 100 per cent of female respondents in Jorhat field location always make their own independent decisions on finances, family planning, employment and child's education, all claimed that they never made such decisions on their own mobility. 50 per cent always

exercise their right to vote independently, while the other 50 per cent never make such decisions.

Field Unit: Ahmedabad, Gujarat

Decision Making in Ahmedabad, Gujarat

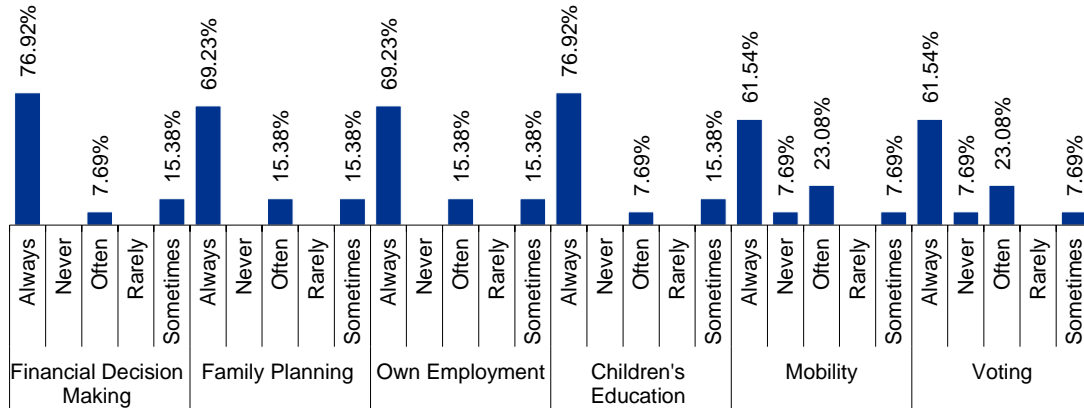


Figure 168 Decision Making in Ahmedabad, Gujarat

While 76.92 per cent of female respondents in Ahmedabad field location always make their own financial decisions, 7.69 per cent make them often but not always and 15.38 per cent carry out their own independent decisions sometimes.

Decisions on family planning would imply whether a woman can exercise her bodily integrity on spacing, methods of family planning as well as her own decision whether to have a child or not. 69.23 per cent of women in Ahmedabad field location stated that they always make such decisions, while 15.38 per cent stated that often they do make these decisions but not always and 15.38 per cent stated that they sometimes are involved in these decisions.

Employment decisions pertain to women’s agency to carry out their own livelihood or be meaningfully employed based on their own decisions. 69.23 per cent of women in Ahmedabad field location stated that they always make such decisions, while 15.38 per cent stated that often they do make these decisions but not always and 15.38 per cent stated that they sometimes are involved in these decisions.

76.92 per cent of the female respondents always decide on their child’s education, 7.69 per cent make such decisions often but not always and 15.38 per cent make such decisions sometimes.

61.54 per cent always exercise their right to vote independently, while 23 per cent often make such decisions and 7.69 per cent sometimes make such decisions. However, 7.69 per cent never make such decisions. Similarly, 61.54 per cent always make the decision on their mobility, while 23 per cent often make such decisions and 7.69 per cent sometimes make such decisions. However, 7.69 per cent never make such decisions.

Field Unit: Banas Kantha, Gujarat

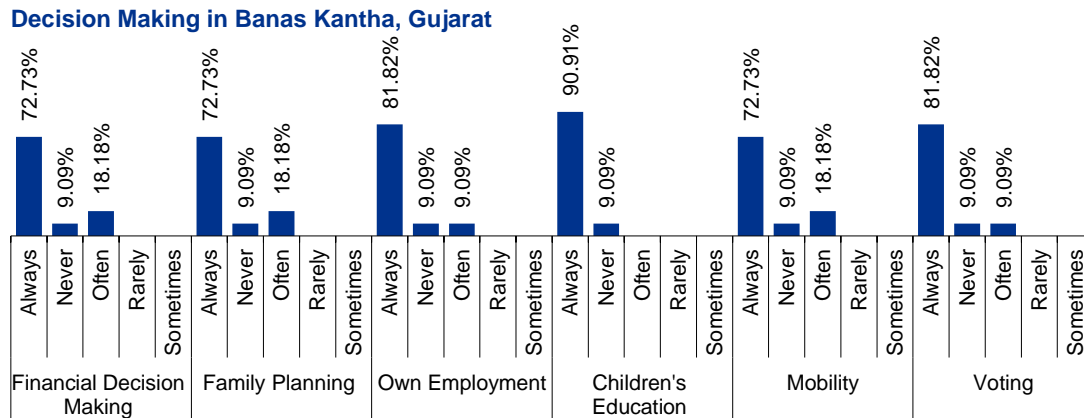


Figure 169 Decision Making in Banas Kantha, Gujarat

While 72.73 per cent of women in Banas Kantha field location always make their own financial decisions, 18.18 per cent make them often but not always and 9.09 per cent never make such decisions on their own. The same proportion made such decisions on family planning and mobility as well. Employment decisions pertain to women’s agency to carry out their own livelihood or be meaningfully employed based on their own decisions. 81.82 per cent stated that they always made such decisions, 9.09 per cent make such decisions often but not always but 9.09 per cent never make such decisions. The same proportion made decisions on their own mobility. 90.91 per cent of the female respondents always decide on their child’s education and 9.09 per cent never make such decisions.

Field Unit: Bharuch, Gujarat

Decision Making in Bharuch, Gujarat

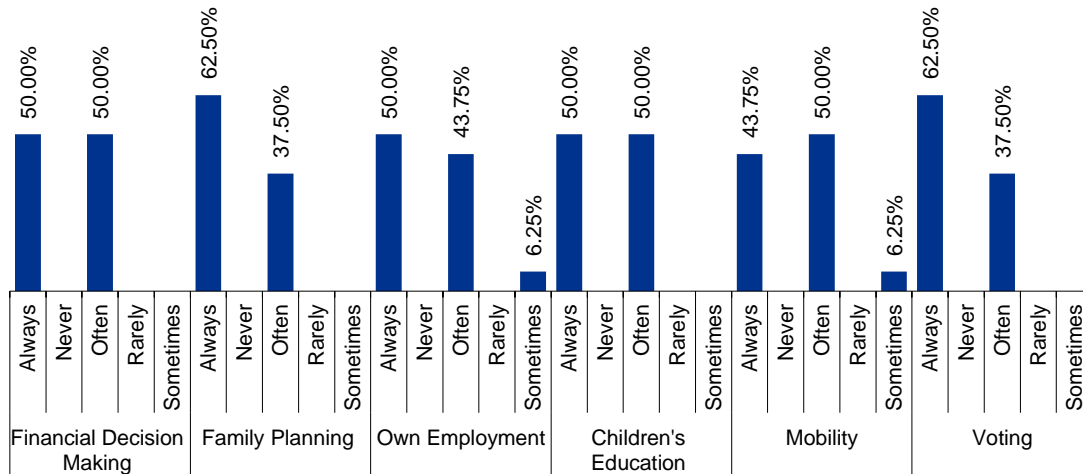


Figure 170 Decision Making in Bharuch, Gujarat

While 50 per cent of women in Bharuch always make their own financial decisions, the other 50 per cent make them often but not always. The same proportion made decisions on their child’s education.

Decisions on family planning would imply whether a woman can exercise her bodily integrity on spacing, methods of family planning as well as her own decision whether to have a child or not. 62.5 per cent of women in Bharuch stated that they always make such decisions, while 37.5 per cent stated that often they do make these decisions but not always. The same proportion made such decisions on their right to vote.

Employment decisions pertain to women’s agency to carry out their own livelihood or be meaningfully employed based on their own decisions. 50 per cent stated that they always made such decisions, 43.57 per cent make such decisions often but not always, 6.25 per cent sometimes make such decisions. 43.57 per cent made decisions on their own mobility always while 50 per cent made such decisions often but not always and 6.25 per cent made such decisions sometimes.

Field Unit: Jamnagar, Gujarat

Decision Making in Jamnagar, Gujarat

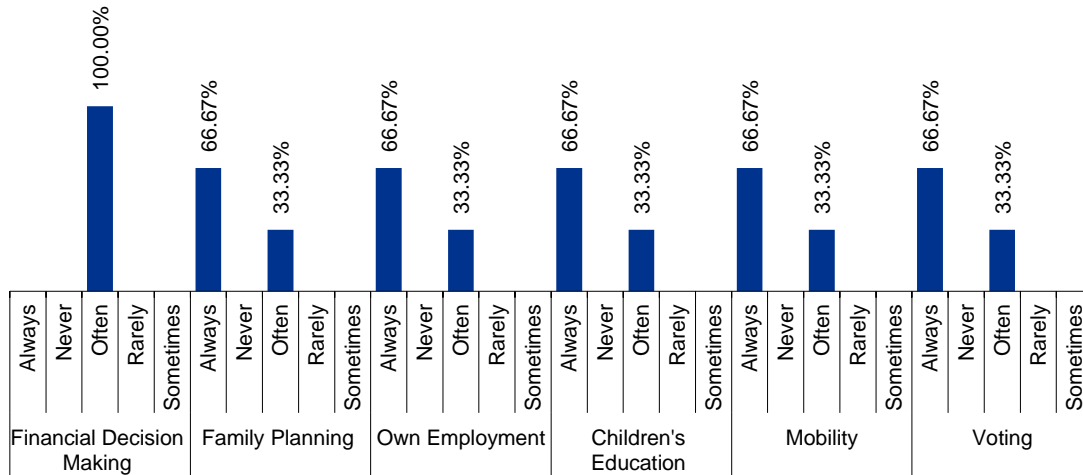


Figure 171 Decision Making in Jamnagar, Gujarat

100 per cent of the female respondents in Jamnagar make the decisions around finances often but not always. Decisions on family planning would imply whether a woman can exercise her bodily integrity on spacing, methods of family planning as well as her own decision whether to have a child or not. 66.67 per cent of women in Jamnagar stated that they always make such decisions, while 33.33 per cent stated that often they do make these decisions but not always.

Similarly for employment decisions which signify a woman's agency to carry out their own livelihood or be meaningfully employed based on their own decisions. The same proportion made decisions on their child's education, their mobility as well as voting.

Field Unit: Patan, Gujarat

Decision Making in Patan, Gujarat

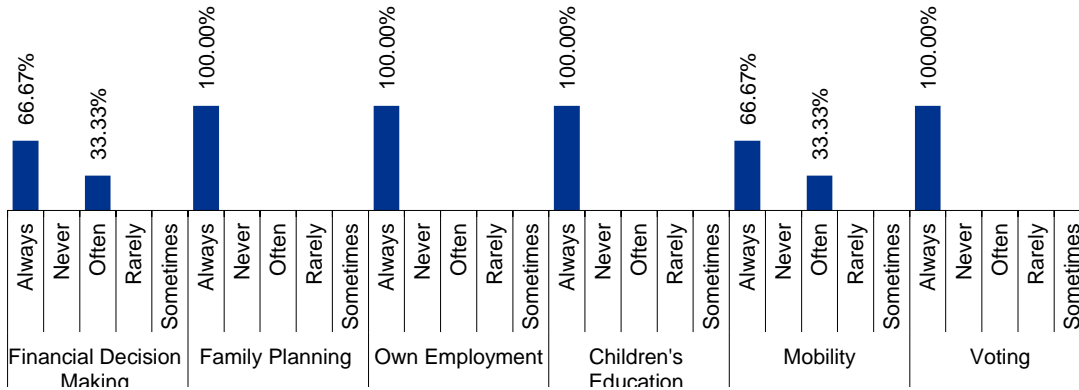


Figure 172 Decision Making in Patan, Gujarat

While 66.67 per cent of female respondents in Patan field location always make their own financial decisions, 33.33 per cent make them often but not always. 100 per cent of the female respondents always make their own decisions on family planning, employment, children’s education and voting. 66.67 per cent of female respondents in Patan field location always made their own decisions on mobility and 33.33 per cent made the same often but not always.

Field Unit: Surat, Gujarat

Decision Making in Surat, Gujarat

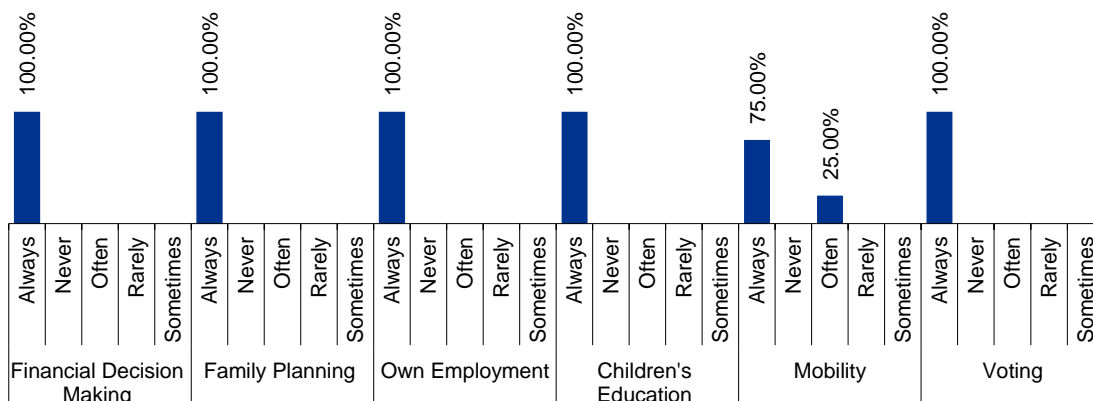


Figure 173 Decision Making in Surat, Gujarat

The female respondents in Surat field location never make their own independent decisions on finances, family planning, employment, child’s education or even voting. 75 per cent always made their decisions on their own mobility and 25 per cent often made such decisions.

Field Unit: Barmer, Rajasthan

Decision Making in Barmer, Rajasthan

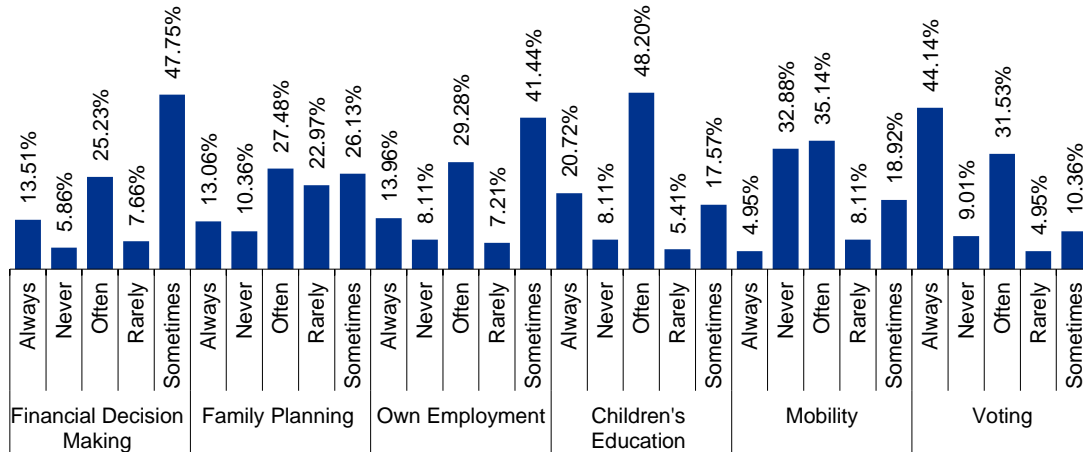


Figure 174 Decision Making in Barmer, Rajasthan

While 13.51 per cent of women in Barmer field location always make their own financial decisions, 25.23 per cent make them often but not always, 47.75 per cent carry out their own independent decisions sometimes, 7.66 per cent do so rarely and 5.86 per cent never make such decisions on their own.

Decisions on family planning would imply whether a woman can exercise her bodily integrity on spacing, methods of family planning as well as her own decision whether to have a child or not. 13.06 per cent of women in Barmer field location stated that they always make such decisions, while 27.48 per cent stated that often they do make these decisions but not always. 26.13 per cent stated that they sometimes are involved in these decisions, 22.97 per cent stated that they are rarely making these decisions. However, 10.36 per cent never make these decisions.

Employment decisions pertain to women's agency to carry out their own livelihood or be meaningfully employed based on their own decisions. 13.96 per cent stated that they always made such decisions, 29.28 per cent make such decisions often but not always, 41.44 per cent sometimes make such decisions. However, 7.21 per cent make such decisions rarely, but 8.11 per cent never make such decisions.

20.72 per cent of the female respondents always decide on their child's education, 48.20 per cent make such decisions often but not always, 17.57 per cent make such decisions

sometimes. However, 5.41 per cent make rarely make such decisions and 8.11 per cent never make such decisions.

44.14 per cent always exercise their right to vote independently, while 31.53 per cent often make such decisions. 10.36 per cent sometimes make such decisions. However, 4.95 per cent rarely make such decisions and 9.01 per cent never make such decisions.

Only 4.95 per cent always make the decision on their mobility, 35.14 per cent make it often 18.92 per cent make it sometimes. However, 8.11 per cent make it rarely and 32.88 per cent never make such decisions

Field Unit: Jalore, Rajasthan

Decision Making in Jalore, Rajasthan

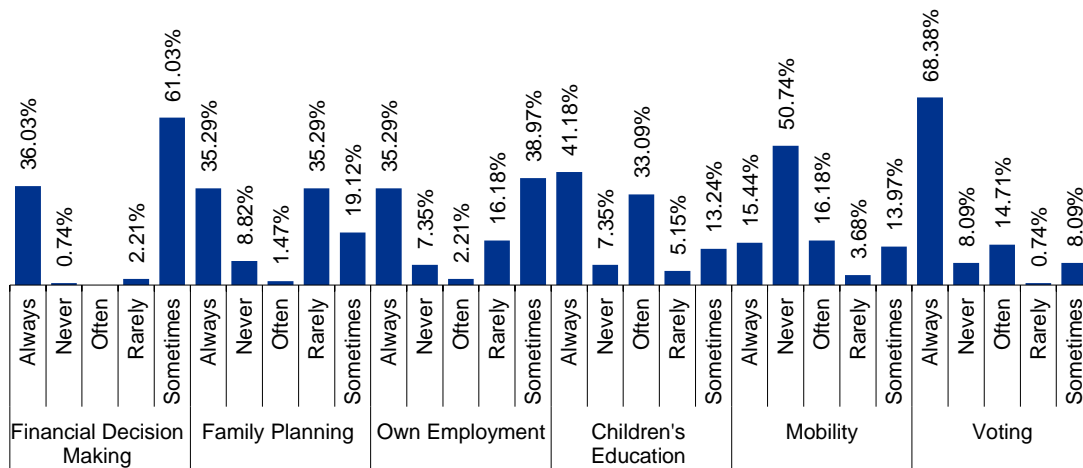


Figure 175 Decision Making in Jalore, Rajasthan

While 36.03 per cent of women in Jalore field location always make their own financial decisions, 61.03 per cent carry out their own independent decisions sometimes, 2.21 per cent do so rarely and 0.74 per cent never make such decisions on their own.

Decisions on family planning would imply whether a woman can exercise her bodily integrity on spacing, methods of family planning as well as her own decision whether to have a child or not. 35.29 per cent of women in Jalore field locations stated that they always make such decisions, while 1.47 per cent stated that often they do make these decisions but not always. 19.12 per cent stated that they sometimes are involved in these decisions, 35.29 per cent stated that they are rarely making these decisions. However, 8.82 per cent never make these decisions.

Employment decisions pertain to women’s agency to carry out their own livelihood or be meaningfully employed based on their own decisions. 35.29 per cent stated that they always made such decisions, 2.21 per cent make such decisions often but not always, 38.97 per cent sometimes make such decisions. However, 16.18 per cent make such decisions rarely, but 7.35 per cent never make such decisions.

41.18 per cent of the female respondents always decide on their child’s education, 33.09 per cent make such decisions often but not always, 13.24 per cent make such decisions sometimes. However, 5.15 per cent make rarely make such decisions and 7.35 per cent never make such decisions.

68.36 per cent always exercise their right to vote independently, while 14.71 per cent often make such decisions. 8.09 per cent sometimes make such decisions. However, 0.74 per cent rarely make such decisions and 8.09 per cent never make such decisions.

Only 15.44 per cent always make the decision on their mobility, 16.18 per cent make it often 13.97 per cent make it sometimes. However, 3.68 per cent make it rarely and 50.74 per cent never make such decisions.

Association with Self-Help Group (SHG) or Federation

The data below provides the percentage of women who are associated with SHGs or Federations out of the total women interviewed. On an average around 30 per cent of all women who were interviewed were associated with SHGs. Such association with SHGs provides women greater opportunities in accessing more forms of financial, communal as well as psycho-social support.

Across field locations, only 29.8 per cent of women are associated with SHGs. However, on an average, this is 16.57 percentage points more than the districts where the field locations are present.

Women Associated with SHGs

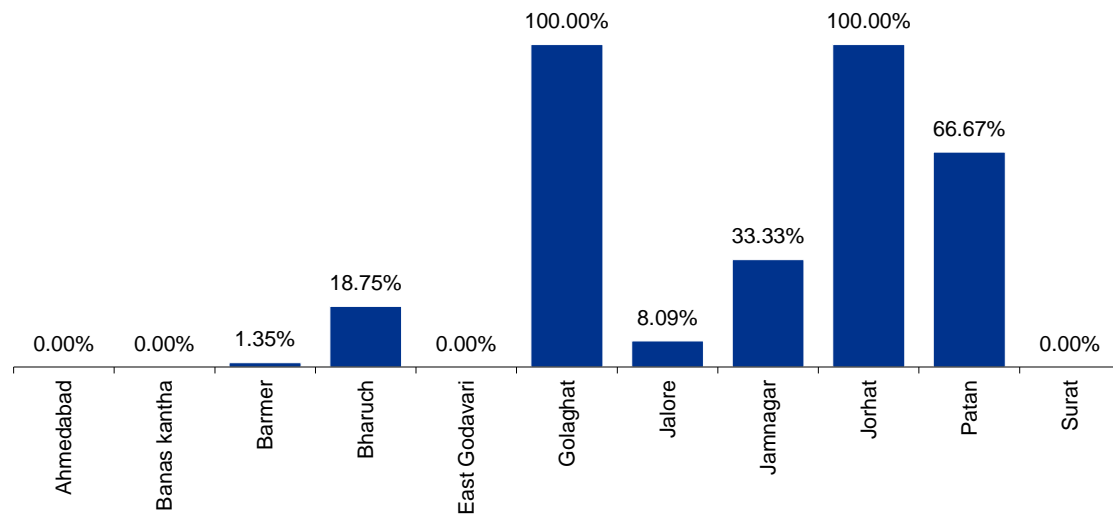


Figure 176 Women Associated with SHGs

Field Unit: East Godavari, Andhra Pradesh

There are 1,02,975 SHGs in East Godavari district wherein 39.16 per cent of the female population are members. In the field location, however none of the female respondents were engaged as members of SHGs, which signifies the requirement for greater support and potential for women empowerment.

Field Unit: Golaghat, Assam

There are 12,993 SHGs in Golaghat district wherein 28.27 per cent of the female population are members. In the field location, 100 per cent of the female respondents were engaged as members of SHGs i.e., 71.73 percentage points more women associated with SHGs in the field location.

Field Unit: Jorhat, Assam

There are 8995 SHGs in Jorhat district wherein 18.28 per cent of the female population are members. In the field location, 100 per cent of the female respondents were engaged as members of SHGs i.e., 81.72 percentage points more women associated with SHGs in the field location.

It should be noted that CAIRN has not formed any SHGs in locations in Gujarat.

Field Unit: Ahmedabad, Gujarat

There are 9844 SHGs in Ahmedabad district wherein only 3.05 per cent of the female population are members. In the field location, none of the female respondents were engaged as members of SHGs, which signifies the requirement for greater support and potential for women empowerment.

Field Unit: Banas Kantha, Gujarat

There are 10,066 SHGs in Banas Kantha district wherein only 6.62 per cent of the female population are members. In the field location, none of the female respondents were engaged as members of SHGs, which signifies the requirement for greater support and potential for women empowerment.

Field Unit: Bharuch, Gujarat

There are 7486 SHGs in Bharuch district wherein 10.17 per cent of the female population are members. In the field location, 18.75 per cent of the female respondents were engaged as members of SHGs, i.e., 8.58 percentage points more women associated with SHGs in the field location.

Field Unit: Jamnagar, Gujarat

There are 8712 SHGs in Jamnagar district wherein only 6.86 per cent of the female population are members. In the field location, 33.33 per cent of the female respondents were engaged as members of SHGs, i.e., 26.47 percentage points more women associated with SHGs in the field location.

Field Unit: Patan, Gujarat

There are 10,937 SHGs in Patan district wherein 17.49 per cent of the female population are members. In the field location, 66.67 per cent of the female respondents were engaged as members of SHGs, i.e., 49.18 percentage points more women associated with SHGs in the field location.

Field Unit: Surat, Gujarat

There are 10,702 SHGs in Surat district wherein only 4.1 per cent of the female population are members. In the field location, none of the female respondents were engaged as

members of SHGs, i.e., which signifies the requirement for greater support and potential for women empowerment.

Field Unit: Barmer, Rajasthan

There are 9033 SHGs in Surat district wherein only 7.8 per cent of the female population are members. In the field location, only 1.35 per cent of the female respondents were engaged as members of SHGs, i.e., there are 6.45 percentage points lesser women associated with SHGs in the field location.

Field Unit: Jalore, Rajasthan

There are 3537 SHGs in Surat district wherein only 4.16 per cent of the female population are members. In the field location, 8.09 per cent of the female respondents were engaged as members of SHGs, i.e., there are 3.93 percentage points more women associated with SHGs in the field location.

Analysis and Way Forward

Improvements

- *43.97 per cent lesser women in the field locations were married before they turned 18 compared to the overall average of the districts.*
- *58.19 per cent women stated to always make independent decisions on their employment, family planning, mobility, right to vote, child's education as well as their finances.*
- *16.57 percentage points more women in the field locations were associated with SHGs compared to the districts where the field locations are present.*

Challenges

- *On an average 17.84 per cent of women never make any form of decisions on their own mobility in these field locations, significantly in East Godavari, none of the female respondents made their own independent decisions.*

Way Forward

- **Closing the Gender Gap:** Mobility issues for women are prevalent within some of across the field location and still on an average around 42 per cent women doesn't always make decision on on their employment, family planning, mobility, right to vote, child's education

as well as their finances. Therefore, public interaction, exposure visits as well as participation in community level governance has been a challenge for women. It is recommended that the business unit works towards community level behaviour change initiatives on gender in order to tackle the gender bias. With greater allies within the community, women will be able to make bigger strides, further improving overall development indicators within each household.

