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THE ROAD TO RENEWED HOPE



DEEKSHA
Centre for Learning and Action



KNR Constructions Ltd.

AN IMPACT ASSESSMENT OF KNRCL'S CSR INITIATIVE FOR RURAL ROAD CONNECTIVITY

VARIKOLE, HANUMAKONDA DISTRICT, TELANGANA

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Report Prepared by
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THE ROAD TO RENEWED HOPE

PREFACE

Road connectivity is widely recognized as a key driver of socio-economic development, facilitating the movement of people, goods, and services while improving access to education, healthcare, markets, and employment opportunities. Across the world, governments continue to invest substantially in road infrastructures to accelerate economic growth, strengthen regional integration, and enhance the quality of life, particularly in rural and underserved areas. The World Bank (2023) identifies transport infrastructure as a critical enabler of poverty reduction and inclusive development, while the Organisation for Economic Co-operation and Development (OECD, 2021) highlights its role in improving productivity, competitiveness, and social inclusion.

However, emerging evidence suggests that the development outcomes of road infrastructure are neither automatic nor uniform. Enhanced road connectivity has been associated with improved access to education, especially for girls, better healthcare services, increased agricultural market participation, and expanded non-farm livelihood opportunities. Nevertheless, studies indicate that road infrastructure alone may not be sufficient to transform local economies. Its long-term benefits are maximized when complemented by investments in public services, market linkages, and livelihood opportunities.

CONTEXT

Road infrastructure has been a strategic priority in India's development agenda, reflecting its pivotal role in promoting economic competitiveness, regional integration, and inclusive growth. As the dominant mode of transport, roads carry nearly two-third of the country's freight and around 90% of passenger traffic, making their quality and accessibility critical to both economic activity and the delivery of essential services. While successive government initiatives have significantly expanded the national and

rural road network, disparities in connectivity and road conditions continue to affect many rural habitations. Inadequate road infrastructure often translates into longer travel times, reduced access to education, healthcare, markets, and public infrastructures, thereby constraining the socio-economic potential of rural communities.

Within the broader landscape, Telangana has made notable progress in strengthening its transport infrastructure as part of its development strategy. Yet, localized gaps in road connectivity and quality persists, particularly in villages and peri-urban settlements where public investments are often constrained by competing priorities. Addressing these gaps increasingly requires collaborative efforts that complement government programmes. Corporate Social Responsibility (CSR) initiatives have emerged as one such avenue, enabling private sector organisations to contribute to community infrastructure that enhances mobility, improves access to essential services, and supports inclusive local development.

KNRCL'S INTERVENTION

As part of its Corporate Social Responsibility (CSR) initiatives, KNR Constructions Limited (KNRCL) prioritises rural infrastructure development to improve connectivity, accessibility, and community well-being. Working in consultation with local communities, the company supports infrastructure interventions that address critical local needs and complement public development efforts.

In Telangana, KNRCL supported the construction of an approximately 3-kilometre Black Top – BT road from Varikole to Vemulapalli in Nadikuda mandal, while providing improved access to hundreds of acres of adjoining agricultural land. The project also included the construction of two slab culverts and three pipe culverts to facilitate the natural drainage of rainwater and runoff from two nearby ponds, ensuring all-weather connectivity, improved road safety, and enabled uninterrupted access for residents, farmers, and agricultural activities throughout the year.

IMPACT ASSESSMENT STUDY

In accordance with the provisions of the Companies Act, 2013 and the Companies (Corporate Social Responsibility Policy) Rules, KNRCL commissioned an independent impact assessment of its CSR-supported rural road project in Telangana. The study was entrusted to Deeksha – Centre for Learning and Action, a not-for-profit organization with expertise in community development, child rights, environmental sustainability, and gender equity, to assess the outcomes and community-level impact of the intervention.

SCOPE OF THE STUDY

The assessment examined the utility, accessibility, and socio-economic outcomes of the approximately 3-kilometre Black Top (BT) road and the associated slab and pipe culverts constructed under KNRCL's CSR initiative. It assessed the intervention's impact on mobility, access to essential services, agricultural activities, road safety, and the overall well-being of the communities served by the road.

SPECIFIC OBJECTIVE

The specific objective of the study was to assess the impact of KNRCL's CSR-supported road infrastructure intervention on the lives and livelihoods of the beneficiary communities.

