

Voices of MECS

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Interview by Mani Thompson



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Image 1: eCooking demonstration, Nepal. Image by PEEDA, 2024.



Could you introduce yourself please?

My name is Biraj Gautam. I have been working in the energy sector for the last 15 years and at the moment I am heading the team at the People, Energy, and Environment Development Association (PEEDA).

What was the electricity access like in Nepal while growing up?

Growing up in Nepal we had no electricity, the first time I saw electricity was when I was 12 or 13 years of age. Until then we used to use open kerosene lamps or wood lamps for lighting and biomass for cooking. I remember all those mornings when we would wake up and had to clean the tar from our nose and hair!

Tell us more about PEEDA and how your electric cooking journey started?

PEEDA is a non-profit organisation established in 1997 and aims to improve the quality of life of poor communities by harnessing renewable energy resources. We were doing a research project on the sustainability of Micro Hydro Power (MHP) in Baglung and Gulmi districts of Nepal back in 2016 and soon realized that only a small percentage of the MH power was being utilized, mostly for household lighting where these households predominantly used firewood for cooking. This prompted me to think that eCooking could be implemented in Micro Hydro Power. At the time, no one was really thinking about using electricity for cooking because Nepal was experiencing power cuts of 20-22 hours per day and very little information was available on electric cooking.

PEEDA has been involved with several MECS projects; how did these come about, and how did they learn and develop from one another?

Our first collaboration with MECS Program was in 2019 when we applied for the [MECS-TRIID](#) call and received a grant to do research in low-energy electric stoves in off-grid Micro Hydro sites in Nepal.

We then applied for the Electric Cooking Outreach ([ECO](#)) Challenge Fund. For this project, we piloted 160 EPCs for 6 months in both an on-grid and an off-grid community in Nepal and compared time & cost savings and the energy efficiency of EPCs with traditional stoves and LPG stoves. During this project we also developed the [Nepal eCookbook](#).

In 2021, PEEDA conducted the **All-Electric** project (100% eCooking) to understand the energy implications of cooking entirely with electricity in urban environments. We introduced a combination of EPCs and Induction stoves in 10 households and assessed their response to shifting completely to cooking with electricity. We discovered that households could save 30%-60% on daily energy bills when transitioning from LPG to electric.

In 2023, we returned to the ECO communities as part the **ECO Follow-up** study and found the use of electric cooking had actually increased since the original ECO challenge fund pilot. During the ECO follow-up we investigated the impact of different subsidy mechanisms and realised that free subsidies were not enough to drive transitioning to eCooking in the communities, and that support services such as awareness raising and training were very important. We also noticed considerable repair and maintenance issues with the appliances and saw the need for after-sales services. This resulted in setting up workshops to train local technicians on how to repair EPCs and induction stoves and developing repair manuals.

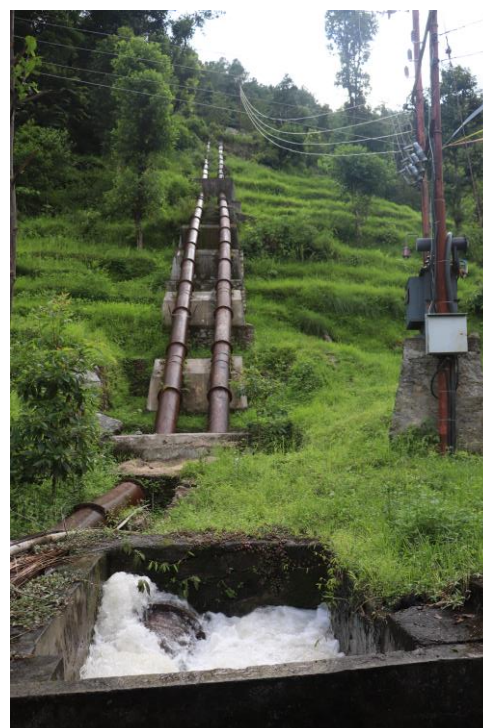


Image 2: Micro Hydro Power penstock, Nepal. Image by PEEDA, 2021.

