

# REMMP ENERGY DIARIES FACT SHEET

RENEWABLE ENERGY MICROFINANCE AND MICROENTERPRISE PROGRAM

## ABOUT THE ENERGY DIARIES

The Energy Diaries is a new research methodology developed under USAID's Renewable Energy Microfinance and Microenterprise Program (REMMP) that studies energy uses and spending at the household level. The objective is to improve understanding of the daily realities of the energy poor, understand how energy poverty may impact women and men differently, illustrate what these gendered needs suggest about optimal energy products and services for this market, and identify relevant policy implications for stakeholders to better meet the needs of poor households. The approach involves an adaptation of the Financial Diaries methodology into the small-scale renewable energy space, adding a new and rich source of quantitative and qualitative data on the nature of energy poverty and its social, economic and environmental impacts.

Arc Finance and Microfinance Opportunities, with funding from USAID, launched the first Energy Diaries in 2015. The pilot took place in India and the team gathered data from low-income energy consumers whose daily diary-keeping tracked household's economic behavior and family member financial transactions over a six month period.

The Energy Diaries pilot phase included 90 households across three rural sites in India: Uttar Pradesh, Bihar and Manipur. Half of the households were solar energy clients of partner organizations of Arc Finance. 75 out of the 90 diarists were women. A majority of households had some form of grid access, although it was generally intermittent and of low-quality. Income levels across the three sites varied, giving a good cross-section of rural India. There was also considerable variation in energy sources and expenditure.

## USING DIARIES DATA

The Energy Diaries have yielded rich data that identifies patterns, such as: the most common types of energy usage behavior; differences in behavior across different types of households, and across gender and age; associations and correlations between the use of different types of energy sources; associations and correlations between energy source purchases and uses, and a household's general expenditures, use of different financial services, and its flow of income.

This type of analysis provides valuable market intelligence to policy-makers, donors, clean energy

providers and financial institutions. By understanding existing patterns of energy behavior, policy-makers can identify the most effective levers to drive behavior towards clean energy use. Donors can evaluate the effectiveness of their interventions, and clean energy providers can test if the new "clean" source of energy they are offering is replacing traditional "dirty" energy used by low income households. Financial institutions can develop financing offerings that more closely match the income flows of the people they hope to serve.

**REMMP** is designed to improve access to modern energy services in underserved communities, while at the same time helping USAID partners to reduce carbon emissions. A key goal of REMMP is to increase the availability of consumer financing for clean energy services and products, to enable low-income populations to gain access to technologies that can improve their livelihoods and quality of life while mitigating climate change. The program focuses on household and community-scale technologies such as solar home systems, cookstoves and microgrids.

## PILOT PHASE FINDINGS

The Energy Diaries pilot focused on a relatively small number of households and in only three specific areas of India (Uttar Pradesh, Bihar and Manipur), however it generated tens of thousands of data points and from this data, some significant findings have emerged:

1. Poor families manage an energy portfolio, which is driven by cost and availability of energy sources/devices. Families buy, gather and use a range of energy sources for cooking, lighting and mechanical power. Typically, respondents do not engage in the discrete shifts which might be described by a ladder, but instead mix and match “traditional” and “modern” energy sources to maximize their utility in a similar way to how they manage their financial portfolio.
2. This energy portfolio is driven not only by respondents’ income and expenditures, but also by context, cultural factors and family customs.
3. There are discernible benefits to end-users of solar products, including reliability, versatility and simplicity of use.
4. Small-scale solar is trying to compete in a distorted market where grid energy is often obtained by end-users at no cost, and traditional fuels are heavily subsidized, making market penetration challenging.

5. Solar power plays an important role in the reduction/eradication of kerosene for lighting, but in India consumers will still purchase their kerosene quota and either sell it or use it for powering equipment.
6. Women are the primary beneficiaries of any improvement in household energy quality, as they spend most time in the home. Solar is particularly valued for children’s education.



**ARC FINANCE**, a small, woman-led organization, was founded in 2008 to promote and expand access to financing for energy, water and other basic needs to build the income and assets of poor people around the world. Arc develops solutions to energy access challenges, particularly in the area of finance, and also acts as a knowledge leader and sector-builder within the renewable energy finance space. In 2011, Arc was selected by USAID to implement the Renewable Energy Microfinance and Microenterprise Program (REMMP). Under REMMP, Arc works with MFIs, remittance companies, networks, apex organizations and renewable energy enterprises to test, or prove, the business case for different affordability mechanisms for small-scale renewable energy products in India, Nepal, Uganda, Kenya and Haiti.

**MICROFINANCE OPPORTUNITIES** is a global non-profit committed to understanding the financial realities of low-income households. MFO works with financial service providers, policy makers, telcos, card providers, mobile money operators and other private sector organizations to connect product and service offerings to the realities of the unbanked or under-served. Among its core competencies, MFO has extensive experience implementing Diaries projects around the world.