

# Transition of coal mining communities towards sustainable lives and livelihoods (Trans-Mines)

*Photo Narratives*





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# 01

## Introduction

India is among the largest producers of coal, iron ore, bauxite, zinc and mica. As the country's energy sector transitions to meet its net zero commitment, it is expected to trigger major changes in its mining sector and strategy. Coal is expected to gradually decline in importance. About 299 metal mines have been identified as abandoned, discontinued, or closed (so far) by the Ministry of Coal. Coal India Ltd has taken proactive steps towards the closure of these mines. The closure of coal mines is expected to impact around 500,000 jobs/livelihoods and around 100,000 hectares of land and associated natural resources. With this



background, the Ashoka Centre for a People- centric Energy Transition (ACPET) commissioned a project to “facilitate smooth transition of coal mining communities towards sustainable lives and livelihoods”.

*(left) An abandoned water tank in one of the villages in the Rajhara Coillery area- the access to drinking water is severely compromised for many of the villagers;*  
*(below) The transmine survey in progress at the site.*





# 02

## Project Objectives

- Identifying gaps hindering community transition post-mine closure in the context of shifting mineral priorities.
- Understand the impact of coal mine closure from the perspectives of people and community, re-purposing of mining land and assets, the environment, and from policy level.
- Identifying groups who are directly and indirectly impacted, co-design (with affected groups & other stakeholders) mine closure plan for one abandoned coal mine site, with plans to build confidence and capacity among affected communities to transition beyond coal mine dependence.
- Using gathered insights to inform policies, ensuring alignment with community needs for a sustainable transition.

### Research Questions

- Who are affected by mine closure?
- In what ways are they affected?
- What support systems do they have?
- What approaches or interventions could reduce or avoid the negative fallouts on them?

## Rationale behind selecting Rajhara Mines

- Rajhara Colliery of CCL selected for various reasons:
  - Located in Daltonganj Coalfield, Jharkhand
  - Remote and isolated, around 200 km from Ranchi
  - Discontinued since 2022, operated by private companies before nationalization
- No other mines in close vicinity, unlike other clusters in Piparwar or Giridih
- Limited mineable coal reserve (5-10 million tonnes) with an expected 10-year lifespan
- Challenges in restarting due to land and rehabilitation issues
- Impact on nearby residential areas and local population's dependency on coal mining
- Discontinuation resulted in cessation of various welfare measures provided by CCL
- Decision made to conduct thorough research on the impacts of mine closure, pre and post 2010 and 2022.

*The water body meant for the dumping of coal waste generated during mining*



# 03

## Methodology and Sampling

The study has utilised a mixed-methods approach as part of its methodology.

**Study Location:** Rajhara Colliery, Palamu

**Formative Visit:** An initial exploration of the study area was undertaken in January 2024, to assess the field conditions and conduct stakeholder mapping.

**Tool Preparation:** Detailed tools were prepared in discussion with ACPET for all the relevant stakeholders

**Pilot Testing of the Tool:** All the community tools were tested and modified as per the team's feedback from the study area.

**Training of the field Enumerators:** We selected supervisors and enumerators, prioritizing local needs. They underwent training on ethical standards, tool application, and data quality before deployment.

With help of community representatives, we prepared list of households who were directly and indirectly affected by coal mining discontinuity for quantitative survey. Quantitative survey was undertaken in 40 households directly/indirectly impacted by coal mine discontinuity. IDIs were conducted with officers of CCL, District Commissionerate Office and District level officers from line departments.

