Gender Responsive Cooling: Using Data to Build Resilient Livelihoods

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Gender Responsive Cooling
Using Data to Build Resilient Livelihoods

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WEBINAR
Chilling Prospects Special: Gender and Access to Cooling
28 JUNE 2023
Chilling Prospects integrates a gender lens in the global access to cooling analytics and makes a call to action for gender-responsive cooling.

- Cooling access gaps
- Gender-based factors
- Call to action
719 million women and 448 million men living in rural and poor areas at high risk of lacking access to cooling services.
High-risk factors for access to cooling

General High-risk Factors
- No access to electricity
- Income below poverty line
- Poor ventilation and construction
- No access to refrigeration for food
- Farmers lack access to cold chains
- Vaccines exposed to high temperatures

Gender Specific High-risk Factors
- Electricity access gap
- Poverty
- Household dynamics
- Health
- Work conditions and resources
Poverty and household dynamics

**Extreme poverty** precludes essential energy services and exacerbates gender inequalities.

Women are expected to shoulder an additional burden – due to gender norms – during a heatwave, exacerbating heat stress.

**Men are often seen as the breadwinners** in the household, which gives rise to different heat-related risks and cooling needs.

- 80% of people in extreme poverty live in rural areas.
- By 2030, 83.7% of the world’s extremely poor women and girls will live in:
  - 62.8% Sub-Saharan Africa
  - 20.9% Central and Southern Asia

**Gender-disaggregated data:**

- How women and men experience poverty within the same household
- Cooling needs as a result of gender norms
Gender-based factors for access to cooling

Health and wellbeing

Physiological and social attributes linked to gender — i.e. pregnancy, type of employment or access to support networks — pose distinct challenges to the ability of both sexes to adapt and even survive.

Passive cooling and electrification of health facilities to ensure refrigeration of medical products and vaccines can reduce heat vulnerability of women and children.

- Roughly 1 billion people in low- and lower-middle-income countries are served by healthcare facilities without reliable electricity.

Improved data is needed to assess how social networks, pregnancy, segregation, freedom of movement and other factors affect heat vulnerability.
**Gender-based factors for access to cooling**

**Workplace and agriculture**

Women are often involved in *post-harvest activities* which rely significantly in cooling services to ensure agricultural outputs and yields.

- Women represented on average 36.7% of all agricultural workers in 2019 and up to 50% in many African countries.

- Every year, farmers in **India** incur nearly **USD 12,520 million in post-harvest losses** due to inadequate storage facilities and a lack of energy infrastructure.

![Food losses per person in high-impact countries for access to cooling](image)
Gender-based factors for access to cooling

Workplace and agriculture

Female-dominated sectors such as garment, textile and brick kilns and male-dominated sectors such as construction call for immediate action to protect formal and informal workers.

- 80% of the workforce in the textile, garment are women

In informal workplaces that lack access to basic sanitation facilities, including toilets, women tend to avoid drinking water throughout high temperature days.

- Data is urgently needed to assess the extend of the population working in informal settings and guide gender-responsive cooling interventions.

- Gender-responsive solutions in agriculture could not only reduce gender inequalities but significantly reduce food losses globally.
Mainstreaming gender in access to sustainable cooling

Gender Mainstreaming

Making women’s as well as men’s concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of cooling interventions.

Cooling for All Needs-based Assessment

Sustainable cooling solution pillars

Technology  Services  Policy  Finance
Where do we stand on gender progress in the energy sector?
Introduction

Efficiency for Access

A global coalition working to promote high-performing appliances that enable access to clean energy for the world's poorest people. It is co-managed by CLASP and Energy Saving Trust and consists of 20 Donor Roundtable members, 19 Programme Partners and 34 Investor Network Members.

LEIA

The Low Energy Inclusive Appliances (LEIA) programme is Efficiency for Access' flagship programme, focused on research and innovation. It is funded by UK aid and the IKEA Foundation.

