



nielsen

KERALA CONSUMER SEGMENTATION STUDY

FINAL REPORT

**Prepared by
Nielsen India Pvt. Ltd.,
March 2016**



INTRODUCTION

- This study was commissioned by the Global Alliance for Clean Cookstoves (Alliance). The Alliance was launched in 2010 with a mission to catalyze the uptake of clean and efficient cookstoves and fuels through a market-based approach to save lives, improve livelihoods, empower women, and protect the environment.
- This study is one of a series of studies commissioned by the Alliance to develop a better understanding of the consumer base for clean and efficient cookstoves and fuels, in particular to identify key consumer segments and their needs and preferences around cookstoves and fuels, as well as other factors related to effective marketing and sales of stoves and fuels, including messaging and promotion, pricing and payment schemes and distribution channels.
- This study was conducted by Nielsen (India) Private Limited, the India affiliate of the Nielsen Company, the world's leading provider of marketing information, audience measurement, business media products and services.
- The study geography was Kerala India; We'd like to thank the Department of Power, Government of Kerala and Energy Management Centre Kerala who granted permission to undertake the study to assess the current usage patterns of biomass, LPG and induction stoves in Kerala.

ABBREVIATIONS

SEC	Socio Economic Classification
CWE	Chief Wage Earners
SDG	Sustainable Development Goal
FGD	Focus Group Discussion
Chulha	Traditional mud cookstove
LPG	Liquid Petroleum Gas
MFI	Micro Finance Institutions
PDS	Public Distribution System

Presentation Overview

Executive Summary

- Key Findings
- Recommendations

Research background

- Introduction
- Study objectives
- Methodology and sampling design

Consumers we met

- Demographic profile of the respondents
- SEC Classification
- Fuel / stove usage pattern
- Cooking practices

Segmentation analysis

- The segments
- Identification of segments
- Identification of priority segments

Detailed profile of the Early Adopters segments

- Usage of firewood
- Usage of LPG
- Usage of Induction stove

Identification of demand enhancing strategies for the adopters

- Functioning of KSSP, other ICS sellers, Induction and LPG distributors
- Recommendations and Conclusions

EXECUTIVE SUMMARY - KEY INSIGHTS

- The consumer segmentation study was conducted in a total of eight districts spread across northern, central and southern part of the state of Kerala. The study districts were Kannur, Wayanad, Malappuram, Palakkad, Kottayam, Alappuzha, Kollam and Trivandrum.
- Total respondents in the study across the districts were 3929. In addition, qualitative discussions were conducted with around 100 respondents
- **Profile of the respondents**
- Majority of the respondents (45%) belonged to the age group of 36-50 years, followed by 28% in the group of more than 50 years. Close to four-fifth of the total respondents (77%) were “Wife” of the chief wage earners (CWE, hereafter) which is a category primarily responsible for the cooking activities in the household.
- Out of the total households, in close to half (47%) households the education qualification of the CWE was reported to be high school, followed by 20% primary school completed. Highest illiteracy was reported in the Malabar region (Wayanad, Malappuram and Palakkad). Occupation of a high majority of the CWE was reported to be labour- unskilled and skilled (44% and 22% respectively).
- 71% of the total household studies practiced Hindu religion, followed by 17% Islam, and 11% Christianity. Close to three-fifth of the total households belonged to Other Backward caste (62%), 19% General caste and 12% Scheduled caste groups.
- The average family size reported across study districts was 4.2. Average monthly expenditure was calculated to be around Rs.8000/ (Rural) and Rs.10000/ (urban). Close to 93% households reported having access to banking services, 52% households reported having access to Self Help Groups.
- Around 97% of the respondents reported ownership of their house; only 4% households reported owning agricultural land. As against the common perception credit seeking behaviour was reported by only 14% households who reported borrowing money over last one year. Out of these 14%, almost one third of these households reported taking loan for improvement of dwelling. Bank and SHG were reported as the major sources for loan.

EXECUTIVE SUMMARY - KEY INSIGHTS

- **Socio- Economic Category (SEC) Classification:** SEC system is used to classify households in India based on two variables Education of Chief Wage Earner and number of consumer durables owned by the family. There are 12 grades ranging from A1 to E3, with A1 representing the highest economic strata. More than 90% households were found in SEC B, C and D category.
- **Access to fuel/stove: Usage Pattern**
 - Different types of cookstoves and fuel types were found in the households in the study districts, which were- Open fire / three stone fire, Traditional mud cook-stove (fixed model), Improved cook-stove (built in model), Electric /Induction cook-stove and LPG cook-stove.
 - Majority of the respondent households had LPG stove/cylinder in their house (73%), followed by 68% households reported having traditional mud stove (fixed). In addition, households also reported having Improved cook-stove (built-in), Open fire/three stove fire and Induction stove in their house (17%, 15% and 9% respectively).
 - Majority of the households used both solid fuels and LPG for cooking (66%) while 24% households used only solid fuels for cooking in their households. Usage of LPG and traditional mud-stoves using solid fuels was reported high across study districts.
- **Cooking pattern of the households**
 - Around 70% of the households reported cooking twice in a day and about 11% reported cooking three times and remaining households cooked only once in the day.
 - Average cooking time was reported as 190 minutes in a day and maximum cooking time reported during morning more than 120 minutes. Average 6-7 types of dishes were prepared on a day in a typical household, and similar practices were observed in rural and urban areas. Around 99% households reported cooking rice using solid fuel stove only and the average time taken in cooking rice every time is more than an hour.
 - Improved cook-stoves (built-in) models are regularly used for all type of cooking while Induction cookstoves are mainly used for making tea, coffee and boiling water (93% households).
- **Firewood usage pattern**
 - Three major types of solid fuels were reported being used by the household in Kerala which were Firewood, Coconut husk / Coconut shell and Coconut leaves / fronds/ midribs. 50% households reported only collection of firewood consumed for cooking purposes.

EXECUTIVE SUMMARY - KEY INSIGHTS

- **Firewood purchase practices**

- On average the households using firewood reported that wood is purchased almost 8-10 times in a year. Average amount of wood purchased was reported to be around Rs.400/Kg during the last purchase. The amount paid to purchase firewood last time was Rs.1700 i.e. calculated to be about Rs.4-5 / Kg.

- **Firewood collection practices**

- Collection is normally observed to be a weekly practice and almost all households collect wood once in a week (3-4 times over a month). Almost 93% households collected the fuel from their premises and neighbourhood and average distance travelled for collecting firewood was less than 2 Km. Responsibility of collecting the fuel generally lies with the adult female members of the household.

- **Improved Cook Stove developed by KSSP/IRTC**

- Improved Cook-stove (built-in) model is commonly known as Parishad Chulha in the state of Kerala as it was development by KSSP/IRTC. This model of stove is a fuel efficient wood burning chulha with an efficacy of 28%, certified by CPRI, Bangalore. It reduces the firewood consumption to one-third in comparison to traditional cook-stove. The motivation to develop the chulha was to conserve energy and save the depleting forests.
- Marketing channels and medium used by KSSP for their product were: Awareness campaign, Demonstrations conducted in Kudumbashree groups and high schools which further created high awareness levels and increased demands. Subsidies were provided by ANERT to households for construction of the Parishad chulha and ANERT also trained self-employed workers who installed these chulhas in the households with subsidy. Around 16 % of the households reported using ICS (built-in model). At present the Parishad Chulha is not being marketed in the state.

- **Key Players for ICS (Portable Model) in Kerala**

- **Greenway Appliances**

- The current market for the target consumers of this manufacturing group are the people who have disposable income to purchase the product (Rs.60 – 70 / week). Marketing of the product was done through ESAF- a microfinance organization, catering to the reach of the MFI.

- **Envirofit**

- The addressable market of Envirofit ICS ranges between 1.5 to 1.8 lakh of people with a monthly income of Rs. 5000 and above. They are focusing on early adopters, i.e. people who want to reduce the burden of cooking on LPG. They identified consumer durable retailers and conducted demonstrations in public places like markets.

EXECUTIVE SUMMARY - KEY INSIGHTS

- **Induction Stove – Usage Pattern**

- 87% of those who owned an induction stove in their household had purchased the same themselves and more than 50% purchased these in the last two years. Prestige and pigeon reported more than one third (36%) of the market share in Kerala. Average price of induction stoves in the state was reported as Rs.3100. Time saving and fast cooking were the two prominently reported reasons for the purchase of the induction stove across districts. Only 26% households reported using the stove regularly and 63% reported using the induction stove occasionally.

- **LPG stove- Usage pattern**

- 38% of 1864 households, those who had LPG in their house had been using it for 2-5 years, followed by 37% who had been using it for 5-7 years. More than half of the households had a single cylinder connection. On an average it takes 17.4 days to get the cylinder, from the day of booking. The amount paid to purchase the cylinder was Rs 680.