*(below) The ACPET team interviewing one of the survey respondents*





*A sight of the railway yard meant for transport of coal from one of the private coal mining sites in the region*







*A coal-chulha in one of the sampled hamlets*

## Sample Covered

No.	Missions	Sample Size
1	Households - Directly and indirectly impacted due to coal mines' discontinuity	201 (5 habitations * 40 units surveys)
2	Information captured (through household roster)	962 Individuals
3	Community members	10 (5 habitations * 2 FGD)
4	PRI members	02 (1 for each revenue village)
5	Mining company representatives (Management, HR, Supervisor, CSR)	02 - CCL & CMPDIL
6	Concerned govt. officials	DC Office - Palamu, DMO Palamu

## Sample Clusters

Name of the sampled hamlets	Name of the revenue village	Approx. distance from the mines	Approx. no. of households
Rajhara colliery school	Pandwa	1.5 Km	70
No. 3	Pandwa	1.5 Km	130
Rajhara Kothi	Rajhara	0.5 Km	120
Rajhara Kurkutia Pati	Rajhara	2.5 Km	150
Rajhara Basti	Rajhara	2 Km	120

***(right) One of the respondents of the survey conducted during an interview***





## About the population surveyed

The survey has been done in habitations belonging to Pandwa and Rajhara villages. According to a member of the local Gram Panchayat, Pandwa village is predominantly inhabited by Chauhan (OBC), Paswan (SC), and Mehto (OBC) and comprises 800-1000 households. Reportedly, there are no disparities in living standards based on caste but the Bhuiyan (SC) community does face particular financial disadvantage.

In Rajhara village, housing over 1400 households from diverse castes (10-12), Bhuiyan (SC) and Chamar (SC) are identified as the most financially disadvantaged groups.

The Rajhara Colliery area experiences both permanent and seasonal out-migration, notably to cities like Chennai, Bangalore, Delhi, and Ranchi for employment. Despite this, significant seasonal migration to Bihar persists during the harvesting season, as indicated during interactions with the District Magistrate.

More than 88% of the households surveyed practice Hinduism while a little above 11% practice Islam. 98.5% of the total households are reportedly native to these villages. In all, 962 individuals were surveyed - each household has 5 members on an average- more than 51% are male and a little above 48% are female.



*(top) A survey in progress in one of the sampled hamlets*





*Villagers often visit the beria chowk in Daltongunj/Medininagar city in order to find daily-wage work; There is no assurance that they will find work or not yet they must make the trip since there are very few options.*





*(left) Gouri Devi making goliyas - a mix of cow dung and coal dust. These are used as fuel for cooking food.*

*(below) A great number of households do rear goats and sheeps in the region*





### Occupational profile

In 78% of the HHs, women did not engage in any income generating activities. Of the remaining, majority worked as unskilled non-agricultural labour followed by contractual work at Rajhara mines. People from Rajhara often seek casual labor opportunities in Daltonganj, but employment is inconsistent, sometimes as little as 4-5 days per month. Travel costs via bus or tempo range from Rs 60- Rs100, while the average daily earnings are Rs 300.

Although the Jharkhand Government announced the Mukhyamantri Gram Gaadi Yojna in October 23 to provide free or cheaper travel, it remains unimplemented.

### Income and Credit

The reported average annual income of the HHs is Rs 1,61,553; 55.2% of the sampled HHs were indebted at present with SHGs (60.4%) and formal banks (32.4%) being the primary source of credit. Around 20-30 Self-Help Groups (SHGs) operate in Rajhara, but women often utilize loans for personal consumption rather than income-generating activities. District records indicate 381 HHs are linked to SHGs, with 32 active groups in Rajhara Colliery.

### Agriculture, Non-Timber Forest Products (NTFPs) and Animal Husbandry

Agriculture is limited due to unfavorable climatic and soil conditions, as well as a lack of irrigation facilities. Although crops like chana, dhaan, wheat, arhar, til, urad, and mustard are cultivated for self-consumption, no HHs are covered under the PM-Kisan Scheme. In the Rajhara Colliery area, there is no active presence of Farmer Producer Organizations (FPOs) or Community-Based Organizations (CBOs).

One-fourth of the HHs own agricultural land and all of them use the cultivated crops for self- consumption. Animal rearing is limited to cows and goats and less than one-third of the population is into animal husbandry. More than 90 % of the animal-produce is for HH consumption. Challenges such as limited space, high feeding costs, and lack of market linkages deter the commercialization of animal husbandry. The Rajhara Colliery, located in a forest area, presents an opportunity to develop Non-Timber Forest Products (NTFPs) as valuable marketable goods. Palash trees offer seasonal benefits for gulaal making and lac production, while Mahua holds potential for medicinal purposes. and 2022.