• Assessing the Inclusivity of the Solar Lighting and Appliance Sector
Typical Profile of a Solar Appliance User

- 19 household surveys spanning 5,483 solar lighting and appliance customers in 8 countries.

- Self-reported data from 9 product manufacturers and distributors

Survey data suggest that the solar lighting and appliances sector is serving a homogeneous demographic. The typical solar product user is:

- A man in his early forties
- Connected to the grid
- In sub-Saharan Africa
- Living in a rural or peri-urban area
- With 4-5 members in his household

- Employed, with at least a secondary education
- Above the poverty line of USD $3.20 per day
- Does not have a disability
- Included in the formal financial sector
- Able to leverage financing to purchase their appliance
Women make up 23% of the workforce in solar lighting and appliance companies, indicating the field is heavily male-dominated. This trend mirrors the broader energy sector where women make up just 22% of the total workforce.

84% of companies did not report gender-disaggregated employment data. Even fewer (4%) reported gender disaggregated pay data.

Many companies specialize in (72%) and/or distribute (25%) appliances and productive use equipment. However, only 5% of surveyed distributors carry the niche or nascent appliances traditionally perceived to benefit women.
Gender Inclusivity in Cooling

• For cooling technologies like fans and fridges, our sample found that 22% and 39%, respectively, were owned by women.

• Even within these margins, our sample suggests that women with access to solar products are better educated and more likely to be employed in some capacity than the average women in their region.

• Women comprised less than 40% of our sample - suggesting access barriers to solar lighting and appliances across sales, ownership, and use for women.

• Most data collection efforts aim to interview the head of the household. In most cases, this person is a man.
To effectively promote gender-focused interventions, surveys could incorporate the following information:

1. Identification of the product's primary users.
2. Examination of how the primary users employ the product.
3. Assessment of the product's impact on the primary users.
During the process of data collection, it is important to consider the following points:

1. Adoption of a gender-inclusive sampling approach to ensure equal representation of both women and men.

2. Conducting intra-household interviews to gather input from both men and women within the same household.

3. Disaggregating stakeholder groups during interviews or focus groups to create opportunities for women to express themselves freely.

4. Utilisation of both female and male interviewers or data collectors, while providing gender sensitivity training.

Recommendations for Inclusive Data Collection

Make Inclusivity a Core Value
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How can our data processes be made more gender inclusive?
Marginalisation leads to under-representation, in all sectors.

Figure 19.1. **Female participation in the energy sector workforce is lower than that of men**

Gender gap in employment in the energy sector for selected countries, 2018, percentage

Note: Data behind this graph are collected and prepared every four years. The gender employment gap is calculated here as: [Employed Women (%) – Employed Men (%)] / [Employed Men (%)] in the given sector/year/country among the employed working age population (aged 15-59).


[Link to Source]
Best practices in gender data collection

Key Considerations

• Ensure people identifying as women are meaningfully involved in question development, testing, and evaluation.

• Where needed, work to establish community norms around gender data collection.

• Collect all gender data with a specific and well-defined goal.

• Ensure data are collected, used, maintained, and shared with strong privacy, confidentiality, and ethical standards in place to reduce the risk of data disclosure and misuse.

• Make it accessible, in every sense of the word.

• Measure usage and impact frequently.
Making it memorable with use cases
In our orbit

fraym

Women’s World Banking

Solar Sister

The Rockefeller Foundation

IDRC · CRDI

Canada
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Gender Responsive Cooling Implementation Story
Your Virtual Cold Chain Assistant

Increase and ease access to sustainable cooling for smallholder farmers, to reduce postharvest loss and improve farmers’ livelihood

**Business model innovation**
- Partner with local companies to offer cold storage with Cooling-as-a-Service.
- No need for farmers’ upfront investment.
- Companies are incentivised to use energy-efficient equipment.

**Digitalisation**
- Replace manual operations with mobile application (Coldtivate).
- Increase efficiency at the cold rooms with remote monitoring and IoT.
- Improve accountability and build trust in the solution.