- **Segmentation**

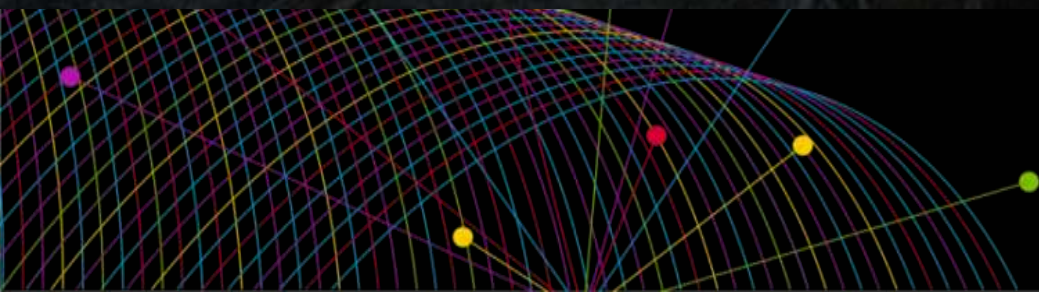
- Segmentation Analysis was conducted based on 20 qualitative statements identified from qualitative research and five segments are identified as follows:
- **The Conventional Segment** - Traditional segment governed by the eco-systems, do not lack the purchasing power but continue using solid fuel due to traditional and cultural rigidity and taste preferences.
- **The Comfort Seekers Segment** - This segment is of highest SEC and base their decisions on convenience. Affordability is not a concern, they also have health awareness, mostly using LPG and Solid fuel with Improved Cook Stove.
- **The Struggling Maximisers Segment** - The segment is at medium level SEC, trying to balance both end, convenience factor plays key role, even health awareness and traditional orientation is also reported.
- **The Wishful Segment** - The segment has one of the lowest SEC profile and affordability is the issue however there is a strong desire to come out from the condition. Predominantly use solid fuel at present however strongly reported the inconvenience of using solid fuel.
- **The Strapped Segment** - The segment has one of the lowest SEC profile, doesn't have disposable income, continue using solid fuel in absence of affordable alternative fuel, purchasing power remain the key constraint

EXECUTIVE SUMMARY - KEY INSIGHTS

- **Early adopters for clean fuel –**
- **The Comfort Seekers segment and the Struggling Maximisers segment** – are identified as priority segments for clean cooking fuel. More than 80% of these segments have access to LPG, however the key challenge remain with the fuel stacking. All these households were putting extra time and money for collection, purchase and storage of firewood. Few of them were using traditional stove only for cooking rice, however other reported using the traditional stove for entire cooking and stored LPG stove as secondary fuel.
- It is proposed that with right type of health awareness and message around alternative options, handholding with LPG distributors and other these are the segments will use clean fuel consistently.
- **Early adopters for Improved Cookstove –**
- **The Conventional Segment, The Wishful Segment and The Strapped Segment** - are identified as priority segments for Improved Cookstove. The conventional segment belongs to higher socio economic strata and would be willing to adopt the sophisticated models of improved cookstove however the other two segments belong to middle and lower economic strata and would prefer the most economic options with possible handholding through consumer finance model.
- **Consumers in Kerala will adopt improved cookstove with following features**
 - Stove which reduce smoke and toxic emissions
 - Stoves with multiple burners, can hold bigger size vessels / pot needed for cooking rice
 - A table top model / stoves which can be kept on a platform would be preferable
 - Works on any biomass fuel including coconut husks mid ribs etc.
 - Stove which can reduce cooking time would be preferred
 - Stove which reduce fuel requirement would be preferred as well
 - Stoves which can be cleaned and maintained easily, collecting ashes should not be a difficult process
 - Stove which won't require continuous attention and allow multi tasking along with cooking
 - Stoves which are aesthetically appealing would do good in Kerala market \
- **Key recommendations:**
- Behaviour Change Communication (BCC) strategy to be developed, BCC strategy should address several of the barriers to purchase and consistent use of clean and efficient cookstoves and fuels while referring the triggers and barriers identified through this study



RESEARCH BACKGROUND



INTRODUCTION

Four out of every five rural and one out of every five urban households in India primarily depend on direct burning of solid biomass fuel like fire wood, crop residue and cattle dung in traditional mud stove/ three stone fire for cooking.

The United Nations and its member states, including India, met in September 2015 to adopt the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs). There is recognition now that access to modern energy — clean cooking and electricity — has a critical impact on the quality of life. Thus, access to affordable, reliable, sustainable and modern energy is Goal 7 under the SDG framework.

India has the largest population without access to modern energy: close to 800 million continue using firewood, dung cakes, charcoal or crop residue for cooking. Cooking has proven to cause one of the biggest health hazards in India, with the WHO reporting that indoor air pollution causes over 1 million premature deaths in India per year.

In India, attempts to deploy clean cooking interventions — improving the efficiency of biomass stoves or replacing biomass with cleaner fuels have faced many challenges, particularly in rural areas.

While the Government of India is making impressive strides in expanding the usage of LPG for cooking among the population, recent reports suggest that as many as 30 million households will continue to use solid fuel for cooking in 2040, highlighting the importance of considering improved biomass stove solutions alongside clean fuels like LPG.¹

¹ Center for Study of Science, Technology and Policy (CSTEP), "Quality of Life for All: A Sustainable Development Framework for India's Climate Policy", 2015; International Energy Agency, "India Energy Outlook", 2015

GLOBAL ALLIANCE FOR CLEAN COOKSTOVES

Global Alliance for Clean Cookstoves (GACC) was founded with the goal of enabling the adoption of 100 million clean and efficient cookstoves and fuels by 2020.

GACC uses a market based approach to bring together a diverse group of actors across government, development, NGOs, academia and the private sector to work towards a common goal.

Market research can uncover insights from consumers that will lead to marketing strategies that better respond to their needs and preferences and are therefore more effective

Alliance has commissioned a series of market research studies in each of its focus countries in order to better plan its efforts around awareness-raising and demand creation.

Nielsen India Pvt. Ltd. undertook the consumer segmentation study for clean fuel and cookstoves in Kerala, India. Department of Power, Government of Kerala and Energy Management Centre Kerala has supported the study.

STUDY OBJECTIVES

- Analysis of consumer segments in Kerala and identification of priority segments for clean fuels and cookstoves
 - Closely examine all of the existing broad consumer segments in Kerala
 - Identify those with the greatest potential to reach scaled adoption of exclusive use of clean fuels and cookstoves for cooking
- Development of detailed profiles of each of the early adopter segments and identification of demand enhancing strategies for addressing each of these segments
 - Undertake primary research to understand each consumer segment's relationship with cookstoves and fuels
 - Triggers and barriers towards purchasing and adopting clean fuels.

WHY CONSUMER SEGMENTATION?



Individuals differ from one another, some more different than others

These individual differences translate to differing ways in which consumers interact with a product / brand - what they want, how do they buy, where do they buy from, how do they use/consume

Not all CUSTOMERS have IDENTICAL NEEDS....Focus 'Marketing Efforts to fully Satisfy' the needs of a few customer subsets - 'segments'

Appealing to everyone means being very broad and unfocussed, segmentation leads to more focused marketing

THE OVERALL FRAMEWORK: PROJECT FLOW

Qualitative

To peep into consumer's life,
To understand the relationship
of each consumer segment with
cookstoves and fuel;

To assess various attitudes and
behaviors towards improved
cookstoves and clean fuel

Quantitative

Identify various segments and
estimate segment size

Identify the early adopters
segments

Synthesize findings

*Build a comprehensive
understanding of the early
adopters segments*

Initiated the project: May 15th 2015



Completed the project : October 2015

RESEARCH APPROACH

Research Task I

Desk Research

Research Task II

Workshop with the working group of key stakeholders

Research Task III

FGD with the target groups

Research Task IV

Ethnographic immersion / In-depth interview with observation of cooking practices