- **Improving Entrepreneurial Models:** While CAIRN has supported women significantly in mobilizing into self-help groups, self-entrepreneurship has been limited to conventional areas such as dairy, farming etc. There is a need for better entrepreneurial models as well as market linkage to enable these existing SHG's and develop leadership skills. The business unit should augment the impact created and ensure its sustainability through linkages and collaboration. Exploring opportunities for convergence and partnership, it can work towards providing better opportunities to the beneficiaries for example for market linkage of SHG women.

***Best Practice:** In August, 2020 history was made in Bihar to become the first state in the country to have more than 10 lakhs women controlled SHGs through "JEEViKA" model. JEEViKA model was incepted in 2006 & each member of SHGs is known as JEEViKA "Didi" sounds more trustworthy in the village. JEEViKA has now spread up its wing in all 534 Blocks including 38 Districts of Bihar under National Rural Livelihood Mission (NRLM).*

The credit disbursement to the linked SHGs has been more than 50 per cent from 2017-2019 each year, indicating a strong presence of credit facilities for the SHGs in Bihar, which has led to an increase in the formation of SHGs and also helping them to run small businesses successfully.

Digital transformation invents a new marketplace for trading handicrafts into national & international marketplace. Likewise, JEEViKA SHGs can sell its MSMEs products in 13 international marketplaces over 180 countries through the Amazon platform. 'The Saras Collection' by Union Minister of Rural Development, Panchayati Raj and Mines; Udyam of the Ministry of MSME also assists SHGs to expand themselves through a digital application. [\(PDF\) Augmenting JEEViKA SHGs silent Revolution through Digital Transformation \(researchgate.net\)](#)

- **Leadership and Gender Training as an overarching element in SHGs:** Not only is it necessary to support SHG members with training around financial literacy, support their entrepreneurship as well as literacy, it is equally important to integrate leadership and gender awareness within the programme in a manner that not only are external stakeholders made gender sensitive, but women's leadership skills are leveraged and they are supported to exercise their agency. This has impact not only on personal empowerment but empowerment for the larger community of women.

An NGO known to work towards catalysing active citizenship in cities by enhancing participation of citizens in civic matters in their neighborhoods worked with SHGs to increase women's empowerment. Within Kesla in Madhya Pradesh, their trained SHG leaders took it upon themselves to create awareness among all SHG members to collectively plan for the holistic development of their village. To ensure that every family's needs were taken into consideration, they developed Family-based Well-Being Plans (FBWP). This led to heightened awareness on rights and entitlements among SHG members and their families while highlighting concerns and issues related to employment, resource management, violence etc. The participation of the SHG leaders in PRIs was a gradual process. It was made possible only through heightened gender behaviour change activities and the assurance that their participation was not towards criticism but rather healthy discussions with the panchayat members.

The SHGs in CAIRN's intervention area can adapt such modules to enhance the understanding of the SHG members of their role as active citizens and to take actions in their panchayat accordingly.



COMMUNITY INFRASTRUCTURE & MICRO LEVEL INTERVENTIONS

7. Thematic Area: Community Infrastructure and Micro Level Interventions

7.1. Executive Summary

Community Development is a critical investment made by the government as well as companies in order to support the communities with short wins in the form of infrastructure development. These projects have spill over effects on other impacts created by the business unit in themes such as education, health etc.

Key Highlights of the Baseline Assessment:

- Only 60 per cent of the respondents across the field locations have access to Gram Panchayat and Community Halls.
- Access to Bank facility remains low across the field locations.

Key Highlights from Impact Assessment

Micro Level Interventions: 84.6 per cent the respondents responded positively on increase in income due to increase in yield. The average increase in annual income in Golaghat was Rs 2,000 and in Jorhat, it was Rs 3,285

Key Recommendations

1. **Improving Transport services in rural areas:** Access to different government buildings (located away from the villages) remains a challenge. It has been observed that access to bus stops remains low and thus time taken to travel to such government institutions acts as a determinant. It is recommended that CAIRN works along with the government under their scheme to ensure buses in rural areas to increase access to transport.
2. **Enhanced Community involvement in infrastructure development and refurbishment:** As one of the most critical elements in supporting their social license to operate and gain quick wins from the community, CAIRN invests in community development projects from time to time. However, while CAIRN works closely with the local and district stakeholders in the same, greater involvement of the community-based organizations such as SHGs, FPOs and FIGs along with the village health and sanitation committees and the panchayat would allow for greater visibility of their work.

7.2. Baseline Assessment

CAIRN believes in creating multiple channels of continuous engagement with communities through need-based projects which is a key strategy in its CSR operations. The engagement helps to build a platform to connect and interact with community at large. Celebration of events, important days, creating awareness on important topics, addressing community needs etc are some of the engagement tools. Almost 8,00,000 people have benefited from these interventions across Gujarat, Rajasthan, Assam and Andhra Pradesh. These benefits range across health, education, early childhood care, and community infrastructure development. For the purposes of this report, we will be analysing in depth the projects being implemented in Gujarat and Rajasthan against the available documents.

While structured long term interventions are required, there are unforeseen requirements that communities have from time to time. The MLI-OALP interventions help cater to these and complements CAIRN's long term CSR strategy with intermittent requirements of the community as communicated from time to time. There have been improvements across sectors, as we shall discuss in this section, in ensuring equitable access to water, awareness on health, improving incomes, ensuring access to safe community infrastructure, and promoting harmony within the community. However, as these interventions are not incorporated in an overall long-term plan, measuring progress and impact becomes difficult. There is a need to ensure that these funds are spent wisely towards urgent community needs benefitting all sections of the society. Further, a flexible working template to measure the progress and impact of these projects spread across thematic areas is required.

Accessible Community Infrastructure

The Government of India has been continuously striving to improve the infrastructure sector, including bridges, dams, roads, urban infrastructure development, etc. The government has made numerous strategies for infrastructure development in India. With a continuous substantial investment of the infrastructural projects during the four decades of planning, infrastructural facilities have recorded a phenomenal increase⁴⁰⁵.

- Respondents stated accessing community infrastructure that was within their immediate vicinity. Therefore, while over 75 per cent stated access to gram panchayats, under 10 per cent had access to Kisan Seva Kendras, credit cooperative societies as well as e-seva Kendras.

⁴⁰⁵ [Infrastructure Development in India Giving Pace to India's Development \(aamnrhbharsena.org\)](http://aamnrhbharsena.org)

Accessibility to community infrastructure implies the availability and accessibility of certain infrastructural facilities by respondents. While one respondent may have stated more than one facility is accessible to them, others may not have stated that any are available. This does not necessarily mean that these facilities are not existent within the community. Therefore, this provides a perception of the community members regarding their accessibility to the community infrastructure.

Field Unit: Ahmedabad

Accessible Community Infrastructure in Ahemdabad

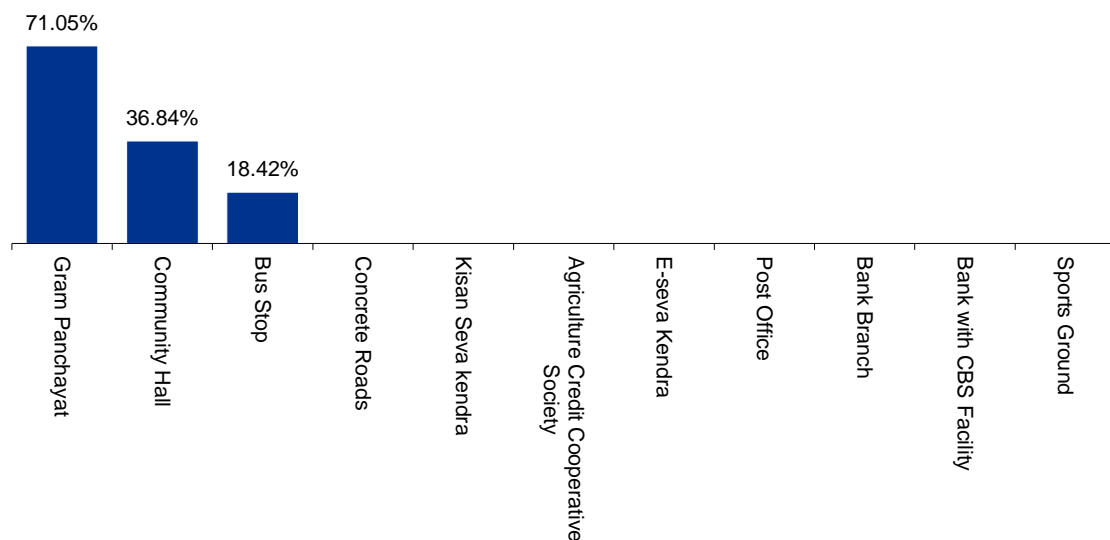


Figure 177: Accessible Infrastructure in Ahmedabad

In Ahmedabad, Gram Panchayat is the most accessible community infrastructure wherein 71.05 per cent have accessed the same in the past followed by Community Hall and Bus Stop. Other community infrastructure like E-Seva Kendra, Concrete Roads etc were not accessible to the community in their vicinity. On accessibility, respondents only stated that they had accessed any infrastructure if it was available in their immediate vicinity.

Field Unit: Banaskantha

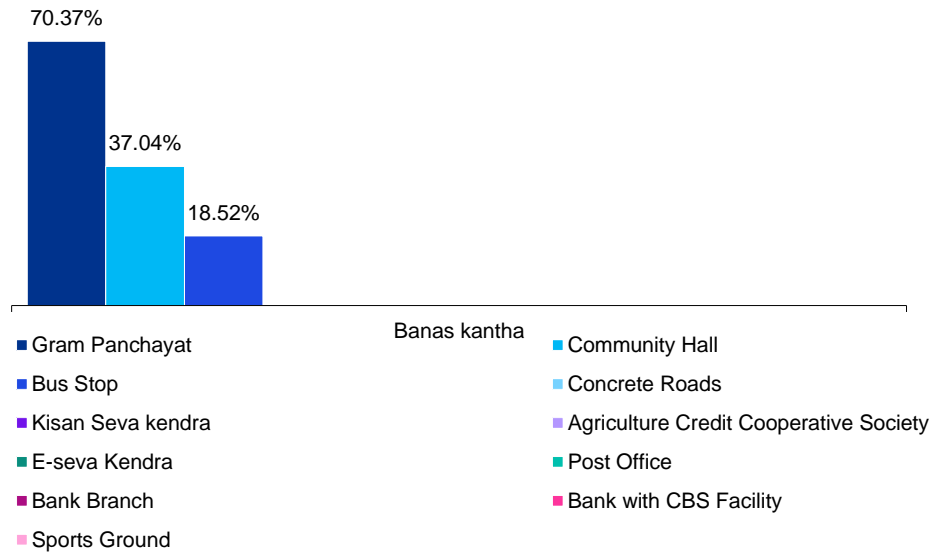


Figure 178: Accessible Infrastructure in Banas Kantha

In Banaskantha, Gram Panchayat is the most accessible community infrastructure wherein 70.37 per cent have accessed the same in the past followed by Community Hall and Bus Stop. Other community infrastructure like E-Seva Kendra, Concrete Roads etc were not accessible to the community in their vicinity. On accessibility, respondents only stated that they had accessed any infrastructure if it was available in their immediate vicinity.

Field Unit: Bharuch

In Bharuch, Gram Panchayat is the most accessible community infrastructure wherein 73.21 per cent have accessed the same in the past followed by Community Hall and Bus Stop. Other community infrastructure like E-Seva Kendra, Concrete Roads etc were not accessible to the community in their vicinity. On accessibility, respondents only stated that they had accessed any infrastructure if it was available in their immediate vicinity.

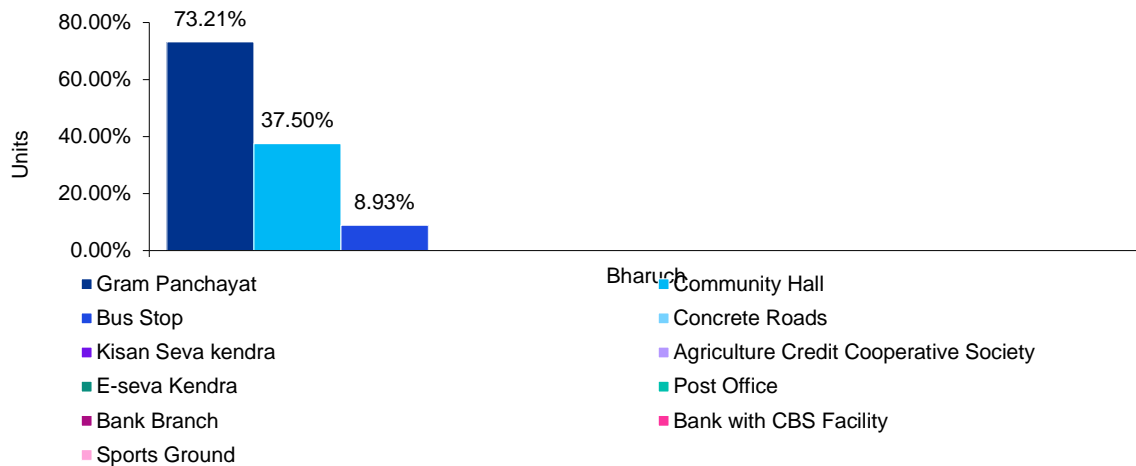


Figure 179: Accessible Infrastructure in Bharuch

Field Unit: Jamnagar

In Jamnagar, Gram Panchayat is the most accessible community infrastructure wherein 76.92 per cent have accessed the same in the past followed by Community Hall. Other community infrastructure like E-Seva Kendra, Concrete Roads etc were not accessible to the community in their vicinity. On accessibility, respondents only stated that they had accessed any infrastructure if it was available in their immediate vicinity.

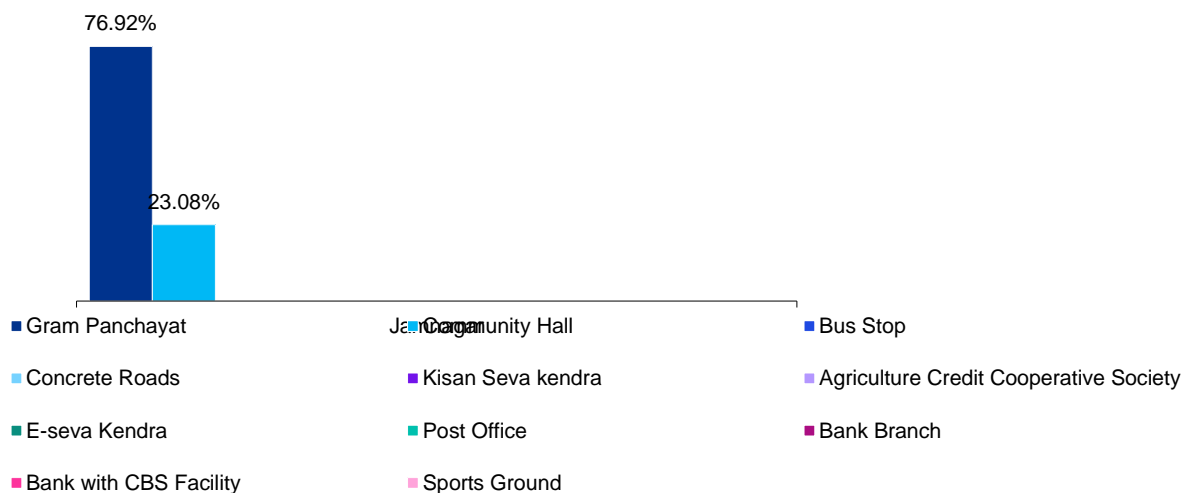


Figure 180: Accessible Infrastructure in Jamnagar

Field Unit: Patan

In Patan, Gram Panchayat is the most accessible community infrastructure wherein 76.47 per cent have accessed the same in the past followed by Community Hall. Other community infrastructure like E-Seva Kendra, Concrete Roads etc were not accessible to the community in their vicinity. On accessibility, respondents only stated that they had accessed any infrastructure if it was available in their immediate vicinity.

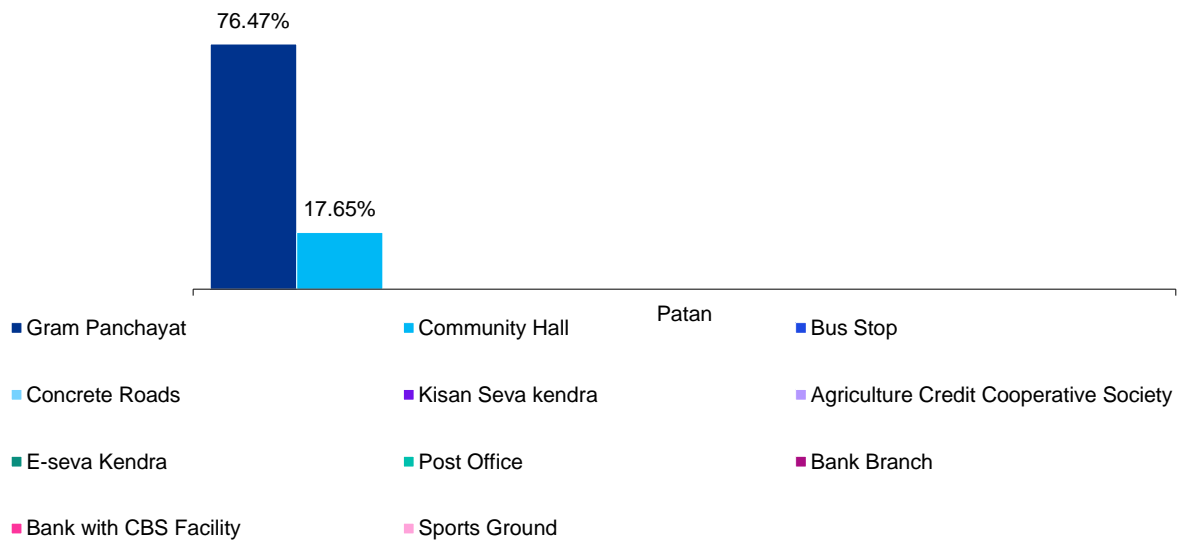


Figure 181: Accessible Infrastructure in Patan

Field Unit: Surat

In Surat, Gram Panchayat is the most accessible community infrastructure wherein 77.78 per cent have accessed the same in the past followed by Community Hall. Other community infrastructure like E-Seva Kendra, Concrete Roads etc were not accessible to the community in their vicinity. On accessibility, respondents only stated that they had accessed any infrastructure if it was available in their immediate vicinity.

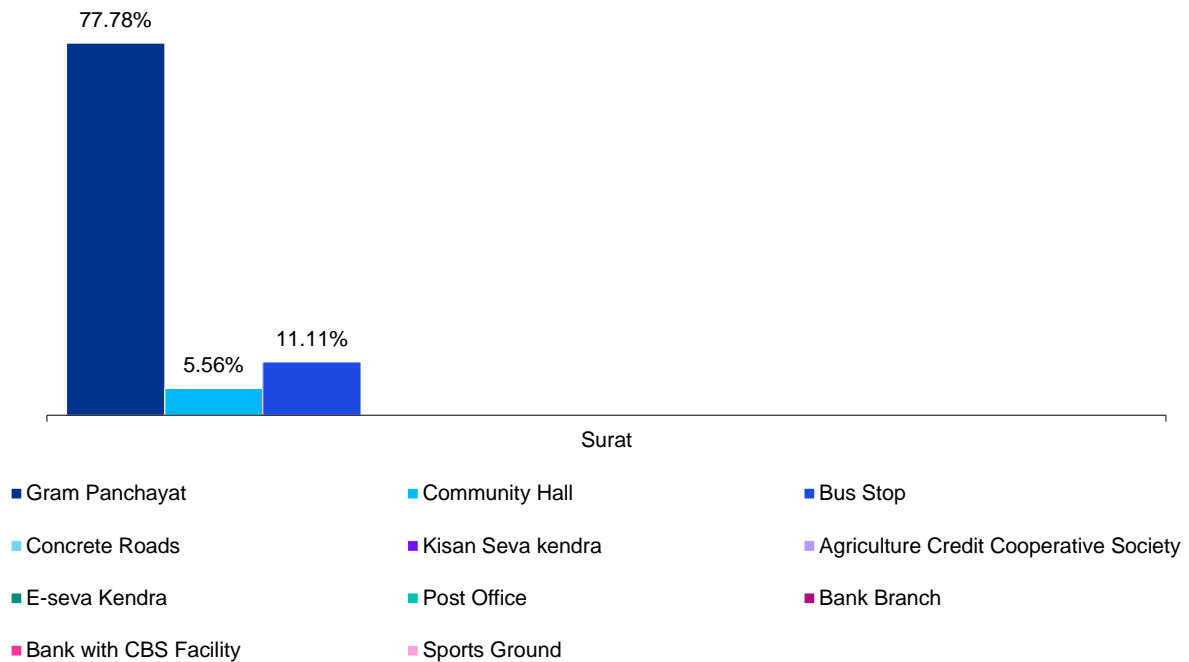


Figure 182: Accessible Infrastructure in Surat

Field Unit: Barmer

In Barmer Concrete Roads is the most accessible community infrastructure wherein 62.62 cent have accessed the same in the past followed by Gram Panchayat and Community Hall. The least community infrastructure have been infrastructure have been Banks, Sports Ground. On accessibility, respondents only stated that they had accessed any infrastructure if it was available in their immediate vicinity.

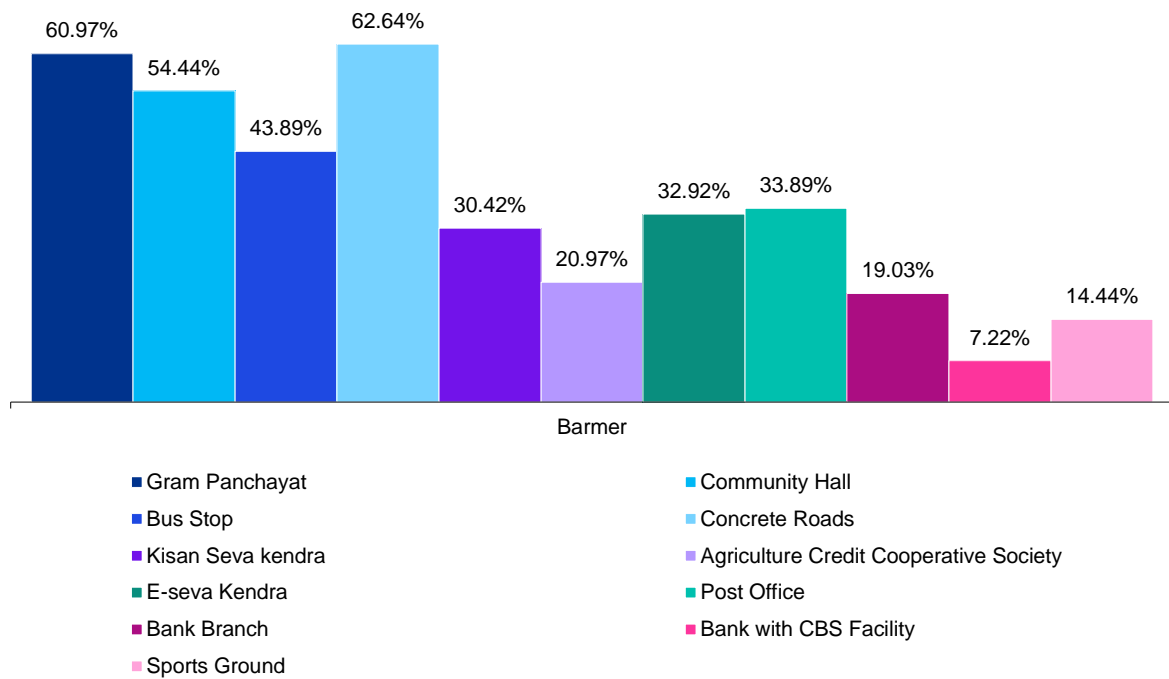


Figure 183: Accessibility of Infrastructure in Barmer

Field Unit: Jalore

In Jalore, Gram Panchayat is the most accessible community infrastructure wherein 48.84 per cent have accessed the same in the past followed by Concrete Roads. The least accessible community infrastructure have been Banks, Sports Ground. On accessibility, respondents only stated that they had accessed any infrastructure if it was available in their immediate vicinity.

