



## SmokeFreeHome-Nepal

# Cooking Practices and Key Survey Insights

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# Cooking practises in Nepal



## Key cooking practices:

- Traditional biomass remains central across the surveyed districts; three-stone stoves are the most widely used option.
- Fuel stacking is common: households combine biomass cooking with LPG, while improved stoves are used only occasionally.
- Cooking often happens outdoors or in semi-open spaces to reduce smoke; indoor use rises during rain, cold weather, or at night.
- Firewood, twigs, crop waste, and dung cakes remain important fuels, and ventilation conditions differ widely across homes.

# Cooking practises in Nepal



## Why traditional practices persist:

- Traditional mud stoves are seen as familiar, fast, and better suited to local cooking needs.
- LPG is preferred for convenience, but cost limits regular full-scale cooking.
- Small stove size, poor fit with local fuels, and cultural habits can slow sustained transition.

# Study Area and Data Collection

- Pilot survey: 10 households in Kavrepalanchok to test questionnaire clarity.
- Full survey: 200 households, with 50 households sampled from each district.
- District selection reflected forest accessibility, clean fuel availability, market accessibility, and physiographic diversity.
- Face-to-face interviews were conducted between April 2024 and March 2025.
- Questionnaire sections covered socio-demographic profile, willingness to transition, preferred clean cooking solution, and subsidy needs.

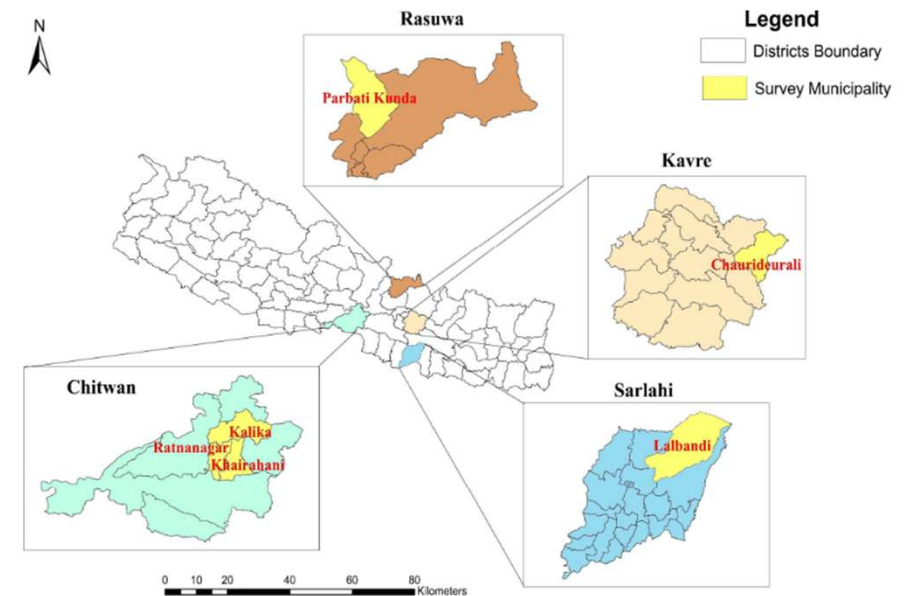


Figure 1 Map of Nepal showing the survey districts. The four districts are color coded according to the region.

**Coverage: Chitwan (Terai), Sarlahi (Terai), Kavre (hill), and Rasuwa (mountain)**

## Survey insights: Firewood dependence and gendered labor

- Firewood is mostly collected rather than purchased (94% vs 6%).
- Women are responsible for almost all firewood collection (90.5%).
- The survey evidence links cooking energy with unpaid household labor and daily time burden.