## **Amenities and Facilities**

Majority of the HHs in the area are either kutcha or semi-pucca but almost three-fourths of them had access to electricity from CCL before the discontinuation of mines. Electricity is still available in two of the five hamlets surveyed i.e., 'No. 3' and 'Rajhara colliery school'.

Majority of the HHs still defecated in the open due to lack of water supply and persisting habits. The number of health camps have come down severely since the discontinuation of the mines. Health check-up (on-site health clinic) and health camps were frequent before closure of mines as reported by more than 35% of the sample population.

Similar to the provisioning of free electricity, water was available for free for most of the surveyed HHs before discontinuation of mines in 2010. Till date, CCL provides this service to almost all the HHs in hamlet no. 3 and about half the HHs in Rajhara colliery school hamlet.

CCL supplied water mainly through piped water supply through community standposts. For a few HHs, tap connection was provided. In pockets, the supply was through handpumps.

## **WASH, Electricity, Food Security**

Water scarcity is prevalent, with reliance on the nearby river, which often dries up in warmer seasons. Those with financial means resort to installing borewells and motors, reaching depths of up to 300 feet due to depleted and polluted groundwater.

Jal Jeevan Mission has not reached the HHs of Rajhara Colliery. The Public Distribution System (PDS) provides rice, sugar, and salt, with nearly all HHs depending on it for a 5kg ration per person. Government of Jharkhand offers 125 units of free electricity, with additional usage billed to HHs. Solar power utilization is absent, with PM-Kusum not applicable. Solar rooftops are limited to specific facilities such as block offices, schools, staff quarters, CHCs/ PHCs etc. Solar grid is located 80km away, resulting in no solar streetlights or study lamps.

## **Health**

Women resort to private healthcare facilities due to the lack of accessibility to government ones. The nearest Community Health Center (CHC) is 15 km away in Patan, the block headquarters. Primary Health Centers (PHC) and Health and Wellness Centers (HWC) are located at distances of 12 km and 10 km respectively. Active engagement of Auxiliary Nurse Midwives (ANMs) ensures child immunization. Among the seven Anganwadi Centers (AWCs), two operate in separate buildings while the remaining five are run from homes, as there is no provision for drinking water at these centers.

In emergencies, locals must travel to Daltonganj as there are only three ambulances at the CHC, one of which is designated for 108 emergency services. Maternal health schemes like Janani Shishu Suraksha Karyakram (JSSK), Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA), and Surakshit Matritva Aashwasan (SUMAN) are available at the CHC, with limited coverage under JSSK in the Rajhara area.



*(left) Villagers have moved into some of the ruins of residential quarters that were once occupied by CCL officials.*

*(below) All the infrastructure that used to serve these homes is nearly gone, including the medical centre*







*(left) Prajapati standing with the youth in his village; He is a truck-driver by profession; his elder son has found a stable job and the younger one has just finished his ITI training; his sons are doing better than most in the region.*

*(below) Chandan Kumar has been making ends meet working as a cook at a dhaba in the city of Daltongunj.*



## Education

While 1/5th of the population had never attended school (excluding children aged 0-5 years), a little more than a fifth has attained education till the higher secondary (class 10th). Only 14% of the adults have completed schooling. Near Rajhara Colliery, there are two government schools: one middle school (grades 1-8) and one primary school (grades 1-5). The middle school has 215 students and 2 teachers, while the primary school has 65 students and 1 teacher.

Both schools participate in government schemes including the Mid Day Meal Scheme, CM Scholarship Scheme, and Mukhyamantri Medha Chatravritti Yojana. Key issues discussed at the district level and in FDGs include teacher shortages, lack of playgrounds, and absence of smart school facilities. Locals express concerns about education quality, emphasizing the need for more qualified teachers and accountability for regular classes. The nearest private school, Genius Public School, is approximately 4 km away from the village.