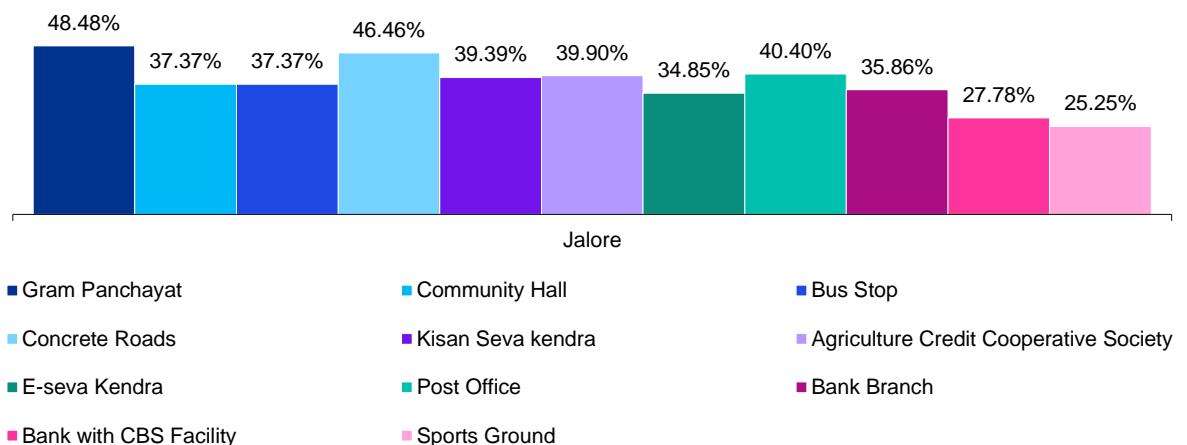


Figure 184: Accessibility of Infrastructure in Jalore

Field Unit: Golaghat

In Golaghat, Gram Panchayat, Community Hall and Concrete Roads are the most accessible community infrastructure wherein 100 Per cent have accessed the same in the past followed. Community infrastructure like been Banks, Sports Ground, E-Seva Kendra, Kisan Seva Kendra etc have not been accessed by anyone. On accessibility, respondents only stated that they had accessed any infrastructure if it was available in their immediate vicinity

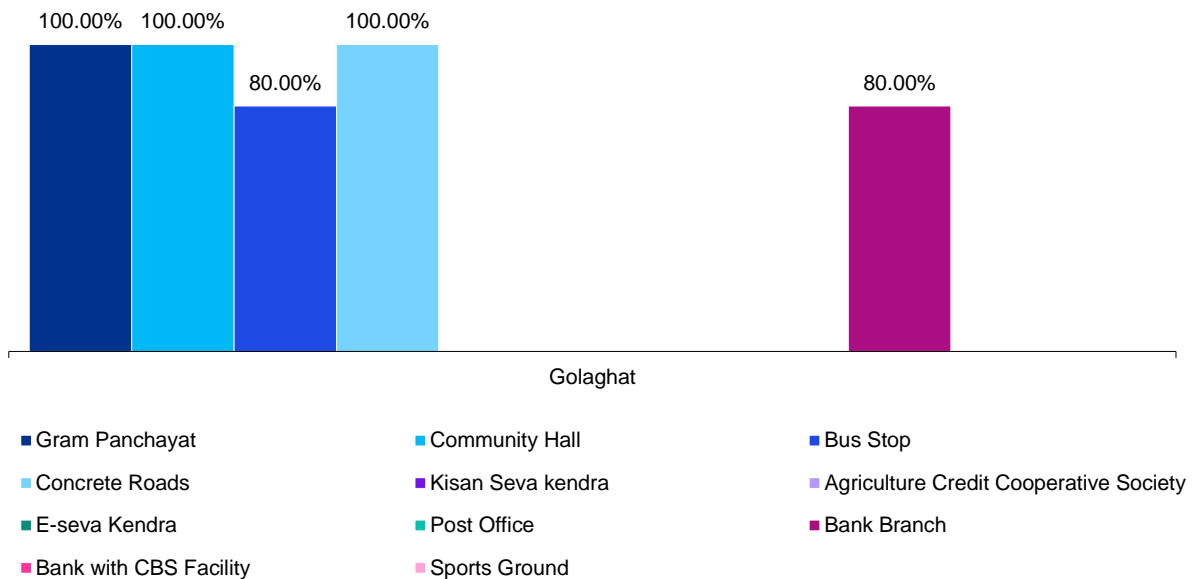


Figure 185: Accessibility of Infrastructure in Golaghat

Field Unit: Johrat

In Johrat, Gram Panchayat, Community Hall are the most accessible community infrastructure wherein 100 Per cent have accessed the same in the past followed. Community infrastructure like been, E-Seva Kendra, Kisan Seva Kendra have not been accessed by anyone. On accessibility, respondents only stated that they had accessed any infrastructure if it was available in their immediate vicinity

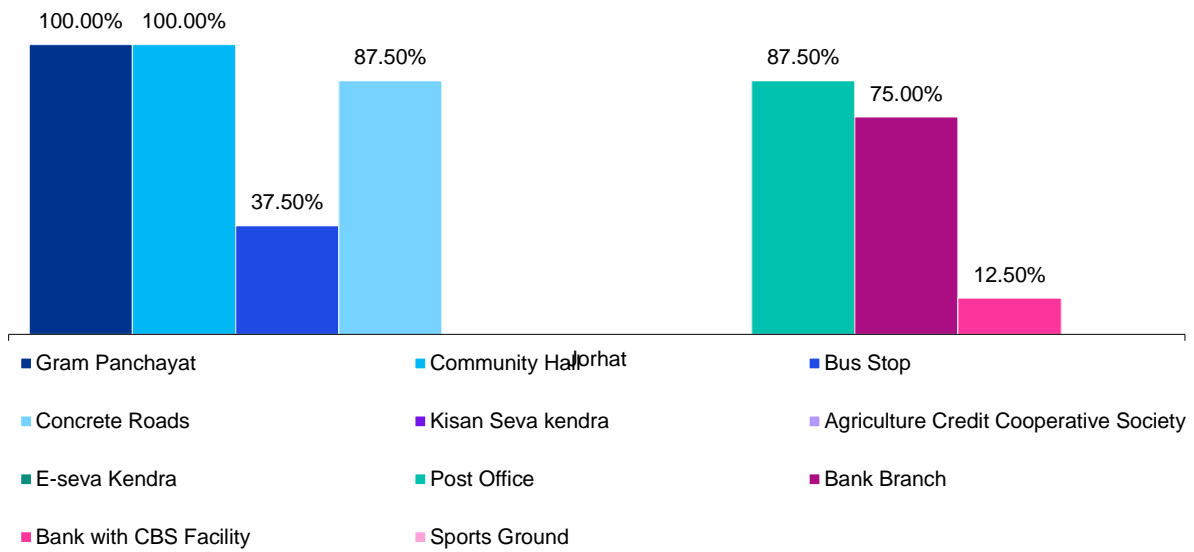


Figure 186: Accessibility of Infrastructure in Jorhat

Field Unit: East Godavari

In East Godavari, Gram Panchayat, is the most accessible community infrastructure wherein 100 Per cent have accessed the same in the past followed by Community Hall, Banks and Post Office. Community infrastructure like Sports Ground, E-Seva Kendra, Kisan Seva Kendra etc have not been accessed by anyone. On accessibility, respondents only stated that they had accessed any infrastructure if it was available in their immediate vicinity

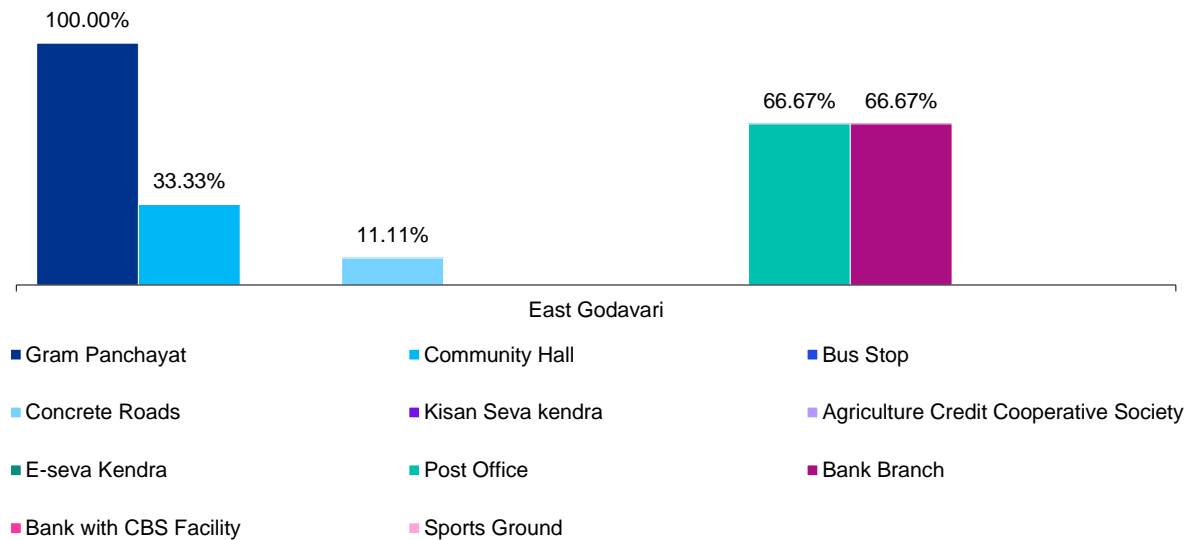


Figure 187: Accessibility of Infrastructure in East Godavari

Availability and Usage of Toilets

Proper sanitation facilities (for example, toilets and latrines) promote health, prevent contamination of the environment and reduce health risks. Throughout the world, many people do not have access to sanitation facilities, resulting in improper waste disposal that safely contain waste away from human contact and ensure that waste is properly treated prior to environmental discharge and other risks.

- *91.62 per cent of the respondents stated availability of toilets. However, it should be noted that the districts of Rajasthan, specifically in Jalore, only 43.9 per cent stated the availability of the same.*
- *Where toilets were stated to be available, they were frequently used.*

Absence of basic sanitation facilities can:

- Result in an unhealthy environment contaminated by human waste. Without proper sanitation facilities, waste from infected individuals can contaminate a community's land and water, increasing the risk of infection for other individuals. Proper waste disposal can slow the infection cycle of many disease-causing agents.
- Contribute to the spread of many diseases/conditions that can cause widespread illness and death. Without proper sanitation facilities, people often have no choice but to live in and drink water from an environment contaminated with waste from infected individuals, thereby putting themselves at risk for future infection. Inadequate waste disposal drives the infection cycle of many bacteria and other germs that can be spread through contaminated soil, food, water, and insects such as flies.⁴⁰⁶

As per the NSS 76th report on Drinking Water, Sanitation, Hygiene and Housing Condition in India, only 77.20 per cent of the households in rural India has toilets facilities. Only 66 per cent rural households in Rajasthan and 76 per cent of the rural households in Gujarat have access to latrine facilities. When it comes to Assam, 98 per cent of the total rural households have access to latrine facilities and this is 77 per cent for the state of Andhra Pradesh.⁴⁰⁷

⁴⁰⁶<https://www.cdc.gov/healthywater/global/sanitation/toilets.html#:~:text=Proper%20sanitation%20facilities%20for%20example,to%20themselves%20and%20their%20neighbors.>

⁴⁰⁷ <https://nss.gov.in/>

Access to Toilets/Latrine in Rural Households in India, Rajasthan, Gujarat, Andhra Pradesh and Assam

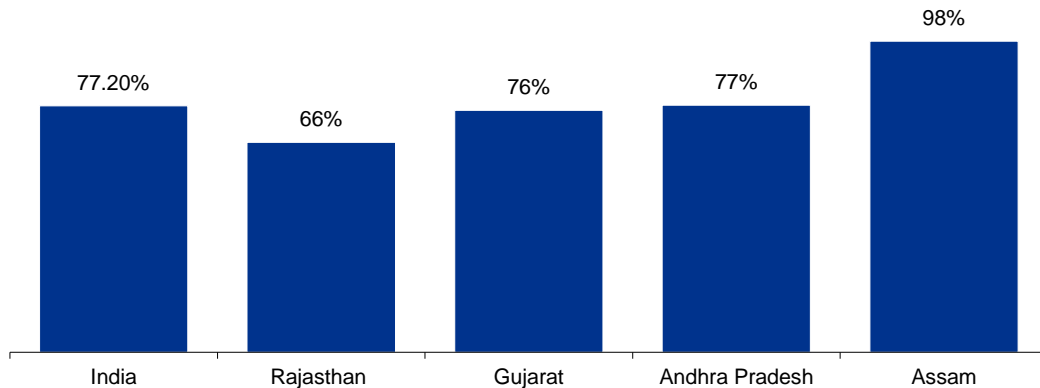


Figure 188: Access to Toilets/Latrine in Rural Households in India, Rajasthan, Gujarat, Andhra Pradesh, and Assam, Source: NSS

As per the primary data, the availability of toilet facilities across field location in Gujarat is 100 per cent except Bharuch where 4 per cent of the households don't have the availability of the toilets. All the households having toilets facilities in Bharuch reported to use the toilets regularly.

Availability of Toilets and It's Usage in Gujarat

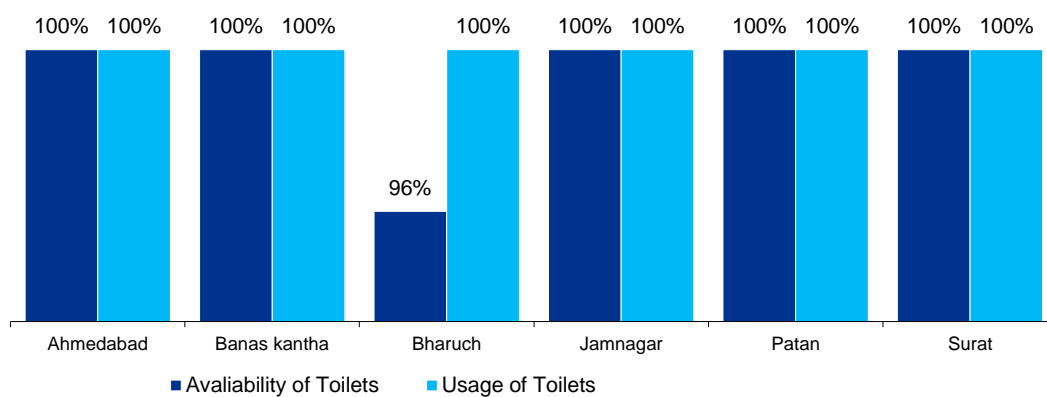


Figure 189: Availability of Toilets and It's Usage in Gujarat

When it comes to filed location in Assam, 100 per cent of the households in Golaghat and Jorhat reported to have toilet facility and the usage was also reported 100 per cent for the toilets.

Avaliability of Toilets and Its Usage in Assam

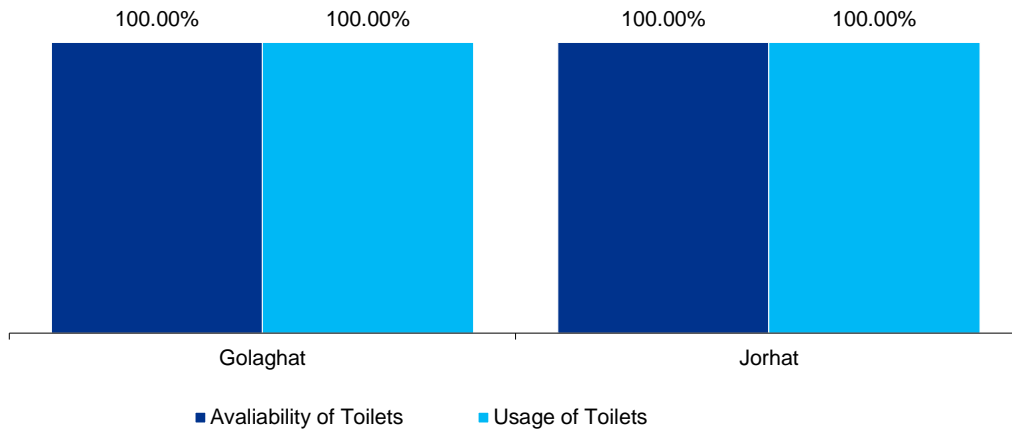


Figure 190:Avaliability of Toilets and Its Usage in Assam

The availability of the toilets was found out low across the field locations in Rajasthan.

Avaliability of Toilets and Its Usage in Rajasthan

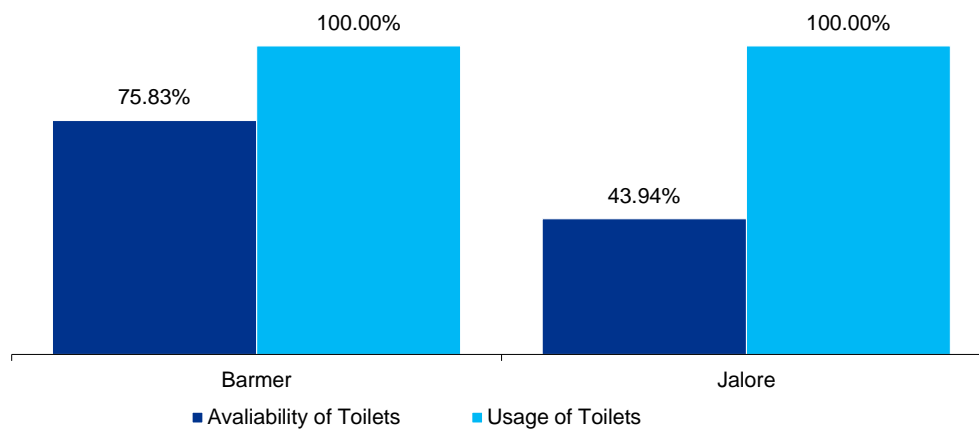


Figure 191:Avaliability of Toilets and Its Usage in Rajasthan

75.83 per cent of the households in Barmer reported to have availability of the toilets and households having toilet facility reported to use it regularly. When it comes to Jalore, only 43.94 per cent of the households reported to have availability of the toilets facility and every household having the facility were using it regularly.

Availability of Toilets and Its Usage in Andhra Pradesh

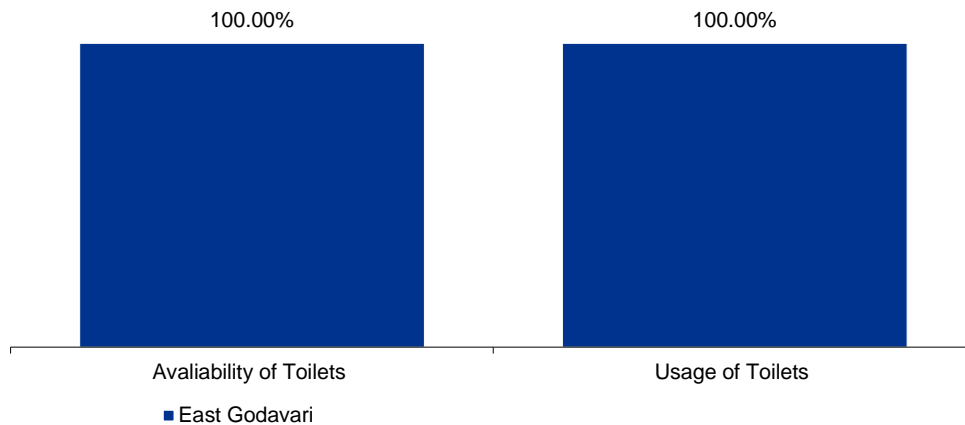


Figure 192: Availability of Toilets and Its Usage in Andhra Pradesh

In East Godavari, 100 per cent of the households reported to have the availability of toilets and every household reported to use the facility regularly. The field locations, except Jalore were faring in term than the state and national average in terms of the availability and accessibility of the toilet facility.

Access to Electricity

Percentage of Rural Households Having Electricity in Their Homes in India, Rajasthan, Gujarat and Assam

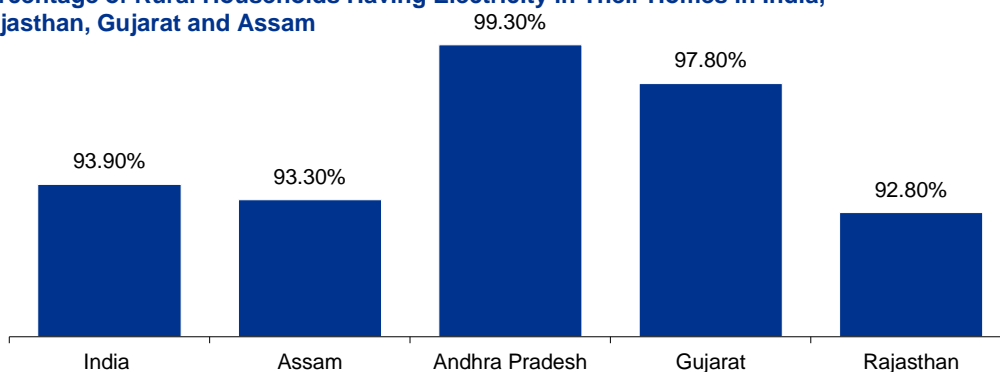


Figure 193: Percentage of Rural Households Having Electricity in Their Homes in India, Rajasthan, Gujarat and Assam, Source: NSS

As per the NSS 76th round, 93.90 per cent of the households in Rural India have the electricity in their homes. 99.3 per cent of the households in Andhra Pradesh and 97.80 per cent of the households in Gujarat have the availability of electricity. When it comes to Assam and Rajasthan, 93.90 per cent of the households in Rajasthan and 93.30 per cent of the households in Assam have access to electricity in their homes.⁴⁰⁸

- The field locations with the exception of Rajasthan have performed better vis-à-vis access to electricity in rural households, when compared to district averages provided in NSS 76th round.*

As per the primary data received, 100 per cent of the households across field locations in Assam and Andhra Pradesh reported to have access to electricity in their homes.

In Filed locations in Gujarat, except Patan, where only 96.30 per cent of the households have access to electricity in their homes, all the locations have 100 per cent access to electricity in the households.

When it comes to field location in Rajasthan, only 90.6 per cent households in Barmer and 62.12 per cent households in Jalore reported to have access to electricity.

Access to Electricity Across Field Locations

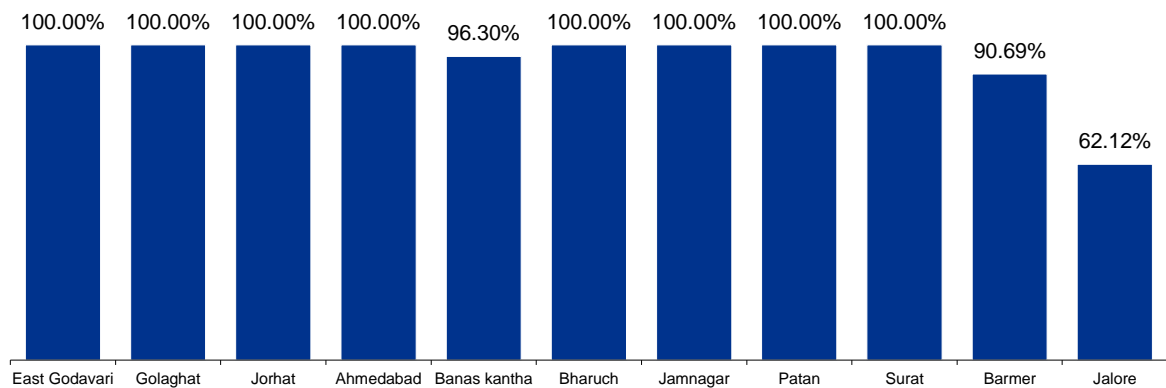


Figure 194: Access to Electricity Across Field Locations

All the field location were found to perform better than the national and state trend except Jalore and Barmer when it comes to access to electricity.

⁴⁰⁸ <https://nss.gov.in/>

Analysis and Way Forward

Challenges

- The access to community infrastructure and government institutions remains low across field locations.

Possible Solutions

- Infrastructure development through community participation
- Enhance Rural Transportation

Way Forward

1. **Support Community in Reducing Travel Time:** Despite the presence of concrete roads and being accessed the community, a lower proportion of community members are accessing services such as formal banks and other government centres. The time taken to access such services at district centres is a detrimental factor. Therefore, CAIRN can work alongside the government to set up transport facilities such as buses and shuttles which will allow community members to access certain necessary services outside their villages as well.

Government Alignment: Gramin Parivahan Seva Scheme of Rajasthan government aims at ensuring rural bus services to all in the state.

3. **Community Led Infrastructure Development:** As one of the most critical elements in supporting their social license to operate and gain quick wins from the community, CAIRN invests in community development projects from time to time. However, while CAIRN works closely with the local and district stakeholders in the same, greater involvement of the community-based organizations such as SHGs, FPOs and FIGs along with the village health and sanitation committees and the panchayat would allow for greater visibility of their work.

*An NGO has been working to convert the existing slums in Bhubaneswar into Biju Adarsh Colonies. The organization is also working extensively in Bengaluru. This is being done by empowering and capacity building slum dwellers to participate in identifying the existing infrastructural gaps and planning of infrastructural work in their neighborhood. A three-pronged approach was adopted to transform the slumps into livable habitats. The strategy involves **Community Collation, Tools and Data**. It collaborates with slum dweller for identifying the infrastructural needs in the locality. Afterwards, it mobilizes the community to participate in the budget preparation of the infrastructural work and the requirement and budget gets uploaded on an online portal through which data is accessible by the government officials.*

CAIRN can adopt the same strategy. It can empower PRI members and community leaders in social auditing the existing infrastructure and identification of the infrastructural gaps. It can further build the capacity of the community for preparing the budget for the work in their locality.

It can facilitate in creation of an online portal for uploading the infrastructural requirement and corresponding budget. Further, leveraging its relationship with district administration, CAIRN can integrate with the Rural Development Department which be accessed by

7.3. Impact Assessment

7.3.1. Community Development Intervention

Relevance of Intervention

Community Development is a strong focal area for CAIRN which supports them in working with the local stakeholders and providing the communities with the immediate infrastructural and asset support they need. Through their efforts, they've supported road construction, refurbished existing infrastructure such as community halls, public toilets etc. and also built their own.

- *In Barmer, 28 per cent of the respondents reported that the refurbishment of the community structures was carried out in their locality.*
- *In Andhra Pradesh, 44 per cent of them reported that business unit has created community infrastructure in their locality.*
- *Due to Mirco Level Intervention 84.6 per cent the respondents responded positively on increase in income due to increase in yield.*

Coherence of Intervention

Community Development Interventions are not programme based but need based activities that are undertaken for the well-being of the community and play an integral role in building the social capital of a business in the areas that they operate. Thus, this thematic area as a whole has not been analysed vis-à-vis coherence.

Effectiveness of Intervention

Community Development Interventions are not programme based but need based activities that are undertaken for the well-being of the community and play an integral role in building the social capital of a business in the areas that they operate. Thus, this thematic area as a whole has not been analysed vis-à-vis effectiveness.

Efficiency of Intervention

Community Development Interventions are not programme based but need based activities that are undertaken for the well-being of the community and play an integral role in building the social capital of a business in the areas that they operate. Thus, this thematic area as a whole has not been analysed vis-à-vis efficiency.

