



QUICK WIN PROJECT – UDAIPUR E-RICKSHAW PILOT FOR UDAIPUR

About Udaipur

Udaipur is the sixth largest city in Rajasthan with a population of 4.51 lakhs (Census 2011). The city has an area of 64 sq km under municipal jurisdiction and acts as an industrial, administrative, and educational centre of the region. It is also an important tourist destination for national as well as international travellers. The city is relatively compact with a dense road network, but is gradually growing in all directions through lower-density development. The city core is the hub of commercial activities, whereas the eastern part of the city is well known for industrial establishments.



CapaCITIES Project

Cities account for approximately two-thirds of global energy use and over 70 percent of energy-related greenhouse gas (GHG) emissions that drive global climate change. In India, increased demand for energy, infrastructure and services is putting city systems under pressure. This will be accentuated further by growing risks caused by climate variability. Poor and vulnerable segments of the city populations will be affected most. Through the Capacity Building for Low Carbon and Climate Resilient City Development project (CapaCITIES), SDC's Global Programme Climate Change will support and accelerate the Government of India's efforts for sustainable urbanization.

E-rickshaw Pilot

Currently, in absence of a robust public transport system in the Udaipur, Intermediate Public Transport (IPT) caters to the need for mobility of citizens. IPT in Udaipur, majorly consists of auto rickshaws running on diesel engines which leads to high emissions and vehicular pollution. As per the RTO (Regional Transport Office) data, Udaipur had more than 6313 auto rickshaws and 2600 tempos (larger autos with 6- 8 seater capacity) in 2012, catering to the local mobility needs. The number of IPT is gradually increasing with time and over 40 per cent of auto rickshaws are more than 10 years old, substantially contributing to the city's pollution and emissions.



In the above context, Udaipur Municipal Corporation (UMC) with technical assistance under CapaCITIES project intends to transform its IPT fleet by promoting e-rickshaws in the city and restrict growth of diesel/ petrol based autos. Due to peculiar terrain and user base in Udaipur, UMC was keen to implement an initial pilot to evaluate the technical capacity and workability of e-rickshaws in local context. CapaCITIES project assisted the city to implement the pilot to evaluate the technical capacity and workability of e-rickshaws in the context of Udaipur. This included deployment of 18 e-rickshaws of different types (passenger and freight),



specification and technology including lithium ion batteries, with close monitoring for over three months. As part of monitoring, data related to performance and financial indicators was collected for both conventional rickshaws as well as e-rickshaws. This was further complemented with stakeholder assessments. The assessment of results from this initial pilot are acting as a base for city to scale up the low carbon IPT system especially faster deployment of E-rickshaws.

Beneficiaries

The primary beneficiary is UMC, as it intends to mainstream E-rickshaws in the city and restrict growth of diesel/petrol based auto rickshaws. Additionally, the citizens of Udaipur are also getting benefited as a result of reduced vehicular pollution. Apart from Environmental benefits, E-rickshaw pilot is providing employment to drivers (male as well as female) from marginalised communities so as to promote inclusiveness.

GHG Emission Reduction / Adaptation Impact

As a result of the rising number of conventional auto rickshaws, Udaipur needs to tackle numerous challenges including deteriorating air quality, rising greenhouse gas emissions, and energy security risks. Based on the monitoring for over three months, it is observed that the pilot will help the city in direct reduction of CO₂ emissions by 45.62 tonnes, NOx emissions by 261 kg and PM related emission by 132 Kg annually. The quantified benefit from the pilot in terms of economic value is around INR 306591 annually.

The larger replication of pilot has substantial impact on GHG reduction. Replacement of merely ten per cent of existing IPT fleet with e-rickshaws can reduce carbon emission by over 2258 tonnes annually.



Potential for Replication

The successful demonstration of pilot project is assisting UMC to overcome various identified barriers to scale-up e-rickshaws deployment in the city. The number of registered E-rickshaws in the city has increased by more than 90, since the implementation of pilot. Currently, UMC is planning to develop citywide infrastructure for e-rickshaws which includes charging points and parking space.

The outcome report of the pilot in Udaipur will benefit numerous other cities selected under Smart Cities Mission to overcome the barriers and mainstream electric rickshaws, as most of them have proposed e-rickshaw as an integral part of their mobility improvement interventions.



Project Investment

The total project investment was CHF 42'558

For more information, please contact:

ICLEI- Local Governments for Sustainability, South Asia
 C-3 Lower Ground Floor, Green Park Extension, New Delhi 110 016, Tel: +91-11-4974 7200, Fax: +91-11-4974 7201
 Email: iclei-southasia@iclei.org, Udaipur Contact: +91-7042096759