Research Task V

In-depth interviews with experts and other stakeholders

Research Task VI

Structured interview with the target group households,

SAMPLE COVERAGE

Qualitative

A total of 16 FGDs and 8 ethnographic observations across 8 districts

Focus Group Discussions

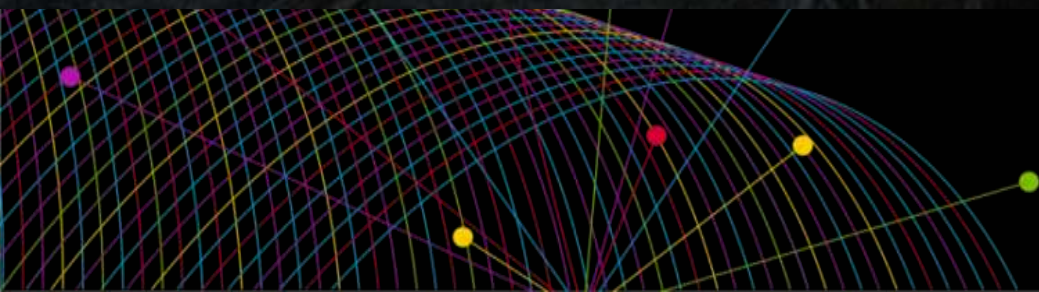


Ethnographic Immersions





CONSUMERS WE MET



KERALA – GOD’S OWN COUNTRY

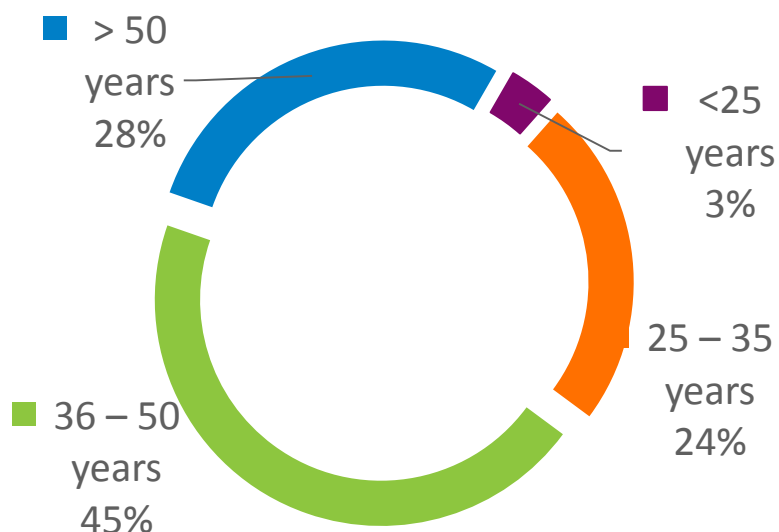
Key facts and figures

- Kerala lies on the southwestern tip, one of the small states of India
- Population of the state: 33 million (33406061), 14 revenue districts
- Forest cover: 29% of the total state area
- The state receives copious rainfall, monsoon extends for six months
- A large number of lakes, backwaters, lagoons and estuaries along with numerous rivers and tributaries : a land rich in water resources
- A popular tourist destination
- The state is the leading fish producing state in India
- The state is also known for the highest sex ratio i.e. female to male ratio of 1.084 (Census, 2011)
- Literacy rate in Kerala: 93.91% (Census, 2011)
- Kerala is the only state in the country which remains in the ‘very high human development index (HDI)’ with respect to all the three dimensions of life expectancy at birth, education index and a decent standard of living; with an HDI of 0.790 (according to HDR, 2011).

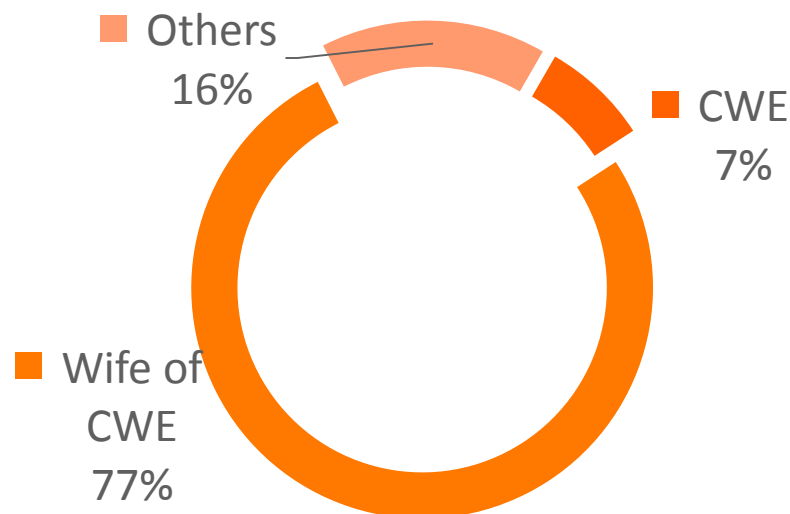
DEMOGRAPHIC PROFILE OF THE HOUSEHOLDS

- 91% of Chief Wage Earners were male and remaining 9% were female which reflects the stature of women in the state
- Close to three fourth of the respondents reported in the age group of 25 years and above
- Majority of respondents were wives of Chief Wage Earners, other include mother / mother in law, daughter / daughter in law and other family members

Age group of the respondents



Relationship of the respondents with Chief Wage Earners



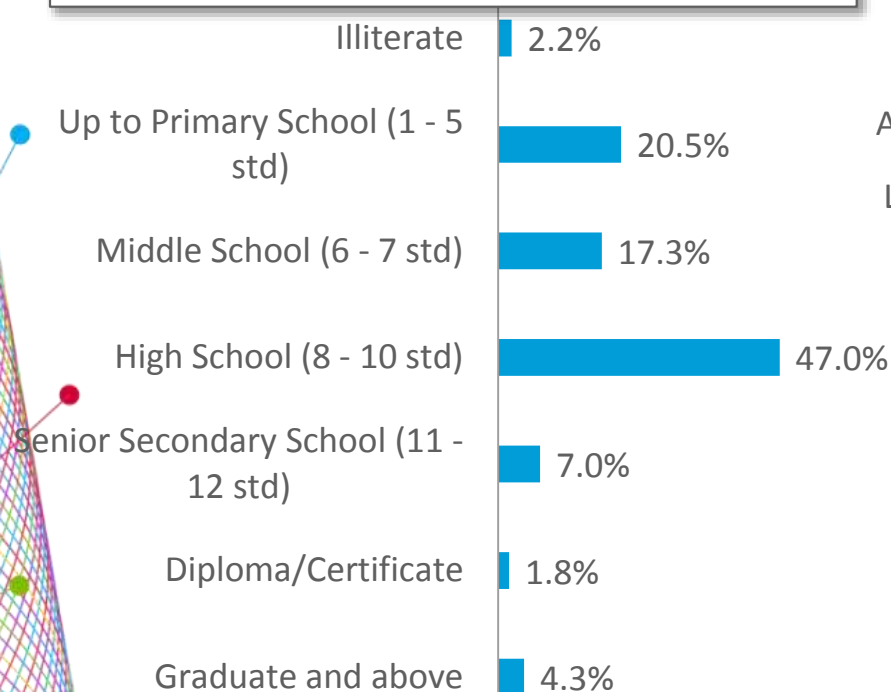
Total Respondent - 3929

The Chief Wage Earner is the member who earn maximum wage in the household.

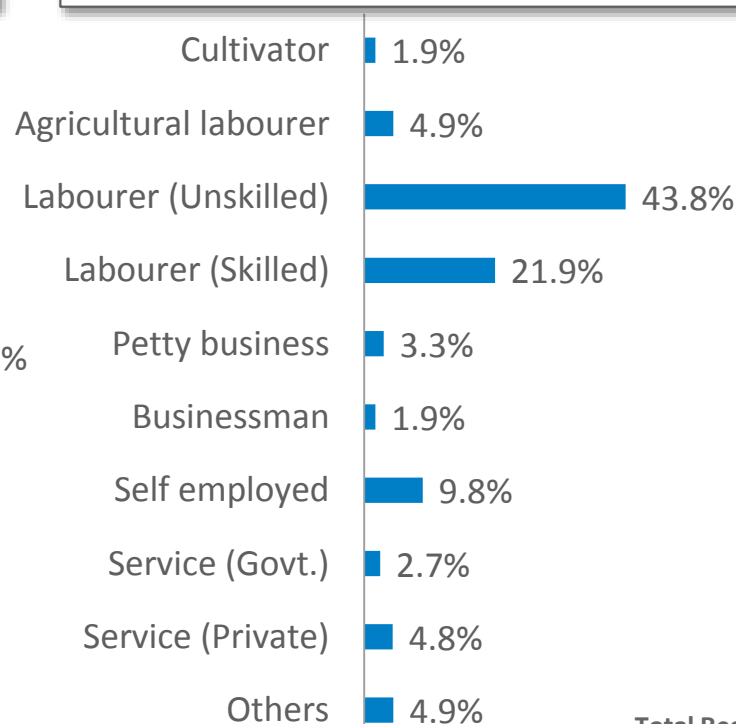
DEMOGRAPHIC PROFILE OF THE HOUSEHOLDS...CONTD.

- Close to half of the Chief Wage Earners have completed middle school education
- Kannur district reported very high education level (education Index 3)
- Only 2 % Chief Wage Earners were found as illiterate and highest illiteracy reported in Wayanad district (4.2%)
- Female members are more educated compared to their male counterpart (Male Education Index – 1.8 and Female Education Index – 3.8)*
- Around two third of Chief Wage Earners were involved in unskilled / skilled labour work
- Small proportion of Chief Wage Earners were found in service sector

Education profile of Chief Wage Earners

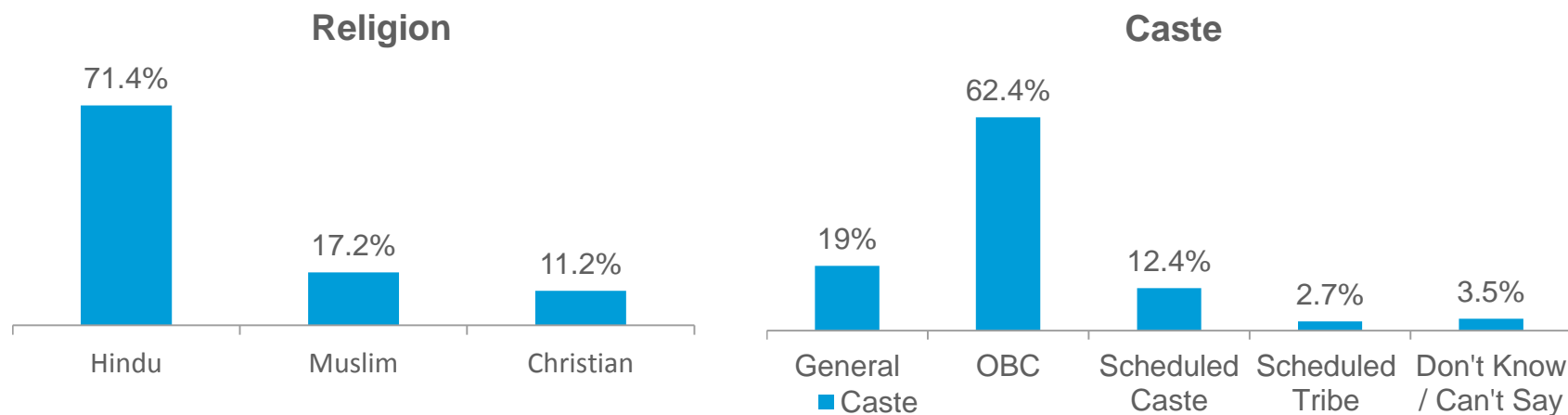


Primary Occupation of Chief Wage Earners



* - Education Index computed by multiplying education level with total number of household members

DEMOGRAPHIC PROFILE OF HOUSEHOLDS...CONTD.