## Livelihood Aspirations

Of the HHs surveyed, 88.6% expressed interest in pursuing additional or alternative livelihoods. Among them, the majority (75.3%) aspire to open their own grocery store or another type of shop. This is closely followed by aspirations for tailoring (49.4%), computer training (41%), and animal husbandry (34.8%).

During FGDs, women expressed interest in learning skills such as tailoring, pickle/papad/incense stick making.

Men in the FGDs expressed a preference for nearby factories, suggesting industries like cement, pipeline manufacturing, bulb production, and bottle manufacturing. The primary assistance desired by these HHs includes technical skills training (61.7%), access to financial resources to start businesses (60.7%) and understanding the production process (50.7%). Only 3% of the HHs reported any members enrolled in skills training programs.

According to district records, the nearest Industrial Training Institute (ITI) is approximately 10 km from Rajhara, while the nearest Pradhan Mantri Kaushal Kendra (PMKK) center is less than 10 km away.

Currently, three skilling schemes are operational in the district – SJKVY, DDUK, and BIRSA. However, none of these schemes have candidates registered from Rajhara Colliery. Among the surveyed HHs, 62.6% had members previously employed at Rajhara mines. About 37% of the HHs who worked in the mines before 2010, continue to work there currently. The majority (60.9%) worked as contractual workers, primarily employed by transportation contractors.

The average income of these workers decreased from Rs 9769 in 2010 to Rs 7717 in 2019-2022 but has risen to Rs 11643 currently due to increased labor wages and more contractual work opportunities.

## Impact on Businesses

15.4% of households operated their own businesses, including grocery shops, hotels, teashops, stationary stores, and dairies. Following the discontinuation of mining activities, 74.2% of these businesses reported a change, experiencing fewer customers and reduced earnings. On average, businesses saw a 53% decrease in income.

Only 3% of households provided services such as electric repair and laundry. These households unanimously reported adverse effects from the discontinuation of mines, experiencing an average income decrease of 55%.

## Impact of mine closure on overall communities

Additionally, on being asked about the development needs of the village, development of roads (90%), access to health facilities (80.6%), piped drinking water supply (74.6%) and household toilets (54.2%) were the most cited requirements.

## CCL Initiatives & District Mineral Foundation Trust (DMFT)

Previously, CCL provided school buses to ensure convenient transportation for children. Presently, the CSR budget continues to support infrastructure development

for the two nearby government schools. This includes, but not limited to, the provision of a school cricket pitch and laboratory equipment for a higher secondary school.

Discussions with CCL revealed no planned education-related activities as part of mine closure. However, health camps are being organized in the mining area, with 60 such camps planned in the next couple of years, although details were not specified.

CCL has provision for vocational training and skilling as part of closure activities, but budget constraints limit implementation. Currently, no CSR activities are active in Rajhara Colliery according to CCL.

Records from the District Mineral Foundation Trust indicate that only construction activities, such as road construction and building a classroom at the school, have been undertaken using the fund.

The status of schemes like the Backward Regions Grant Fund Programme, National Mineral Exploration Trust, Model Village Programme, and Aspirational Block Programme about Rajhara Colliery is unclear.





*(left) Narmadeshwar Mehta has been running his shop in the Rajhara area for over 25 years now. He has registered a severe decline in his business since the discontinuation of mines.  
(below) Residents from the village in the city looking for daily-wage work while standing next to small businesses.*



## Skilling and Capacity Building

### Community Engagement and Awareness Campaigns

- Engage community leaders to identify and reach potential candidates for skilling programmes
- Conduct awareness campaigns about available skilling schemes and other alternate livelihood options

### Strengthening SHGs

- Strengthen existing SHGs by providing comprehensive training programmes aimed at women empowerment.
- Specific training sessions including entrepreneurship (with focus on group enterprises and domains like agriculture and animal husbandry), financial literacy, basic business management, etc.

