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The broken promise of solar cooking? The case of Goudoubo Refugee Camp

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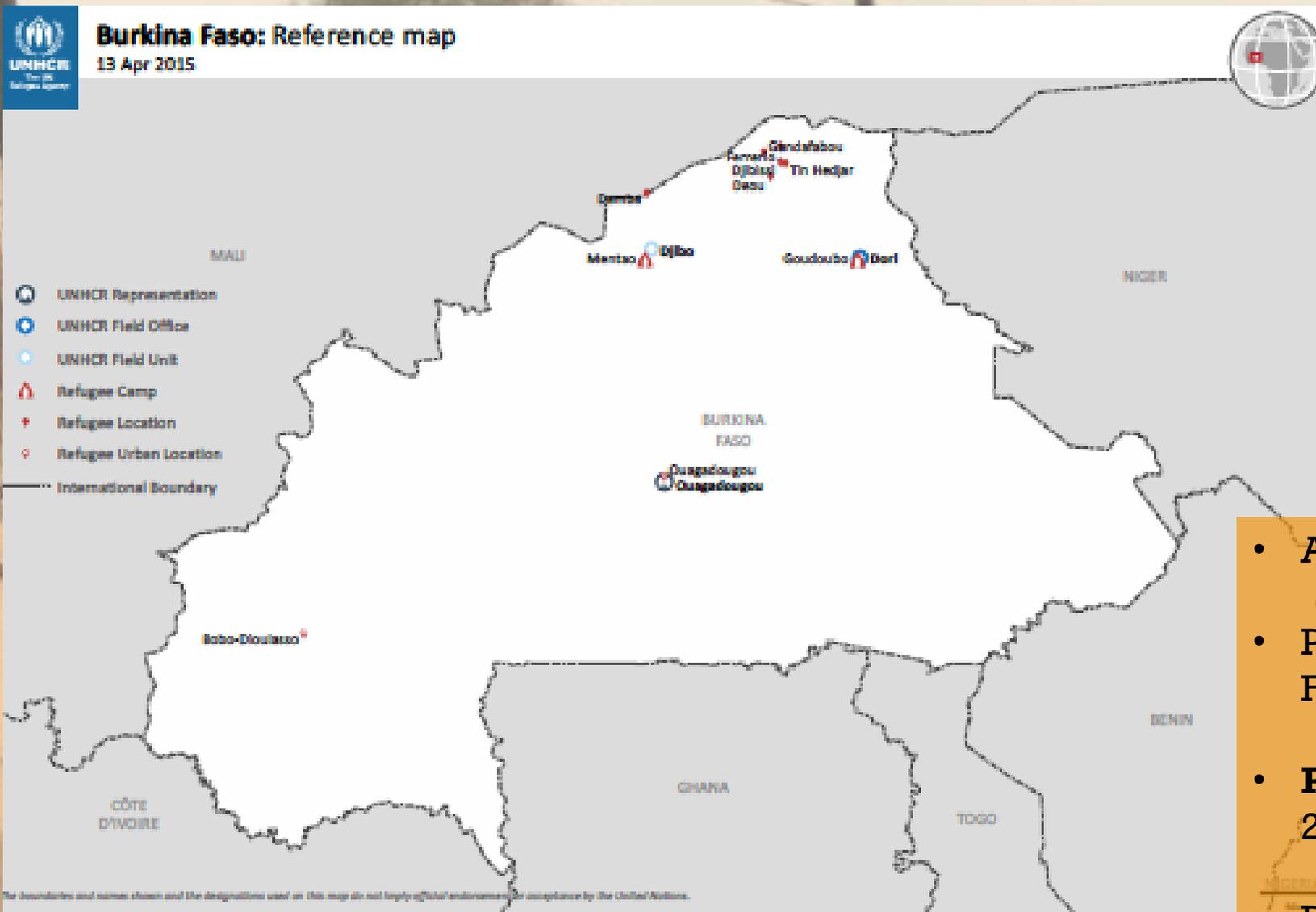
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Structure

1. The Context: Protracted situation, energy economies, access to energy, social reality
2. The Intervention: Introduction of the Blazing Tube in Goudoubo Refugee Camp
3. The Reality: a broken promise?



The context: Goudoubo Refugee Camp (Burkina Faso)



- A protracted situation
- Part of UNHCR-WFP Safe Access to Fuel Energy Initiative (SAFE)
- **Population:** 10,536 refugees or 2,906 families
- Refugee economies ≠ poor economies

The cookstove & fuel panorama in Goudoubou

- Strategies: 1) alternative cooking fuels, 2) adoption of improved and clean stoves, and 3) reforestation (Practical Action, 2016)
- **2013-2016, : HELP distributed 1,078 BT solar cookers**
- 2017 suspension of firewood handouts

	Traditional solutions	“Improved” solutions	“Clean” solutions	
	Three-stones	Basic and Intermediate ICS	Modern Fuels	Renewables
				
Key features	Baseline technologies typically artisanally produced	40 percent more efficient than traditional cookstoves; multiple fuel use (charcoal and firewood)	Stoves that rely on fossil fuels with high fuel efficiency and lower emissions	Derive energy from renewable non-woodfuel energy; normally used as supplementary stoves
Types available in Goudoubou	Three stones/ Improved three stone	Metallic multi stove (ICS)	Oryx stove	Blazing tube
Approximate price	0 USD	5 USD	75 USD	100 USD

(Source: personal collection; World Bank, 2014)