## Survey insights: Photos from Survey

### Chitwan



*Outdoor open-fire cookstove*

### Sarlahi



*Night-time biomass cooking*

### Rasuwa



*Indoor biomass stove*



*Raised-roof ventilation*



*Soot-darkened kitchen interior*



*Gatlang survey location*

## Survey insights: Demographic information



Demographic information-Sarlahi		
Explanatory variables	Frequency(N)	Percentage(%)
<b>Household head gender</b>		
Male	46	92
Female	4	8
<b>Age of cook</b>		
15-30	20	40
31-50	23	46
51-80	7	14
<b>Cooking responsibility</b>		
Male	0	0
Female	50	100
<b>Household size</b>		
1-3	9	36
4-6	23	46
7+	9	18
<b>Education</b>		
No formal education	36	72
Primary	12	24
Secondary	2	4
<b>Annual Income</b>		
<=100000	7	14
100001-300000	37	74
300001-500000	6	12
>5000001	0	0

Demographic information-Rasuwa		
Explanatory variables	Frequency(N)	Percentage(%)
<b>Household head gender</b>		
Male	42	84
Female	8	16
<b>Age of cook</b>		
15-30	6	12
31-50	27	54
51-80	17	34
<b>Cooking responsibility</b>		
Male	7	14
Female	43	86
<b>Household size</b>		
1-3	9	18
4-6	22	44
7+	19	38
<b>Education</b>		
No formal education	36	72
Primary	4	8
Secondary	10	20
<b>Annual Income</b>		
<=100000	12	24
100001-300000	32	64
300001-500000	5	10
>5000001	1	2

## Survey insights: Demographic information



Demographic information-Chitwan		
Variables	Frequency(N)	Percentage(%)
<b>Household head gender</b>		
Male	43	86
Female	7	14
<b>Age of the cook</b>		
15-30	10	20
31-50	30	60
51-80	10	20
<b>Cooking responsibility</b>		
Male	48	96
Female	2	4
<b>Household size</b>		
1-3	14	28
4-6	32	64
7+	4	8
<b>Education of the head</b>		
No formal education	20	40
Primary	11	22
Secondary	19	38
<b>Annual Income</b>		
<=100000	8	16
100001-300000	23	46
300001-500000	16	32
>5000001	3	6

Demographic information-Kavre		
Variables	Frequency(N)	Percentage(%)
<b>Household head gender</b>		
Male	39	78
Female	11	22
<b>Age of cook</b>		
<30	6	12
31-50	27	54
51-80	17	34
<b>Cooking responsibility</b>		
Male	7	14
Female	43	86
<b>Household size</b>		
1-3	21	42
4-6	18	36
7+	11	22
<b>Education</b>		
No formal education	30	60
Primary	9	18
Secondary	11	22
<b>Annual Income</b>		
<=100000	15	30
100001-300000	30	60
300001-500000	4	8
>5000001	1	2

# Survey insights of one district

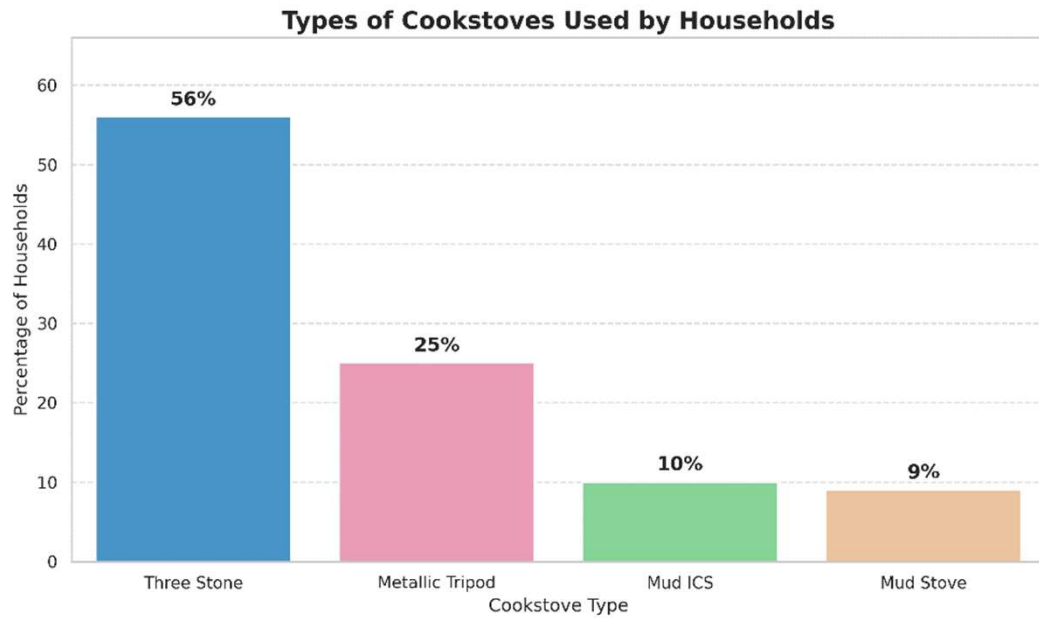


Figure 1 | Types of cook stove used in the households.