### Improved Animal Husbandry

- Training and resources on improved animal management practices, covering feeding, breeding, healthcare, and disease prevention
- Address knowledge gaps to improve livestock-rearing practices

### Agriculture Revival

- Train farmers on efficient irrigation methods like drip irrigation, sprinklers, mulching, etc.
- Educate farmers on regenerative agricultural practices including effective land preparation techniques, soil health management, and weed management strategies

## Agricultural Revival

### Linking people to relevant government schemes

- Facilitate access to nearest government skilling programmes and centres (ITIs, PMKKs)
- Link farmers and SHGs with relevant government schemes to promote income generation activities

### Collaboration with domain experts

- Animal husbandry and agriculture promotion initiatives need to be carried out in collaboration with specialized agencies that possess expertise in the domain

### Collaboration with relevant government departments

- Animal husbandry and agriculture promotion should also involve the agriculture department and Kisan Seva Kendras to ensure comprehensive support and guidance for farmers



*Women harvesting rice in a field; despite water shortages, rice remains one of the principal crops in the region.*





## Market Linkages

### Establishment of Designated Supply Chain

- Establish supply chain for agricultural produce, dairy, NTFP and poultry collection
- Raise awareness about its importance for income generation and economic growth

### Thorough Market Mapping

- Conduct comprehensive market mapping to identify key stakeholders and dynamics
- Assess product viability through market research for informed decision-making

### Forward and Backward Linkages

- Develop comprehensive strategy for supply chain and market mapping in order to establish necessary forward and backward linkages for the sale of various products

## Financial Linkages

### Access to Finance and Credit

- Enable access to microfinance schemes and credit for investment for farmers, SHGs, and other households (for income generating activities)

### Support for Small-scale Enterprises

- Support small-scale livestock enterprises by facilitating infrastructure development, such as construction of low-cost shelters and feeding troughs
- Facilitate access to financial resources for infrastructure development and investment in agricultural enterprises

### Value Addition

- Promote value addition (in terms of packaging and products – like ghee, curd, paneer, khoya, etc..) to increase profitability of products

*The sight from a sabzi mandi(vegetable market) in the region.*



## Water, Sanitation and Hygiene (WASH)

### Collaboration with Government Authorities:

- Partner with Govt. agencies for piped water system aligned with Jal Jeevan Mission
- Link households to Swachh Bharat Mission for universal toilet construction

### Promotion of Watershed Management

- Protection of groundwater sources via measures like contour bunding, check dams, percolation tanks, rainwater harvesting, etc.
- Integrated land and water management practices to improve soil fertility and water retention
- Explore feasibility of establishing water ATMs

### Training and capacity building

- Behavior change campaign emphasizing toilet use and sanitation practices
- Provide necessary training to communities to maintain rainwater harvesting infrastructure and other measures to preserve water

### Waste Management Infrastructure and Promotional Initiatives:

- Establish waste collection points with segregation bins
- Promote waste segregation and reduce littering
- Install community composting units

## Health Facility

### Establishment of Health and Wellness Centers

- Collaborate with relevant government departments to establish a sub-centre nearby
- Ensure these facilities are well-equipped with diagnostic services

### Operationalizing Mobile Medical Units

- Launch mobile medical units for underserved areas
- Mobilize medical assistance directly to communities, ensuring accessibility

