



Kathmandu

Urban Pathways has supported Kathmandu since 2018, the capital city of Nepal, in the Mobility and waste sectors. Besides the support on project concept development (e.g. on E-mobility explained below), Urban Pathways organised capacity building events in which various stakeholders participated in international training events, online webinars and peer-to-peer learning. To raise awareness on active mobility and air quality improvement, the city was provided with an air quality measuring device 'Smart Citizen Kit', to measure the effectiveness of the events, such as car-free days and facilitate dialogues between city authority and locals. The city Mayor was invited to an exchange and peer-to-peer learning event in the "Intergovernmental Twelfth Regional Environmentally Sustainable Transport (EST) Forum in Asia" in Hanoi, Vietnam. Further cooperation possibilities on Urban Pathways' focus sectors are being explored.

Pilot and Demonstration Action Scale-up E-mobility

The vehicle emission is a major cause of the air pollution in Kathmandu. The promotion of electric public transport is one of the best ways to address this problem. Kathmandu Valley currently has around 700 Electric three-wheelers (named Safa Tempos with 10 seater) that were introduced over 20 years ago. While the Safa Tempo are providing a valuable feeder service, they need improvements both in terms of their technical performance and their looks and comfort. The improved system would have a higher upfront cost, which many Safa tempo owners were hesitant to carry out. The lack of enough local capacity (e.g. maintenance and repair) is also hindering scaling up e-mobility in the city.

Urban Pathways has supported Public transport operators to develop a project concept to improve/redesign Safa Tempo with appropriate business models together with various stakeholders. A contact with a local bank was done and a provision of soft loan was planned within the project which was given to Safa Tempo owners to cover part of the capital costs of newly designed vehicles. The initial loan would be provided to 15 Safa Tempos for technical improvement and then the revolving fund was planned till all Safa Tempos are converted. Developing standards for EVs and charging infrastructure and building local capacity of EV operation and maintenance was also planned.

The project concept was submitted in December 2018 to the 2019 TUMI Global Urban Mobility Challenge for the award of financial support/grant by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. However, it could not pass through. Therefore, the concept was resubmitted for another grant.

Budget: 144,000 EUR from TUMI (+ city budget 175,000 EUR)



E-mobility in public transportation

In Kathmandu, a demonstration action will create an ecosystem for electric mobility in the city by enhancing EVs in public transport, as well as suitable charging solutions and related services. To introduce E-buses and slowly replace diesel buses in the public transport sector, a pilot research project on conversion of diesel bus to e-bus will take place by local manufacturers/start-ups. Several existing E-3-wheelers (named Safa Tempo) will be remodelled or redesigned using Valeo Powertrain and Li-ion batteries (instead of lead-acid batteries) and refurbishing the chassis, assembling the vehicle parts locally. This will increase the quality, efficiency and comfort compared to existing one.

This will provide better services for E-3-wheelers as public transportation in the city. E-scooters/e-bike sharing systems will also be explored, that reduce the dependence on owning private vehicles. A suitable business model for the demo activities will be developed within the project. As charging infrastructure is poor or non-existent in public, suitable options for charging EVs and batteries will be suggested. The demonstration also supports promotional activities to raise awareness on EVs, enhance vehicle integration with the introduction of digital application for smart ticketing and payment and fleet management. The proposed demonstration project concept was submitted on 25 April 2019 as a part of EC H2020 proposal for funding. It will be implemented by SOLUTIONSplus project (project duration 01/2020 – 12/2023) together with local public transport operator 'Sajha Yatayat'.



Budget: 1,500,000 EUR

Estimated direct GHG emissions reduction: 300 tCO₂/year

Car-free day in Kilagal

During the time of mobility week (on 16th Nov. 2019), a local event car-free day was organised in a small stretch (around 516m) of congested but historic street of Kathmandu in Kilagal, together with Kilagal ward no. 18 and local NGOs. The event (named Kilagal Festival) showcased the ward officials and locals - the effect of active mobility, such as reduced air pollution and increased pedestrian safety as well as local businesses. The data collected by an air quality monitoring device, provided by Urban Pathways project, showed that PM₁₀/2.5/10 was the lowest compared to the average seven days. The survey (total respondent 189) carried out on the day also showed that most of the respondents were convinced about making the street pedestrian friendly. However, the street has not been converted yet.

Urban Pathways is still in contact with the local NGOs and is providing support on policy advice and case examples from other cities, to push for converting the street pedestrian friendly.

Budget: 350 EUR (Device cost) + City's own budget

Estimated direct GHG emissions reduction : 800 tCO₂/year

Outlook: Planned and/or Possible Future Action

Portable Air Quality Monitoring device

Air quality is a prime concern in Kathmandu. According to the 2016 Environmental Performance Index (EPI) ranked Nepal 117th out of 180 countries. Kathmandu is ranked one of the most polluted cities in Asia (7th position so far). The main sources are the vehicles and dust particles, affecting citizen's health. On the other hand, the data regarding air quality is also inadequate and poor. The placement of low cost monitoring devices at several locations would generate data easily and cost effectively.

Urban Pathways will support Kathmandu on capacity building to develop or assemble such low cost air quality monitoring devices (e.g. similar to Smart Citizen Kit by Fab Lab). A local NGO (G.D. Lab) in Kathmandu has been identified, who are working on developing devices locally. The involvement of Open Seneca (as in the previous activities under Urban Pathways) will be sought to guide and explain the locals in Kathmandu the stepwise method to build the air quality measuring devices. On the pilot phase, the project will seek to assemble 10 devices locally.

Budget: 5,000 EUR

Future Outlook

Implemented by:



In cooperation with:



Supported by:



based on a decision of the German Bundestag