Regional Workshop on

Accelerating Livelihoods & Development Action through DRE

Models | Lessons | Scale-up

Date: April 26, 2023, 09:30 hrs - 17:00 hrs

Venue: Renaissance Hotel, Lucknow, Uttar Pradesh

Organisers: Sustain Plus Energy Foundation | Social Alpha

Background

Access to affordable and reliable energy is the cornerstone for just transitions to modern technology - for better livelihoods, improved health, education and overall human well-being. Evidence from the field has shown that the decentralisation of energy and technology leads to more democratised access, enables essential services to reach communities more readily, locates operational agency and control within the community and empowers children and women through enhanced opportunities for access and choice.

In rural India, a vast, untapped need exists for affordable and sustainable energy products & services, especially for remote underserved and marginalised communities. Decentralised renewable energy (DRE) solutions have the potential to address this need and usher a paradigm shift, by changing how individuals and community based institutions can use energy and technology to suit their specific requirements and contexts. However, for sustained impact to reach all members of society, these solutions need to be implemented or become available at a much larger scale, affordably and viably. Integration of these solutions into desired markets depends on a number of

factors such as availability, affordability, ease of use, optimal utilisation, financial viability, returns on investment, post sales services, etc.

In Uttar Pradesh, through a highly collaborative approach, Sustain Plus has worked across 8 districts with 10 key partners to integrate over 2000 DRE solutions within existing and new livelihood programs in the farm and non-farm sectors. By working on scaled implementation models, Sustain Plus and Social Alpha, in partnership with key actors in the development sector, have been able to demonstrate the successes and challenges of integrating DRE innovations into markets across diverse regional contexts.

As we continue to build on the foundation of implementations so far, it is crucial that the experiences and learnings from this work feed into future programs, as well as, into larger policy decisions to unlock the potential of DRE solutions at a wider scale, setting precedents for operational and financial viability in the long term.

The Workshop

The workshop brought together experts from policy, civil society, finance and technology and was attended by over 70 stakeholders from the livelihoods, agriculture, and energy sectors to exchange insights and experiences from the large-scale implementation of DRE technologies in rural productive value chains in Eastern UP. Users of the DRE technologies and members of the community also participated and shared their experiences, adding nuance and an end-user's perspective to the discussion.

The day-long workshop was planned over 3 interactive sessions with community members and expert panels. The expert panels included representatives from civil society organisations, donor agencies, policy, implementation agencies, technology service providers, micro-finance institutions and other eco-system enablers.

Session 1: PROGRAMS + POLICY	
Bigsna Gill, Moderator	Sustain Plus Energy Foundation
Raghvendra Pratap Singh	Aga Khan Foundation
Shilp Verma	International Water Management Institute
Nilanjan Ghose	Deutsche Gesellschaft fur GIZ India
Biswarup Banerjee	IKEA Foundation
Deo Datt Singh	People's Action for National Integration

Session 2: FINANCE + MARKETS	
Himanshu Mishra, Moderator	Social Alpha
Naveen Krishna	SMV Green Solutions Pvt. Ltd.
Ajith Radhakrishnan	World Bank
Deepak Kumar	Samunnati Finance
Atul Mittal	Sistema.bio
Varun Raheja	Raheja Solar Food Processing
Tushar Devidayal	Devi Dayal Solutions Pvt. Ltd.

Keynote Address

Shri Aashish Tiwari, Secretary of Environment, Forest and Climate Change, GoUP, opened the discussion with his insights on the needs of small and marginal farmers, and DRE's role in bridging their energy and technology gaps. Drawing attention to the impact of climate change on agriculture, he emphasised that the adoption of sustainable agriculture practices can make farmers more resilient, and also aid better productivity and efficiency per unit of land and crop.

He further added that integrating high value crop cultivation with DRE powered value addition processes / services can support the creation of local ecosystems, but for these to become self-sustaining, post-installation services in rural and remote regions must be strengthened and made consistent for the long term.

Shri Tiwari also underlined that multi-stakeholder collaborations are needed as key drivers towards the creation of targeted financial models that meet the requirements of different user groups, thus unlocking the potential for scaling-up and deriving economies-of-scale benefits. He also highlighted that DRE programs must be developed with greater and more meaningful women's participation, aided by appropriate training and capacity building initiatives.