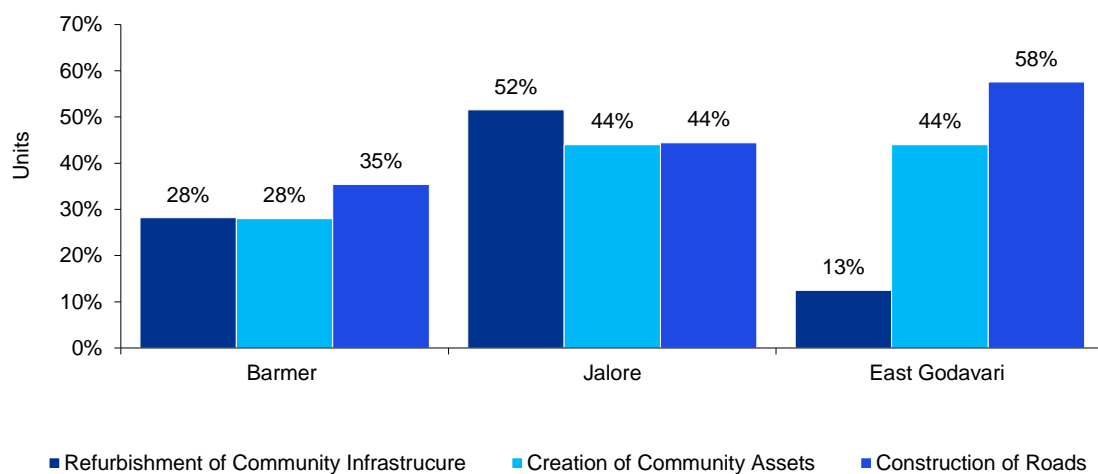
Sustainability of Intervention

While the long-term programmes run by CAIRN will provide designed outcomes and clear exit and sustainability plans may have been developed, initiatives under community

development are equally importance from the point of view of securing short wins within the community and increase the social license to operate vis-à-vis the business drivers. Thus, it is not a sustainability-focused intervention but rather a sustainability of business-focused intervention. Therefore, from that point of view, the intervention is **extremely satisfactory** as it will continue to give positive short-term results for CAIRN to maintain relations within the community.

Impact of the Intervention

Community Development Intervention



Field Location: Barmer

- *In Barmer, 28 per cent of the respondents reported that the refurbishment of the community structures was carried out in their locality.*
- *28 per cent of them reported that business unit has created community infrastructure in their locality. Similarly, 35 per cent reported that roads were constructed in their locality.*

Field Location: Jalore

- *In Jalore, 52 per cent of the respondents reported that the refurbishment of the community structures was carried out in their locality. 44 per cent of them reported that business unit has created community infrastructure in their locality. Similarly, 44 per cent reported that roads were constructed in their locality.*

Field Location: East Godavari

- *In East Godavari, 13 per cent of the respondents reported that the refurbishment of the community structures was carried out in their locality. 44 per cent of them reported that business unit has created community infrastructure in their locality. Similarly, 58 per cent reported that roads were constructed in their locality.*

7.3.2. Micro Level Intervention

Relevance

Micro-level Intervention involves interventions that are designed in keeping the needs of a certain section of the community. The purpose of micro-level intervention is to improve

Indicator	Scoring
Relevance	Extremely Satisfactory
Coherence	Extremely Satisfactory
Effectiveness	Extremely Satisfactory
Efficiency	Moderately Satisfactory
Sustainability	Extremely Satisfactory

service delivery and community well-being for vulnerable populations. Micro-level intervention involves direct intervention and one-to-one support of individuals, families and small groups navigating personal and social challenges. At this level, the organization perform behavioral and case management services. These services may include assessing, planning, monitoring, and evaluating interventions and services to ensure they meet community's needs.

We see that the percentage of population in poverty as per the Multidimensional Poverty Index in both Golaghat and Jorhat is 24 per cent. This compares poorly to Assam's poverty percentage of 32.67 per cent. We understand that rice production is the major source of income here with rice production annual being 2.22 and 2.46 tonnes per hectare in Golaghat and Jorhat respectively. About 75 per cent of the state's population is directly or indirectly dependent on agriculture, while about 69 per cent of the workforce in the state is actually engaged in agricultural activities⁴⁰⁹.

MLI project in Assam entails various activities. Under the project CAIRN had been focusing on the Agriculture and Animal husbandry activities. CAIRN in collaboration with SeSTA and Assam Rural Livelihood Mission is working with women SHGs that are involved in Animal Husbandry, Agricultural activity as well as Handlooms. A total of 10,000 women have been impacted through training or funding, or convergence with government schemes. Support has been provided to promote livelihood across Golaghat (12 villages) and Jorhat (35 villages).

⁴⁰⁹ https://niti.gov.in/planningcommission.gov.in/docs/plans/stateplan/sdr_assam/sdr_assch7.pdf


CAIRN has also promoted the SRI technique to increase the productivity of paddy in order to enhance the food security and income levels of the beneficiaries. 347 Mahila Kishans (Women Farmers) adopted the SRI technique from the targeted villages.

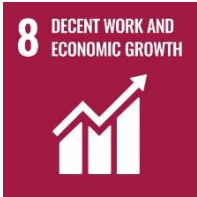
Through these programs, CAIRN has been addressing the emerging needs of the community in a short span of time. Moreover, it has been helping to bolster its relationship with the larger stakeholder of the community which further helps in strengthening its social license to operate.

Therefore, the intervention was found to be **extremely satisfactory on the relevance scale in the regional context.**

Coherence of Intervention

The programme aligns with the Sustainable Development Goals (GOAL 1: No Poverty and GOAL 8: Decent Work and Economic Growth). The documents also point towards convergence Assam Rural Livelihood Mission, hence, there is national alignment with government schemes as well. Therefore, the intervention is **extremely satisfactory on the coherence scale.**

SDG	SDGs target	How is it aligned?
	<ul style="list-style-type: none"> • Target 1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day • Target 1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions • Target 1.31 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new 	<ul style="list-style-type: none"> – The project benefits the household in ensuring enhanced income through agriculture. It helps in ensuring food security, employment, promotion of technology in agriculture and promotion of environmentally friendly irrigation.

	<p>technology and financial services, including microfinance</p> <ul style="list-style-type: none"> ▪ Target 1.5 <p>By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.⁴¹⁰</p>	
	<ul style="list-style-type: none"> • Target 8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors • Target 8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead <ul style="list-style-type: none"> • Target 8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value 	<ul style="list-style-type: none"> – The program promotes the use of technology for agriculture to improve efficiency and improving the yield of the product. The program covers and provides decent employment to the men and women of the beneficiary households .

⁴¹⁰ <https://www.sdg4education2030.org/the-goal>

Effectiveness of Intervention

The effectiveness of the intervention was assessed on the secondary documentation for the program wherein the availability of the targets as well as the achievements against the same was considered. It was highlighted through these documents that Jan Samvad has been conducted in all 25 villages of intervention where 218 meetings were conducted on training programs on livelihood with 4,534 participants. Different community mobilization events have been conducted where more than 300 SHGs participated in the women's day event. 20 teams participated in cricket tournament with cash prizes. There were special campaigns on COVID-19 that were conducted. Over 1,500 farmers supported with livelihood training and 3,00,000 INR was provided to 6 SHGs. Additionally, community infrastructure activities were also undertaken.

The average achievement, though, was 52.6 per cent according to project completion report.

Therefore, the intervention is moderately satisfactory on the effectiveness scale.

Sustainability

There is no exit plan as there are for long term projects, this project helps create avenue of engagement through interventions like celebration of important days, livelihood trainings and support, community events, etc. This engagement creates the platform where the community comes together in breaking all boundaries and connects over the event as one entity. Keeping in mind the nature of the project and the purpose it serves for the BU; this project would **score extremely satisfactory on the sustainability metric.**

[OECD Scoring sheet provided in Annexure](#)

Impact of Intervention

Under one of these MLI projects is the Agriculture and Animal husbandry activities are being undertaken in Assam. CAIRN in collaboration with SeSTA and Assam Rural Livelihood Mission works with women SHGs that are involved in Animal Husbandry, Agricultural activity as well as Handlooms. A total of 10,000 women have been impacted through training or funding, or convergence with government schemes. Support has been provided to promote livelihood across Golaghat (12 villages) and Jorhat (35 villages)

- ***As part of the intervention, in Assam we witnessed that 84.6 per cent the respondents responded positively on increase in income due to increase in yield.***

- *The average increase in annual income in Golaghat was Rs 2,000 and in Jorhat it was Rs 3,285.*
- *The same respondents also reported a decrease in put costs. In Golaghat, the decrease reported was Rs 1,500 and in Jorhat it was Rs 1,571. 69.2 per cent of the beneficiaries interviewed also reported an increase of land under sustainable/organic cultivation. 52.8 per cent of the beneficiaries interviewed reported an increase of land under cultivation.*

Way Forward

Enhanced Community involvement in infrastructure development and refurbishment:

As one of the most critical elements in supporting their social license to operate and gain quick wins from the community, CAIRN invests in community development projects from time to time. However, while CAIRN works closely with the local and district stakeholders in the same, greater involvement of the community-based organizations such as SHGs, FPOs and FIGs along with the village health and sanitation committees and the panchayat would allow for greater visibility of their work

Janaagraha Centre for Citizenship and Democracy is an organization that has worked towards catalysing active citizenship in cities, especially in slums by enhancing participation of citizens in civic matters in their neighborhoods. This is carried out through educating citizens on their roles as well as that of the government.

Janaagraha has been working in Urban Slums with Slum Developer Association to convert the existing slums in Bhubaneswar into Biju Adarsh Colonies. The organization is also working extensively in Bengaluru. This is being done by empowering and capacity building slum dwellers to participate in identifying the existing infrastructural gaps and planning of infrastructural work in their neighborhood. Janaagraha has adopted a three-pronged approach to transform the slumps into livable habitats. The strategy involves **Community Collation, Tools and Data**. It collaborates with slum dweller for identifying the infrastructural needs in the locality. Afterwards, it mobilizes the community to participate in the budget preparation of the infrastructural work and the requirement and budget gets uploaded on an online portal ([My City My Budget](#)) which data is accessible by the government officials.

CAIRN can adopt the same strategy. It can empower PRI members and community leaders in social auditing the existing infrastructure and identification of the infrastructural gaps. It can further build the capacity of the community for preparing the budget for the work in their locality.

It can facilitate in creation of an online portal for uploading the infrastructural requirement and corresponding budget. Further, leveraging its relationship with district administration, CAIRN can integrate with the Rural Development Department which be accessed by



ENVIRONMENT

8. Thematic Area: Environment

8.1. Executive Summary

Key Highlights of the Baseline Assessment:

The most prevalent environmental issue across locations is water pollution as stated by 53.56 per cent of the respondents, followed by deforestation as stated by 34.61 per cent of the respondents and drought as stated by 28.18 per cent of respondents.

Deforestation is second most prevalent issue across the regions and therefore tree plantation is the most common environmental activity being undertaken as per 42 per cent of respondents followed by the provision of solar pumps and biogas.

Key Recommendations

1. **Convergence with District Environment Plan:** If CAIRN wishes to work on environment, there is an opportunity to ensure converge and thus collaborate with the district administration on Environment Action Plans created by different districts.
2. **Promotion of Climate-resilient Agriculture (CRA):** Through their existing sustainable livelihood programme, CRA can be promoted which is an approach that includes sustainably using existing natural resources through crop and livestock production systems to achieve long-term higher productivity and farm incomes under climate variabilities.

8.2. Baseline Assessment

India began environment planning in the early 1970s, after the Human Environment Conference at Stockholm was held by the United Nations. The outcome of India's official attendance in the same was the formation of the National Committee on Environmental Planning and Co-ordination (NCEPC). Environment planning in India includes surveys, conservation of fauna and flora,

- *The most prevalent environmental issue across field locations remains water pollution as stated by 53.56 per cent of the respondents, followed by deforestation as stated by 34.61 per cent of the respondents .*
- *Droughts have emerged as the biggest area of environmental concern in Barmer as per 73.47 percent of the respondents. 65.56 percent respondents reported water pollution to be the second highest issue of concern*

afforestation and control and prevention of pollution⁴¹¹.

Prevalent Environmental Issues

Water pollution, deforestation and droughts are significant environmental threats faced by the respondents across locations.

Field Unit: East Godavari

Environment Related Issues Prevalent in East Godavari

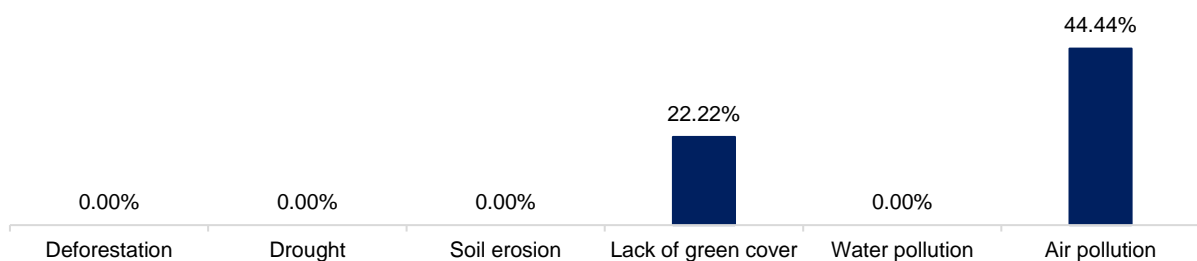


Figure 195 Environment Related Issues Prevalent in East Godavari

In East Godavari, air pollution and lack of green cover emerged as the major environmental issues where 44.44 per cent of the respondents considered air pollution to be the most prevalent issue followed by 22.22 per cent who stated the lack of green cover as the most prevalent issue.

In East Godavari, respondents reported that no activity has been undertaken to tackle the environmental problems faced within the community.

Field Unit: Golaghat

Environment Related Issues Prevalent in Golaghat

In Golaghat, 40 per cent of the respondents considered water pollution to be the most prevalent issue. followed by 20 per cent who stated droughts as the most prevalent. 20 per cent of the respondents were also concerned about air pollution as a pressing environmental issue.

⁴¹¹ https://www.tourism.rajasthan.gov.in/content/dam/environment/Env/District_per_cent20Environment_per_cent20Plan/DEP_Bhilwara.pdf

Tree plantation and installation of solar pumps are the most common activities that have been undertaken in Golaghat to tackle the environmental problems faced within the community. Given that the most prevalent issue seems to be water pollution and droughts, installation of solar pumps is a good activity to be undertaken to tackle such an issue. However, support is required to tackle

Field Unit: Jorhat

Pollution emerged as an environmental concern in Jorhat where 75 per cent respondents considered water pollution to be the most prevalent issue and 12.50 per cent of the respondents stated that air pollution was the biggest issue.

Establishment of solar pumps is the most common activity that has been undertaken in Jorhat as per the respondents to resolve the environmental problems faced within the community, followed by the provision of clean stoves, solar stoves and tree plantations. These activities are beneficial in combating the pollution levels of the area, especially when air pollution has emerged as an area of concern for the community.

Field Unit: Ahmedabad

Environment Related issues present in Ahmedabad

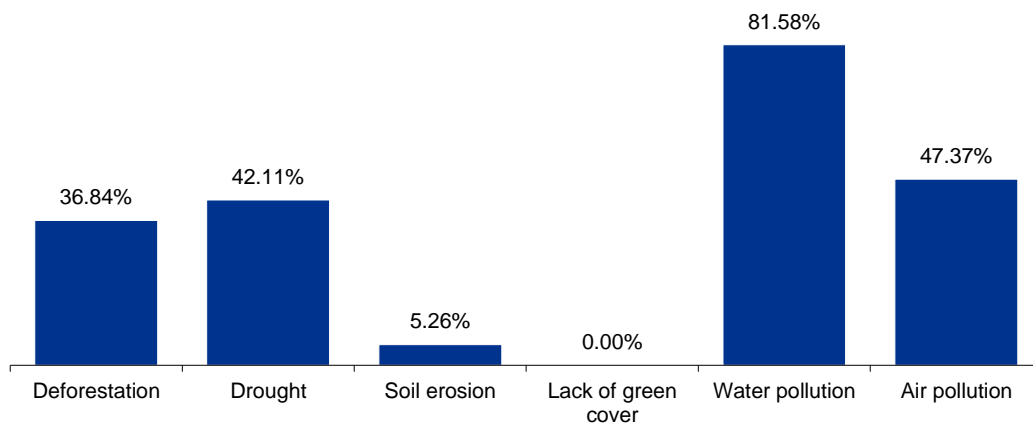


Figure 219 Environment Related issues present in Ahmedabad

In Ahmedabad, 81.58 per cent respondents considered water pollution to be the most prevalent issue. 47.37 per cent of the respondents considered air pollution to be the most prevalent issue followed by 42.11 per cent who stated that droughts were the biggest issue. 36.84 per cent of respondents considered deforestation to be the most prevalent environmental issue and 5.26 per cent were also concerned with soil erosion.

Environmental Activities that have taken place in Ahmedabad

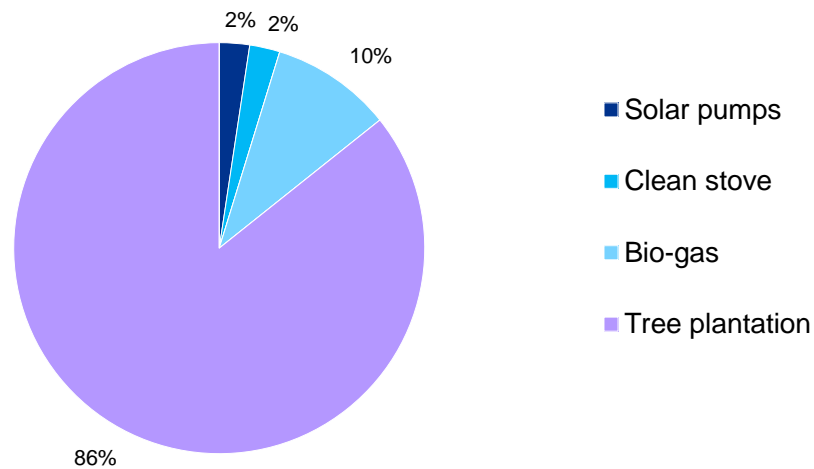


Figure 220 Environmental Activities that have taken place in Ahmedabad

Tree plantation is the most common activity that has been undertaken in Ahmedabad to resolve the environmental problems faced within the community. This was followed by the usage of biogas, provision of clean stoves and solar pumps.

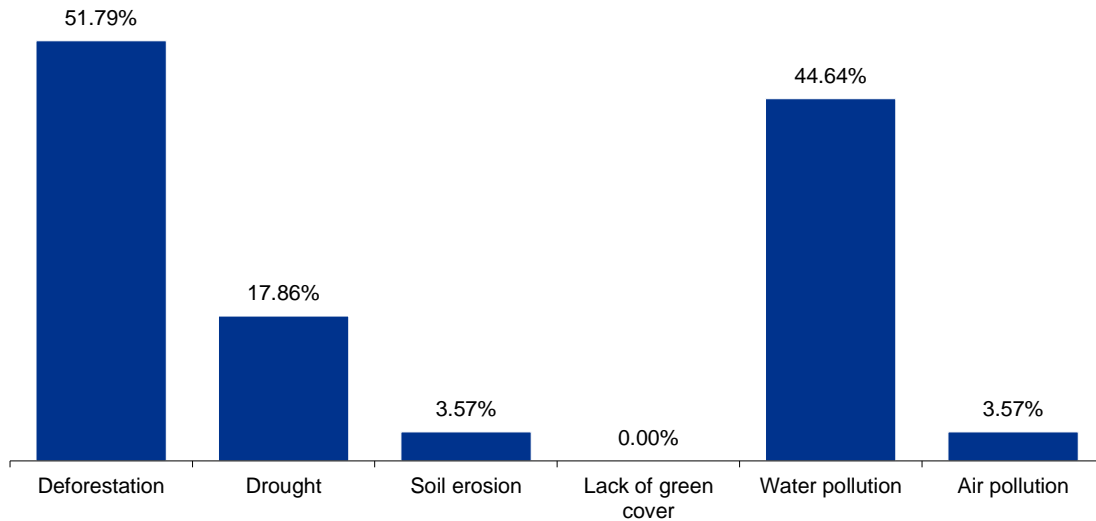
Field Unit: Banas Kantha

81.48 per cent respondents reported water pollution to be an issue of prevalence in the region. Drought was the second most prevalent issue according to 37.04 per cent respondents. 33.33 per cent respondents considered air pollution to be an area of concern. Deforestation was also stated to be an environmental issue by 33.33 percent respondents.

Tree plantation was reported to be the most common environment related activity that has been undertaken in the region as per the respondents. A small percentage also reported the presence of activities such as providing the community with biogas and managing the natural resources present in the community.

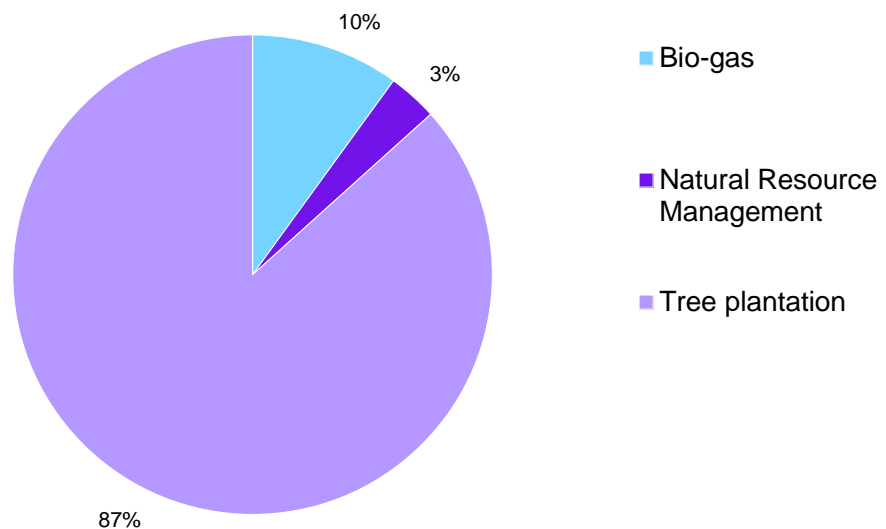
Field Unit: Bharuch

Environment Related issues present in Bharuch



Deforestation is the most common environmental concern in Bharuch as per 51.79 percent of the respondents. This was followed by water pollution, according to 44.64 percent of the respondents. 17.86 percent respondents reported droughts to be an area of concern whereas soil erosion and air pollution were considered to be prevalent by 3.57 percent of the respondents for each.

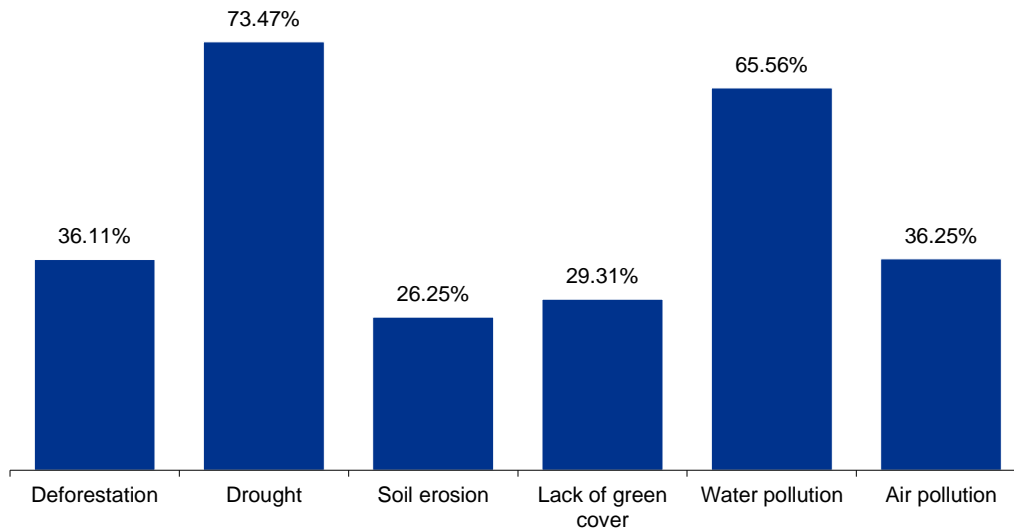
Environmental Activities that have taken place in Bharuch



The most common environment related activity undertaken in the region was tree plantation as per the respondents. Activities related to the provision of biogas and natural resource management were also undertaken in the community.

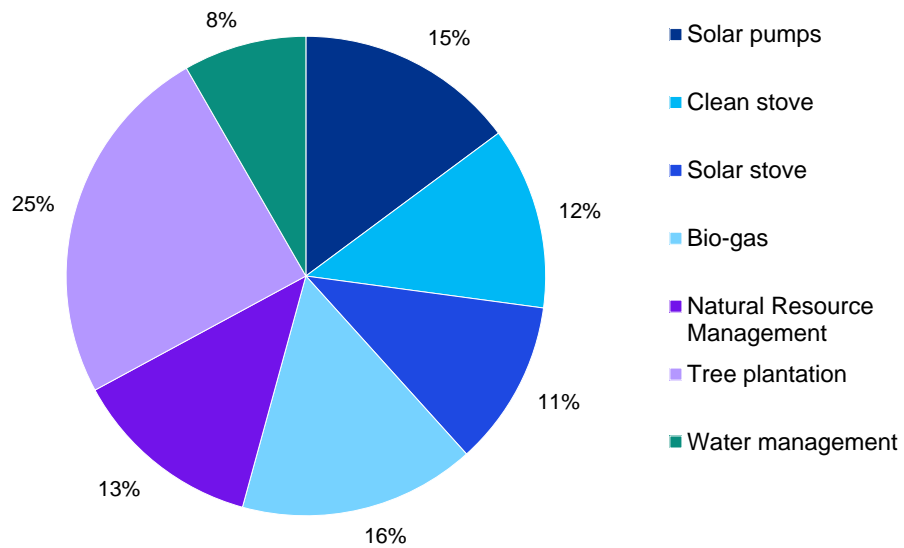
Field Unit: Barmer

Environment Related issues present in Barmer



Droughts have emerged as the biggest area of environmental concern in Barmer as per 73.47 percent of the respondents. 65.56 percent respondents reported water pollution to be the second highest issue of concern. Air pollution was an area of concern for 36.35 per cent of the respondents followed by deforestation, as per 36.11 per cent of the respondents. 29.31 per cent respondents highlighted the lack of green cover as an issue of importance. Soil erosion was also an important area as per 26.25 respondents.