### Capacity Building for Frontline Workers

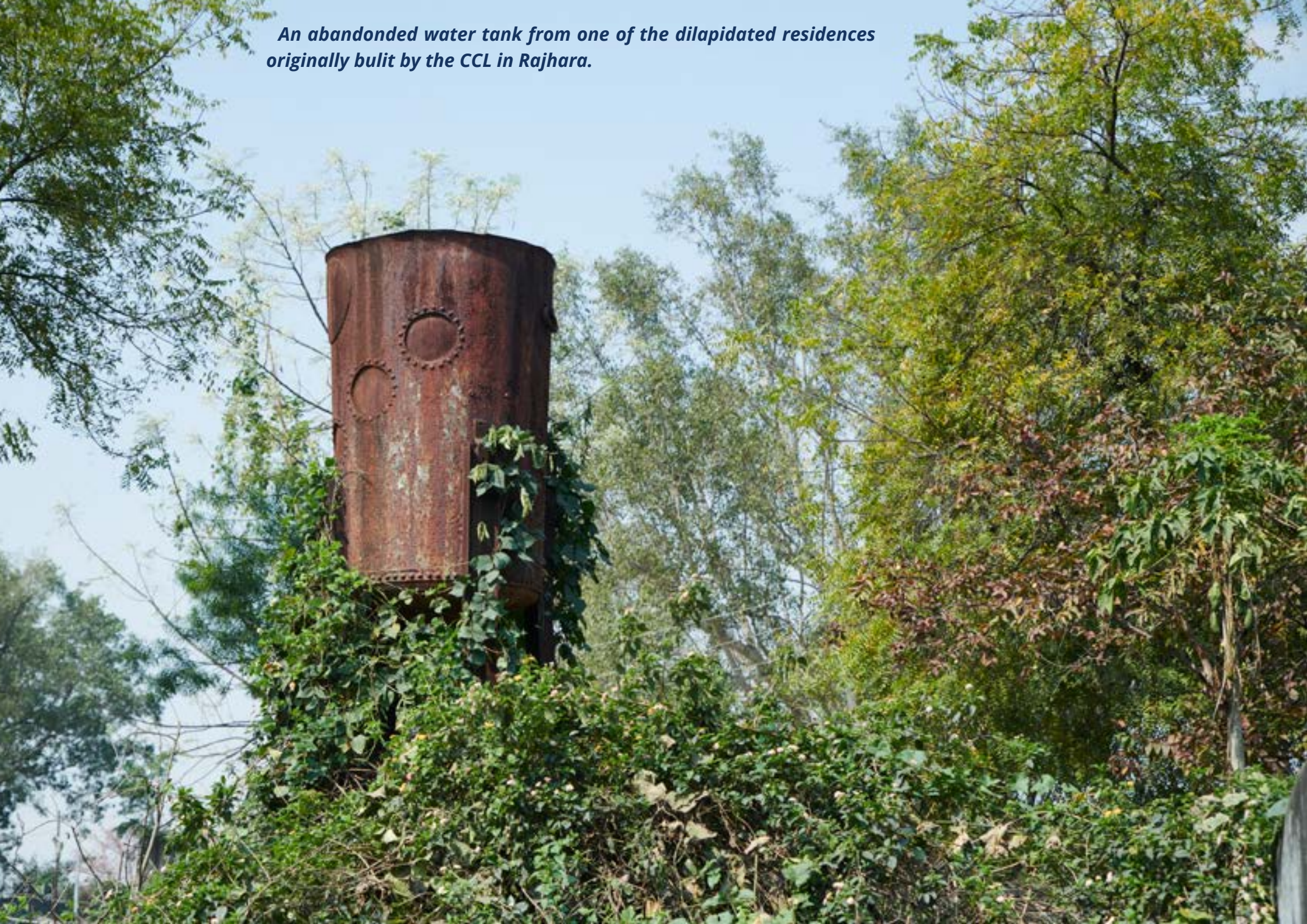
- Train frontline workers to conduct regular check-ups and screenings
- Educate on menstrual hygiene, anaemia prevention, nutrition etc.

### Awareness Initiatives

- Campaigns on respiratory illnesses (symptoms, diagnostic, treatment, importance of seeking timely medical care, etc.)



*An abandoned water tank from one of the dilapidated residences originally built by the CCL in Rajhara.*





## Electricity Availability

### Assessing Feasibility and Collaboration:

- Collaborate with local authorities and energy companies for feasibility study on local solar grids
- Evaluate technical, economic, and environmental viability

### Implementation of Solar Infrastructure:

- Establish local solar grids to reduce reliance on distant grids
- Install solar streetlights for improved lighting and security

### Community Engagement and Empowerment:

- Engage community in planning and implementation
- Provide training for maintenance and operation of solar infrastructure



*Electricity lines running in the neighbourhood of the Rajhara Coillery area; Coal is the biggest contributor to electricity generation in India.*







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