Total Respondent - 3929

- Family Size – Average family size 4.2
- Monthly expenditure – Average monthly expenditure around Rs.8000/ (Rural), Rs.10000/ (urban)
- Access to Public Distribution System – 98% households reported access to Public Distribution System
- More than 42% households reported having APL (Above Poverty Level) card and remaining having BPL (Below Poverty Level) card
- Access to Banking services – 93% households reported having access to banking services
- Almost all households in Kottayam (96%) and Alleppey (97%) districts reported access to Bank

Public Distribution System in India facilitates the supply of food grains to the poor at a subsidised price, Wheat, Rice, Sugar and Kerosene Oil are distributed across states through Fair Price Shops. The quantity of goods with fixed prices are given to the consumers on the basis of type of Ration Cards possessed by them.

WOMEN WE MET



LIFESTYLE

- Educated and employed in un-organized sector.
- Life revolves around family. Happiness is feeding their children and keeping them healthy.
- Day starts with the thought of the food to be cooked for the family. She is indispensable to this chore.
- She is not decision maker and accepts it as a role of the male members and elderly in the household.

WORLD VIEW

- Morally governed by the rules of eco-systems.
- Culturally and traditionally rooted and more depended to husband and other family members.
- Has access to TV and newspaper however does not associate these forms of media as a part of leisure or entertainment.
- World view is restricted to daily sustenance with hopes of better tomorrows for their children.

WOMEN WE MET

LIFESTYLE & BELIEFS

- Self-determined and educated.
- Employed or an Entrepreneur; home-based micro-enterprises like tailoring, fish cultivation, flower cultivation etc.
- Opinionated in matters related to finance, upbringing and education of their children.
- Strives to carve her own space within a social set up. However, seek family approval.

ASPIRATIONS

- Prefer to live in nuclear set-up. Is vocal about having her privacy.
- While modernity is aspired, certain beliefs are deeply rooted in tradition and culture.
- Believe in the concept of weekend, holidays and family spending time together. They go out dining, picnics, movies and get-together.

SOCIAL NETS

- Updated with current affairs through different forms of media as well social networks. Entertains herself with various soap-operas on the TV.
- Has access to smart phones and prefers to be connected on social media. Vocal about rights and life of a woman in the society.
- Peer-group influences, social acceptances and status plays significant role in their life.



PARTICIPATION IN SHG / COMMUNITY BASED GROUPS

- 52% households reported having access to Self Help Groups (SHG), 46% households reported other community based groups
- All these households reported participation in Kudumbashree initiative, launched by Government of Kerala
- Highest penetration of Kudumbashree reported in Kannur and Kottayam districts

Participation by the Household members	Self-help Group	Community Based Organisations
Kannur	62.7	36.3
Wayanad	43.7	56.3
Malappuram	49.6	47.5
Palakkad	57.1	41.1
Kottayam	65.9	28.7
Alleppey	47.2	53.3
Kollam	47.1	50.4
Thiruvananthapuram	41.0	59.0
Total Rural	49.3	48.9
Total Urban	54.6	43.9
Total	51.8	46.5

ATTITUDE TOWARDS PARTICIPATION IN SHG

Triggers for continued participation

- Exposure on **know-how of finance**:
 - Empowers them to actively take part in family finance decisions
 - Engagement in income generating activities and micro enterprise → Provides them financial Independence
- Awareness of their own surrounding allowing them to **proactively contribute** towards their own well being
 - Active engagement in social issues
 - Increased participation in political activities and close working with local governance and municipalities.
 - Better understanding of socio-economic activities
- Movement beyond their kitchen and to public places **instilling more confidence** to voice out their opinions
 - Active participation in public programmes
 - Increased confidence and openness to public speaking
 - Improved role in decision making within families

However, a few hiccups

- Restricted participation reported in multiple groups



ACCESS TO CREDIT, CONSUMER FINANCE

- Accessing credit - Only 14% households reported borrowing money over last one year
- Purpose of loan: More than one fourth of these households (26%) reported taking loan for improvement of dwelling
- Another 8% reported taking loan for building improvement, maintenance, repair etc.
- Around 35% households reported taking loan for education, health and miscellaneous household expenses
- Bank and SHG reported as the major sources for loan
- Taking loan for purchase of durables was not reported
- Availability of consumer finance model was negligible, few households reported buying Rice-cooker through instalment payment
- Penetration of Micro Finance institutions was reported mostly in south Kerala districts

COMMUNITY CHANNELS: PARTICIPATION

Groups that operate

North Kerala: Kannur, Wayanad, Malappuram and Palakkad

Predominant presence of Kudumbashree observed in all the four districts of northern Kerala i.e.

South Kerala: Kottayam, Kollam, Alleppy and Trivandrum

- Along with Kudumbashree other popular micro-finance organizations like Muthoot, Chemanoor, Panjami of KPMS, SNDP, ESAF, SKS, Navjeevan, Ashirwaad are functional in southern districts of Kerala.
- In south Kerala MFIs of specific caste groups also have strong influence For eg.: SNDP (Narayana Dharma Paripalana), NSS (Nayar Service Society) etc.

MEDIA HABITS

- 25% respondents reported access to newspaper (Rural 23% and urban 27%)
- 87% respondents reported access to television (86% in rural and 89% in urban)
- It was found that many advertisements not luring enough for an act of purchase due to financial constraints prevailing in the household
- Celebrity face seems to create high recall of advertisement among consumers. For example the advertisement by actress Vidya Balan on importance of toilets was widely acknowledged among women in Kerala.

North Kerala

Common TV channels watched:

- Kairali and People TV
- Asianet, Mediaone, Mazhavil Manorama, Door Darshan

Newspapers read:

- Deshabimani: Most widely read
- Deshabimni, Malayalam manoranama, Matrabhoomi

South Kerala

Common TV channels watched:

Asianet, Mediaone, Mazhavil Manorama, Doordarshan, and all other Malayalam channels

Newspapers read: Malayalam manoranama, Matrabhoomi and Deshabimani

TYPE OF HOUSES AND ASSET HOLDING PATTERN



- Type of house – Around 24% Pucca houses and 72% Semi pucca houses
- Highly spacious houses with big compounds
- Government subsidy programs to build houses for people belong to lower strata
- Ownership of the houses – Around 97% respondents reported ownership of the houses
- Ownership of the agricultural land – Only 4% households reported owning agricultural land

Pucca House: A pucca house is one, which has walls and roof made of the following material. Wall material: Burnt bricks, stones (packed with lime or cement), cement concrete, timber, ekra etc. Roof Material: Tiles, GCI (Galvanised Corrugated Iron) sheets, asbestos cement sheet, RBC, (Reinforced Brick Concrete), RCC (Reinforced Cement Concrete) and timber etc.

Kutcha House: The walls and/or roof of which are made of material other than those mentioned above, such as un-burnt bricks, bamboos, mud, grass, reeds, thatch, loosely packed stones, etc. are treated as kutcha house.

Semi -Pucca house: A house that has fixed walls made up of pucca material but roof is made up of the material other than those used for pucca house.

ASSET HOLDING PATTERN

- Ownership of consumer durables didn't change much with study geography, similar proportion of households in both rural and urban areas reported having access to listed assets.
- Penetration of mobile phone and television with cable connection was found as highest
- Only 14% households reported owning livestock
- Majority of these households reported having Goats, Cows and Chicken
- Almost all households (98%) reported having access to potable water
- 99% households reported having access to toilet in the household – (Flush/pour flush to -septic tank)

Type of area	Refrigerator	Television with Dish or cable connection	Mobile phones	Computer (Desktop / Laptop)	Internet connection
Rural	18.8	83.7	93.5	1.1	4.3
Urban	19.5	85.5	94.3	1.3	4.7
Total	19.1	84.6	93.9	1.2	4.5

Total Respondent - 3929

SEC CLASSIFICATION

- More than 90% households found in SEC B, C, D category
- Kottayam and Kannur - large proportion of SEC A & SEC B category households
- Wayanad and Malappuram reported majority of SEC D & E category households

District / SEC	Proportion of households - across SEC categories							
	A							E
	(A1+A2+A3)	B1	B2	C1	C2	D1	D2	(E1+E2+E3)
Kannur	7.3	8.4	15.3	25.7	15.9	11.6	9.2	6.5
Wayanad	5.9	5.9	9.8	22	16.3	15.1	12.9	12
Malappuram	4	8	11.2	20	16.5	17.1	17.7	5.5
Palakkad	4.6	8.4	12.8	28.7	13.2	15.8	8.6	7.8
Kottayam	5.4	9.4	16.3	34.3	15.5	12.7	4.4	2
Alleppey	3.2	5.3	12.4	42.1	19.9	11.2	4.1	1.8
Kollam	2.8	7.1	12.7	26.3	17.5	21.2	8	4.5
Thiruvananthapuram	3.3	5.3	15.3	28.4	14.7	16.4	11.8	4.8
Rural	4.8	7.3	13	25.6	14.6	17.8	10	6.7
Urban	4.3	7.1	13.5	31.6	18	12.2	9	4.3
Total	4.6	7.2	13.2	28.5	16.2	15.1	9.5	5.6

Total Respondent - 3929

The new SEC system is used to classify households in India, we have 12 grades in the new SEC system, ranging from A1 to E3

It's based on two variables:

- Education of chief earner, Number of "consumer durables" (from a predefined list)-owned by the family.