**Capacity building**
- Inform smallholder farmers about potential benefits of cold storage.
- Develop training material on postharvest handling and cold room management.
Farmers’ incomes are under pressure.

The lack of access to cooling is forcing farmers to distress sell and rely on middlemen.

Despite high demand, existing cold rooms are under-utilised.
Your VCCA Pilots

India
- OORJA
- Koel Fresh

Nigeria
- ColdHubs
- LEAP ENERGY

The Philippines
- FreshDepot

App adoption
- Ongoing pilots in 17 cold rooms
- 6500+ checked-in crates in Coldtivate

Estimated impact
- -20% postharvest loss by using cold storage
- +20% farmer’s revenue
User-centred design and identified challenges

- Direct **feedback collection** from cooling companies, operators, and end users throughout the design and development process.

- **Assessment survey** with 900+ users revealed that:

  Female smallholders are

  - Less likely to own a phone (88 vs 75%), and less likely to own a smartphone (60% vs 31%).
  - More likely to have little or no formal education (93% vs 64%)
Gender-intentional approach in app design

Translation in local languages

Pictorial descriptions

SMS-based notifications for farmers without smartphones
Gender strategy, Incubator, and Community of Practice

Your VCCA Gender strategy

Promote a more gender-inclusive solution at multiple levels:
- Physical and cultural accessibility
- Empowering female farmers through awareness raising about cooling solutions and market dynamics
- Gender relations and challenges

Your VCCA Incubator Program

Onboard 5 additional cooling companies to:
- Implement servitisation
- Integrate Coldtivate in their operations
- Draft or update gender strategy

Community of Practice for cooling companies

- Share best practices for peer-to-peer learning
- Gender-centred design of trainings and material
- Support in Coldtivate adoption and development
- Gather data and raise visibility for financing of cold rooms
Yourvcca.org as a digital learning platform

Comics for Farmer Training

Training material

https://yourvcca.org/documentation/
Cooling company spotlight: the example of Koel Fresh

- **Koel Fresh** is an SME offering solar-powered cold storage in Odisha, India.

- Cold rooms are operated by female self-help groups (SHG) members with the help of the Coldtivate app.

- SHG helps customers with market linkage, using electric vehicles for bulk delivery.

- Koel Fresh is providing **extensive training** on:
  - Cold room operation and management
  - Digitalisation with Coldtivate
  - Entrepreneurship development and self-sustainability
  - Record keeping, finance handling and impact assessment
  - Engagement with farmers, customers, and bulk institutions
  - Peer-to-peer learning for promotion and awareness raising
Cooling company spotlight: the example of Koel Fresh

Gender-disaggregated Monitoring and Evaluation

- **User assessment survey** with 300+ interviews
- **Impact monitoring** with 50 regular users of a cold room in Rourkela, Odisha

<table>
<thead>
<tr>
<th>60%</th>
<th>2x</th>
<th>17% to 4%</th>
<th>+29.6%</th>
<th>Small farmers</th>
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<tbody>
<tr>
<td>Of male farmers sell at the market. Only 50% of females do.</td>
<td>Male farmers are two times more likely to own a smartphone than female farmers.</td>
<td>Postharvest food loss reduced by using the cold room. Female farmers incurred in higher losses before room usage.</td>
<td>Reported revenue increase when using the cold room.</td>
<td>Small farmers more likely to use the room because of shelf-life extension and market linkage.</td>
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Data with impact

Data collected by the Coldtivate app provides invaluable insights:

- Gender-disaggregated analysis to better understand challenges faced by different user types
- Utilisation patterns and user survey data for cooling companies to prove impact, credit worthiness, and attract investments
- Farmer’s track records of cold room usage and payment to access microcredit and loans

Design of an Impact Dashboard in Coldtivate

- Automatic analysis pipeline to expose aggregated data for impact monitoring, reporting, and proving business viability

Download now at: https://yourvcca.org/nigeria/the-app/
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