METHODOLOGY

The assessment adopted a participatory approach, combining field observations with interactive consultations. Since the road serves as a public utility, beneficiaries were identified using the snow-ball sampling technique to capture the experiences of a diverse range of road users. In addition, purposive sampling method was adopted for interactions with Gram Panchayat members to obtain their perspective on the utility, quality and outcome of the intervention.

FINANCIAL OUTLAY

KNRCL invested ₹.3,30,00,000/- under its CSR programme for the construction of the 3-kilometre-long BT road, along with two slab culverts and three pipe culverts, from Varikole to Vemulapalli village in Hanumakonda District.

MAJOR OBSERVATIONS

The assessment team undertook a detailed field visit to assess the quality, utility, and outcomes of the road infrastructure supported by KNRCL under its CSR initiative. The assessment included direct observation of the road and associated culverts, interactions with farmers, village residents, Panchayat representatives, transport providers, and local leaders, and discussions with key stakeholders involved in the planning and implementation of the project. The observations presented below reflect both the physical outcomes of the intervention and the changes experienced by the beneficiary communities.

1. Project Context and Strategic Relevance

- ✍ The road constructed with the support of KNRCL under its CSR initiative connects Varikole and Vemulapalli villages, strengthening connectivity to adjoining rural settlements, agricultural lands, and nearby service centres.
- ✍ Varikole has a population of approximately 3,425 people residing in about 1,000 households. Around 24% of the population belongs to Scheduled Castes and 2.4% to Scheduled Tribes.
- ✍ Agriculture and allied activities constitute the primary livelihood for most households. Paddy is the dominant crop, followed by maize, pulses, and other cereals. The fertile black cotton soil supports two paddy crop cycles annually, while some farmers cultivate three crops depending on water availability.
- ✍ Residents largely depend on Jammikunta for markets, healthcare, education, banking, transport, and other essential services.

2. Infrastructure Design and Implementation

- ✎ The project comprises an approximately 3.3-kilometre Black Top (BT) road, about 3.5 metres wide, together with two slab culverts and two double-barrel precast concrete pipe culverts, designed to safely channel rainwater and runoff from the surrounding catchment areas.
- ✎ Initially the road was planned to connect varikole with vemulapalli up to the rivulet separating the two villages, enabling residents to continue on foot during the dry season.
- ✎ During the monsoon, however, the rivulet receives substantial rainwater runoff, making connectivity highly dependent on adequate cross-drainage structures.
- ✎ The slab culverts have been constructed across natural drainage channels and seasonal streams, while the pipe culverts have been installed at locations with relatively lower water discharge and higher embankments to facilitate safe cross-drainage without overtopping the road.
- ✎ The road follows the alignment of the existing pathway through agricultural lands, adopting a curvilinear alignment that improves access to a large number of farm holdings while facilitating the movement of agricultural machinery, inputs, and harvested produce.
- ✎ During implementation, the initial gravel road suffered flood damage at two vulnerable locations – one near the village tank and another in a low-lying agricultural stretch. These sections were subsequently restored and strengthened before being upgraded with a BT surface.
- ✎ Field interactions indicated that the original proposal included five pipe culverts. However, some could not be constructed because the concerned landowners were unwilling to permit construction through their agricultural fields. Consequently, only two pipe culverts were completed, while the savings were utilised to extend the road length from the originally proposed 2.4 kilometres to approximately 3.3 kilometres, thereby increasing the overall reach of the intervention.