The Blazing Tube Solar



Source: Gradinetti

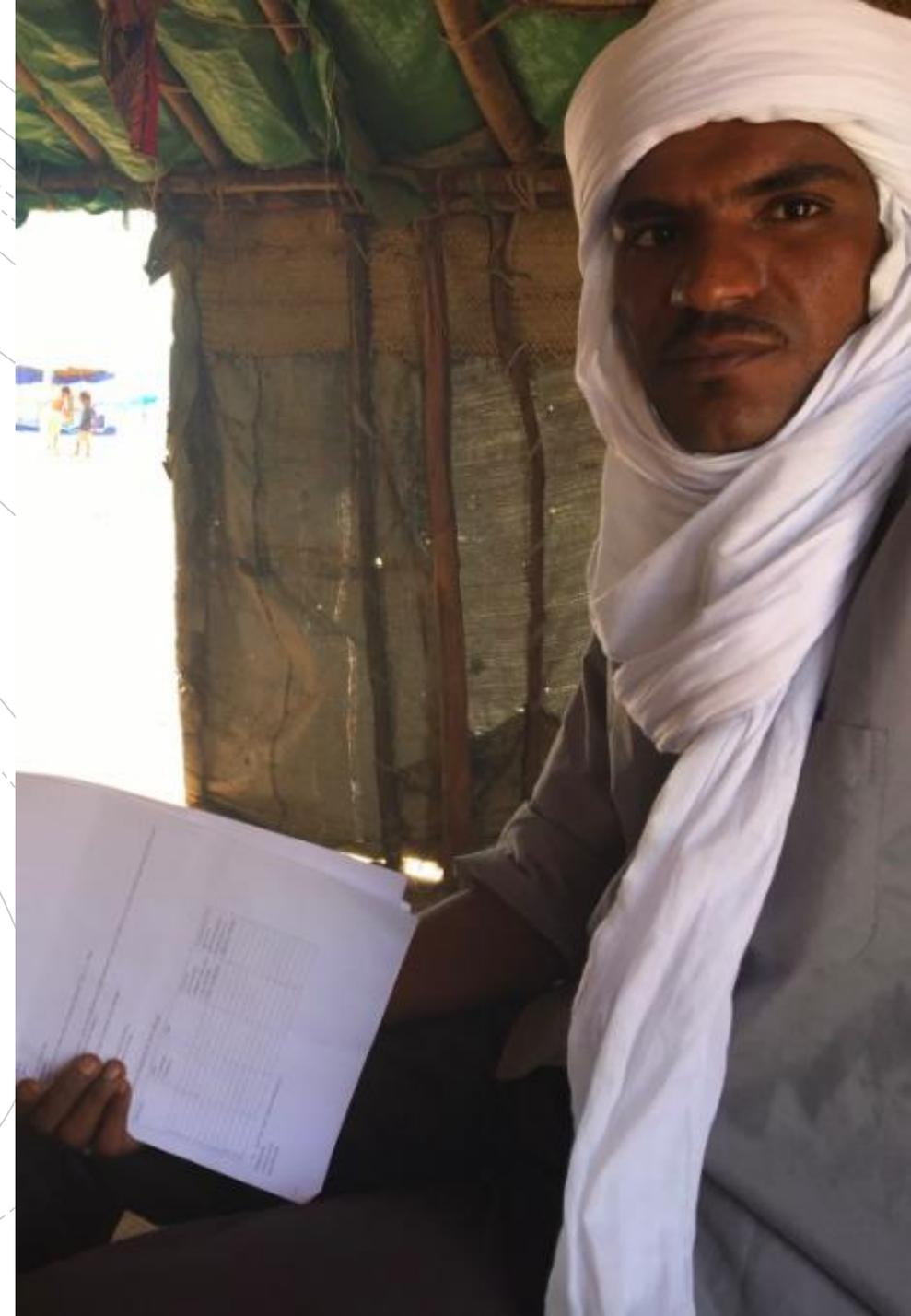


Source: Garvi

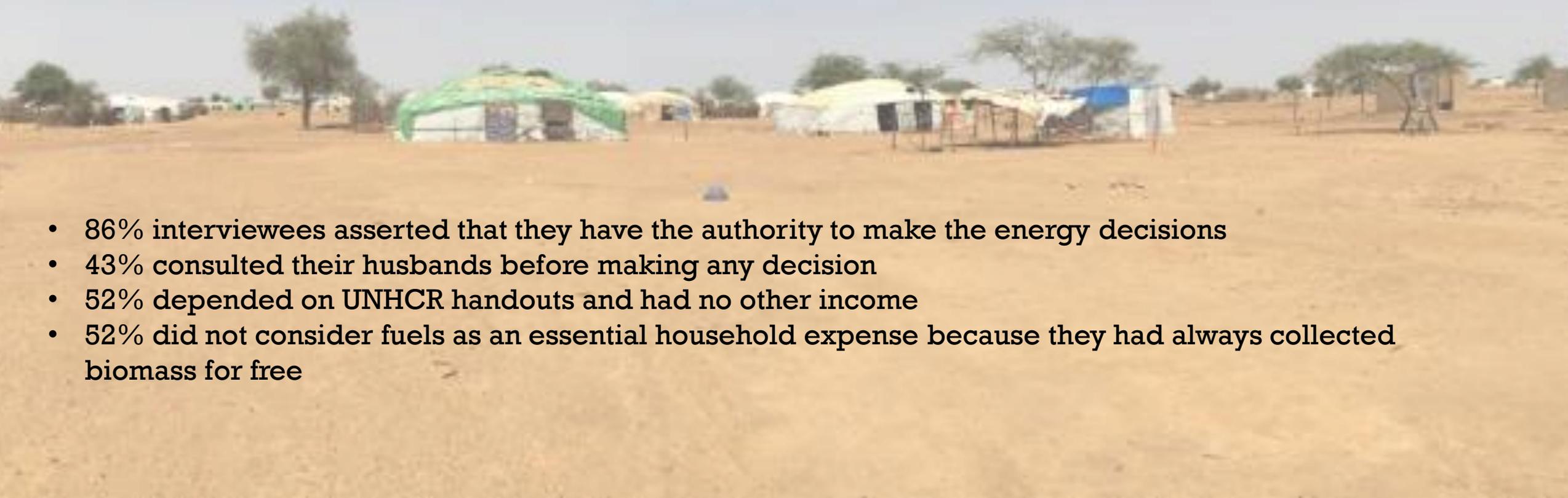
Methodology

- 2 Focus groups
- Individual interviews (with/out interpretation):