KITCHEN CONSTRUCT



87% Households reported cooking in the kitchen inside the house in both the seasons



Around 10% households reported cooking in a separate kitchen outside the house



Only around 3% households reported cooking in a open courtyard inside / outside the house.

KITCHEN CONSTRUCT...CONTD.

83% households reported cooking on a platform in Kerala

Kitchen Construct

Only Solid Fuel
Single Kitchen

Only Solid Fuel:
Dual Kitchen

Solid Fuel and Clean Fuel
(Fixed Chulha & LPG /
Electricity)

Solid Fuel and Clean Fuel
Improved Cook Stove
and LPG

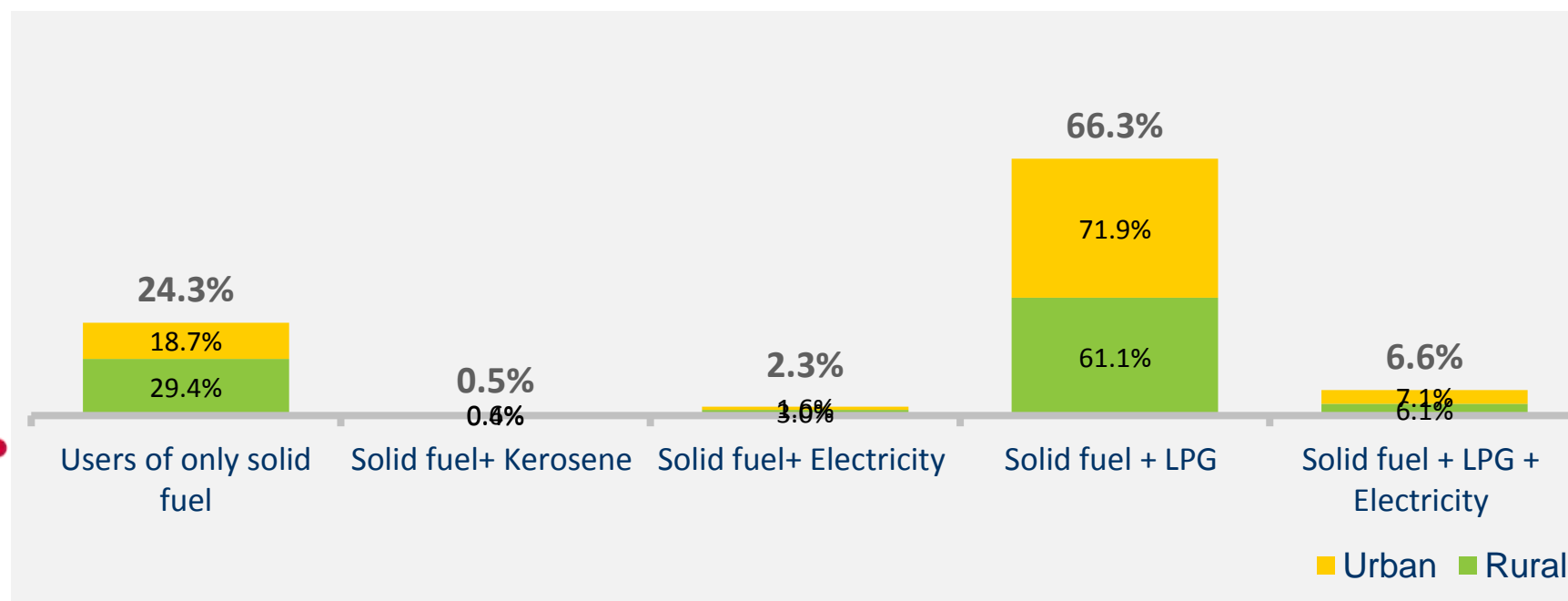


- Smoke stains are visible on the walls and roof of the kitchen
- Cemented or mud floor, no tiles, no cabinets in the kitchen.
- Containers turned black due to the continuous exposure to smoke
- Women prefer to wear their old clothes while working in the kitchen.
- Plastic cover or bucket kept in the kitchen to collect the ash from chulha
- No /few kitchen appliances present

- Traditional / Improved fixed cook stove and LPG stove
- Delegated space for improved fixed cook stove
- Tiled walls and platforms of built in chulha
- Minimal smoke stains visible on the walls and roof
- Usage of mixed type of utensils: Pressure cooker and casseroles also in the kitchen
- More cleaner and spacious kitchen

USAGE OF FUEL

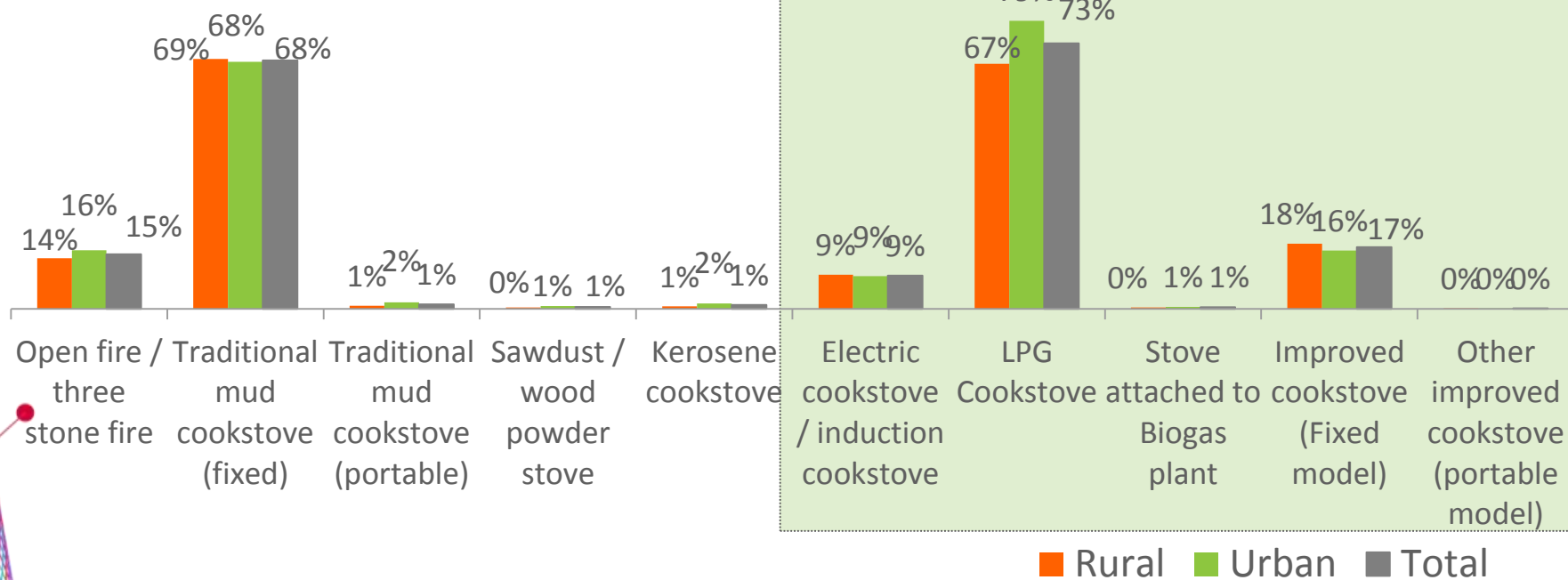
- Close to one fourth of all households reported using only solid fuel, remaining households reported using mixed fuel.
- Close to two third of the households reported using solid fuel and LPG
- Small proportion of households reported using solid fuel and LPG and electricity



Total Respondent - 3929

ACCESS TO COOKING FUEL/STOVE

- More than two thirds of all households reported using traditional mud cookstove (fixed model)
- 73% households reported having access to LPG cookstove (67% in rural and 79% in urban areas)
- Penetration of Improved cookstove (fixed model) *Parishad chulha* / Aluva Aduppu was found as around 17%*
- Penetration of improved cookstove portable model was reported as negligible



Total Respondents –3929

* - Improved Cook Stove model fixed model designed by Kerala Sasthra Sahithya Parishad (KSSP) / Parishad Chulha has stopped its operation about 10 years back

USAGE PATTERN - COOKSTOVE TYPES



Three stone fire



Wood powder stove



Traditional stove (fixed model)



**Improved cook stove (Fixed model -
Aluva Aduppu)**



Induction cookstove



LPG cookstove

ACCESS TO FUEL/STOVE DISTRICTS

- Kannur districts reported highest penetration of ICS and Induction cookstove
- High penetration of Improved cookstove was the outcome of strong community level movement in the district
- LPG penetration was found high in Alleppey and Kottayam