3. Local Conditions Prior to the Intervention

- ✎ The village tank forms part of Telangana's traditional chain of interconnected tanks (*Golusu-kattu Cheruvulu*) system, a centuries-old water management network in which overflow from upstream tanks is sequentially channeled to downstream tanks. This system plays a vital role in irrigation, groundwater recharge, and floodwater management across the region.
- ✎ During the monsoon, the village tank receives overflow from upstream tanks and seasonal streams, causing the access route to agricultural lands to remain submerged under waist-deep water. Even after floodwater receded, accumulated slush made the route inaccessible for another four to five weeks.
- ✎ Prior to the intervention, seasonal flooding frequently rendered the route unusable even for bullock carts, severely restricting access to agricultural lands and neighbouring villages.
- ✎ Seasonal flooding also disrupted agricultural operations. Farm labourers – particularly women, who constitute the majority of the agricultural workforce – were unable to reach the fields because of deep water, slush, snakes, and insects, delaying critical farming operations.
- ✎ Poor accessibility affected the timely transportation of agricultural inputs and produce. Farmers often carried fertilisers manually in multiple trips through waterlogged fields, delaying their application and adversely affecting crop growth, productivity, and farm incomes, while placing considerable physical strain on their health.
- ✎ Farmers reported that prolonged accessibility constraints frequently delayed cultivation, damaged standing crops, hindered the transportation of harvested produce, and created considerable uncertainty in agricultural returns.
- ✎ According to respondents, seasonal flooding also posed serious safety risks. They recalled incidents in which motorcycles were swept away by strong monsoon currents, including one that reportedly claimed the lives of two riders.

- ✎ Respondents further reported incidents in which bullock carts overturned on the uneven and waterlogged route, resulting in injuries to the oxen and damage to both the carts and agricultural produce being transported.
- ✎ Community members indicated that sudden inflows of floodwater from the interconnected tank system, seasonal streams traversing the farmlands, and the nearby rivulet frequently disrupted agricultural activities and caused recurring financial losses. Over time, these repeated setbacks compelled several farming households to sell their land or migrate in search of alternative livelihoods.
- ✎ Several respondents shared that recurring crop losses and mounting debt had caused severe financial distress, adversely affecting household well-being and limiting their ability to invest in children's education and other developmental needs.

4. Livelihood and Economic Outcomes

- ✎ The completed road has significantly improved year-round access to agricultural lands, enabling the safe and timely movement of farm machinery, agricultural inputs, labour, and harvested produce.
- ✎ Farmers reported that they are now able to access their fields regularly throughout the year using bicycles, motorcycles, tractors, and other vehicles, allowing them to undertake agricultural operations more efficiently.
- ✎ Reduced travel time and improved accessibility have lessened the physical hardship associated with farming. Farmers reported saving considerable time and energy that was previously spent walking through flooded and uneven terrain, enabling them to return home during the day, spend more time with their families, and attend to household responsibilities.
- ✎ The intervention has substantially improved the availability of agricultural labour. Labourers, particularly women, are now willing to travel to the fields throughout the year, while local transport providers are able to offer reliable pick-up and drop services.

- ✎ Improved road connectivity has strengthened market linkages. Buyers now reach farms directly to procure produce, significantly reducing transportation challenges, post-harvest losses, and marketing costs.
- ✎ Respondents reported that improved accessibility has enabled timely cultivation, minimized weather-related disruptions, and increased confidence in cultivating at least two crop cycles annually. Better yields and improved quality have also strengthened farmers' ability to negotiate favourable market prices.
- ✎ Farmers further reported that improved productivity, enhanced market access, and more reliable agricultural returns have helped many households move towards greater economic stability. Several families indicated that they are now better able to invest in their children's education and future aspirations.
- ✎ Improved accessibility has also enhanced the economic value of agricultural lands. Many respondents perceived the intervention as a long-term investment that has strengthened their confidence to continue farming rather than dispose of their land because of recurring accessibility challenges.
- ✎ Some community members described the intervention as transformational, observing that they had progressed from a stage of frequent borrowing to one where improved farm incomes enabled them to negotiate better prices for their produce and make more informed financial decisions.

5. Social and Community Outcomes

- ✎ Respondents reported that improved mobility and the time saved from travelling to and from their fields have strengthened social interactions within the village. Increased opportunities to interact with fellow farmers have facilitated the exchange of information on agricultural practices, market trends, input availability, and other community development issues.
- ✎ The intervention has generated significant social and cultural benefits. The area surrounding the village tank, where the annual *Bathukamma* festival is celebrated, has become cleaner, safer, and more accessible, providing an improved public space for community celebrations.

- ✎ Improved road connectivity has enhanced access to public transport and essential services. Respondents reported that school buses now operate to the village from Jammikunta, while safer road conditions have improved access through shared autos and other local transport services.