### Source of Firewood Used by Households

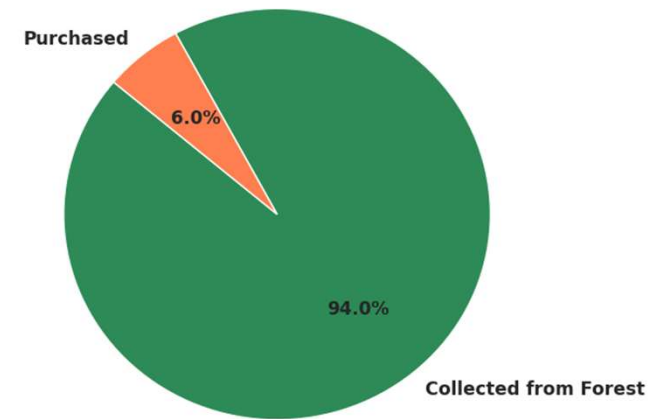


Figure 2 | Information on firewood collection vs firewood purchased.

## Survey insights of one district

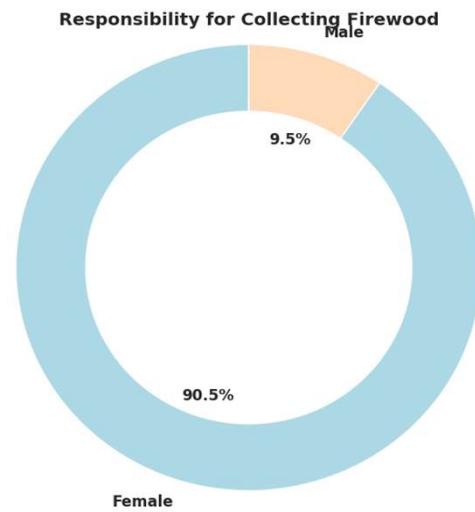
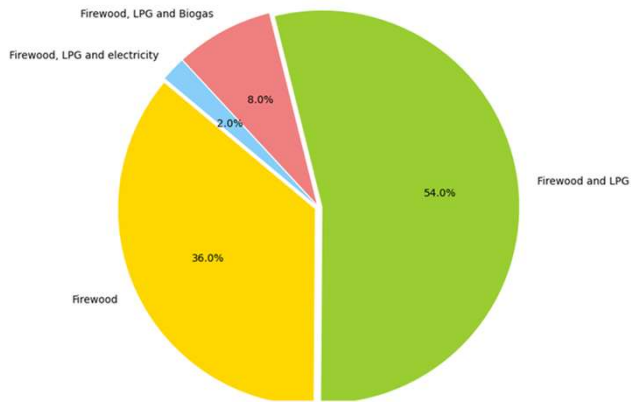


Figure 3 | Information on gender responsible for firewood collection.

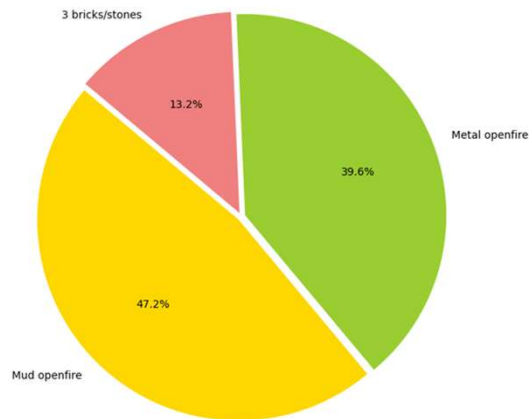
# Survey insights: Socio-economic information