Districts	Open fire / three stone fire	Traditional mud cook-stove (fixed model)	Improved cookstove (built in model)	Electric cookstove / Induction cookstove	LPG cookstove
Kannur	3.7%	56.9%	40.8%	24.3%	75.7%
Wayanad	26.9%	58.4%	15.7%	12.4%	76.1%
Malappuram	11.6%	74.1%	16%	8.4%	64.1%
Palakkad	17.3%	71.2%	12.7%	9.3%	70%
Kottayam	8.6%	74.3%	17.7%	7.4%	79.5%
Alleppey	6.7%	80%	11.8%	3.2%	82.8%
Kollam	15.9%	72.2%	11.6%	4.3%	62.7%
Thiruvananthapuram	29.3%	61.1%	8.2%	3.6%	71.2%

Total Respondent - 3929

COOKING PATTERN

- 73% households reported cooking twice, about 11% reported cooking three times and remaining households cooked only once
- Average cooking time was reported as 190 minutes in a day, maximum cooking time reported during morning more than 120 minutes
- Average 6-7 type of dishes prepared on a day, similar practices in rural and urban area
- Almost all households reported cooking Rice, Sambar and Vegetable daily
- Close to 40% households reported cooking fish on a given day
- About 55% reported cooking rice only once however others reported cooking rice twice
- No. of stoves varies between 1 -2, average number of burners in KSSP model was found as 2-3
- About 43% respondents reported family members help in cooking
- About 64% households (having children below 5 years) reported that the children are present in the kitchen during cooking – always / most of the time

FOOD ITEMS COOKED VS. TYPE OF STOVE

Food items	Cookstove	Remarks
		<ul style="list-style-type: none"> 99% households reported cooking rice using solid fuel stove Average time taken in cooking rice every time is more than an hour
		<ul style="list-style-type: none"> Improved cookstoves (built-in) models are regularly used for all type of cooking
		<ul style="list-style-type: none"> Induction cookstoves are mainly used for making tea, coffee and boiling water
		<ul style="list-style-type: none"> LPG stoves are used for light cooking and reheating Always used for making tea/ coffee

AVERAGE CONSUMPTION OF FIREWOOD

- Average monthly consumption of firewood 159 Kg (for all households), 189 Kg (for only solid fuel users) and 150 Kg (for mixed fuel users)
- Average monthly expenditure on fuel Rs.580/month (for all households), Rs.405/month (for only solid fuel users), Rs. 650/month (for mixed fuel users)
- Close to 50 % households reported collecting firewood and the proportions don't vary with the usage pattern

	Both Collection and Purchase	Only Purchase	Only Collection
All households			
Rural	16	31.8	52.2
Urban	21.4	35.3	43.3
Total	18.6	33.5	47.9
Only solid fuel user households			
Rural	16.4	26.2	57.4
Urban	31.5	31.4	37
Total	21.9	28.1	49.9
Mixed fuel users households			
Rural	15.8	34.1	50.1
Urban	19.2	36.1	44.7
Total	17.5	35.2	47.3

FIREWOOD PURCHASE PRACTICES

No. of times purchased
8-10 times in an year

Average amount of wood
purchased around 400
Kg / last purchase

Rs.1700 paid last time for
firewood
i.e. about Rs.4-5 / Kg

Kannur districts reported
high cost of wood
Varies in the range of Rs.5
– 10 / Kg

67% of the households
(those who are
purchasing firewood)
purchasing from the
same neighbourhood

70% of the households (those
who are purchasing firewood)
paying transportation charges –
average charges – Rs.250/

Less than 5% households
reported purchasing
coconuts husks and
coconut leaves



Households reported
purchasing firewood spend
about Rs.750/ month for
firewood purchase only

FIREWOOD COLLECTION PRACTICES

Collection is normally a weekly practice and almost all households collect this once in a week (3-4 times over a month)

In case of Wayanad collection was reported two times in a week

Every collection occasion takes about an hour i.e. about 5 hours in an month about 45 minutes in case of Wayanad

Almost 93% collecting the fuel from the premises and neighbourhood

Average distance travelled for collecting firewood in less than 2 Km

Responsibility of collecting the fuel lies with the adult female members of the households

HEALTH ORIENTATION

Reported Health issues : Cough, cold and asthma

Cough and cold (Households reported Adult suffered in past six months) – 7.4%

Cough and cold (Households reported Children suffered in past six months) – 18.7%

Asthma (Households reported - Adult household members suffering) – 3.2%

Asthma (Households reported Children suffering) – 1%

Respondents perceived usage of chulha/fire wood is connected to cough and cold -4.8%

Respondents perceived usage of chulha/fire wood is connected to asthma - 24%

Base: Households reported such health issues

Health seeking behaviour

Fever, cough etc. is attributed to the cold weather in the areas

Unless prolonged, they do not visit health facility for minor health issues

Reliable sources of information are better trusted and accepted for e.g.. Endorsements and reinforcement from a doctor

INDUCTION STOVE – USAGE PATTERN



- 9.2% Households reported having induction stoves
- 87% of those who owned an induction stove in their household had purchased the same themselves, other have received the stove as a gift from friend / family members
- 54% of these households purchased / received the stove in last two years
- Prestige and pigeon reported more than one third (36%) of market share
- Average price was reported as Rs.3100
- Time saving and fast cooking were the two prominently reported reasons for the purchase of the induction stove across districts.
- Only 26% households reported using the stove regularly and 63% reported using the induction stove occasionally
- Primary reasons for usage- Fast cooking and very easy for boiling milk
- Only half of the households reported changes in the electricity bill after using induction stove
- The increase in electricity bill was found as around Rs.100/

Total number of respondents reported having induction stove 360

Total number of respondents reported using induction stove (frequently / occasionally) 328

TRIGGERS / BARRIERS FOR INDUCTION STOVES

Easy way of cooking , saves time
and cook faster

Easy to boil water, making tea
and heating food

Utensils will remain clean and
will not heat up in the process
of cooking

Kitchen looks beautiful and
perceived as a neat and modern
way of cooking

Maintains status quo

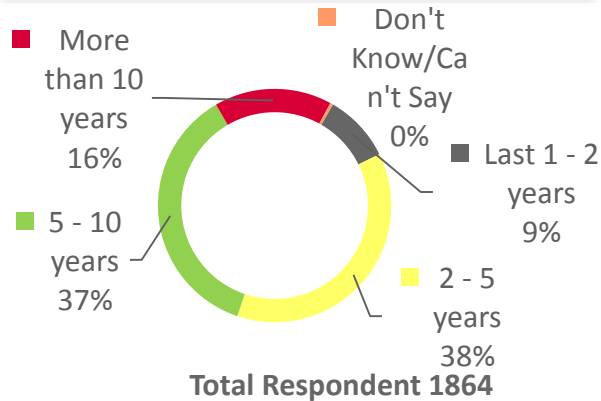
Continuous attention is required and
does not allow multi-tasking
Chances of damage to utensil or food
getting burnt
Major voltage fluctuation / frequent
power cut could lead to explosion
and damage of the stove



LPG USERS

- 73% households reported having access to LPG in the state of Kerala

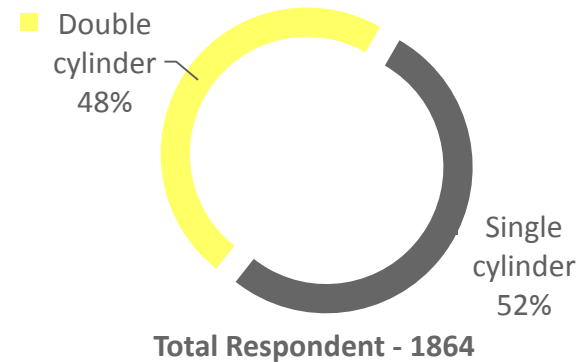
Duration of LPG Connection



Stacking behaviour

Wealth Index	Number of days it takes to consume one full cylinder?)
	Average no. of days
Low	78.2
Medium	75.2
High	68.2
Total	72.7

Type of LPG connection



Time taken to get the cylinder from the day of booking	17.4 days (Average)
Average amount paid while purchasing last cylinder	Rs.680
Paid any extra amount other than the receipt – Reported yes	16.2%
Average extra payment	Rs.80
Registered for transfer of subsidy amount to your bank	92%
Receiving the LPG subsidy amount in your bank regularly	93%

TRIGGERS FOR USING LPG STOVE FOR COOKING

Saves time / Easy and convenient to use

"Mainly to save time, especially in the morning. Morning I will be very busy running around to prepare breakfast and lunch for kids. Gas save time"

"Cooking on gas stove is comfortable. I don't have to struggle with the smoke. Eyes are not watery anymore and there is no coughing. The food also does not taste of smoke and its better"

Smokeless cooking

Easy maintenance of utensils

"Utensils won't get spoiled if we use it on gas.it is easy to clean the utensils also. They remain the same clean for very long"

"My wife takes pride of it and tells everyone that she has gas in her house"

Maintains status and personal interests

Scarcity of firewood during rainy season

"In rainy season gas is needed. Using only chulha in not possible in rainy season when it rain chulha won't get light easily, and lot of smoke also"

"Food won't taste of smoke if cooked on gas, and my kids won't eat the food taste of smoke"

Other benefit like food won't taste of smoke

FEARS ASSOCIATED WITH USAGE OF LPG STOVE

Constant attention

"We have to be careful while using gas. We cannot do other works after keeping something on gas."



Lifestyle

"We are used to a certain way of living by rolling money in a month. So we don't want to disturb that equilibrium."

Fear of explosion

"We still have this fear associated to gas what if it explodes. We have even heard about stories of gas being exploded."