6. Community Participation and Sustainability

- ✎ Community representatives informed the assessment team that the road was initially planned to terminate at the rivulet separating Varikole and Vemulapalli. Following collective consultations, the road alignment was revised to connect it with the main road leading towards Jammikunta via Vemulapalli. The modification enhanced travel safety and improved access to educational institutions, markets and other essential services.
- ✎ According to the Ex-MPP, who coordinated the construction of the culverts, the original proposal for five pipe culverts could not be fully implemented because some landowners were unwilling to permit construction through their agricultural fields owing to concerns about possible impacts on their land and standing crops.
- ✎ Gram Panchayat Sarpanch informed that, with KNRCL's approval, the balance funds were utilised to extend the road by approximately 900 metres, thereby enhancing the connectivity and utility of the intervention.
- ✎ Respondents acknowledged the technical guidance and periodic site visits by KNRCL's engineering team during the planning and construction phases, noting that these inputs contributed to the quality and timely execution of the project.
- ✎ The completed road and associated culverts have been handed over to the Panchayati Raj Department, and the assets have been entered into the department's Measurement Books (MBs), facilitating their maintenance under the government's routine asset management system.

7. Voices from the Community

The following testimonies capture how the road has influenced the daily lives, livelihoods, safety, and aspirations of people who use it. Their experiences complement the assessment findings by providing a human perspective on the intervention's impact.

A Road that Changed Everyday Life

The BT Road has truly changed our lives. Earlier, much of our time and energy were spent simply reaching our fields. Today, we use our motorcycle to make multiple trips whenever necessary and can return home for meals and a short rest before going back to work. The time and effort we used to spend travelling are now invested in our fields. We are able to pay greater attention to crop management, try improved farming practices, and complete agricultural operations on time. Better connectivity has also improved our access to markets, and our financial situation has become more stable. We feel healthier because we can eat proper meals at home instead of spending the entire day in the fields. We now look at farming with greater confidence and hope for our family's future.

- Rajitha & Venkatesh,
Farmer couple from Varikole village

Safer Roads, Secure Livelihoods

I have been driving tractors in this area for some years now, and the old road was one of the biggest challenges during the rainy season. I still remember one evening when I was returning after completing land preparation work. It had rained only lightly in our village, but floodwater from the upstream tanks flowed into the village tank and across the road. I thought the tractor would make it through, but it became stuck in deep mud and remained there for two days until the water receded. Another tractor had to be brought in to pull it out, and I spent a considerable amount on repairs besides losing two days of work during the peak agricultural season. Since the BT road and culverts were built, travelling has become much safer, and we can work without constantly worrying about getting stranded.

- Vinod, Tractor Operator

When One Road Inspired Another

Our family lives in Chintalapally, the neighbouring village, but our agricultural land is located near Varikole road. Earlier, reaching our fields meant walking through the farms for nearly an hour. During cultivation and harvesting seasons, carrying seeds, fertilisers, or harvested produce was extremely difficult, so we often took a longer kachcha road despite its poor condition. After the BT road and culverts were constructed, our villagers collectively improved a small connecting pathway to link our village with the new road. Today, we save a great deal of time, effort, and transportation costs. Seeing this transformation, we hope a similar road can also be developed for our village, which would benefit more than 300 families.

- Ramadevi, Farmer, Neighbouring Village

From Avoiding the Route to Serving the Village

Earlier, we avoided taking our autos towards the agricultural fields, especially during the rainy season. The road was uneven, muddy, and risky, and there was always the fear of getting stuck or damaging the vehicle. After the BT road was constructed, everything changed. We now transport farmers, agricultural labourers, school children, and villagers throughout the year. The road has not only made travel safer for everyone but has also provided us with more regular income because people can depend on our services in every season.

- Mahipal, Auto Driver

Beyond a Road, A Shared Asset

I have seen this area struggle with poor connectivity since my childhood... This road has become much more than a physical asset. It has improved access for farmers, strengthened connections with neighbouring villages, and made it easier for people to reach markets, schools, hospitals... More importantly, it has restored confidence among farming families that agriculture can continue as a reliable livelihood. I believe this road will continue benefiting our communities for many years to come.

