Kenya E-mobility

Country	**Kenya**
Name of Company / Implementer	**WeTu**
Type of Business Model	**Rental**
Type of Use Case	**E-mobility**

Summary

WeTu's e-mobility use case is part of a broader energy access initiative in Katito and Kisegi, Western Kenya. Solar-powered hubs support electric motorcycle leasing and battery swapping, addressing transport challenges in peri-urban and rural areas. The initiative targets boda boda riders, offering a cleaner alternative to petrol-powered motorcycles, reducing emissions and improving operational efficiency. WETU converts internal combustion (ICE) motorcycles into electric bikes and has worked with the users to improve the bikes and adapt them to local conditions as well as worked with users to align the payment model with rider cash flows. Integrated with other services like water purification and solar cooling, the hubs promote sustainable development. The model encourages adoption of electric mobility through affordable, user-centric solutions tailored to the region's economic and environmental.

Figure: **Converted Bajaj 100 from ICE to e-bike**

The model

Rental — The user puts down a refundable deposit fee of 3000 KES (20 Euro) and rents the E-bike on a contract with no end date with a monthly fee of 2000 KES (13 Euro) plus an additional 300 KES (2 Euro) per day for per battery swapon that day. Within the monthly fee, WETU provides insurance for riders and are responsible for all electrical and some maintenance and repair of the bikes. The refundable deposit fees are designed to cover any major damages due to negligence on the ebike in the event the rider is done with the service.

Customer segment — Rural and peri urban boda boda riders and residents in Western Kenya

Key lessons learnt

- User Economics is a Primary Driver of Adoption. WETU has demonstrated a good user need/solution fit for rural/ peri-urban boda boda riders and e-bikes in Kisumu, Kenya. The reduction in daily operating costs, primarily fuel and maintenance expenses, emerged as a strong incentive for adoption among boda-boda riders.
- Alignment of Service Models with Income Patterns. The transition from a combined daily lease-plus-swap fee to a pay-per-swap arrangement with a modest fixed monthly service charge better reflected the variable income streams of riders. This adaptation improved affordability and payment flexibility for the end users.
- Initial uptake contingent upon visible endorsement from early adopters. Use of champion users and early adopters for increasing confidence in the broader customer base has been effective. Peer-to-peer influence proved more effective in fostering confidence than technical documentation alone. Implication: Early project phases should prioritise demonstrable user success stories as a trust-building mechanism.
- Localisation of Technical Solutions. The business model is heavily affected by the technology and conversion: substantial testing and bespoke adjustment needed for the bikes to be fit for purpose and substantial training of end users needed to increase uptake. Early drivetrain designs proved vulnerable to the region's terrain, vehicle overloading, and riding practices, necessitating recalls and modifications.
- Building inhouse conversion capacity. WETU has built up skills and capacities to enter into the market of converting existing ICE-bikes. This has reduced costs, shortened turnaround times, and enhanced local technical expertise.
- The extensive need for staff in the early phases of implementation puts a strain on the viability of the business model. The model currently works as a social enterprise model where the goal is to reach break-even and not turn a profit.
- Scaling the solution would be relevant for other areas with high density of users using bikes for income generating activities.

Key figures under the SESA project

- 7 e-bikes in operation
- 92000 km covered
- Weekly savings for end user (ICE vs Ebike): 2150 KES

Next steps

WeTu will advance its e-mobility initiative by upgrading to durable 3KW mid-drive motors with water ingress protection to safeguard the motors against water and dust penetration and integrating GPS tracking for data-driven maintenance and rider training. To meet growing demand, WeTu aims to secure impact investment for fleet expansion and infrastructure scaling. A structured rider training program will be launched to improve operational efficiency and extend asset lifespan. Additionally, WeTu will develop a strategy for repurposing or reselling replaced ICE engines, reinforcing its circular economy approach.

About the company/implementer

WeTu is a social enterprise operating in Western Kenya, focused on improving rural livelihoods through sustainable innovations. With solar hubs in Homabay, Kisumu, Migori, and Siaya, WeTu delivers solutions in safe drinking water, clean energy, electric mobility, e-waste management, solar cooling, and is expanding into climate-smart agriculture.

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