Subsidy money

"This LPG subsidy always goes to our husband's bank account. To pay for a gas cylinder most of the time we need to collect money and they are getting the subsidies."

ATTITUDE TOWARDS HEALTH

The Ignorant

- Child's health as well as health of family members are the important concerns
- Internal adjustments are made to avoid child's exposure to smoke
- Self-health is never given due importance
- Highly concerned about the quality of food prepared for the family
- Health is defined only with disease

The Conscious

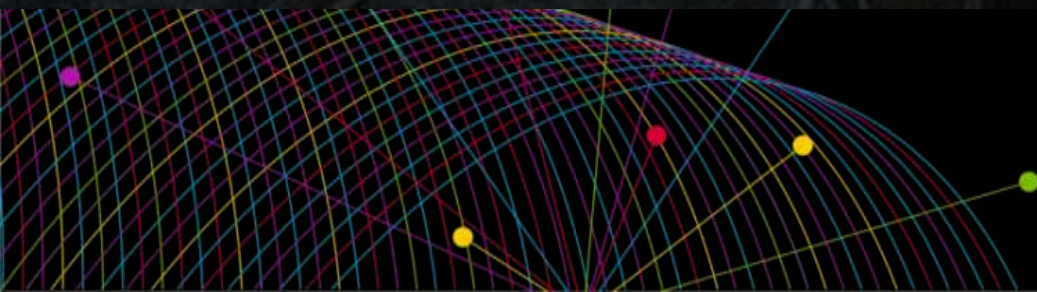
- Women highly conscious about their own as well as their family's health
- Realizes the fact, "a healthy woman is a healthy family"
- Bringing "child's health" into focus makes them alert
- Highly concerned about the quality of food prepared for the family

HEALTH AWARENESS

- Close to one fourth of sample respondents reported adverse impact of smoke on child's health
- Very high level of awareness reported in Kannur and Alleppey districts.
- Wayanad, Kottayam and Thiruvananthapuram districts reported least awareness.

' Child's health get affected due to smoke from traditional stove / Chulha" – (Agree + Completely agree)		
District	Type of area	%
Kannur	Rural	41.6
	Urban	45.3
	Total	43.5
Wayanad	Rural	12.3
	Urban	17
	Total	14.5
Malappuram	Rural	30.8
	Urban	28.7
	Total	29.8
Palakkad	Rural	15.5
	Urban	20.4
	Total	17.8
Kottayam	Rural	12.5
	Urban	15.4
	Total	13.9

' Child's health get affected due to smoke from traditional stove / Chulha" – (Agree + Completely agree)		
District	Type of area	%
Alleppey	Rural	22.4
	Urban	43
	Total	32.9
Kollam	Rural	22.5
	Urban	33.6
	Total	27.4
Thiruvananthapuram	Rural	10.5
	Urban	8.2
	Total	9.5
Total	Rural	20.8
	Urban	26.7
	Total	23.7



SEGMENTATION

THE SEGMENTS

Highest
Income

Conventional
13%



Traditional segment governed by the eco-systems, do not lack the purchasing power but continue using solid fuel due to traditional and cultural rigidity and taste preferences. There is very little awareness about the negative health impacts

Comfort Seekers
17%



This segment is of highest SEC and base their decisions on convenience. Affordability is not a concern, they also have health awareness, mostly using LPG and Solid fuel with Improved Cook Stove. Easy availability of solid fuels in their premises and surroundings play attractive factors.

Struggling maximisers
20%



The segment is at medium level SEC, trying to balance both end, convenience factor plays key role, even health awareness and traditional orientation is also reported. Mixed fuel users however mostly use traditional fuel and save modern fuel.

Wishful
25%
Least
Income



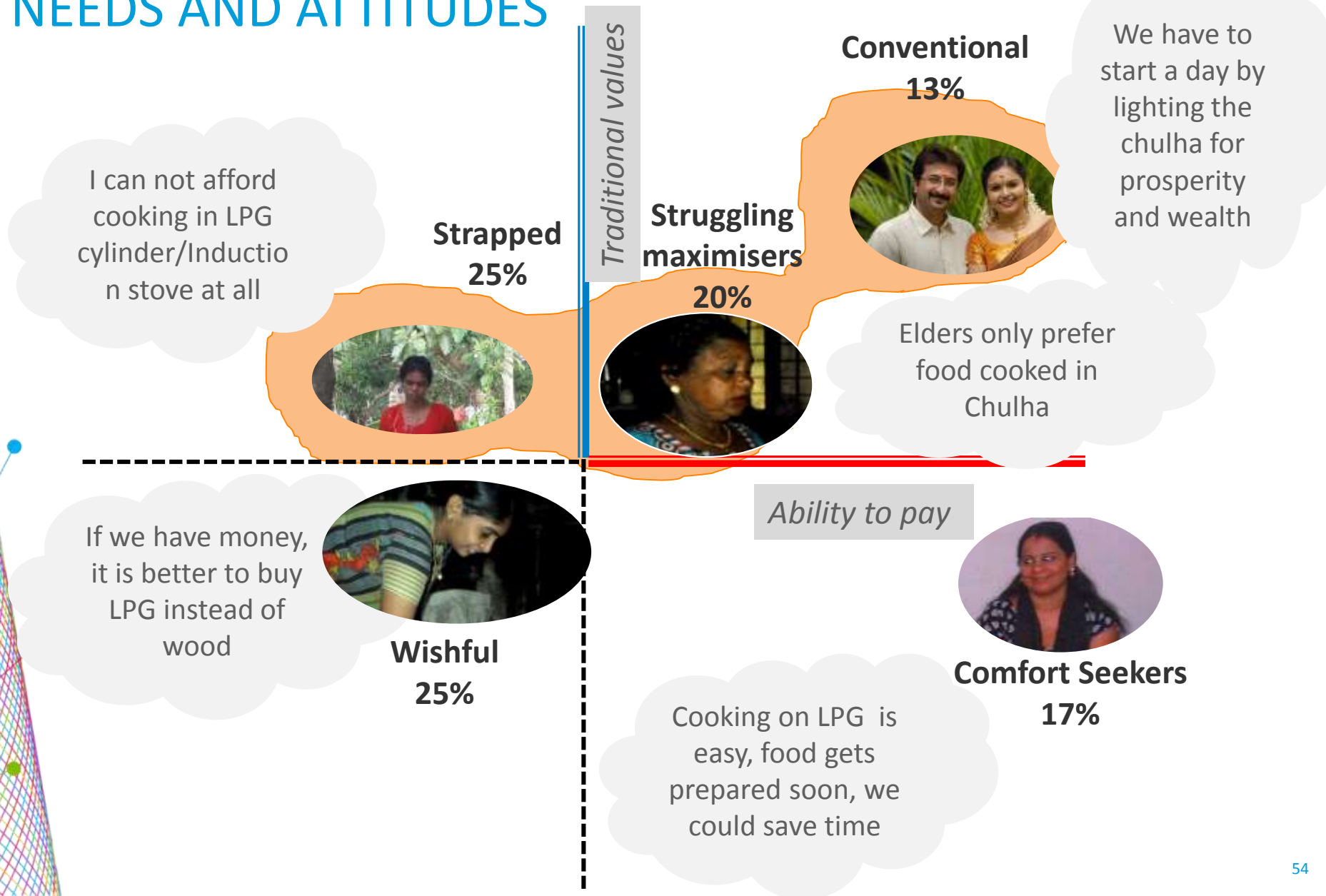
The segment has one of the lowest SEC profile and affordability is the issue however there is a strong desire to come out from the condition. Predominantly use solid fuel at present however strongly reported the inconvenience of using solid fuel.

Strapped
25%



The segment has one of the lowest SEC profile, doesn't have disposable income, continue using solid fuel in absence of affordable alternative fuel, purchasing power remain the key constraint

SEGMENT MAP IN KEY DIFFERENTIATING NEEDS AND ATTITUDES

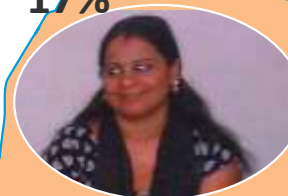


SEGMENT MAP IN KEY DIFFERENTIATING NEEDS AND ATTITUDES

Health orientation

Comfort Seekers

17%



We get irritations in eyes, headache, because of using firewood

Struggling maximisers

25%



Our child's health get affected due to smoke

Conventional

13%



Smoke from chulha purifies the house

Time and convenience

Wishful

25%



While using firewood kitchen walls and utensils get spoiled completely

Strapped

20%



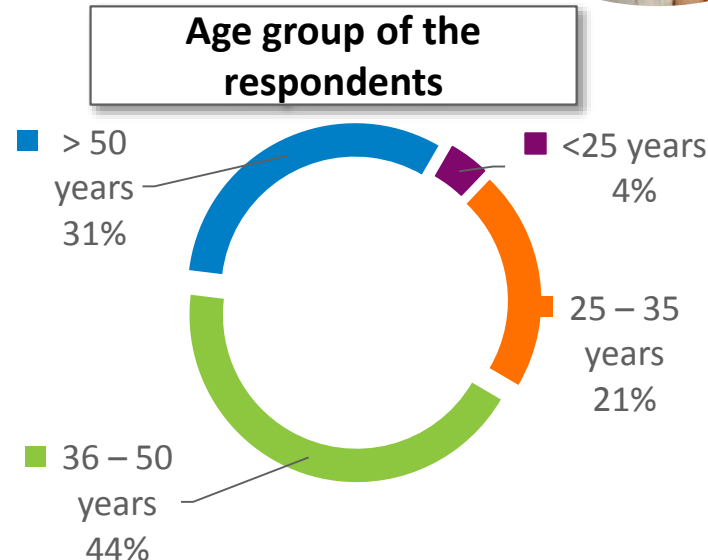
Cooking using firewood is part of our tradition and being used since generations