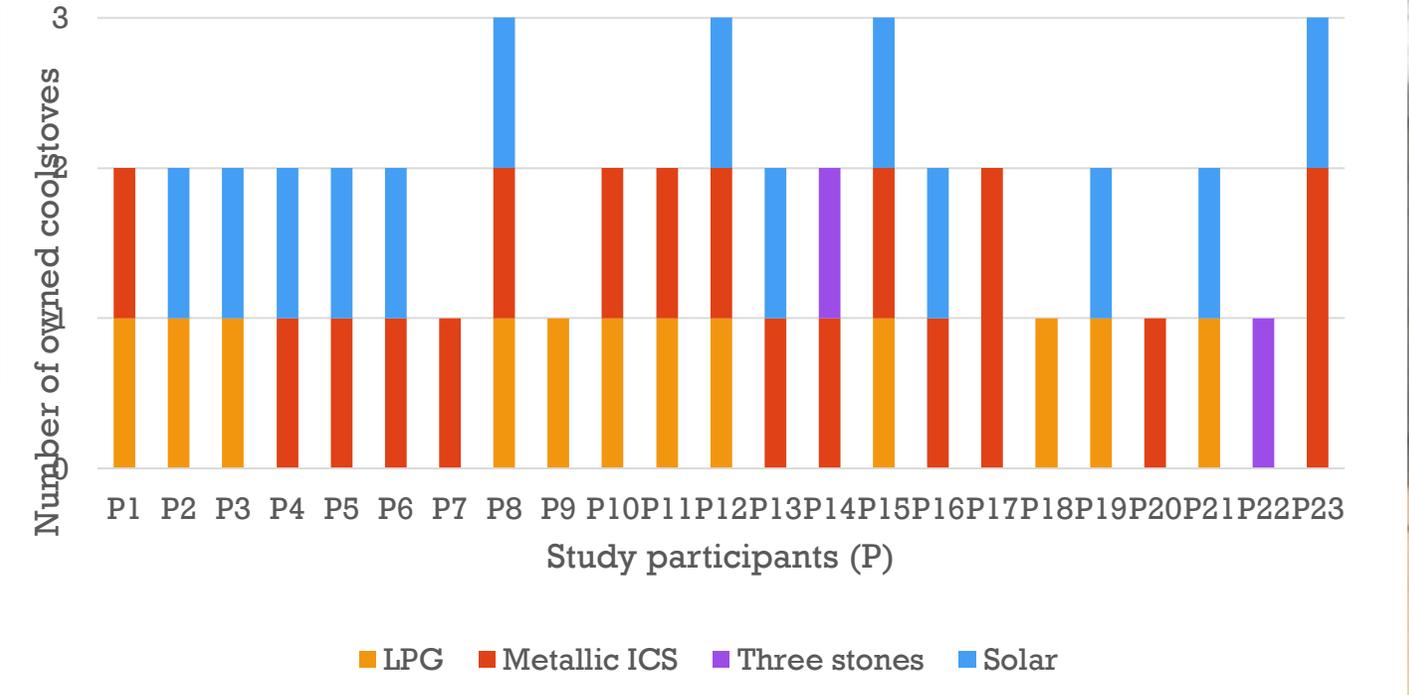
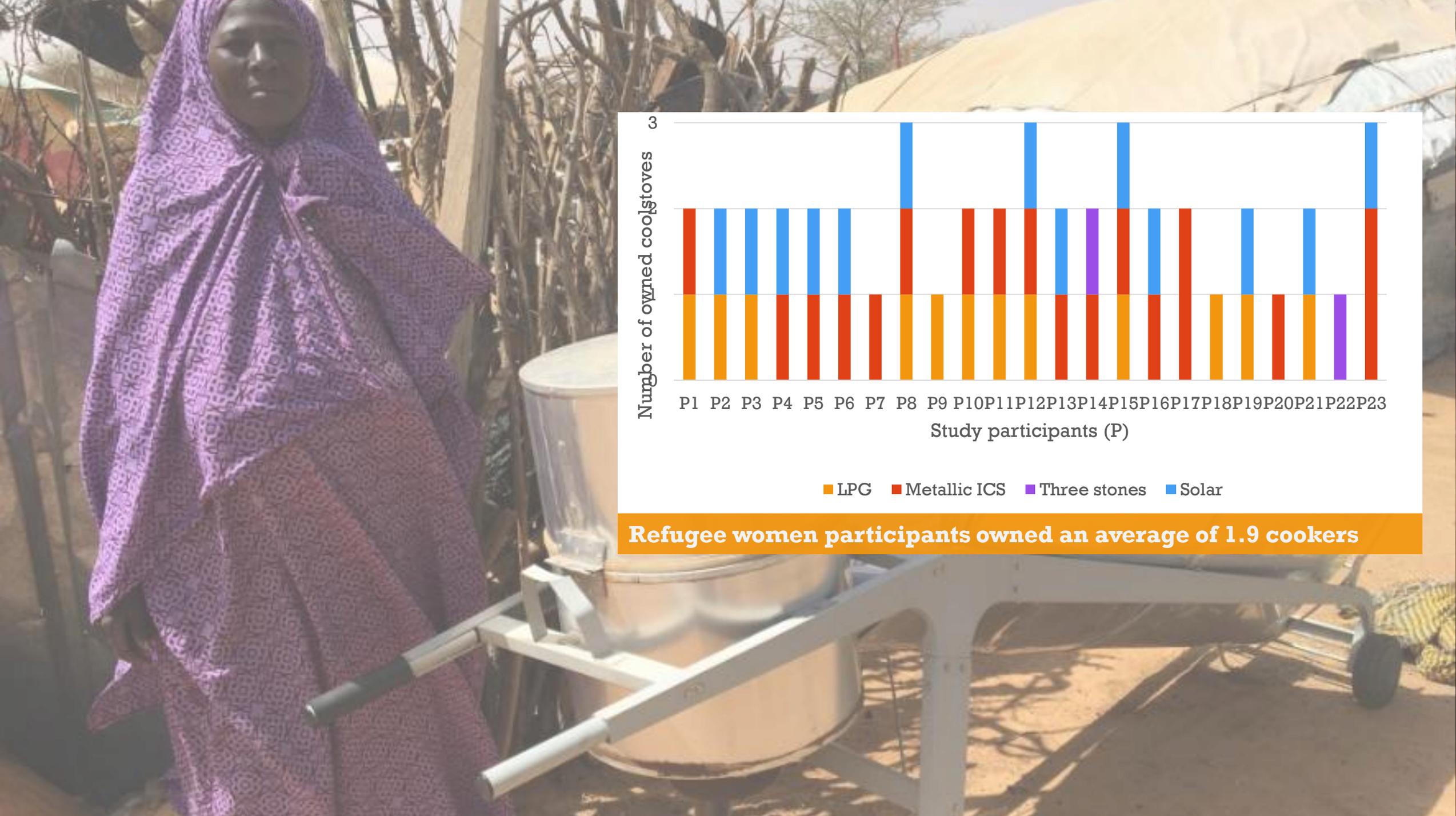
Number of interviewees	Affiliation	Role	Type of interview
3	UNHCR	Refugee Authority	Semi-structured
3	HELP	UNHCR Partner	Semi-structured
1	EnDev	International Donor	Unstructured
2	Moving Energy Initiative	Academia	Unstructured
1	European Commission (DG ECHO)	International Donor	Unstructured
2	Refugee Leaders	Beneficiaries	Unstructured
2	Women from local communities	Beneficiaries	Structured
23	Refugee women	Beneficiaries	Structured
Total Key informants: 12		Total local women: 2	
Total refugee women: 35		Total Number of interviews: 37	