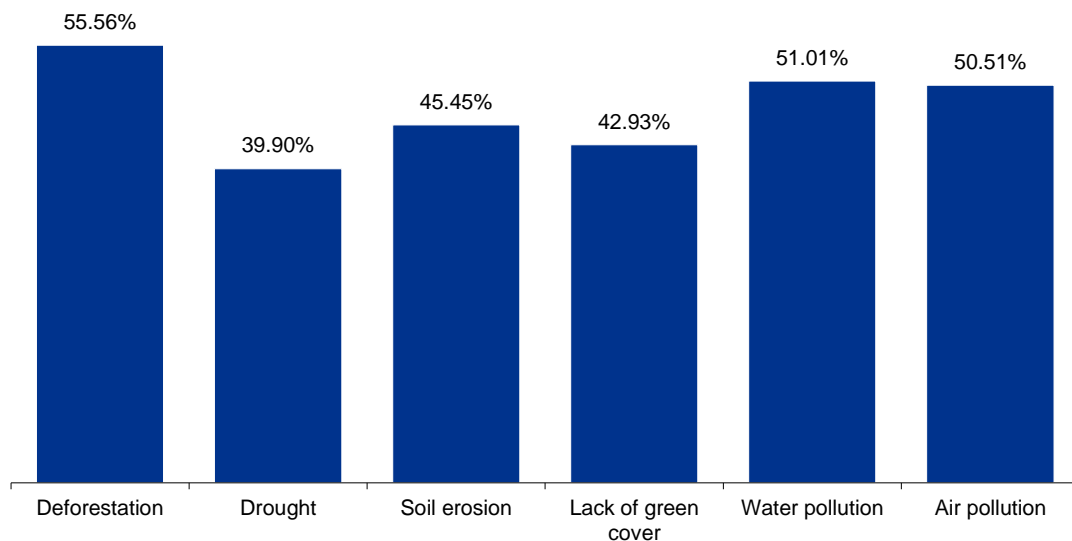
Environmental Activities that have taken place in Barmer



In Barmer, tree plantation is the most common activity that is being undertaken for environmental conservation. This is followed by the provision of biogas, solar pumps and management of the existing natural resources. Other activities also include the provision of clean stoves and solar stoves to the community and water management initiatives in the district.

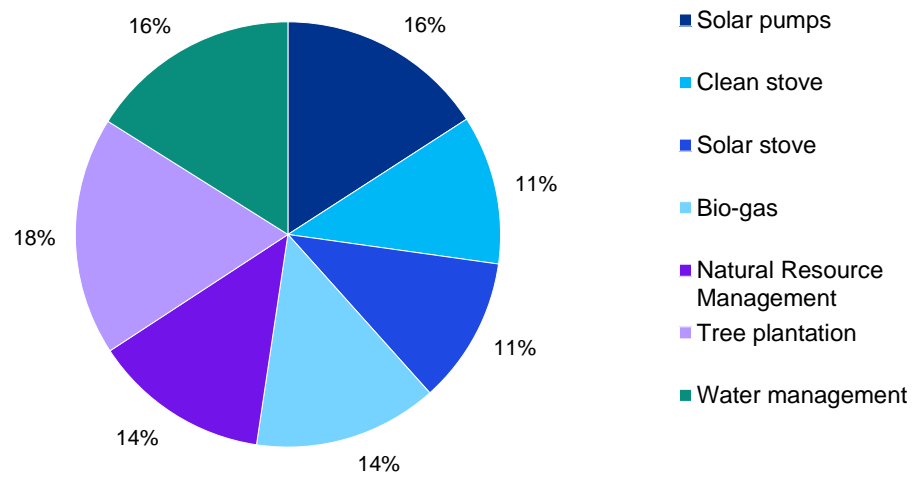
Field Unit: Jalore

Environment Related issues present in Jalore



In Jalore, deforestation and water pollution were reported to be major areas of threat to the environment with 55.56 per cent respondents reporting deforestation to be a concern and 51.01 per cent respondents reporting water pollution to be the other area of risk for the environment. This was followed by air pollution where 50.51 per cent respondents described it as a possible area of intervention. Soil erosion was described as another issue by 45.45 per cent respondents followed by the lack of green cover as reported by 42.93 per cent of the respondents. 39.90 per cent respondents stated droughts as a risk for the environment of the region.

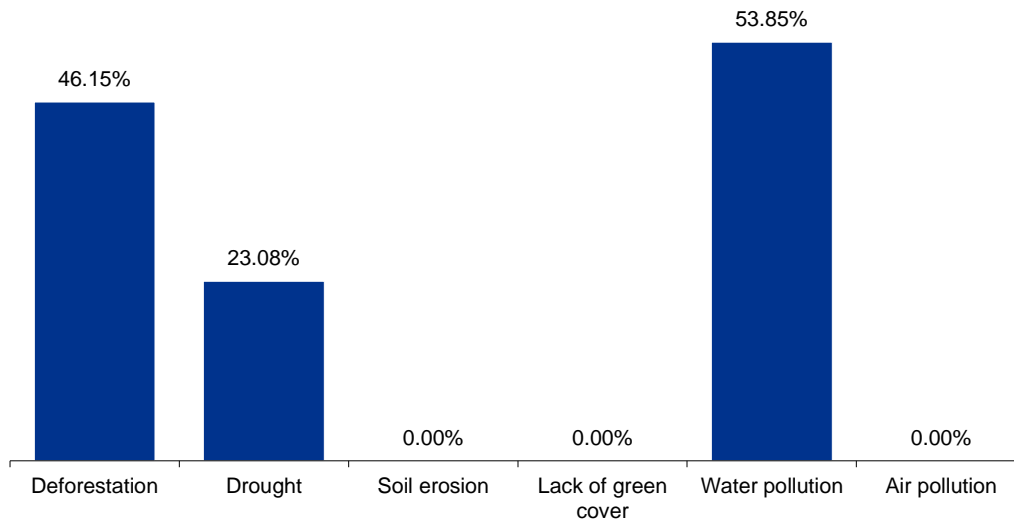
Environmental Activities that have taken place in Jalore



Tree plantation is a major environmental activity undertaken in Jalore, as per the respondents. This was followed by water management, provision of solar pumps, management of natural resources and the provision of biogas. Provision of solar stoves and clean stoves is also being undertaken and can be scaled-up basis the need of the community residents.

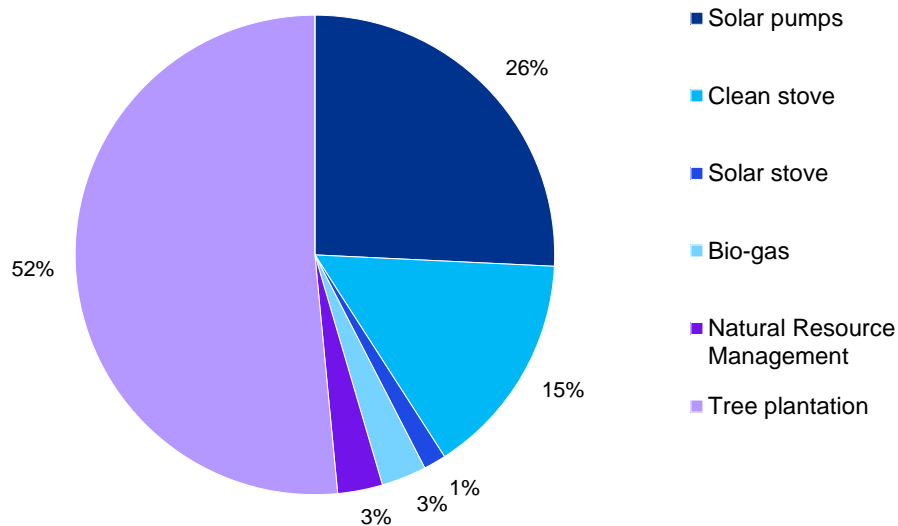
Field Unit: Jamnagar

Environment Related issues present in Jamnagar



Water pollution is the most prevalent issue in Jamnagar as per 53.85 per cent respondents followed by deforestation, according to 46.15 per cent respondents. Droughts were also an area of environmental concern for 23.08 per cent.

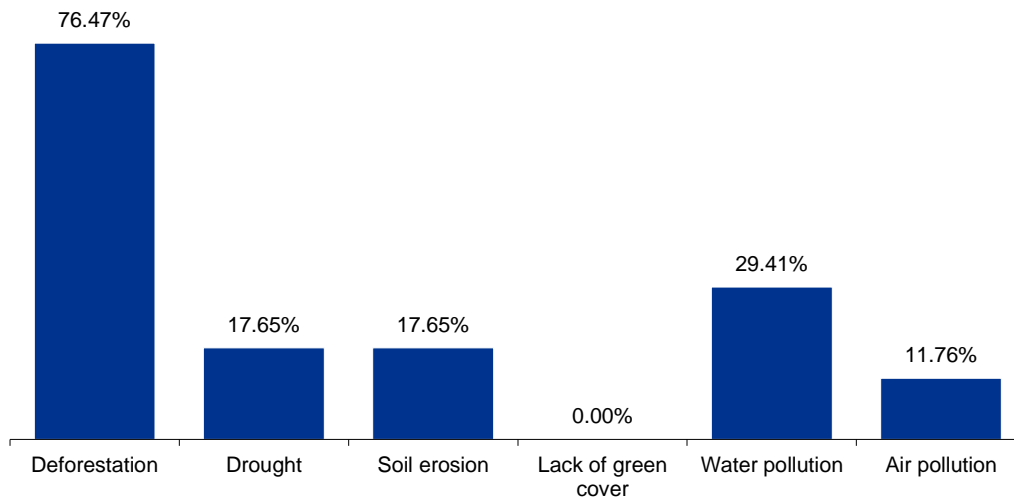
Environmental Activities that have taken place in Jamnagar



Tree plantation is a major environmental activity undertaken in Jamnagar followed by the provision of solar pumps for the community. Clean stoves are also being provided to the community. Natural resource management and provision of solar stoves and biogas are also being undertaken at a small scale, as per the respondents.

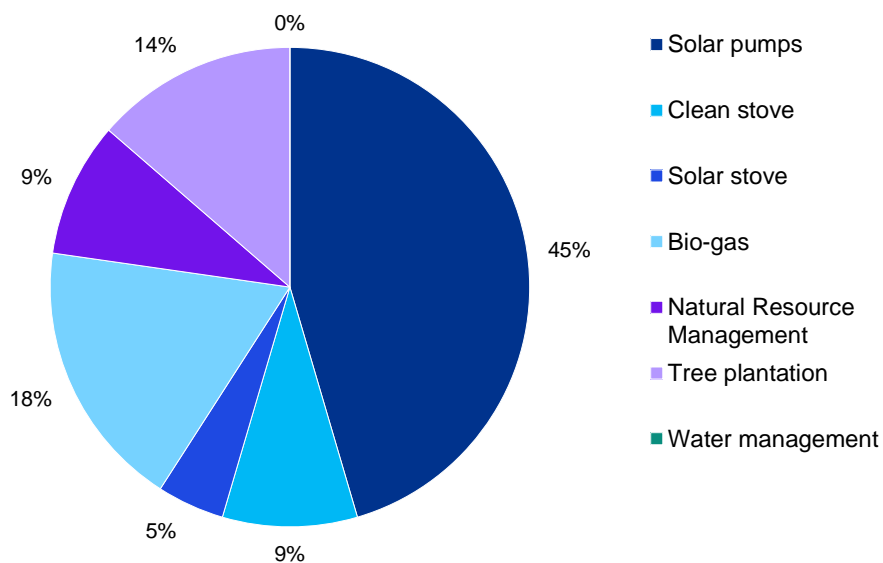
Field Unit: Patan

Environment Related issues present in Patan



Deforestation is a major environmental issue in Patan, as reported by 76.47 per cent respondents. Water pollution is the other area of concern for 29.41 per cent of the population, followed by soil erosion and droughts which have been categorized as risk areas by 17.65 per cent population for each while 11.76 per cent population found air pollution to be an issue.

Environmental Activities that have taken place in Patan



Provision of solar pumps is the major environmental activity that has been taking place in the district followed by the provision of biogas and plantation of trees. Other activities include the provision of clean stoves, management of natural resources and provision of solar stoves. Since deforestation is a major issue in the area, tree plantation activities can be undertaken to reduce the environmental concerns.

Field Unit: Surat

Water pollution is the largest area of concern from an environmental standpoint for 66.67 per cent of the respondents. 44.44 per cent respondents reported deforestation as an issue for the district followed by droughts which were highlighted by 38.89 per cent of the respondents.

Tree plantation is the major environmental activity taking place in Surat. This was followed by the provision of biogas and the management of natural resources. Water resource management can be undertaken in the district to resolve the water related concerns of the region.

Analysis and Way Forward

- 1. Convergence with District Environment Plan:** Water pollution, deforestation and droughts have been brought forth as significant issues that are prevalent within the locations. However, specific interventions to tackle the same are already being carried out in the community. It is recommended that CAIRN continues support in providing effective solutions to tackle the water scarcity, deforestation as well as water pollution. Reducing water consumption, recycling wastewater and recharging water bodies are fundamental to the prudent management of water. Vedanta is committed to providing resources to manage our water systems and ensure that we preserve this vital resource for our future generations. It aims at achieving Water positivity ratio of >1 by 2030. **CAIRN may take the opportunity to converge and collaborate with the district administration on Environment Action Plan to contribute to the burning issues of environment in the districts.**

Government Alignment: *The district environmental plan of all the districts outlines the major areas that require attention and the immediate action points to be taken on. CAIRN can liaison with the district department to implement the district environment plans*

2. **Promotion of Climate-resilient Agriculture (CRA):** CRA is an approach that includes sustainably using existing natural resources through crop and livestock production systems to achieve long-term higher productivity and farm incomes under climate variabilities. Different farm management practices can increase soil carbon stocks and stimulate soil functional stability. Conservation agriculture technologies (reduced tillage, crop rotations, and cover crops), soil conservation practices (contour farming) and nutrient recharge strategies can refill soil organic matter by giving a protective soil cover⁴¹².

Government Alignment: *The Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) was launched in 2015 to address the issues of water resources and provide a permanent solution that envisages Per Drop More Crop, by promoting micro / drip irrigation for the conservation of maximum water.*

Ministry of Earth Sciences (MoES), Govt. of India, has introduced a major national initiative, "System of Air Quality and Weather Forecasting and Research" known as "SAFAR" for greater metropolitan cities of India to provide location specific information on air quality in near real time and its forecast 1-3 days in advance for the first time in India. It has been combined with the early warning system on weather parameters. The SAFAR system is developed by Indian Institute of Tropical Meteorology, Pune, along with ESSO partner institutions namely India Meteorological Department (IMD) and National Centre for Medium Range Weather Forecasting (NCMRWF).

The SAFAR observational network of Air Quality Monitoring Stations (AQMS) and Automatic Weather Stations (AWS) established within city limits represents selected microenvironments of the city including industrial, residential, background/ cleaner, urban complex, agricultural zones etc. as per international guidelines which ensures the true representation of city environment.

Air Quality indicators are monitored at about 3 m height from the ground with online sophisticated instruments. These instruments are operated round the clock and data is recorded and stored at every 5 minute interval for quality check and further analysis.

Monitored Meteorological Parameters: *UV Radiation, Rainfall, Temperature, Humidity, Wind speed, Wind direction, solar radiation*

CAIRN can collaborate with SAFAR initiatives and implement the AQMS and AWS network at microenvironment such as mining areas, areas with dense population, agriculture areas, high traffic areas.

CAIRN can further carry out microenvironment based environmental conservation activities based upon the data provided by the network in liaison with the district department. Moreover, AWS and AQMS networks can also be used to provide advisory services to the farmers.

⁴¹² [Climate resilient agriculture systems: The way ahead \(downtoearth.org.in\)](https://www.downtoearth.org.in)

8.3. Case Studies

CAIRN Pink City Half Marathon

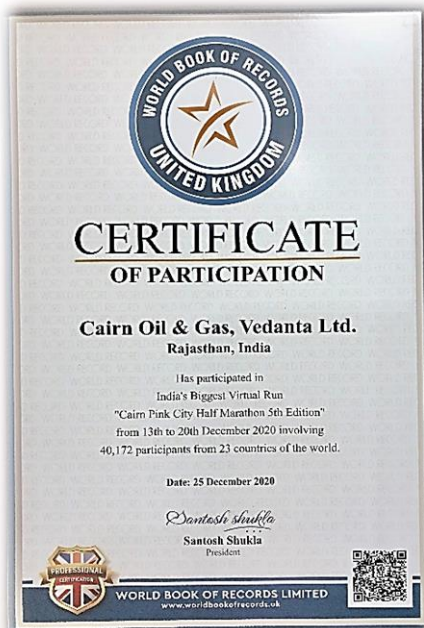
Divided by distance united by cause

CAIRN has been organizing the Pink City Half Marathon for the past six years promoting the concept of running for a social cause. In essence, CAIRN promotes events that draw huge traction to generate awareness about issues most prominent in sports, healthcare etc. Professional and amateur runners and sports enthusiasts across the globe are encouraged to participate in the marathon including active participation from Vedanta - CAIRN employees. The pre-event activities and the main event receive good social media coverage including print and digital media i.e., Facebook/ Twitter/video bytes etc.

The event not only promotes health and fitness among the youth but also provides them with a platform to spread social awareness on important projects like Vedanta's flagship program - Nandghar and CAIRN's high impact program – Safe Drinking Water - “Jeevan Amrit”. Social causes like the **“Swach Bharat Abhiyan”**, **“Beti Bachao Beti Padhao”** have previously been some prominent themes for the marathon.

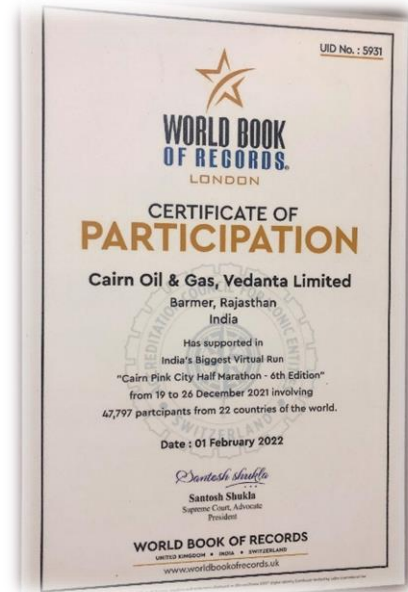
The programme also supported underprivileged children with one meal per registration through Akshaya Patra Foundation. The Marathon received prestigious membership of AIMS –

Association of International Marathon and Distance Races, putting the marathon in the international limelight. Nearly 8800 runners had participated in the marathon in the FY 2018-19 and later in the FY 2019-20 close to 6,500 students and community members took part from across 20 schools and 50 villages through a structured six month- long program. The program focused on incorporating the marathon into the sports curriculum in schools, and building physical strength, discipline, and stamina amongst children to help them lead a healthier life. More than 10,000 members participated in mini marathon at Barmer, and half-marathon in Jaipur. The marathon ensured international participation, promotion, and awareness on organ



donation. The marathon in 2019 saw a participation of more than 100 differently abled runners as well, making the initiative more inclusive.

However, later in the year 2020 at the peak of COVID-19 and amidst the nation-wide lockdown, the idea of organizing a physical marathon seemed improbable. Nevertheless, due to the will and the drive to run for a noble cause, the leadership of CAIRN-CSR came up with the idea of organizing a virtual marathon with the theme “*Get Set Vaccine*”. The theme was chosen with the idea of spreading awareness about COVID-19 and the cruciality of the public to get themselves vaccinated. Organising a virtual marathon gave CAIRN a platform to place Vedanta-CAIRN to position themselves at the global stage. Through their tireless efforts and collaborations CAIRN saw a participation of 40,172 participants from 23 countries. This led them to set a world record of organizing the biggest virtual run.



Later with the second wave hitting the country in 2021 the virtual marathon was held with the theme “*Wear Mask Save Life*”. CAIRN collaborated with various departments like Airforce, Police, District collector etc., to get them onboard to participate in the virtual marathon. CAIRN also collaborated with the district representatives from the Ministry of Youth Affairs to bring together youth groups for the marathon. In 2021, CAIRN broke its own record with a participation of 47,797 from 22 countries.

PERCEPTION STUDY

9. Perception Study

9.1. Executive Summary

CAIRN's extensive work in the communities has garnered positive perception among local communities as well as stakeholders.

A project's success is not only measured through the direct impact it has on the wellbeing of the community, but further through the indirect impact it has on the reputation on the brand, its ability to increase the company's social license to operate as well as complementing the other business drivers.

The perception study provided an overview of the projects that had the best public recall vis-à-vis the self-perceived impact made on the communities, it further gave an insight into the continuing needs of the community and their aspirations as well as the level of satisfaction among the community and stakeholders towards CAIRN. Finally, in order to align with the priorities of the business, the perception of the CSR and business unit's team was also recorded.

Key Highlights of the Perception Study

- 97 per cent of the community, 94.35 per cent of local stakeholders and 100 per cent of district stakeholders **were satisfied with the projects**. In fact, CAIRN has a strong relationship with government stakeholders wherein of those satisfied, **87 per cent were extremely satisfied by CAIRN's work**.

*Government stakeholders shared that after CAIRN's intervention in **the Barmer Hospital** patient inflow increased along with institutional deliveries. The doctors and other staff lauded CAIRN's MHVs in ensuring last mile deliver.*

*Due to the overall goodwill generated with the government by CAIRN, 99 per cent of the eligible employees and business partners were provided **with free vaccinations**. This included 1398 employees and 7597 business partners.*

- The most popular projects, ranked by the community were **The Mobile Health Van, Nand Ghar, Jeevan Amrit as well as interventions within the field of Education**.
- While early childhood care remained a high priority area for beneficiaries and stakeholders as a continuing area of project delivery for CAIRN, aligned priorities with the internal

stakeholders of CAIRN showed that ***Women's Empowerment, Education and Skilling were the top 3 combined areas of priority.***

- In fact, internal stakeholders placed greatest priority on a ***focus on social development to drive business*** within sustainability interventions. According to these stakeholders' perception, the impact of social development on business is seen through ***improved community relationships, improved reputation of company as well as increased attraction to investors.***
- ***CAIRN's internal stakeholders further considered CSR to be an integral part of the business strategy*** and not simply a compliance requirement.

9.2. Introduction to Perception Study

To gauge the impact of social development programs, organizations have been conducting various qualitative and quantitative studies on their social development programs. Nevertheless, the perception of the beneficiaries and the stakeholder, inadvertently, remains neglected. Often, the view and perception of the stakeholders remain unnoticed while conducting impact studies.

By bypassing the experience and views of the beneficiary, an organization often loses its chance to make the development projects better. The ultimate outward goal of an organization is to ensure the satisfaction of the beneficiaries and stakeholders. Notwithstanding, the aspect of satisfaction remains uncaptured while capturing the impact of a project. It becomes pivotal not only to focus on the impact created by the programs but also on the way an intervention shapes the perception of the community and its stakeholders. Often the business operations and the development programs of an organization are intertwined, and it becomes hard for communities to bifurcate the activities under development programs and business operations. The business operations and development projects remain juxtaposed to each other in building the perception of the community. The interplay becomes strong when an organization operates in the local milieu and its business operations have an impact on the local communities. Organizations, like CAIRN, that have their core operation amidst of local communities often strive to build a strong positive perception amongst the communities.

A positive perception not only ensures smooth operations of the business but also increases the brand value of an organization. It also provides an edge to a business over its peers. In the age of stakeholder capitalism, it is palpable to ensure positive perception not only of the

local communities but also at the state and national levels. The perception of myriad stakeholders is also pivotal in capturing the insights of the beneficiaries and stakeholders to ensure the effectiveness of business and social programs.

Never before, have the social development programs been more significant to garner a positive perception of an organization than now. Myriad of organizations are currently running tailor-made social development programs which are helping them in building a positive perception of themselves.

As the internal stakeholders of an organization are the fulcrum to harbour community perception, it also becomes important to capture the inward perception of the internal stakeholder regarding the organization’s social development programs and how deeply the philosophy of community is engrained in the DNA and the culture of the organization.

The perception study in this chapter applied different methodologies to capture the perception of the local communities, stakeholders and perception at the state and national levels.

9.3. Perception of Local Beneficiaries and Stakeholders

Ranking of Projects

The respondents were asked to rank the projects according to their perception of how well they were impact the communities. The ranking is provided below per location.

Table 13.1 Ranking of Projects by Beneficiary Perception as per Location

RANK	Ahmedabad	Banas Kantha	Barmer	Bharuch	East Godavari	Golaghat	Jalore	Jamnagar	Jorhat	Patan	Surat
1	MHV	Nandghar	MHV	MHV		Agriculture	Dairy Development Project	MHV	NA	Education	MHV
2	Education	MHV	Jeevan Amrit	Ujjawal	NA	NA	MHV	Ujjawal	NA	MHV	Education
3	None	Ujjawal	Nandghar		NA	NA	Nandghar and Jeevan Amrit		NA		

The respondents were asked to rank each project being carried out by the business unit from 1 to 3, based on the highest proportion of votes for each rank against each project, the ranking has been determined.

CAIRN does not have the same projects running across locations hence the rankings are not comparable. Solely based on the number of respondents sampled, proportionate to beneficiary population, the Mobile Health Van, Nandghar, Jeevan Amrit and overall interventions in Education were most popular.

Support Required in Community

While a baseline and need assessment provides an understanding of the needs of the community, there is often an underlying perception and attitude of a community towards what support would be best sought from a company that is carrying out CSR in their area. Moreover, while fact-based assessments are necessary for creating a project of value, community perception is a necessary component that allows for the business unit to garner a greater social license to operate.

Here, the community members and stakeholders were asked to provide three of the top areas of support that they may require from CAIRN, going forward. Based on the proportion of beneficiaries who have provided the affirmative for each of the options, a rank would be determined.

Field Unit: Barmer

The top three areas of support required as per the beneficiaries in Barmer are:

1. Higher Education for Girls
2. Skilling of youth
3. Women's economic independence

We see that closely in line is the requirement for primary and secondary education as well as health camps and mobile health vans. Therefore, the focus in the region is geared towards enabling women and youth.