- Bhujangarao, Upa-Sarpanch

Building Together, Benefitting Together

The project was implemented after continuous discussions among the community, village representatives, and KNRCL. We appreciated that community concerns were heard during the planning process, and the engineers regularly visited the site to guide the work. Their technical support helped ensure good-quality construction. This road has fulfilled a long-pending need of our village, and I believe future generations will continue to benefit from this investment

- K. Srinivasa Rao, Ward Member

Reviving the Spirit of Farming

We have witnessed and experienced the hardships farmers faced for many years. Every monsoon disrupted agricultural activities, damaged crops, and made it extremely difficult to transport produce to the markets. Many families even thought of giving up farming because of these recurring challenges. Today, the situation has changed significantly. We are able to reach our fields throughout the year, buyers come directly to the farms, and agriculture has once again become a dependable source of livelihood. The road has restored our confidence in farming and renewed hope within our community.

*- M. Mallesh & Jaipal
Community Representatives*

Building for Today, Sustaining Tomorrow

This road has become a valuable public asset for our village. It has improved access not only to agricultural lands but also to schools, healthcare facilities, transport, and other government services. The road and culverts have now been handed over to the Panchayati Raj Department, ensuring that they will be maintained in the future. I believe this project is an excellent example of how CSR initiatives can complement government efforts and create lasting benefits for rural communities.

- S. Sivaram, Village Secretary

A Road that Brought Safety and Dignity

My family owns about five acres of agricultural land near the rivulet. Every rainy season, reaching our fields was more difficult than the flooding itself because the route remained waterlogged and slushy for weeks. I still remember one painful incident. My husband and I were taking urea to our field on a bullock cart when one of the bullocks slipped on the slushy, uneven road. The cart tilted violently, throwing me to the ground and injuring my leg, while the bullock suffered a severe sprain and could not walk for several days. We had to spend money for both of us, and I still experience back pain from that fall. Because of the accident, we could not apply the urea on time, which affected crop growth. One incident brought us physical pain, financial loss, and setbacks in farming. Since the BT road was built, travelling to our fields has become much safer and easier, and we no longer live with that constant fear. We are deeply grateful to everyone who made this road possible.

- Parvathi, Women Farmer

CONCLUSION

The field assessment demonstrates that KNRCL's investment has delivered outcomes that extend well beyond the provision of physical infrastructure. By addressing a long-standing connectivity constraint, the intervention has strengthened agricultural productivity, improved market access, enhanced road safety, facilitated year-round mobility, and contributed to greater socio-economic resilience among farming households. The combination of community participation, technical oversight, and integration of the assets into the government's maintenance system further enhances the sustainability of the intervention, making it a significant and enduring contribution to rural development in the project area.

Interactions with farmers, community members, elected representatives, and local officials consistently reflected a deep sense of appreciation for the intervention. Many described the road as transformational, observing that it had restored confidence in agriculture, improved their quality of life, and created renewed hope for the future. Collectively, these perspectives reaffirm that the intervention has not only improved connectivity but has also strengthened livelihoods, dignity, and aspirations across the community.

PHOTOGRAPHIC HIGHLIGHTS



Pic 1 & 2 – Black Top road constructed to enhance access to agricultural lands



Pic 3 & 4 – Improved road facilitating safe and convenient movement of villagers.





Pic 5 – BT road featuring extended shoulders for improved safety and durability.



Pic 6 & 7 – Villagers using the newly constructed road for their everyday activities.





Pic 8, 9 &10 – Well-constructed slab culverts built to prescribed quality standards.



Pic 11 – View of the slab culvert showing the footings, bed protection, slope protection, and parapet wall.



Pic 12 – Assessment team observing the slab culvert, highlighting the opening and abutments.



Pic 13, 14 & 15 – View of the pipe culverts supporting effective stormwater drainage.



Pic 16 – Culvert approach showing the low-lying area that channels runoff from the adjoining stream.



Pic 17 – View of the natural stream channel conveying stormwater to the culvert.



Pic 18 & 19 – 'T' shaped connecting roads providing shorter access to the main road.



Pic 20 – Interaction with a farming family regularly using the road for agricultural work.



Pic 21 & 22 – Interaction with women farmers and other stakeholders regularly using the newly constructed BT road.



Pic 23 – Interaction with Ex-MPP and villagers at the slab culvert site on the BT road.



Pic 24 – Assessment team interacting with the Sarpanch and Ward Members of Varikole Gram Panchayat.



"Earlier we borrowed to survive; today we bargain for a better price for our produce."

Farmer, Varikole Village

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