Understanding refugee women's context



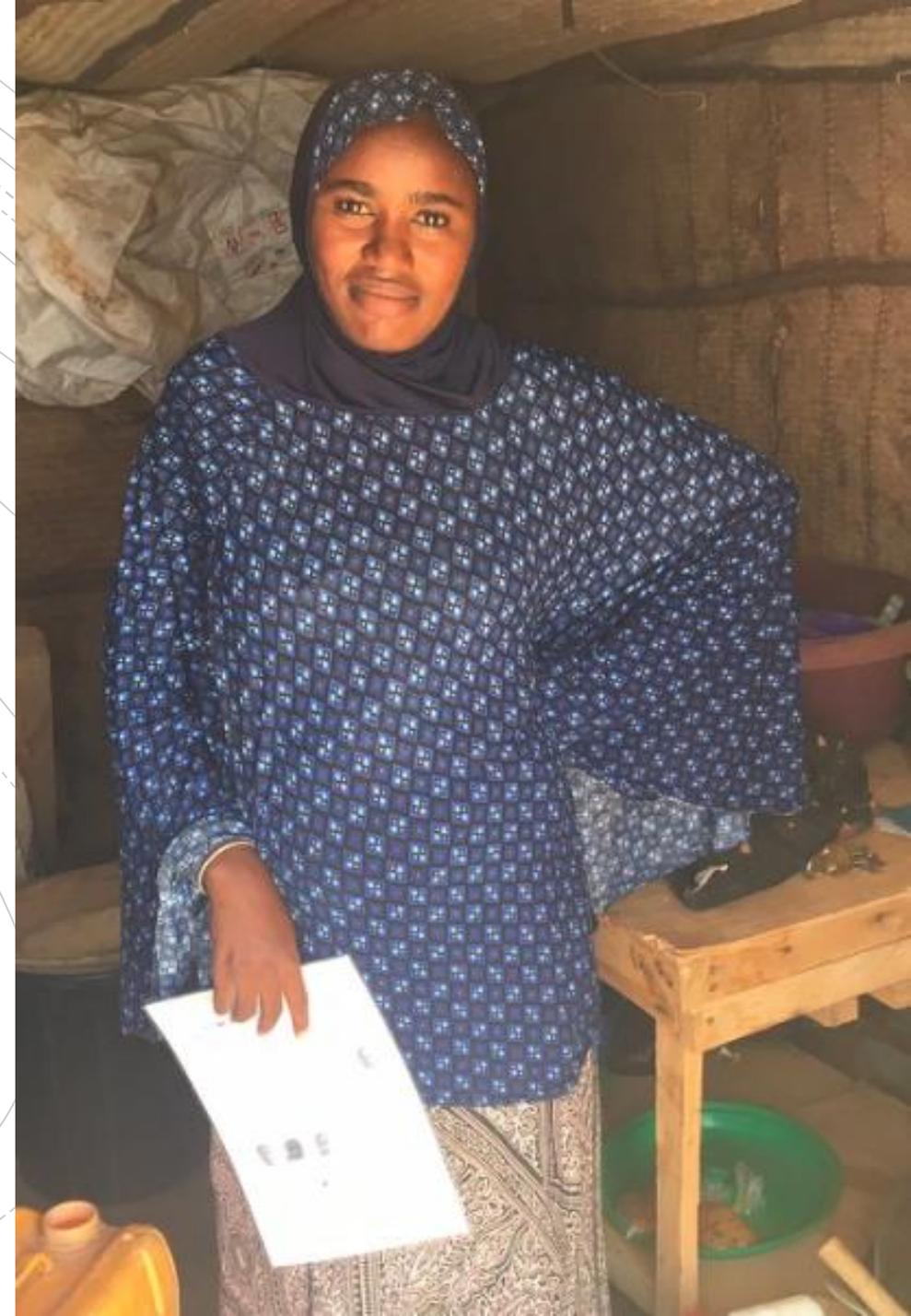
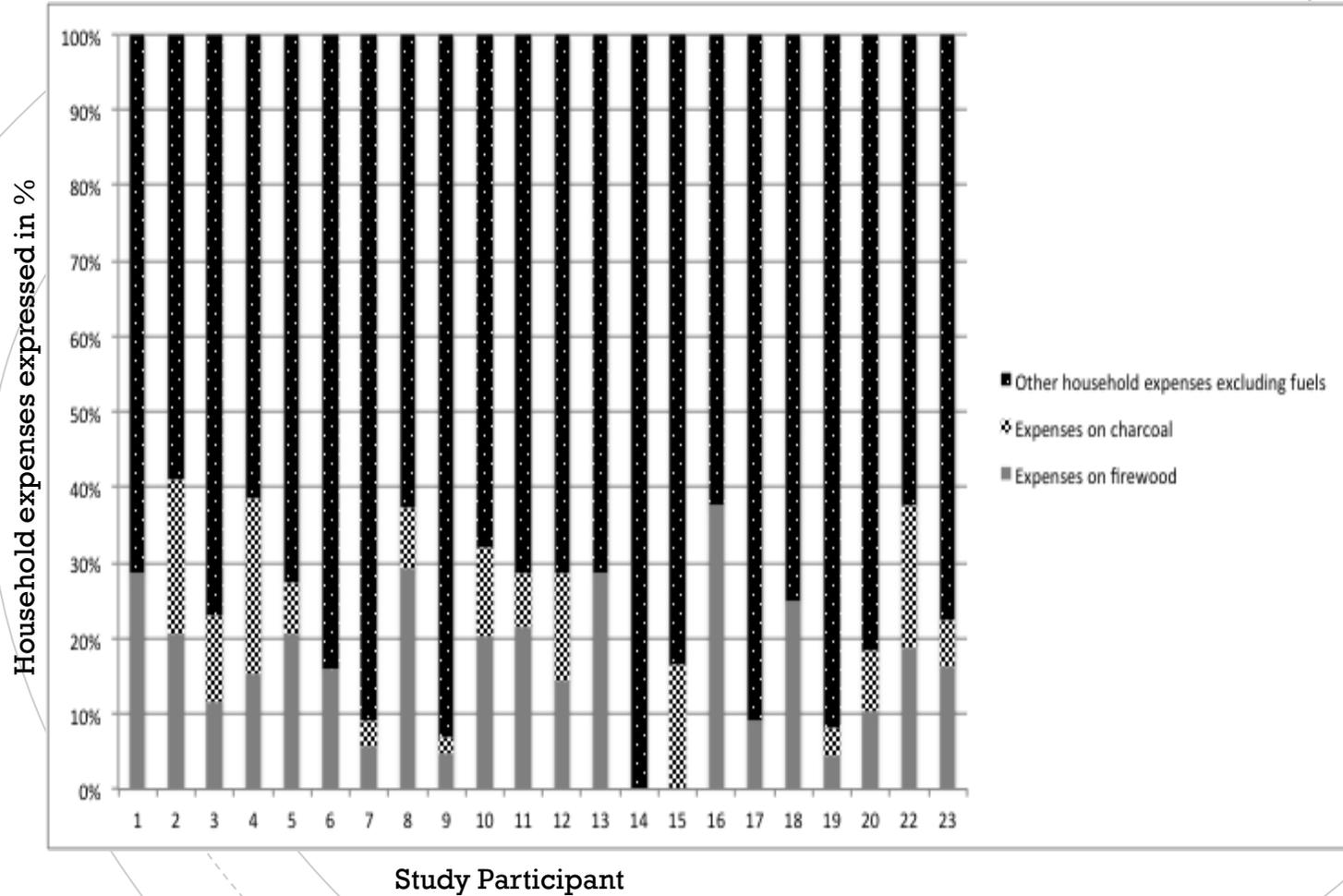
- 86% interviewees asserted that they have the authority to make the energy decisions
- 43% consulted their husbands before making any decision
- 52% depended on UNHCR handouts and had no other income
- 52% did not consider fuels as an essential household expense because they had always collected biomass for free