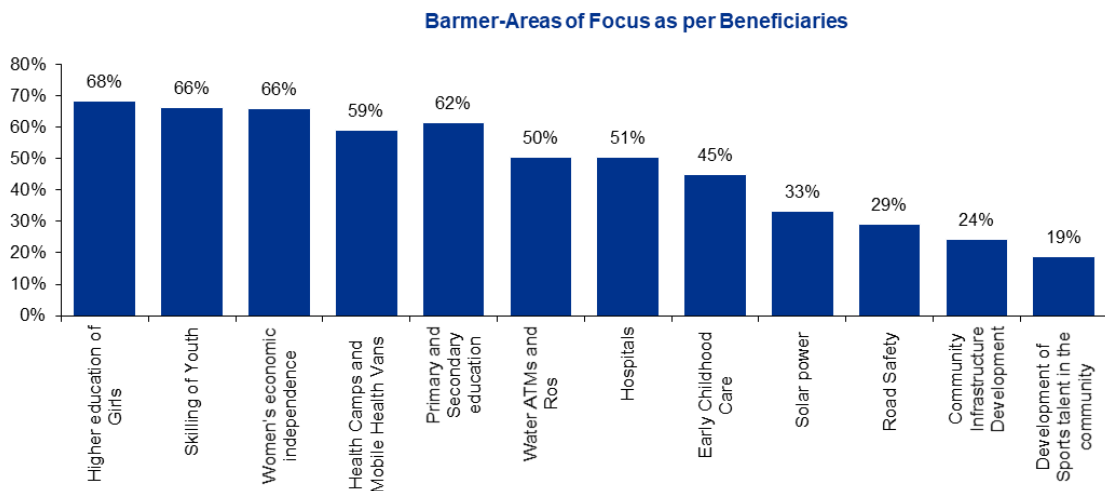


Figure 13.1 Support Required in the Community in Barmer

Field Unit: Jalore

The top three areas of support required as per the beneficiaries in Barmer are:

1. Early childhood care
2. Community infrastructure development
3. Health camps and mobile health vans

Therefore, the focus in the region is geared towards enabling young children, health for all, and community infrastructure development.

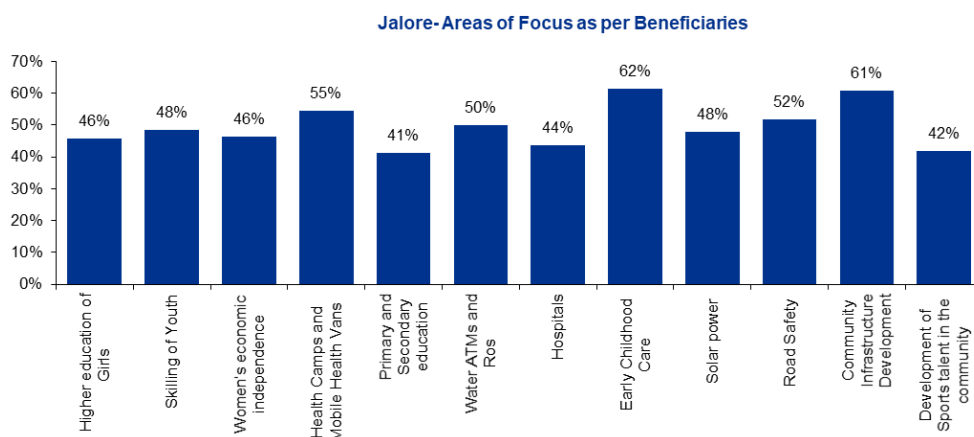


Figure 13.2 Support Required in the Community in Jalore

Field Unit: Ahmedabad

The top three areas of support required as per the beneficiaries in Ahmedabad are:

1. Early Childhood Care
2. Primary and secondary education
3. Higher Education for Girls

Therefore, the focus in the region is geared towards enabling young children and girls.

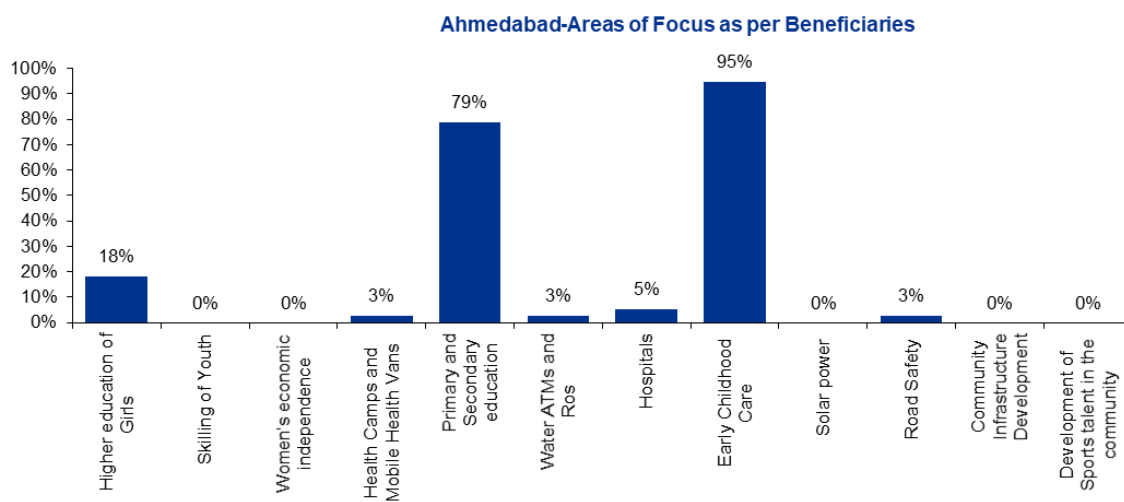


Figure 13.3 Support Required in the Community in Ahmedabad

Field Unit: Banaskantha

The top three areas of support required from the community in Banaskantha are:

1. Early Childhood Care
2. Primary and secondary education
3. Higher Education for Girls

Therefore, the focus in the region is geared towards enabling young children and girls.

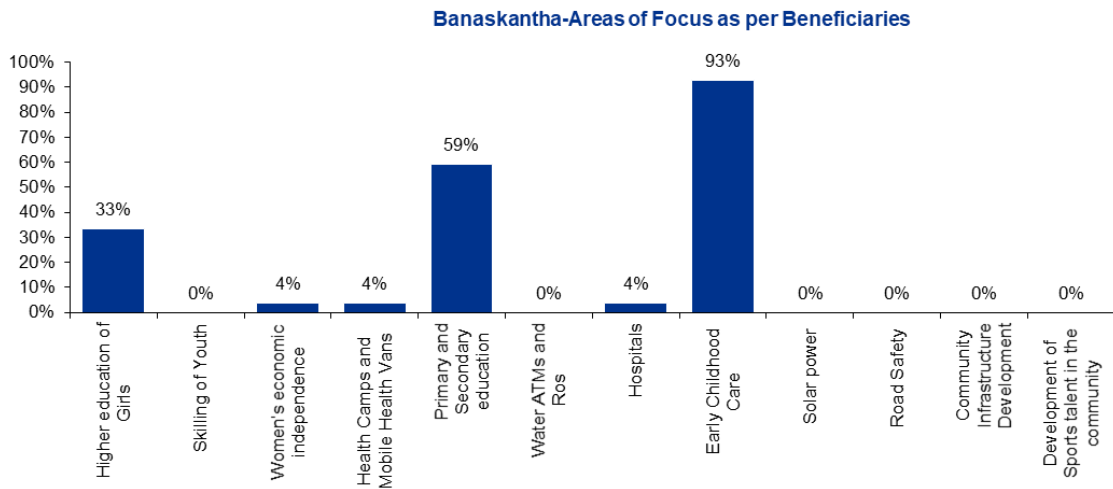


Figure 13.4 Support Required in the Community in Banaskantha

Field Unit: Bharuch

The top three areas of support required from the community in Bharuch are:

1. Early Childhood Care
2. Primary and secondary education
3. Higher Education for Girls

Therefore, the focus in the region is geared towards enabling young children and girls.

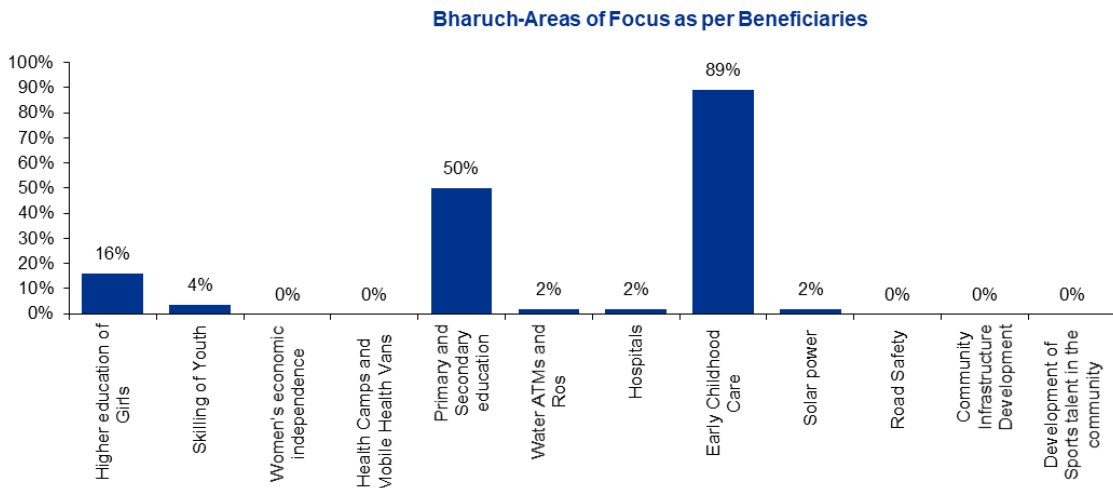


Figure 13.5 Support Required in the Community in Bharuch

Field Unit: Jamnagar

The top three areas of support required from the community in Jamnagar are:

1. Early Childhood Care
2. Primary and secondary education
3. Higher Education for Girls

Therefore, the focus in the region is geared towards enabling young children and girls.

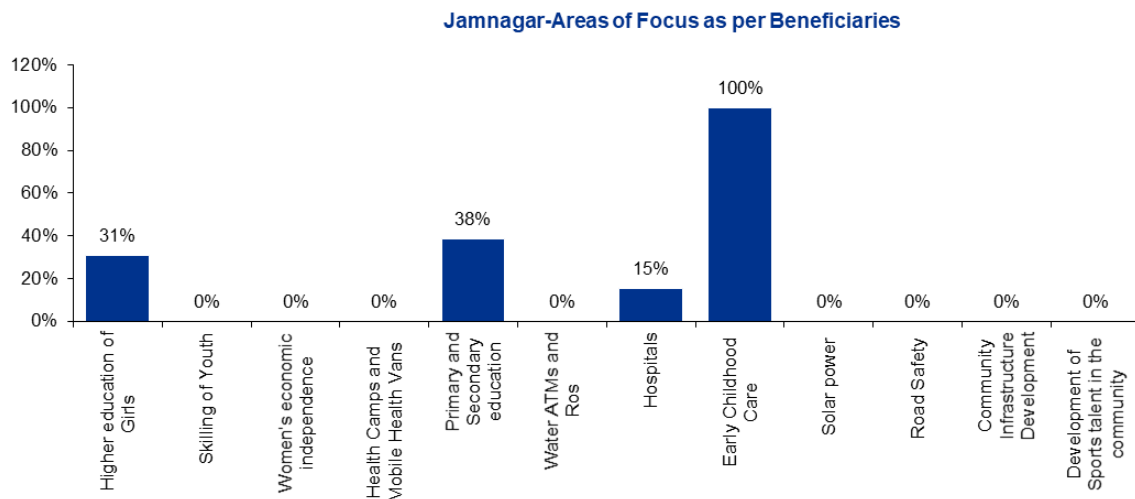


Figure 13.6 Support Required in the Community in Jamnagar

Field Unit: Patan

The top three areas of support required from the community in Patan are:

1. Early Childhood Care
2. Primary and secondary education
3. Higher Education for Girls

Therefore, the focus in the region is geared towards enabling young children and girls.

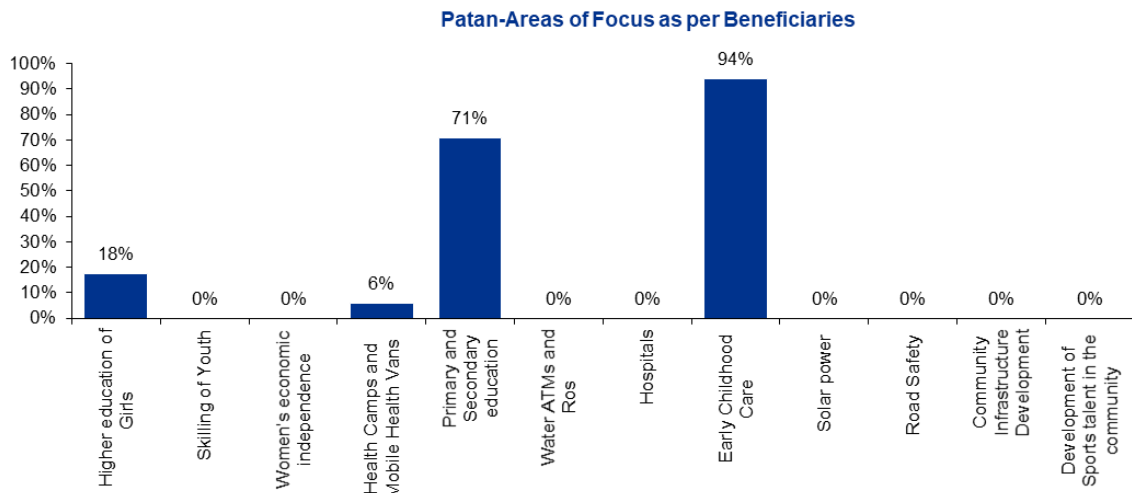


Figure 13.7 Support Required in the Community in Patan

Field Unit: Surat

The top three areas of support required from the community in Surat are:

1. Early Childhood Care
2. Primary and secondary education
3. Higher Education for Girls

Therefore, the focus in the region is geared towards enabling young children and girls.

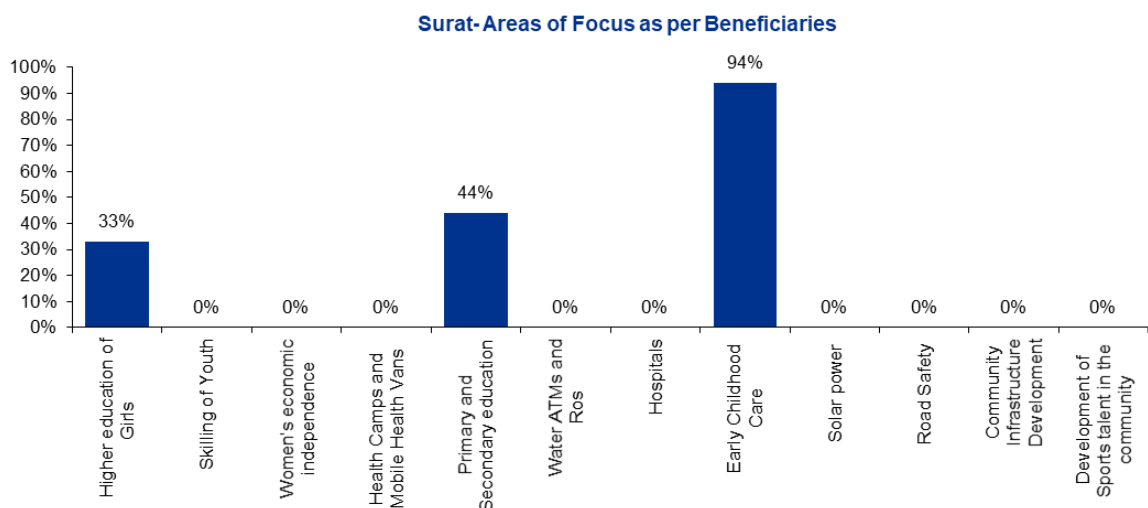


Figure 13.8 Support Required in the Community in Surat

Field Unit: Golaghat

The top three areas of support required from the community in Golaghat are:

1. Water ATMs and ROs
2. Higher Education for Girls
3. Skilling of youth

Therefore, the focus in the region is geared towards enabling access to water, skilling of youth and education of girls.

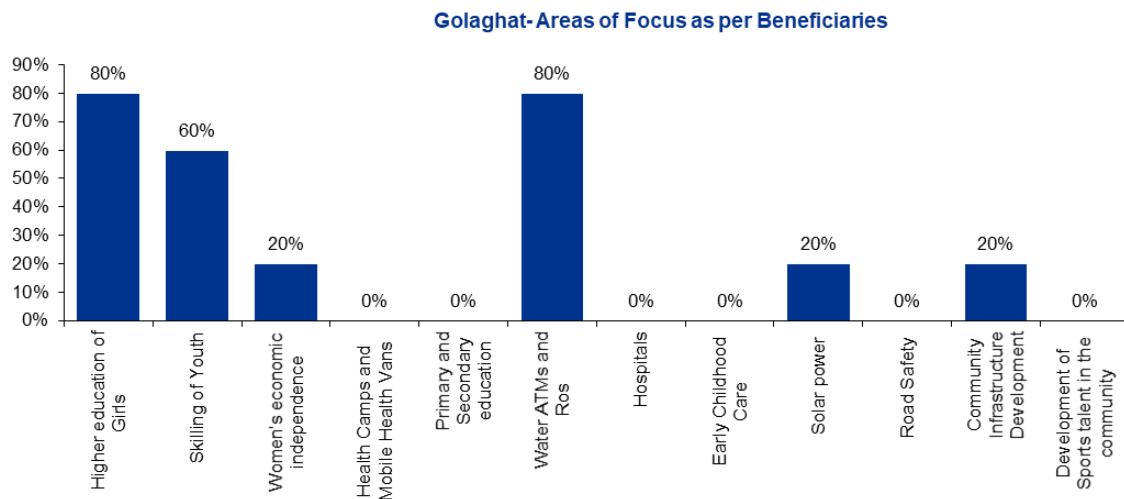


Figure 13.9 Support Required in the Community in Golaghat

Field Unit: Jorhat

The top three areas of support required from the community in Jorhat are:

1. Skilling of youth
2. Solar power
3. Community infrastructure development

Therefore, the focus in the region is geared towards skilling of youth, enabling access to sustainable sources of electricity and community infrastructure development.

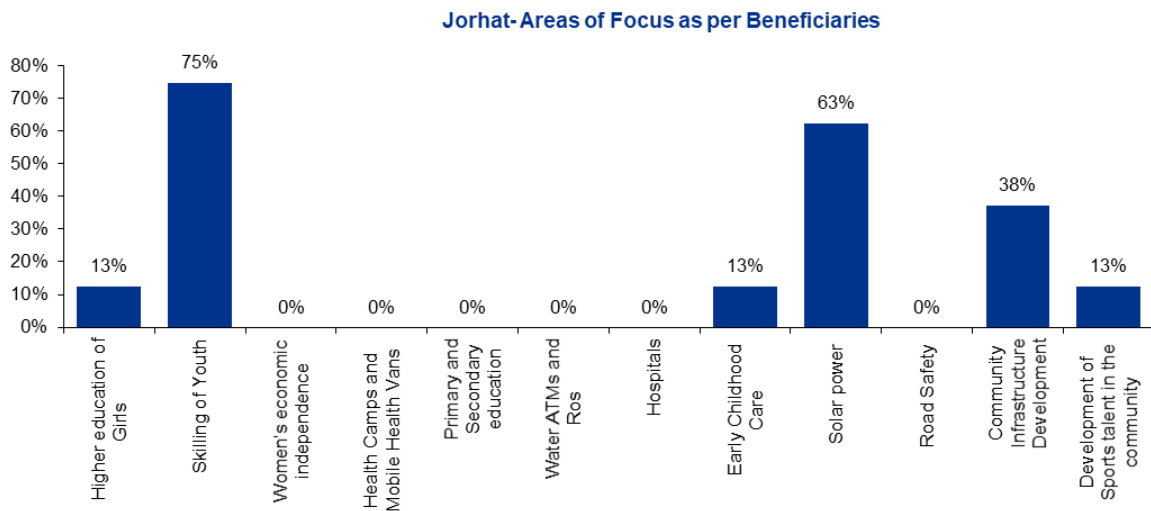


Figure 13.10 Support Required in the Community in Jorhat

Field Unit: East Godavari

The top three areas of support required from the community in East Godavari are:

1. Community infrastructure development
2. Primary and secondary education
3. Health camps and mobile health vans

Therefore, the focus in the region is geared towards community infrastructure development, enabling access to education and health for all.

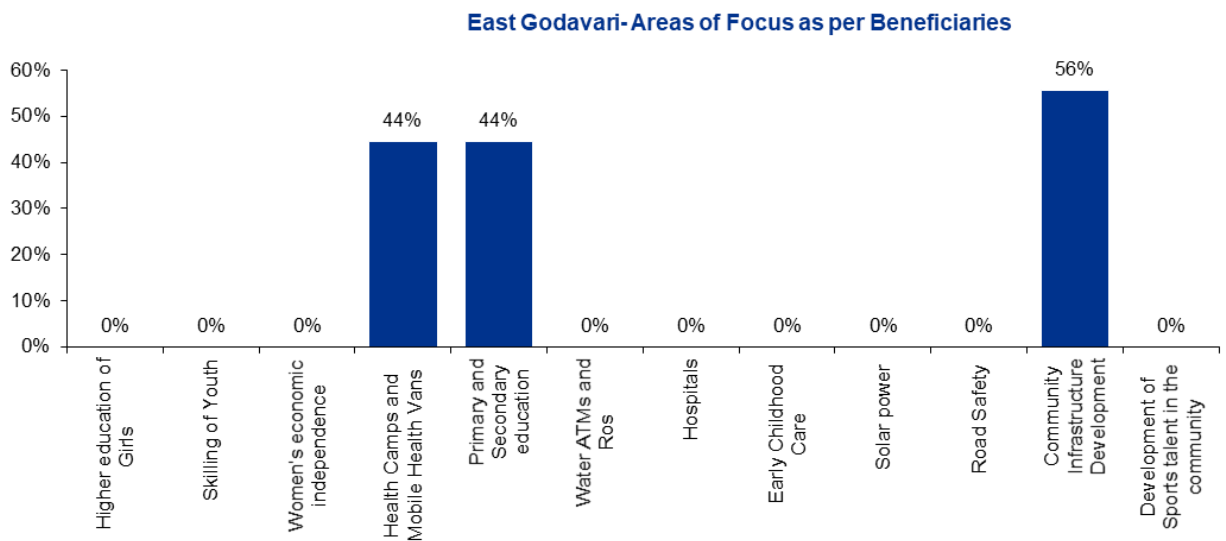


Figure 13.11 Support Required in the Community in East Godavari

Satisfaction Levels among the Community

The community was asked to provide information on whether they were satisfied with the projects being run by the business unit to support the community, they were asked whether they were satisfied, whether the projects were exceeding expectations or whether they required additional support or had recommendations.

Satisfaction level with programs across the BU

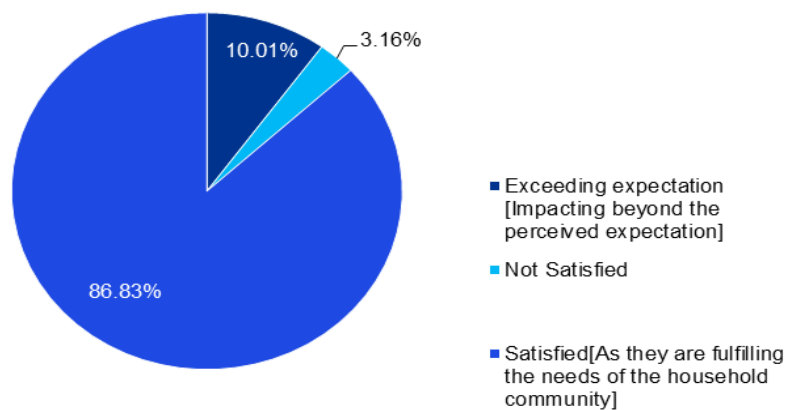


Figure 196: Satisfaction Levels among the Community across the BU

Overall, the satisfaction levels of the community are at 97 per cent wherein the satisfaction level in each location is over 95 per cent with the exception of East Godavari.

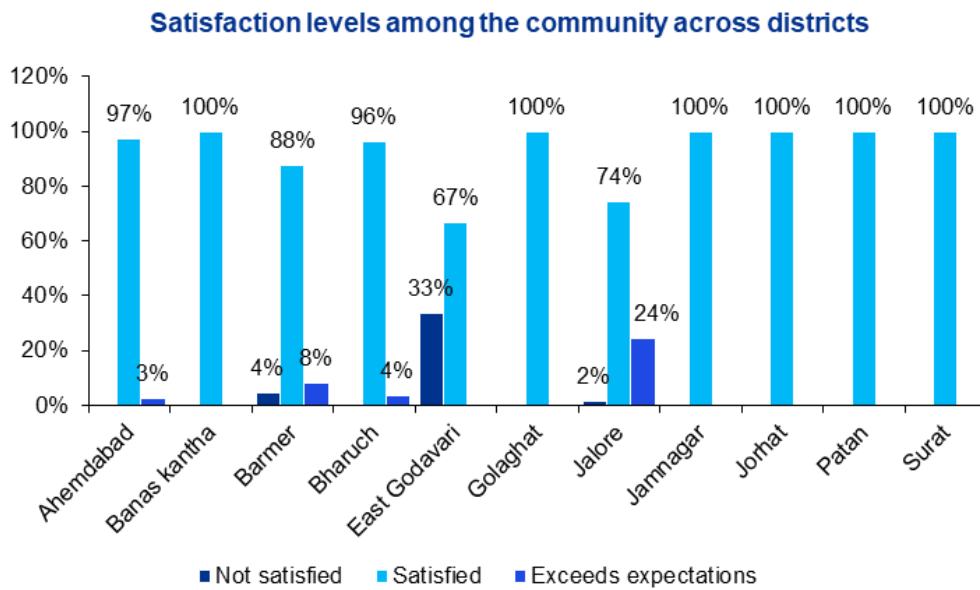


Figure 197: Satisfaction Levels among the Community across the districts

In **Ahmedabad**, 97 per cent are satisfied with the current support provided by CAIRN. 3 per cent of the respondents also stated that the business unit was exceeding expectation.