Tell us more about the long-term impact of these projects on cooking habits of Nepalese communities.

Many of us in Nepal grew up without the convenience of electrical appliances. In my childhood home, we only had a radio! So, utilizing electric cooking, especially for our mothers, posed a significant challenge which is evident in transitioning from biomass stoves to modern technology. We believe partial transitions to electric cooking is currently the way forward for Nepal, so people will increase the frequency of cooking with electricity gradually. Our ECO and TRIID projects showed a good spin off effect where neighbouring households to beneficiaries also purchased electric stoves and beneficiaries increased their use. Long-term changes in people's cooking habits and larger transitions to eCooking happen as time goes by.

How do you describe your experience of collaborating with other organisations in terms of sharing knowledge & technology?

Our projects were largely collaborative ones. The partnership with the University of Bristol helped PEEDA to develop survey tools and data analysis, enabling independent research in subsequent projects. KAPEG's (Kathmandu Alternative Power and Energy Group) assistance was invaluable in monitoring the impact of cooking on Micro Hydro Power

infrastructures, while the Renewable Energy for Rural Livelihood (RERL) program of UNDP-Nepal provided crucial financial and technical support. Smart meters supplied by A2EI greatly enhanced data quality, facilitating more accurate analysis. These collaborations led to the discovery of innovative solutions.

Since 2019, how has the landscape of electric cooking changed in Nepal, and how has the MECS Programme helped to move the clean cooking agenda?

Until 2018 Nepal had significant power cuts, so when they started importing electricity from India, the primary objective was removing power cuts and providing electricity for basic needs. Prior to 2018, electric cooking was scarcely understood; then, through the MECS Programme's funding and technical support, we started researching electric cooking. Unlike traditional donors who merely provide funding, MECS offered guidance and support through their researchers, connecting us with industry experts to better understand clean cooking issues. This has significantly advanced the electric cooking agenda in Nepal.



Image 3: Biraj (far left) talking to ECO participants about their eCooking experience. Image by PEEDA, 2023.



Image 4: eCooking demonstration in a school, Nepal. Image by PEEDA, 2024.

PEEDA is not just involved in electric cooking, you are also involved in renewable energy and irrigation, do you see opportunities for clean/electric cooking to learn from the experiences of other sectors?

Yes definitely! Nepal has extensive experience in promoting Micro Hydro projects in the past 50 years. This includes site assessment, manufacturing, installation, ownership models, and after-sale services. **The success of renewable energy projects in rural areas is attributed to decentralized energy generation systems and effective community mobilization; the electric cooking sector in Nepal should emulate this approach, emphasizing ecosystem development over mere stove distribution.** In the past, Nepal just focused on electricity for lighting, but now **we need to start planning for electric cooking in our electrification projects.** The future of electric cooking lies not solely in distribution but in its effective utilization.

There are clear opportunities for electric cooking in Nepal, in your opinion what should be done by government and policy makers to fulfil this potential?

Nepal has set the ambitious goal of having 25% of households adopt electric cooking as their primary mode of cooking by 2030. To achieve this, the

government should launch a widespread awareness campaign to educate people about the benefits of electric cooking. To address the affordability concerns, the government could offer subsidies or reduce the upfront cost of electric stoves. Improving the electricity infrastructures, enhancing grid reliability, controlling the quality of imported eCooking appliances, and setting up after-sales services can also support eCooking.

What's next for PEEDA in terms of clean/electric cooking?

In Nepal, 52% of the imported LPG goes to businesses, so this is the sector where we need to work. In addition to aiding households in transitioning to electric cooking, PEEDA will actively promote the adoption of electric cooking in schools and businesses. We are pushing for supportive policies and regulations to facilitate the adoption of clean cooking technologies, and we will continue to advocate for ecosystem-based promotional programs, partial subsidies, tax incentives, and regulatory frameworks aimed at phasing out traditional cooking fuels.

Biraj, it's been great talking to you, thanks so much for your time.