Refugee women participants owned an average of 1.9 cookers

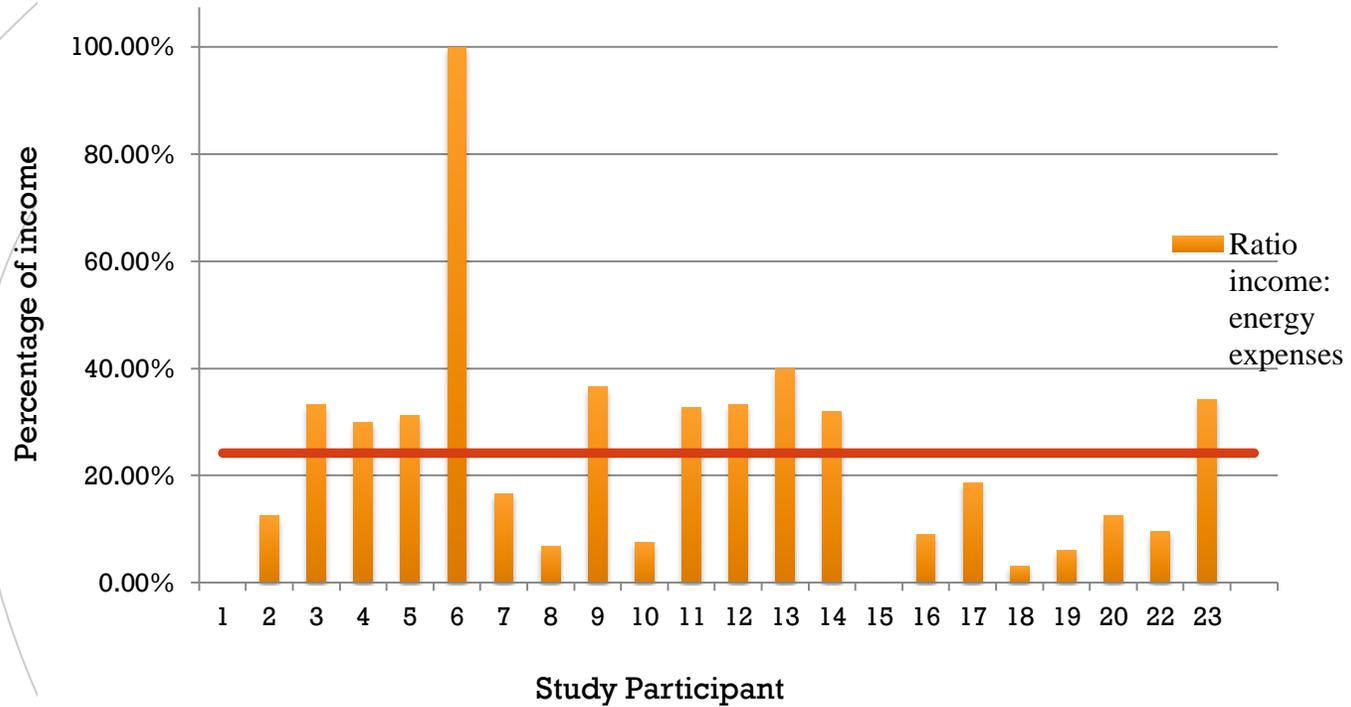
Women Refugee economies (i)

Disaggregate household expenses per refugee woman expressed in percentage



Women Refugee economies (ii)

Ratio Income. Energy Expenses per Refugee Woman in Goudoubo expressed in percentage



Solar, the most unpopular...and LPG, everyone's sweetheart...

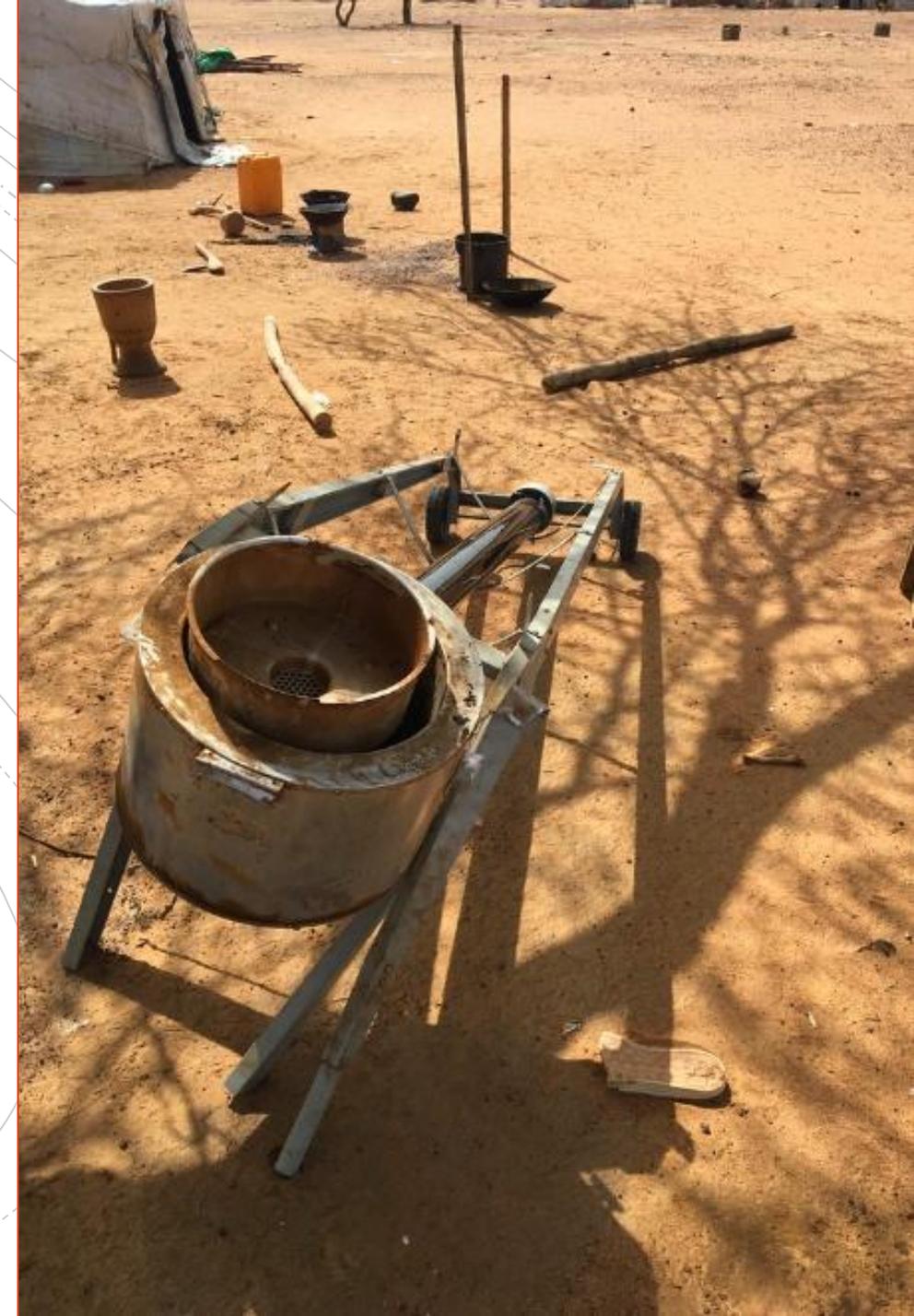
- Average number of uses 15- 20 times and only 2% of recipients continue to use it after one year (UNHCR, 2016)
- Focus group participants scored the BT as the worst performing cook-stove in terms of efficiency, food taste and safety
- 91% refugee women chose LPG as their most preferred cooking technology
- 70% of the total refugee households are more vulnerable than in 2016