In **Banas kantha**, 100 per cent of the respondents were completely satisfied by the current level of support being provided by the business unit.

In **Bharuch**, 96 per cent of the respondents were completely satisfied by the current level of support being provided by the business unit and 4 per cent of the respondents also stated that the business unit was exceeding expectation.

In **Jamnagar**, Patan and Surat 100 per cent of the respondents were completely satisfied by the current level of support being provided by the business unit.

In **Barmer**, 88 per cent are satisfied with the current support provided by CAIRN. 8 per cent of the respondents also stated that the business unit was exceeding their perceived expectations. 4 per cent respondents stated that more support would be required to tackle various problems they faced. This included the drinking water problem in the community as well as developing better health facilities that were accessible for all.

In **Jalore**, 74 per cent are satisfied with the current support provided by CAIRN. 24 per cent of the respondents also stated that the business unit was exceeding their perceived expectations. 2 per cent respondents stated that more support would be required to tackle

various problems they faced. This included the drinking water problem in the community as well as developing better health facilities that were accessible for all.

In **Golaghat** and Jorhat, 100 per cent of the respondents were completely satisfied by the current level of support being provided by the business unit.

In **East Godavari**, 67 per cent of the respondents were completely satisfied the current level of support being provided by the BU. 33 per cent of the respondents felt there was room for further improvement and the community required support on health, education and community infrastructure.

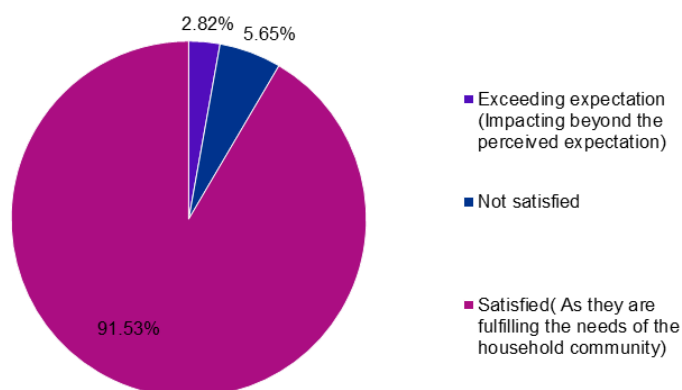
The satisfaction levels of the community for the business unit are extremely positive, showing that not only have the long-term programmes had a significant impact on the lives of the people but the community development interventions have further enhanced the social license to operate in all the surveyed locations. No disgruntlement has been noted and hence no current risks can be seen in the current operations through CAIRN's CSR.

Satisfaction Levels among the Local Stakeholders

Just like with the community members, local stakeholders were asked to provide information on whether they were satisfied with the projects being run by the business unit to support the community, they were asked whether they were satisfied, whether the projects were exceeding expectations or whether they required additional support or had recommendations.

Overall, the satisfaction levels of the local stakeholders are at 91.53 per cent. Moreover, 2.82

Satisfaction levels among local stakeholders



per cent were extremely satisfied

Satisfaction levels among the village and block stakeholders across districts

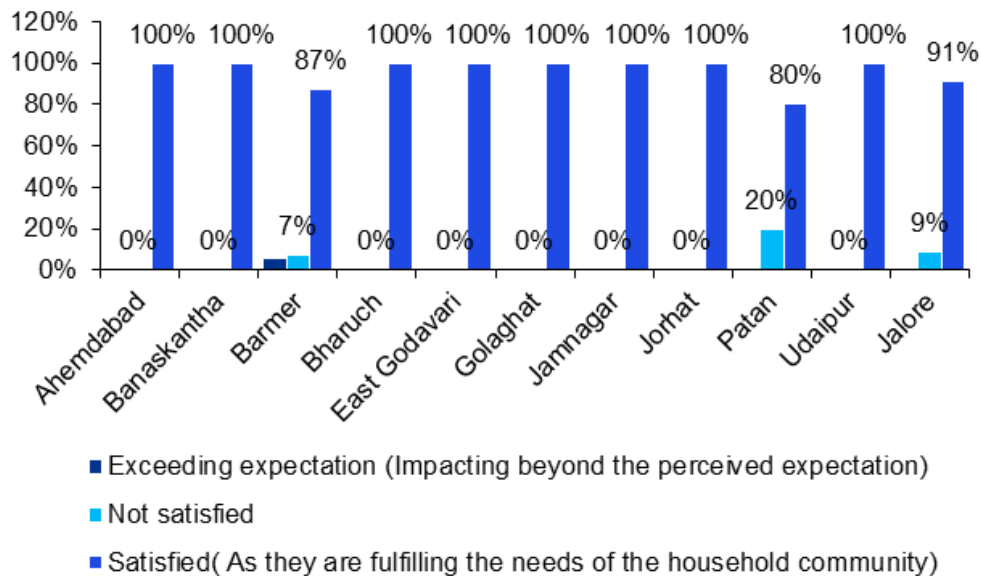


Figure 198: Satisfaction Levels among the Local Stakeholders across districts

In **Ahmedabad**, Banaskantha, Bharuch, and Jamnagar, 100 per cent of the respondents are satisfied with the current support provided by CAIRN.

In **Patan**, 80 per cent of stakeholders were satisfied with current support provided by CAIRN. As per 20 per cent of the stakeholders, there was requirement of classroom for teaching children.

In **Barmer**, 87 per cent of the respondents were completely satisfied by the current level of support being provided by the business unit and 5 per cent also stated that the business unit was exceeding their perceived expectations of what could be carried out through CSR. 7 per cent of the stakeholders felt that there was room for improvement. The areas they highlighted for improvement spanned across suggestion on better community awareness programs in vernacular languages around health. Additionally, there was a requirement for improving technology to optimize the RO's working as well. Currently, the RO plants run on three phases electricity, and it was suggested that it would be good if that could be changed to single phase as this would lead to longer running of the RO Plant. Among requirements for community infrastructure, the need for tables and chairs in classrooms was highlighted. Schools also required support for teachers and adequate drinking water facilities. The need for drinking water was not restricted to school but was also highlighted across the field area. Within agriculture, there was a requirement highlighted for Hari Ghas seed.

In **Jalore**, 91 per cent of stakeholders were satisfied with current support provided by CAIRN. As per 9 per cent of the stakeholders, there was requirement of strengthening healthcare and promoting education, early childhood care and higher education of girls.

The satisfaction levels of the local stakeholders for the business unit are even better as compared to that of the community members and shows an extremely positive relationship between CAIRN and these stakeholders. It has been understood that CAIRN has involved such stakeholders in the planning and designing of their projects and further acted on their recommendations for the needs of the community. No disgruntlement has been noted and hence no current risks can be seen in the current operations through CAIRN’s CSR.

Satisfaction Levels among the District Stakeholders

District Stakeholders were further asked for their opinion vis-à-vis how satisfied they were with the operations of CAIRN’s CSR. They were asked whether they were satisfied, whether the projects were exceeding expectations or whether they required additional support or had recommendations.

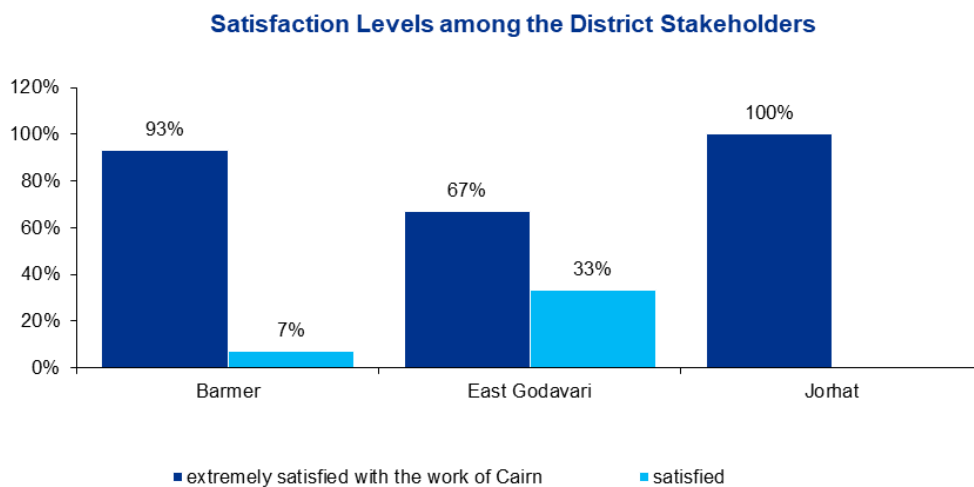


Figure 199: Satisfaction Levels among the District Stakeholders

(Please note district stakeholder perception data has been organized based on districts and not field units)

In **Barmer**, 93 percent of the district stakeholders were extremely satisfied with the projects being run by CAIRN. While seven percent were satisfied with the projects. Majority of the district stakeholders in Barmer were from the health sector. These included - chief medical

officer, ENT surgeon, General Surgeon, BDS, dialysis technician, family planning Nodal officer, and cleaning staff. They were extremely satisfied with the work CAIRN has done in the district hospital by appointing medical specialists and cleaning staff. The stakeholders shared how after CAIRN's intervention the district hospital has seen an increase in patient inflow as well as institutional deliveries. Further the doctors and the staff lauded CAIRN's MHV's that ensure health care reaches the last mile. CAIRN's efforts taken during the pandemic to build a makeshift hospital at a short notice was highly appreciated by almost all stakeholders. However, the chief medical officer along with other stakeholders believed that there is a need to strengthen CHC's and PHC's by providing staff and medical equipment's. It was also recommended that CAIRN organise a District level consultation (Asha Samelan) in collaboration with the health department and invite all Asha, ANM and Sahika's to understand their challenges and understand their view to strengthen the system.

Further, the district stakeholders from the education sector appreciated CAIRN's effort in collaborating with the Education department and ensuring digitalisation of school. CAIRN has also signed a non-financial MoU with the Government Engineering. The partnership aims at providing academic support to the students at the government engineering college. The lectures given by CAIRN professionals on various topics like electrical, mechanical engineering were highly appreciated by the principal of the Govt. engineering college. Further, efforts made to construct new Nandghars and renovate the existing ones and provide top notch facilities to improve the overall status of children was appreciated by the ICDS representative. He stated that children in Nandghars performed better in terms of health indicators as compared to other children.

CAIRN in collaboration with PHED has been working on making water accessible to the people in the villages of Barmer by installing RO plants across the district. At present 124 RO plants have been installed. The district stakeholder appreciated CAIRN's Project Jeevan Amrit which he believes has helped about 18,000 or more people by making water accessible to communities.

Further in East Godavari 67 percent of the stakeholders were extremely satisfied with the work being carried out by CAIRN. The stakeholders appreciated CAIRN's efforts in constructing roads that has helped smaller villages to mainstream. Interventions like solar lights, building of toilets and ambulance service were also appreciated.

In Assam, the district stakeholder interviewed expressed extreme satisfaction with the programs of CAIRN. The stakeholder stated that "the intervention from CAIRN has helped

the Government extend its support towards the community”. However, it was suggested that CAIRN can plan to start skilling programs as well as career counselling especially for adult men.

9.4. Perception of CSR Team and BU Management

In today’s world, the definition of business success goes much beyond the business profits, brand recognition, market value and growth of the company. In the era of stakeholder capitalism, the success of the company is based upon the perception of the stakeholders. Today, the corporates are judged based on their impacts on the society and the environment and how it generates economic values, not only for its consumers and stakeholders, but also on the local communities where it operates. Sustainability has become a fulcrum, around which the business of an organization revolves around.

CSR activities and sustainability have become synonymous and interchangeable. Businesses around the world have adopted CSR activities to ensure economic, social, and environmental sustainability. Corporates have now started anchoring CSR in their business strategies to ensure sustainability. CSR not only helps in ensuring the sustainability of an organization but also latently functions by improving the brand value, retaining the talent, and attracting the customers and investors.

To have a resilient CSR strategy at place and ensuring the execution of the strategy, it is pivotal to understand the attitude and perception of the leadership and internal stakeholders involved in execution of CSR activities. A strong orientation and positive perception about the CSR and sustainability amongst the internal stakeholder helps in engraining the CSR in the DNA of an organization.

The following section delves in to understanding the attitude and perception of internal stakeholders and leaders of CAIRN regarding the CSR.

Key Sustainability Drivers

Sustainability drivers are a subset of business drivers, specifically focuses on measures towards supporting communities and the environment. On a broad level, they can be used to determine which area of focus would allow a business to ensure its sustainability. Such drivers link the core operations of a business with the outside, in order to ensure a balanced and holistic approach towards operations. Therefore, through this study, the business can

understand what the key sustainability driver according to their internal stakeholders are and how it can be leveraged to ensure a strong social license to operate.

CAIRN Management and CSR Team's Perception on Key Sustainability Drivers

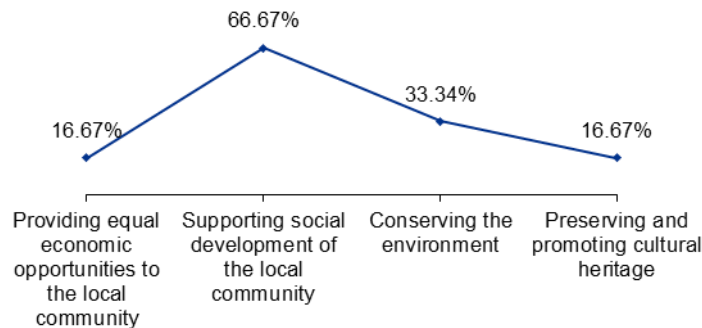


Figure 200:CAIRN Management and CSR Team's Perception on Key Sustainability Drivers

According to the study 67 per cent of the CAIRN’s internal stakeholders think that “supporting social development of the local community” and “providing equal economic opportunities to the local community” is the key sustainability driver in terms of adding the value to the business.

Moreover, 100 per cent of the respondents perceive that CAIRN’s focus on key sustainability drivers have improved community relationships.

It must be noted that, 100 per cent of the respondent stakeholders think that the companies having a focus on key sustainability drivers have a great chance of success and 100 per cent also believe that such companies are more attractive to investors.

Benefits on focusing on Sustainability Drivers for CAIRN

The internal stakeholders while agreeing that the focus on sustainability drivers would lead any business to have success, were further asked to rank the same in order of the benefits that they perceive would be received. The rankings are as follows:

- 1 Improving relationships with local communities at Rank 1.
- 2 Improving the reputation of company/organization through sustainable practices at Rank 2.
- 3 Contributing to the national and international social development goals at rank 3.

Key Benefits of focusing on value addition through business drivers

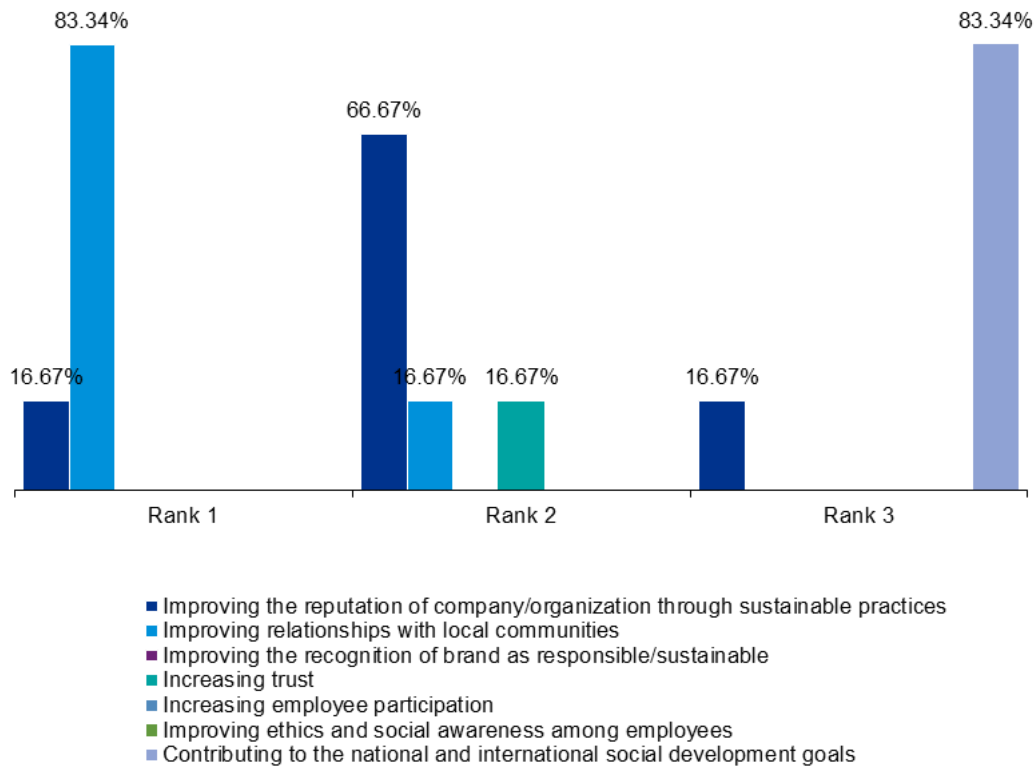


Figure 201:Key Benefits of focusing on value addition through business drivers

Thus, according to the internal stakeholders, the key benefit is improving the relationship with the local community. This is followed by improving their overall reputation while also finally contributing to the national and international sustainability goals. Therefore, CAIRN leadership’s perception on such benefits is both inward and outward looking and encompassing a varied group of stakeholders.

CSR in the context of Business

While CSR is now a mandated requirement in the Indian context for certain companies, its core aim is to ensure that companies give back to the communities in the areas in which they work, or beyond. For any company that has extractive or manufacturing processes close to large hamlets of people, it is necessary to ensure that their presence is not determinantal to the community in order to ensure that their business works in harmony with those around it. Thus, it is critical to understand how CSR is currently perceived by the internal stakeholders.

The Meaning of CSR in the Context of Business

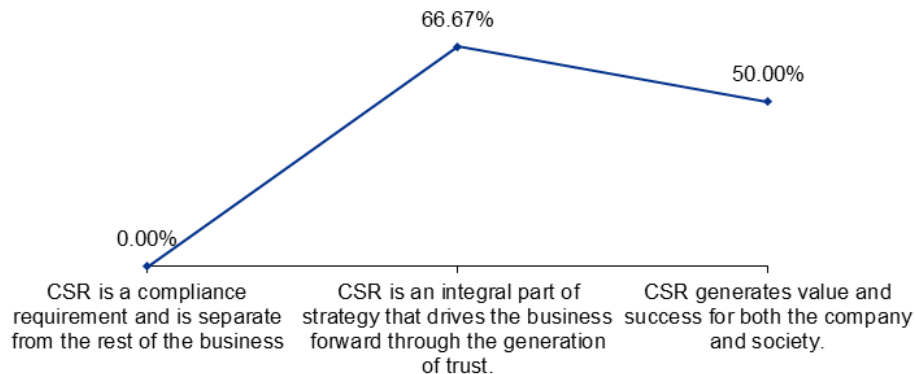


Figure 202: The Meaning of CSR in the Context of Business

The data clearly shows that none of the internal stakeholders of CAIRN believe that CSR is simply a compliance requirement. In fact, the majority (66.67 per cent) believe that CSR is an integral part of the strategy that drives business itself. Furthermore, 50 per cent also feel that CSR generates value and success for both the company and society, indicating the desire for a synergy and partnership between the business and the communities it works in.

Thus, currently within CAIRN, the majority do not consider CSR to either be simply a compliance requirement. However, clear synergy with the community to consider CSR an integral part of the overall business strategy and to generate value for the business has been established for the strategy moving forward.

Thematic Areas that are most important to CAIRN's Social License to Operate

The internal stakeholders of CAIRN were asked to rank the thematic areas given within its CSR Policy from 1 to 3. Based on the composite scores, the thematic areas that have received the highest ranking are:

1. Women's Empowerment at Rank 1
2. Women's Empowerment and Healthcare tied at Rank 2
3. Skilling at Rank 3

Rank of Thematic Areas for CAIRN's Social License to Operate

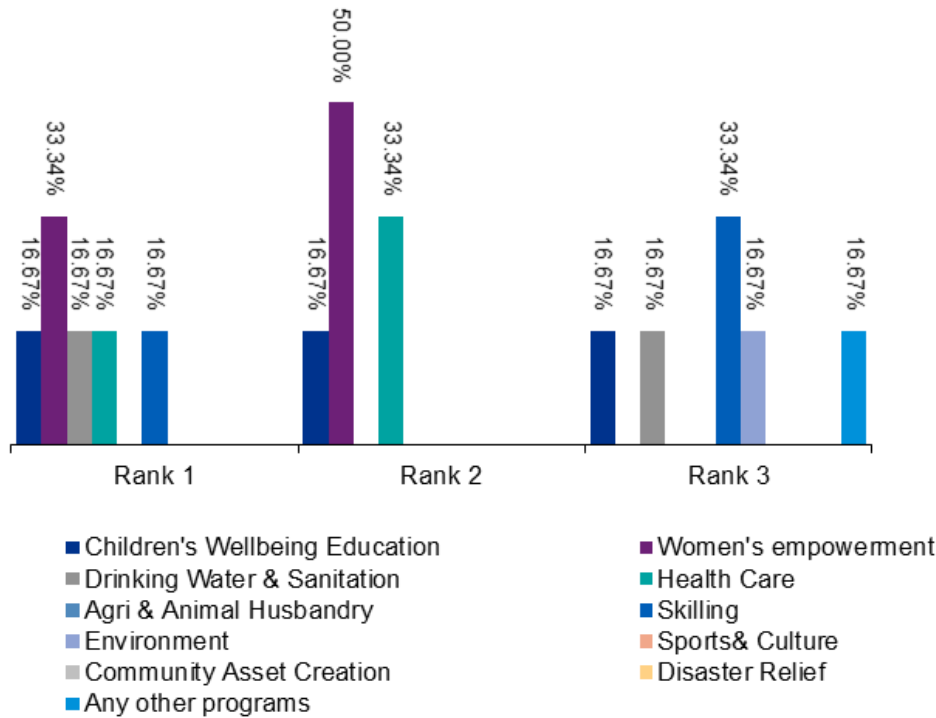


Figure 203: Rank of Thematic Areas for CAIRN's Social License to Operate

Women empowerment, healthcare and skilling of youth appeared within their own top three ranking. Both the community and the internal stakeholders of CAIRN seem aligned with this priority for the future.

Moreover, while community asset creation has had good impact within the community, they have not raised it as an area that requires intervention in the future, despite it being a silent and underlying support system. Comments under other programs includes - Google classroom, MHVs, Nandghar project

The district stakeholders' perception on the needs of the future for the community is provided below:

1. Women's Economic Empowerment at Rank 1
2. Skilling of Youth at Rank 2
3. Early Childhood Care at Rank 3

Similar to the community members and local stakeholders, women’s economic empowerment and skilling of youth are important thematic areas that need to be focused on. While community asset creation and drinking water are important, the external stakeholders themselves are concerned more with the direct wellbeing of children, youth, and women.

Hindrance in Implementing CSR

Carrying out CSR activities is not only mandated to CAIRN by law but is also equally recognized as a mechanism for their business to increase their social license, to operate and further reduce the risks involved in carrying out their business.

However, while the programs are well designed and have made good impact within the community, there remain certain hindrances in implementation and are recognized by the internal stakeholders. According to them, one factor plays the biggest role in this - Lack of resources available to implement projects. While 33.34 per cent feel that there is no such hindrance in implementing CSR projects.

Biggest Problem in Implementing CSR Activities

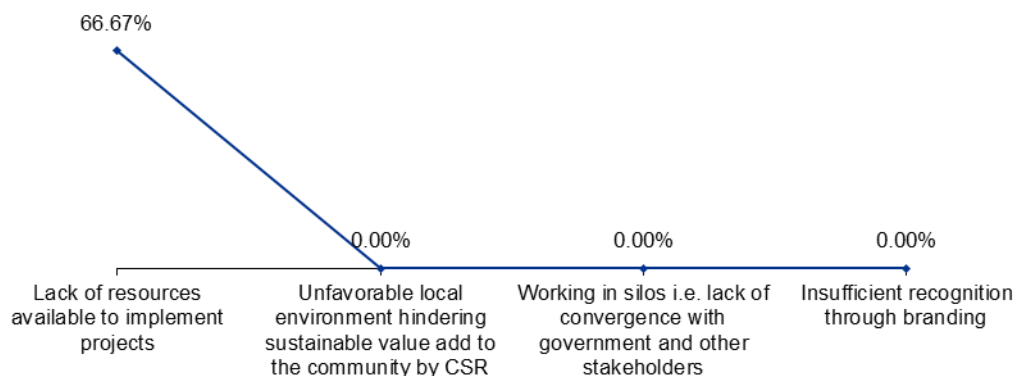


Figure 204: Biggest Problem in Implementing CSR Activities

This hindrance identified requires extensive work towards ensuring availability of resources to implement CSR projects, in addition to building relations with local and district level government stakeholders as well as opinion makers. This is recognized as an area that CAIRN is already working towards and in fact has made considerable progress in ensuring convergence with the government, through projects such as Nand Ghar wherein not only does CAIRN provide its expertise in operations and funding support, but further has MoUs in place with the Rajasthan Government with financial commitments. This is further being

practiced across multiple projects wherein the government support can be leveraged. Moreover, the design of their projects is also based on the consensus of local stakeholders.

Barriers in Ensuring Value Addition for a Sustainable Business

The internal stakeholders of CAIRN identified different barriers when it came to ensuring the value addition for a sustainable business. It was clear that the focus and determination, especially of the CAIRN team was present across the field locations, however, the magnitude of work that they carry out is not always achievable in a smooth manner.

“One might not be able to prioritise a sustainable practice over a traditional one as it may be cost intensive”

Internal stakeholders have expressed cost of operations as a major challenge to implementation. While there are sufficient resources according to an internal stakeholder, when the logistical and operational costs are factored in, the expenses pile up.

“It is Important to balance political issues and community expectations.”

Another major challenge to implementation that was identified was the difficulty in managing the growing expectations, both internally as well as externally. Understanding perceptions of and building strong bonds within the community as well as local stakeholder, is of prime importance in order to successfully add value for a sustainable business.