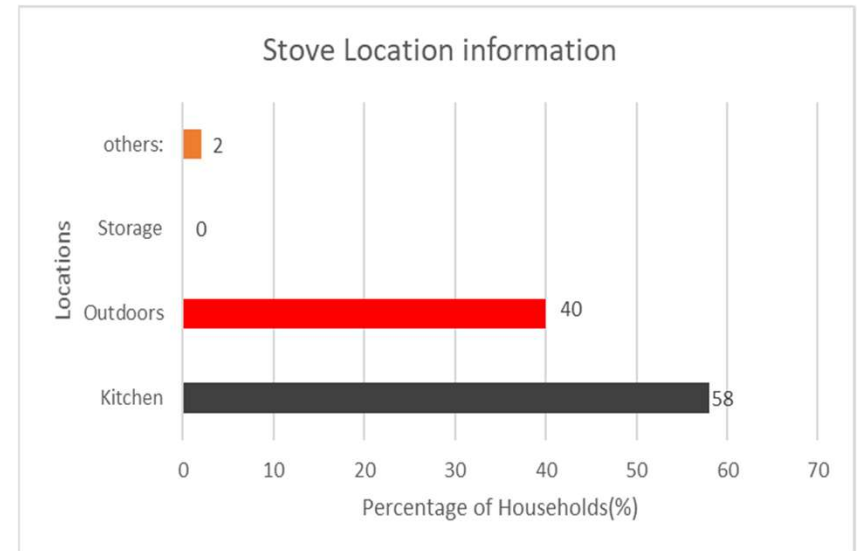
### Fuel Stacking



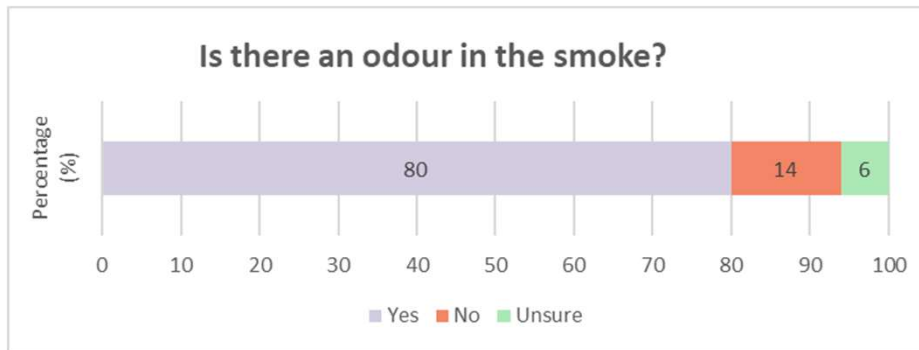
### Type of firewood/biomass cookstoves in use



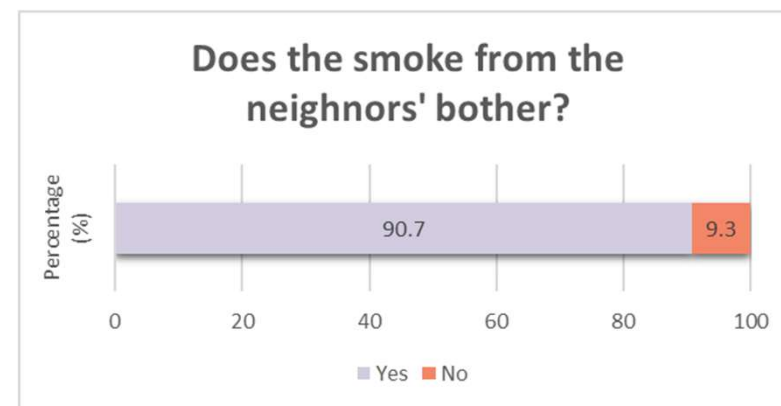
### Biomass cookstove



## Survey insights: Socio-economic information



Kinds of odour
Unpleasant smokey
Woody
Bitter
Burnt plastic
Burnt tube



## Conclusion



### 1. Start from real cooking practice

Outdoor biomass use, stove stacking, and seasonal use patterns must shape solution design.

### 2. Reduce burden on women

Firewood collection is still a major part of cooking, and it remains highly gendered.

### 3. Pair technology with reliable access

Households favored LPG because it is fast, familiar, and seen as more dependable than electric cooking.

### 4. Make subsidy user-centered

Adoption improves only when the stove matches local needs and users feel ownership.

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**Nepal's clean-cooking transition needs region-sensitive, user-centered solutions rather than one-size-fits-all distribution.**

**Thank you!**