The BT solar, a broken promise?

Advantages	Disadvantages
Decrease dependency on firewood	Size and portability
Ability to multi-task	Small size of pot
Less physical effort	Fragility
Free	Incompatibility to weather conditions
	High dependency on oil
	Inability to cook properly meat and beans
	Taste
	Intra-household conflicts
	Continuing dependence on wood
	It's only a secondary stove

** Based on interviews



Report cards on the fuels and cook-stoves technologies for cooking:

Voting Criteria	Firewood	Charcoal	LPG	Solar heat	I don't know
The least preferred	-	-	-	15	-
The least frequently used	-	-	-	15	-
The least environment-friendly	6	9	-	-	-
The one I use the most for tea	-	15	-	-	-
The one I use the most for meals	8	2	5	-	-
The most preferred	-	-	15	-	-
The most frequently used	8	2	5	-	-
The most environment-friendly	-	-	15	-	-

Voting Criteria	Threestone	Metallic ISC	LPG	Blazing Tube	I don't know
The least environment-friendly	8	4	-	4	-
The least secured	7	-	-	8	-
The one that cooks the slowest	-	-	-	15	-
The one that makes my food taste worse	-	-	-	15	-
The most environment-friendly	-	-	15	-	-
The most secured	2	-	13	-	-
The one that cooks the fastest	-	-	15	-	-
The one that makes my food taste better	-	3	7	-	5**

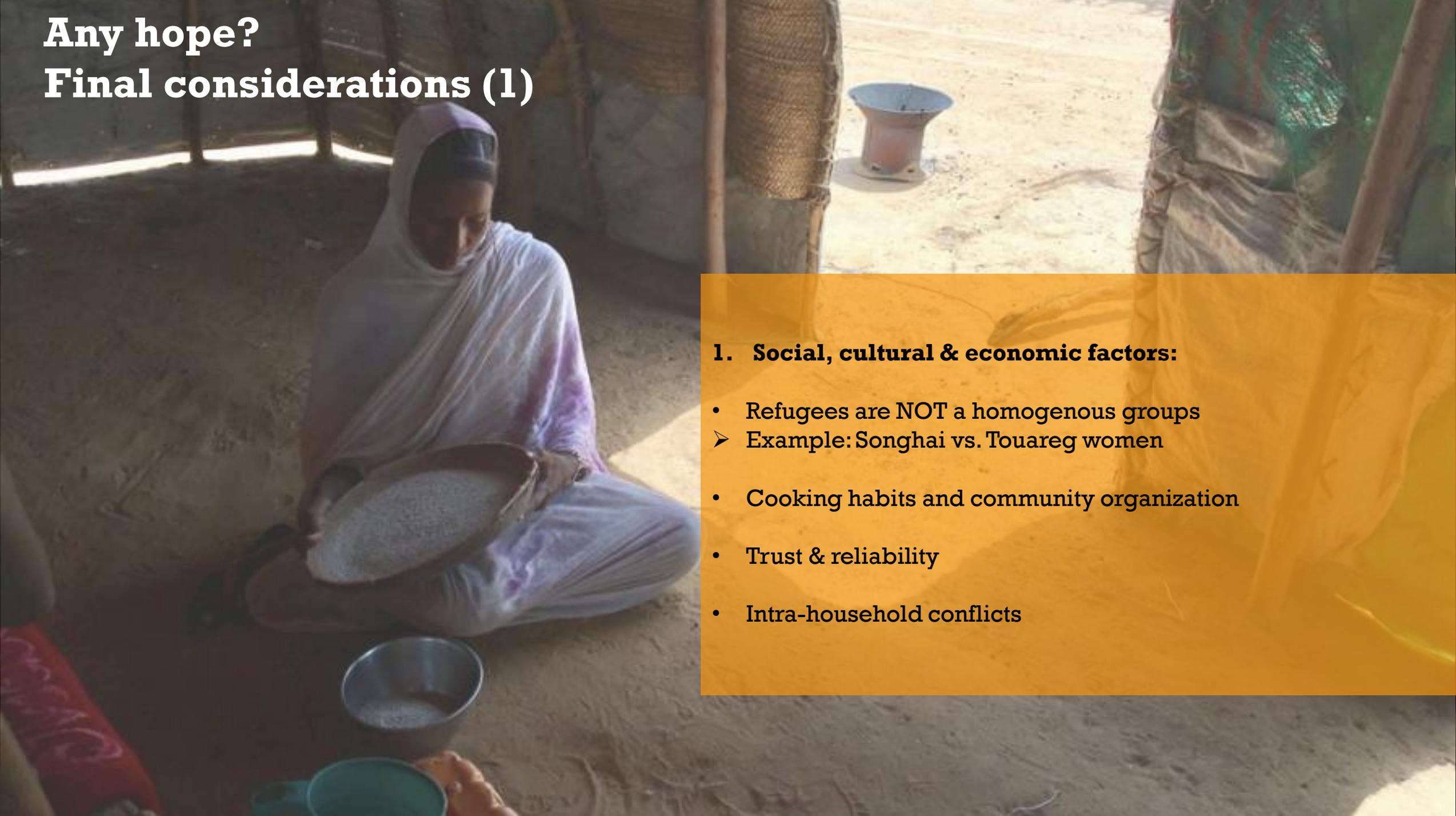
* Based on focus groups and participatory exercises