Building Resilience During COVID-19: A Note

Efforts carried out by the business unit during COVID-19 have already been mentioned. However, it was equally important to understand how the internal stakeholders perceived the impact of their COVID-19 activities. According to the majority, awareness camps during COVID-19 and distribution of sanitization kits in the community were the most impactful to make the communities most resilient.

Making Communities Resilient During COVID-19

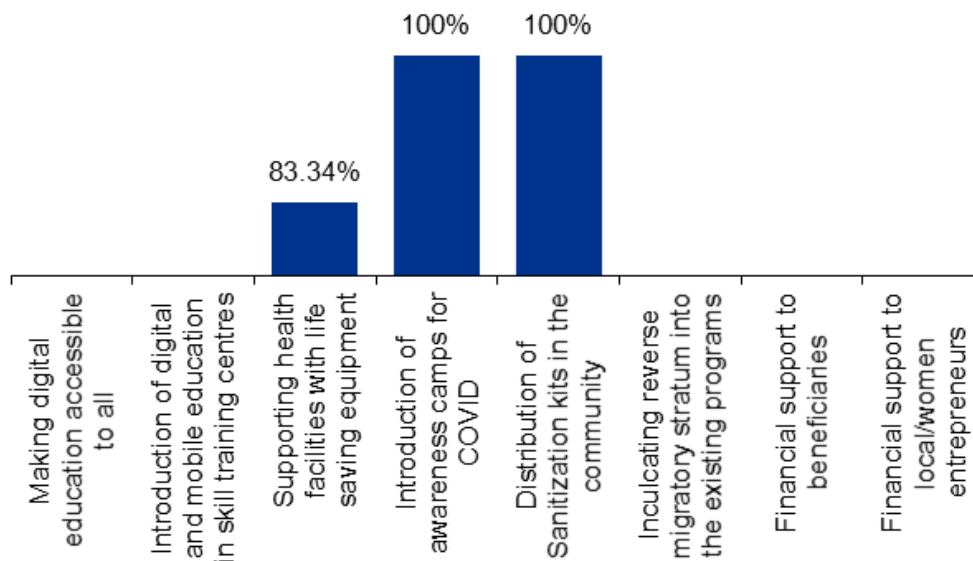


Figure 205: Making Communities Resilient During COVID-19

9.5. Business Sustainability Drivers

CAIRN has worked with the communities in areas around their field units of Ahmedabad, Banas kantha, Barmer, Bharuch, East Godavari, Golaghat, Jalore, Jamnagar, Jorhat, Patan and Surat through providing them with economic opportunities, whether it be within the areas of agriculture and animal husbandry or skilling of youth or event supporting women with micro entrepreneurship activities.

Economic Opportunities Provided to the Community

When asked which economic opportunity provided to the community, in the opinion of the internal stakeholders, added the most value to CAIRN's social license to operate, the majority saw skilling of youth as the critical driver.

Economic Opportunity Provided to the Community that add most value to CAIRN's Social License to Operate

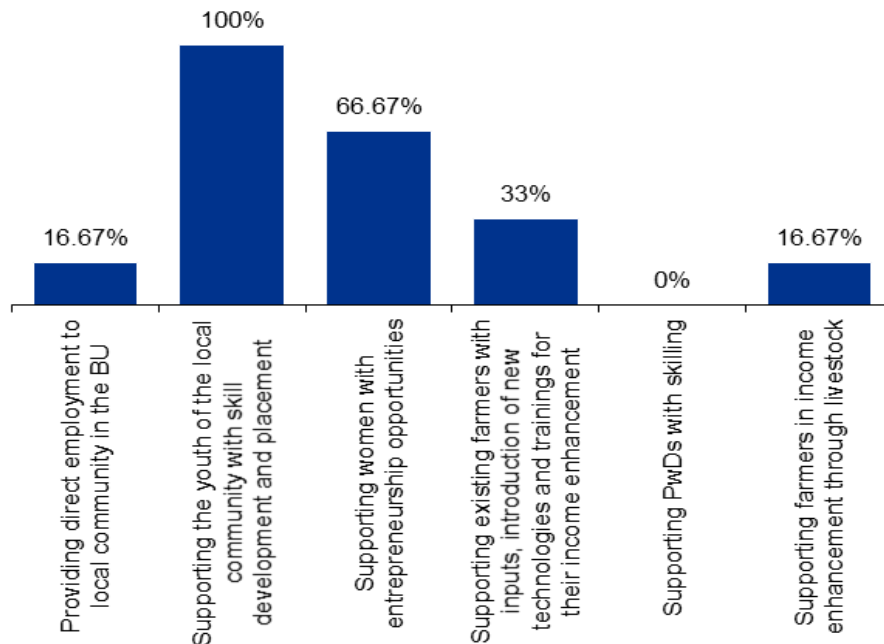


Figure 206: Economic Opportunity Provided to the Community that add most value to CAIRN's Social License to Operate

Not only was this ranked 1 vis-à-vis a thematic area with most importance to CAIRN to strengthen their social license to operate, an area that the community members, too, feel is critical as their need, it appears to also be perceived as an individual driver that can take CAIRN forward with the community to create a harmonious and co-benefiting existence. In fact, it is thus pertinent that efforts towards skilling of youth are strengthened.

Social Development Interventions

When asked which social development interventions provided to the community, in the opinion of the internal stakeholders, added the most value to CAIRN's social license to operate, the majority saw renovation and construction work as the critical driver.

Social Development Interventions Carried out in the Community that add most value to CAIRN's Social License to Operate

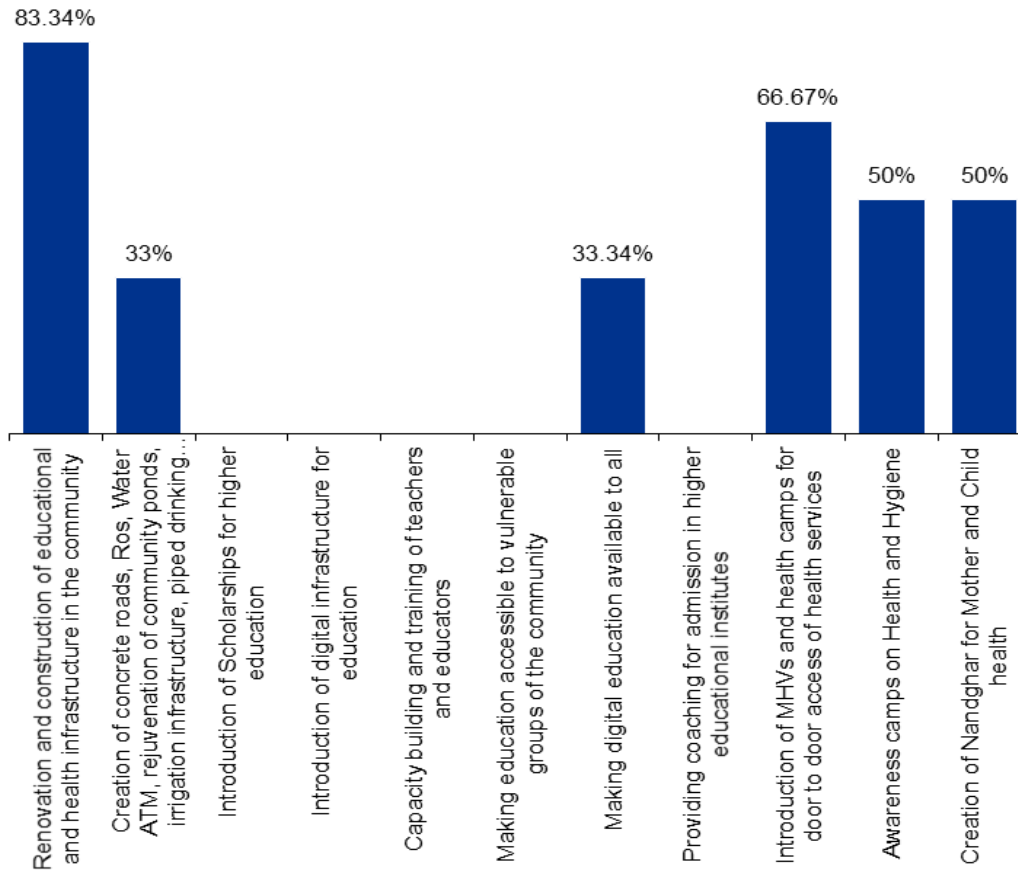


Figure 207: Social Development Interventions Carried out in the Community that add most value to CAIRN's Social License to Operate

To CAIRN, it is clear that supporting the community with critical assets and supporting the renovation of such community infrastructure allows to build trust among the community, especially among the local stakeholders and provides a bedrock for the community to have key infrastructural facilities in place. It must be noted, however, that scholarships, infrastructure within schools, coaching as well as capacity building of educators were not seen to be adding to the social license to operate. The stakeholders, however placed greater importance on health camps and health awareness camps and also on making digital education accessible to all.

Environment Conservation

When asked which environmental conservation activities provided to the community, in the opinion of the internal stakeholders, added the most value to CAIRN's social license to operate, the majority saw adding green cover and waste management as the critical drivers.

Environmental Conservation Activities that add most value to CAIRN's Social License to Operate

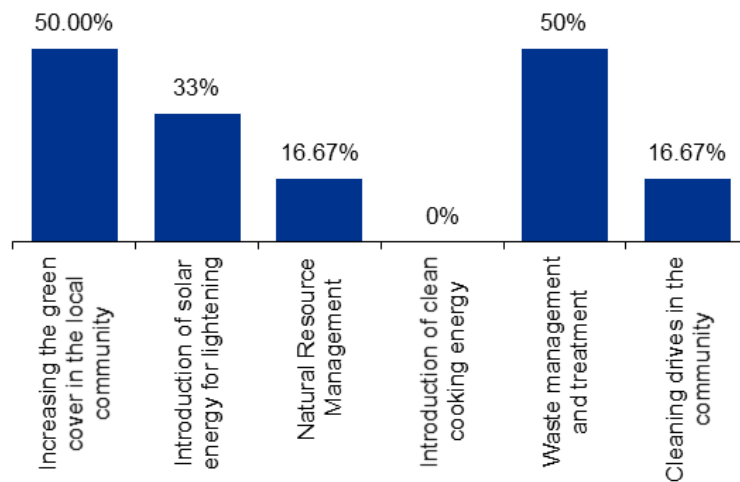


Figure 208: Environmental Conservation Activities that add most value to CAIRN's Social License to Operate

While an important area of intervention and a proven method to develop cleaner environments, tackle air pollution and make the communities greener in general as well as to ensure proper management of waste, community level perception on the same is missing. In fact, the communities and external stakeholders have shown greater concern over solar lighting as well as provision of water as a critical factor and need.

Promotional and Preservation Activities around Sports and Culture

Finally, when asked which promotional and preservation activities around sports and culture carried out within the community, in the opinion of the internal stakeholders, added the most value to CAIRN's social license to operate, the majority saw a combination of sporting activities as well as providing opportunities to local artisans the critical drivers.

Promotional and Preservation Activities for Sports and Culture that add most value to CAIRN's Social License to Operate

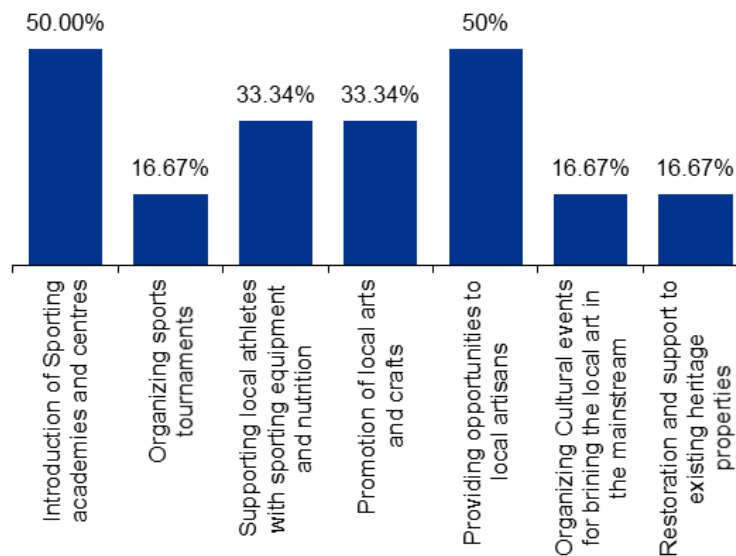


Figure 209: Promotional and Preservation Activities for Sports and Culture that add most value to CAIRN's Social License to Operate

In fact, CAIRN has focused extensively on developing sports talent within communities. While such activities reach out to fewer individuals, it puts certain communities on the map at the regional as well as national level. Therefore, a continued focus on the same and delivery across different sporting arenas as well as creating opportunities for local artisans has a potential niche factor for CAIRN to gain not only local but national recognition for the same.

Social Risks

All companies face social risks in the operations of their business which must be mitigated to ensure smooth functioning. **The risks that are generated through the society they work within, include reputational and local acceptability.**

The community, local stakeholders as well as district stakeholders have shown great satisfaction with the work that CAIRN is carrying out within their communities. Moreover, to some, CAIRN has exceeded their expectation of what CSR can offer. Through the efforts of the CSR team, CAIRN is not simply complying to the law of the land but is further building lasting relations that are also necessary to tackle the social risks of any extraction industry operator. In fact, CAIRN is committed to generating value to the community and has proactively been carrying out consultations with local stakeholders and beneficiaries, not only by making commitments but also generating results.

In fact, the social risks around reputation and local acceptability of the business have been converted into key business drivers through the CSR team of CAIRN. They have provided economic opportunities to the community, carried out social development interventions, carried out environmental conservation and carried out preservation and promotional activities on sports and culture.

There are also certain **key environmental risks that pose as risks to community relations and reputation.** These include water management as well as air quality.

Water is an indispensable resource for CAIRN's operations considering the requirement of the same in the extraction, processing and smelting activities. It is further found that in the areas where they operate, especially in Rajasthan, water pollution and water management have emerged as key environmental issues. CAIRN has also set in place a mitigation plan⁴¹³ wherein they have stated that their approach is to include water efficiency and explore new technologies which are less water intensive. This includes water recycling across their operations, carrying out rainwater harvesting and localised watershed management.

⁴¹³ <https://www.cairnindia.com/SiteAssets/Images/03-Water-2020-Published.pdf>



PROPOSED OVERALL CSR STRATEGY

10. Proposed Overall CSR Strategy

Holistic Multi-Sectoral Programmatic Approach:

The present system of thematic area divisions focuses on specific impacts of each programme, drawing away from the overall impact of CAIRN's CSR. An approach rooted in multi-sectoral programmes that follow a continuum and convergence model, allow for last mile delivery and holistic support to each member of the community. There are clear business drivers for each of the current programmes and evidence of impact. The same when built on each other's success and value, allow for enhanced overall impact as well as positive perception in the community.

Effective use of Technology:

To ensure the above, a significant investment both in terms of human resources as well as financial resources is required, which may not be sustainable. Hence, there is a need to bring in technology to ensure scale, quality, standardization, cost effectiveness and sustainability. However, while applying technology for scale, one needs to be mindful of the digital exclusion where a section of the population continues to face hurdles in accessing technology⁴¹⁴. In fact, according to a study, one in ten households from underdeveloped rural areas versus one in every second household in urban areas have access to the internet, signifying a clear digital divide between urban and rural areas. Thus, while the use of technology can support development opportunities, it also poses a risk in widening inequalities⁴¹⁵. Therefore, while it is recommended to deploy technological solutions to scale impact, work on the economy of scale and therefore further ensure sustainability, one must apply the '*leave no one behind*' principle of the SDGs and ensure continued on-ground support⁴¹⁶.

Monitoring:

A focus on monitoring mechanisms is further required. Presently the monitoring mechanism facilitates capturing output data, however last mile traceability, outcome and impact integration needs to be strengthened. This can be done through developing an MIS which captures and documents beneficiary wise services-delivered and integrates outcome and

⁴¹⁴ https://link.springer.com/chapter/10.1007/978-981-13-9996-1_1

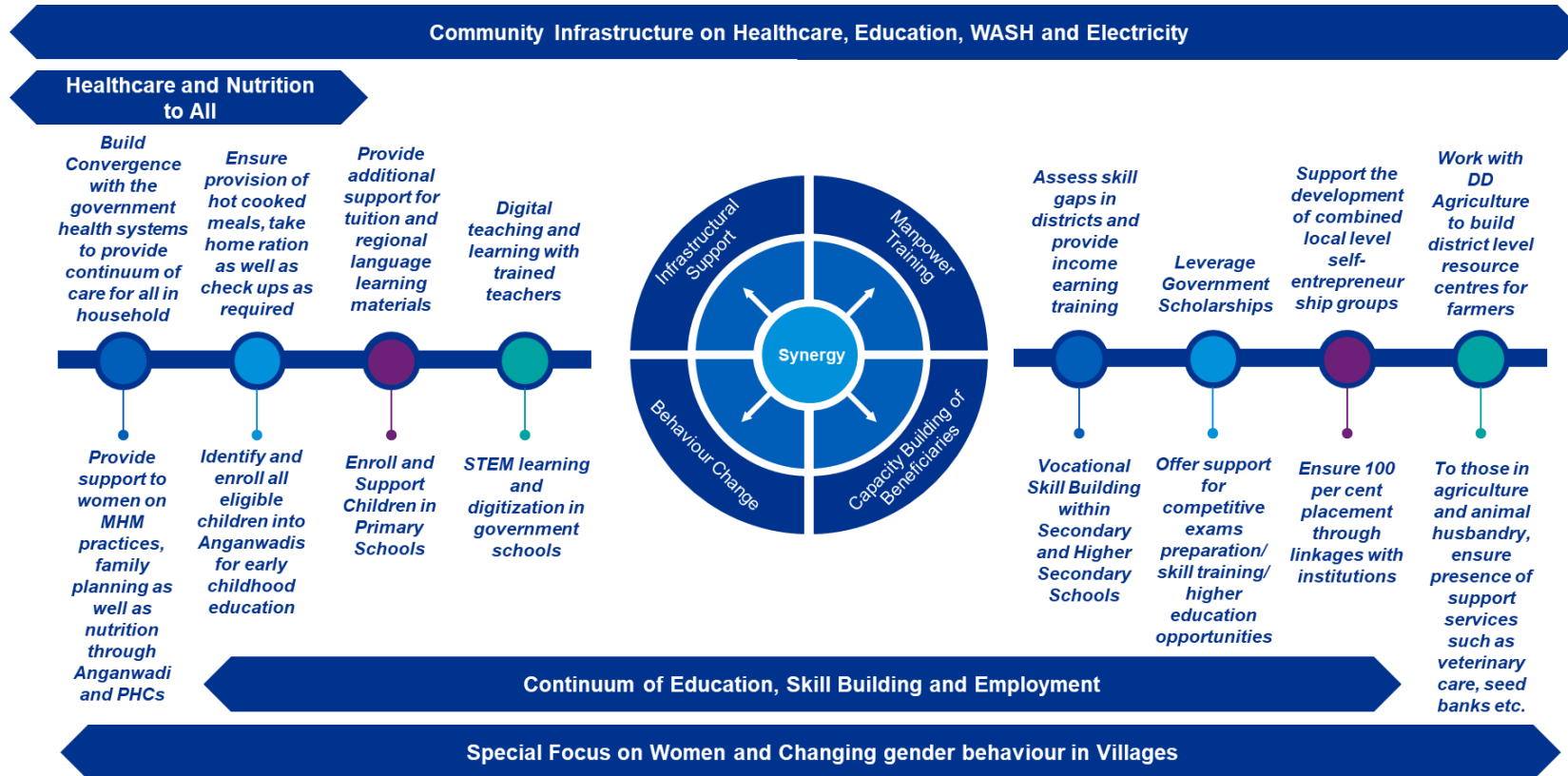
⁴¹⁵ <https://wp.nyu.edu/dispatch/2018/03/07/how-technology-is-improving-the-standard-of-living-in-developing-countries/>

⁴¹⁶ https://unsdg.un.org/sites/default/files/2022-04/Operationalizing_per%20LNOB_per%20-per%20final_per%20with_per%20Annexes_per%20090422.pdf



impact KPIs in the overall monitoring process. This would help in review and course correction.

10.1. Synergy and Continuum



The above figure provides an overview of the first strategy that KPMG proposes for CAIRN. This is based on the feedback received from the stakeholders as well as the current needs of the community and impact of the projects. A striking suggestion that has come about is the requirement for synergy in and between projects as well as greater convergence efforts with the government.

In order to achieve greater visibility of impact and increase the social license to operate, it is recommended that a continuum model is followed, whereby CAIRN supports beneficiaries from pre-birth to employment.

It is proposed to focus on infrastructure, manpower training, capacity building of beneficiaries as well as awareness raising are recommended to run in tandem with the local government across strategy areas.

Strategy 1- Healthcare for All:

Under this strategy, it is proposed that the healthcare project is reshaped into a continuum of care initiative wherein the focus is from pregnancy to old age. Therefore, interventions within this to focus on health and nutrition of pregnant women and lactating mothers through antenatal care, nutrition, and communicable and non-communicable diseases. It will involve tracking and ensuring that all children receive the required healthcare services from birth. Finally, to support all members of household to access quality healthcare in and around the villages, while encouraging behaviour change around health and hygiene (preventable healthcare).

Long Term Goals:

- 100 per cent coverage of health services promoting preventive and curative approach.
- 100 per cent malnourishment free operational villages.
- Reduction in Anaemia and respiratory diseases in operational areas.

Short Term Goals:

- 100 per cent saturation of MHVs in operational villages
- Increased health and hygiene behaviour change campaigns (at least one every quarter in each location)
- Expansion of telemedicine

Strategy 2- Continuum of Education, Skill Building and Employment:

Under this strategic area, it is proposed to build a continuum of education of education, skill building and employment.

Long Term Goals:

- 100 per cent mainstreaming of children and no dropouts
- 2X increase in farmers' income through sustainable farming and established FPOs (5 in number)
- 10,000 skilled youth

Short Term Goals:

- Increase enrolment into pre-school education through Anganwadis (early childhood education) to at least 20 per cent across field locations.
- Improve learning environments in at least 100 per cent secondary and higher secondary government schools in the locations through provisions of furniture, ramps and WASH facilities.
- Build convergence with government on subsidies for irrigation in Rajasthan.
- Increase retention of trained and placed youth to 100 per cent for at least a year.

- Increase placement to 100 per cent of all trained youth across locations.

Strategy 3- Special Focus on Behaviour Change around Gender:

Despite the current efforts of the business unit, girls and women are facing challenges in benefiting from all the projects because of the lack of support received within the household and the community beliefs over gender. Thus, to ensure maximum benefit, a specific focus needs to be provided to change behaviour in the villages on gender. This can be done along with local stakeholders such as panchayats through which not only special days on gender should be celebrated but constant efforts to raise awareness within the community. In schools, learning materials, games and sports should be geared towards encouraging gender-equitable behaviour.

Long Term Goals:

- 100 per cent functional literacy of SHG members

Strategy 4- Community Infrastructure:

While community infrastructure is suggested as an overarching focus across strategic areas, it is pertinent to include 'solarification' of villages as we as access to WASH infrastructure including drinking water access. These stem from the specific needs of the community.

Long Term Goals:

- 100 per cent core villages to be water sufficient.

**11. Annexure: OECD
Scoring Sheet**

OECD Parameters	Indicators	Guidelines	Weightage	Projects												
				Project Ujjwal	E-Kaksha	Nandgar	Project Unnati	Project Borwell	Dairy Development and Animal Husbandry Project	Doctor's Support	Mobile Health Van Project	Pink City Marathon	CEC Program in Rajasthan	Cleaning Support	Micro Level Intervention (MLI) OALP	Jeevan Amrit-Water Project
Relevance	Baseline conducted or not	A baseline assessment was conducted and document provided	50%	50%	25%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
	Alignment of project with baseline	Information from baseline used to develop projects	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
	Relevance Score			ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
Coherence	Alignment of project with government scheme/policy	National alignment (design of the project provides that it aligns with national goals/schemes, not necessary that the BU projects that themselves)	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%

	Alignment of project with SDGs	International alignment (design of the project provides that it aligns with SDG, not necessary that the BU projects that themselves)	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	
Coherence Score				ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	
Effectiveness	Targets clearly identified	Availability of targets	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	
	Target achievement (planned vs actuals)	Completion rate:	90%	0%	60%	90%	90%	70%	90%	90%	90%	90%	90%	90%	50%	50%	50%
		80-100% = 90%															
		60-80% = 70%															
		40-60% = 50%															
Less than 40%= 0%																	
Effectiveness Score				MoS	S	ES	ES	S	ES	ES	ES	ES	ES	ES	ES	ES	
OECD Parameters	Indicators	Guidelines	Weightage	Projects	OECD Parameters	Indicators	Guidelines	Weightage	Projects	OECD Parameters	Indicators	Guidelines	Weightage	Projects	OECD Parameters	Indicators	
Efficiency	Alignment with Vedanta CSR policy	Coherence with internal requirements	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	
	Availability of MoUs	MoUs available and provided	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	
	Clearly articulated start and end date	Availability of start and end dates in MoUs	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	

	Delay in Timeline	Yes/No information- 0, No-20%	20%	20%	20%	20%	20%	20%	20%	20%	0%	0%	20%	20%	20%	0%	20%
	Budget for Project provided	Clear Budget included in project documents	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	10%	10%	20%	20%	20%
	Efficiency Score			S	S	S	S	S	S	S	MoS	MoS	S	S	S	MoS	S
Sustainability	Sustainability Mechanism, Convergence	Mechanism in place, ability to sustain impact: 100%															
		Not able to sustain impact, no mechanism: 0 % (Mechanisms include: (1) Stakeholder led governance (2) Local capacity building for operational sustainability and (3) Financial sustainability through user fee, linkages, collaboration, etc)	100%	100%	100%	100%	100%	50%	100%	100%	100%	50%	100%	50%	100%	100%	100%
	Sustainability Score			ES	ES	ES	ES	MoS	ES	ES	MoS	ES	MoS	ES	ES	ES	MoS

Weighted Score	Description	Colour Scheme
85-100%	Extremely Satisfactory	ES
70-84%	Satisfactory	S
50-69%	Moderately Satisfactory	MoS
35-49%	Marginally Satisfactory	MaS
<35%	Dissatisfactory	D

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