Key take-aways from the workshop

Drivers for DRE Adoption: While acceptance of DRE technology in rural areas has gradually increased with investment in tech demonstrations, pilot projects, and capacity building, scaled adoption of DRE relies on behavioral change within the community. End-users need to recognize DRE as a solution to an existing gap and perceive its benefits. The community needs to accept, own and run DRE solutions for sustained use and shift of the needle. Additionally, access to technology solutions need to be supplemented with provision of timely, affordable, easily available technology services resulting in an improvement in operational efficiency, quality enhancement, and opportunities for economic growth and development. Together, building an ecosystem supporting the technology and gradual change in community beliefs and behaviour are the most effective, impactful and sustainable means for scaled adoption.

Gender mainstreaming: The e-mobility Vahini program exemplifies the dimensions of gender focused solutions, and the aspects that limit or enable women to participate in male dominated livelihoods. When women lead the delivery of solutions in socially conservative contexts, it creates pathways and possibilities for women on the demand side to take up these solutions as primary owners and users, supplemented through gender sensitive capacity building and training. It is also more challenging for women to raise capital, and therefore, financial instruments need to be tailored to address financial access gaps that are peculiar to women for their meaningful inclusion.

Driving scale: Barring a few, most DRE solutions are recent innovations, and despite being mature technologies they will require an initial push to accelerate their integration and adoption into marginalised and excluded markets. While grants and government subsidies address pricing and affordability, other approaches were

suggested to quicken the pace and scope of scale. Decarbonization is a key focus area for many practitioners - and intersecting and integrating with existing policy mechanisms is better than promoting it in silos. Presently, DRE technology is either implemented at distributed project level or as large-scale programs being implemented by the Government. Integration with relevant policies can enable scale and saturation of DRE across clusters and themes. Stakeholders saw immense value in implementing DRE solutions in community-led and entrepreneurship models.

Role of stakeholders in piloting DRE technology, establishing a use-case, and creating portfolios of technology solutions that address needs across farm value chains and require government intervention in terms of de-risking. In addition to an ecosystem of diverse financial solutions RE technology solutions, end-users and farmer collectives need to be capacitated to unlock financing for institution scale solutions.

Policy Intervention: Policy support is essential for stakeholders within the sector to build a supportive ecosystem for scaled adoption of DRE. Effective targeting and policy support for small and marginal farmers calls for a bottom-up approach. Policy interventions need to start at the local level, with planning and governance of energy generation and utilization at the gram panchayat level. A bottom-up approach can feed into larger policy decisions supporting evidence based policy making. Monitoring and evaluation is vital in recording and understanding behavioral data signifying use of DRE technology, demand and supply factors, and variation of the same. Data of this calibre also helps integrate DRE with existing policy mechanisms and adopting cross-sectoral propositions. Yet, in addition to drawing a data driven plan of action, economic feasibility, socio-political aspects and agenda, and other external factors are also vital for influencing policy and its implementation at a large scale.

Meeting end-user financing needs: End-user financing is important to achieve scaled and targeted implementation of programs, making transition to clean energy achievable. Despite end-user financing being a critical factor for up-take of technology, it continues to be a gap in the sector due to various challenges. Process-related issues are a simple yet common problem, as end-users struggle with meeting documentation and regulatory compliances for commercial finance. Bureaucratic issues also cause delays, affecting production cycles and other time-sensitive decision making. Informal money lending is thus preferred due to lack of flexibility and reliability in formal financing. Financial institutions also lack awareness of DRE technologies, their market segmentation, and business models. Balancing customization of financial products, to meet end-users' interests, along with risk mitigation for financial institutions is essential and the way forward.

Donor's Perspective: Identification of areas of investment should also be bottom-up. Making DRE solutions accessible and affordable is important to drive behaviour change of end-users. Adoption of any technology that addresses the needs of the end user is ideal for scaling up, in turn reducing production costs and facilitating large scale adoption through peer influence. As part of a user-centric approach, it is imperative to engage with the community over the long term through monitoring and assessment.

Carbon finance: Carbon finance was recognised as a key financing opportunity that drives economies of scale and de-risks investments. As an alternative financing instrument available to solution providers, it can drive more market-led organic growth, without having to rely on grants or government subsidies to reduce the upfront cost of solutions. While most projects are pre-financed upfront through carbon finance to subsidise the capital cost of solutions, to enable the sustained use of solutions, performance / results based financing models also need to be explored so that users are

able to generate additional monetary value from the sustained use of DRE solutions overtime.