** These women argued that they never tried LPG, otherwise they would change their views.



Any hope?

Final considerations (1)



1. Social, cultural & economic factors:

- Refugees are NOT a homogenous groups
 - Example: Songhai vs. Touareg women
- Cooking habits and community organization
- Trust & reliability
- Intra-household conflicts



**Any hope?
Final considerations (2)**

2. Security & Political:

- Accelerating fuel crisis in Goudoubo
- Mismatch between humanitarians' priorities and refugee women's needs. Refugee leaders as a way to share feedback?

Any hope?

Final considerations (3)

3. Technological & Design:

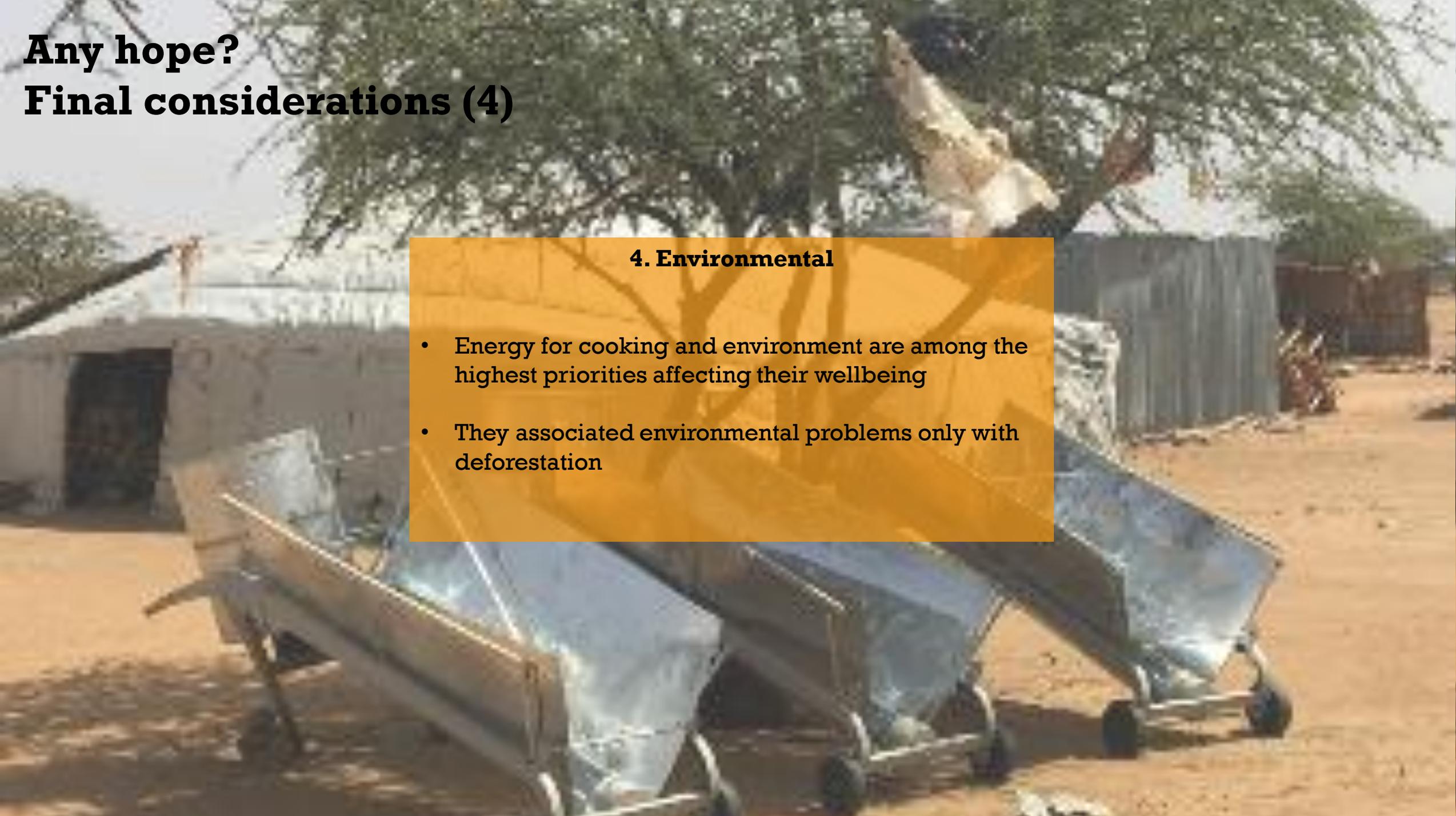
- Context matters!
- Limited technological know-how
 - Features to improve:
 - Size
 - Portability
 - Resistance
 - Performance

Any hope?

Final considerations (4)

4. Environmental

- Energy for cooking and environment are among the highest priorities affecting their wellbeing
- They associated environmental problems only with deforestation





Thank you for your attention!

Questions, feedback?

Get in touch! isatroconis@gmail.com