THE CONVENTIONAL SEGMENT



Conventional - 13%

Location	
Rural	61%
Urban	39%
Districts	
Kannur	13%
Wayanad	13%
Malappuram	2%
Palakkad	14%
Kottayam	18%
Alleppey	6%
Kollam	18%
Thiruvananthapuram	17%



- Located mostly in rural areas of the state
- Most commonly reported in Kottayam, Kollam and Thiruvananthapuram districts (53%)
- Higher age group – almost three fourth of the respondents (wives of CWEs) reported the age group as above 35 years
- More female headed households reported in this segment (10.5%)

THE CONVENTIONAL SEGMENT...CONTD

Conventional - 13%



- High education level of Chief Wage Earners (about 58% reported completing more than school level education)
- Highest proportion of service and skilled labour community (40%)
- 76% reported in SEC A, SECC B and SEC C category
- Average monthly consumption expenditure around Rs.15000 *
- Notable proportion (10%) households reported Rent, Pension, Remittance etc. as important source of income
- 58.2% household members reported participation in SHG

District / Socio-Economic Classifications	Proportion of households - across SEC categories (%)							
	A							E
	(A1+A2+A3)	B1	B2	C1	C2	D1	D2	(E1+E2+E3)
Rural	7.9	9.4	15.1	25.5	14.5	12.9	7.5	7.2
Urban	3.9	8.8	16.7	32.4	20.1	7.4	7.8	2.9
Total	6.3	9.2	15.7	28.2	16.7	10.7	7.7	5.6

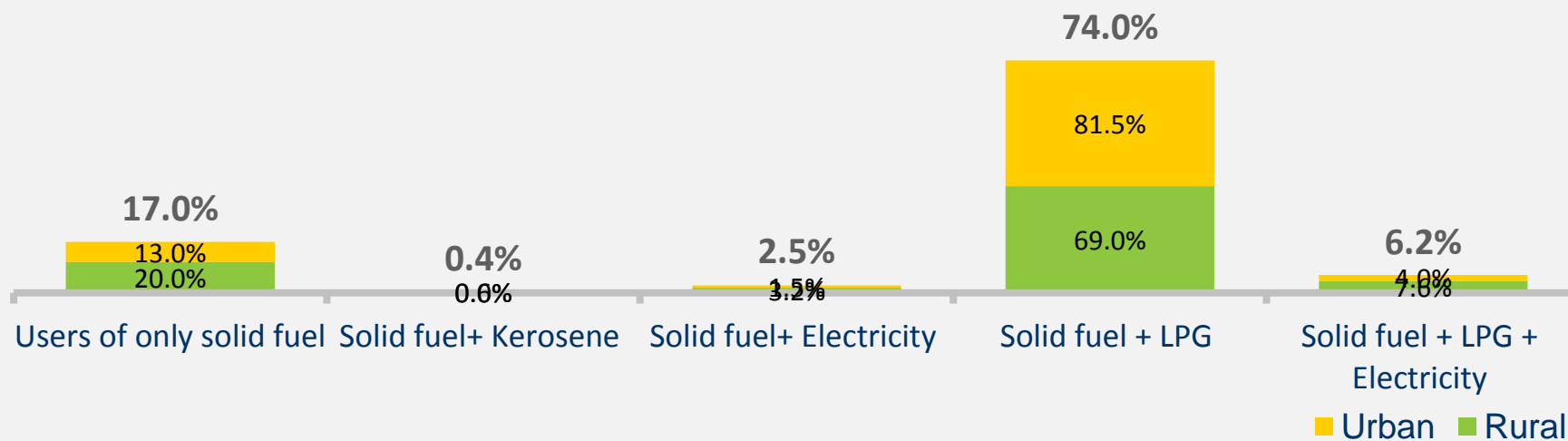
* - this is a tentative figure as reported by the respondents and not to be used for further analysis

THE CONVENTIONAL SEGMENT...CONTD

Conventional - 13%



- More than 80% mixed fuel users and have access to LPG
- 21% households already using Improved Cookstove (Fixed – KSSP model)
- Two third of the respondents (66%) reported purchase of firewood.
- Easily available in the premises / neighbourhood, Traditional practices being used for long time are the two key reasons for continue using firewood



THE CONVENTIONAL SEGMENT...CONTD

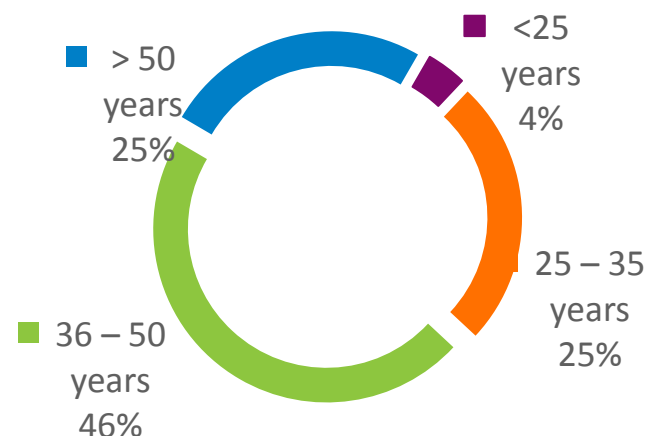


THE COMFORT SEEKERS SEGMENT



Comfort Seekers 17%

Age group of the respondents



Location	
Rural	46%
Urban	54%
Districts	
Kannur	2.5%
Wayanad	5.4%
Malappuram	20.7%
Palakkad	14.7%
Kottayam	17%
Alleppey	7.4%
Kollam	27.5%
Thiruvananthapuram	4.8%

- Located mostly in urban areas of the state
- Most commonly reported in Kollam, Malappuram and Kottayam districts (65%)
- Younger age group – almost three fourth of the respondents (wives of CWEs) reported the age group as below 50 years
- Average family size slightly bigger in comparison to other households (4.5)

THE COMFORT SEEKERS SEGMENT...CONTD

Comfort Seekers 17%



- Highest education level of Chief Wage Earners (about 60% reported completing more than school level education)
- Highest proportion of skilled labour and self employment community (74%)
- 74% reported in SEC A, SECC B and SEC C category
- Average monthly consumption expenditure around Rs.12000 - 15000 *
- 62% household members reported participation in SHG

District / Socio-Economic Classifications	Proportion of households - across SEC categories (%)							
	A							E
	(A1+A2+A3)	B1	B2	C1	C2	D1	D2	(E1+E2+E3)
Rural	3	10.7	16.7	25.4	11.7	17.1	10.4	5
Urban	6.1	7.8	18.1	29.6	17.8	10.1	7.8	2.8
Total	4.6	9.1	17.5	27.7	15	13.3	9	3.9

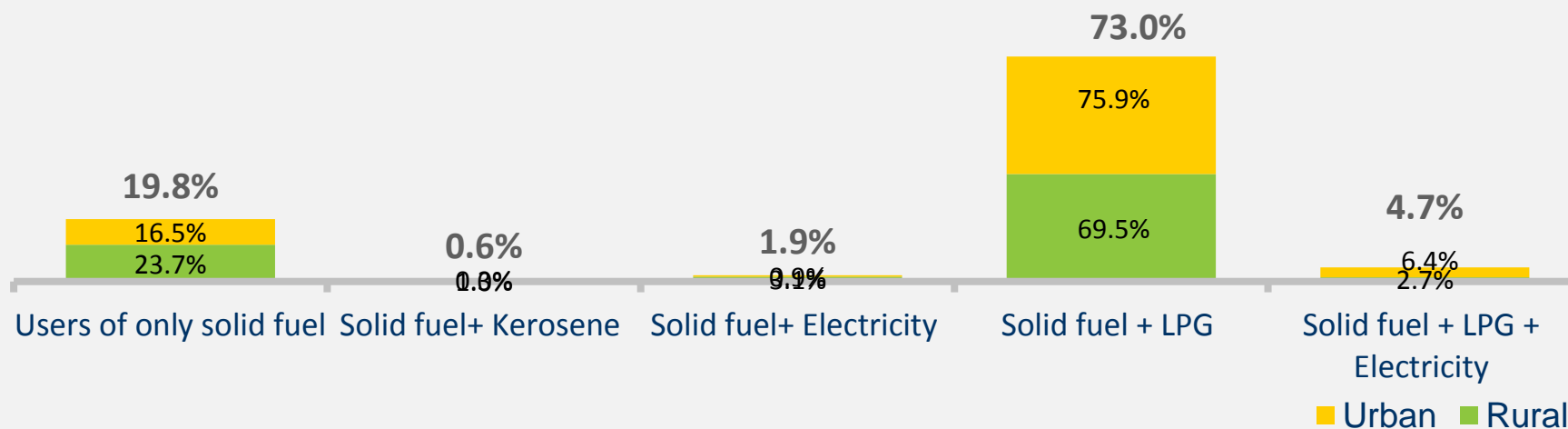
* - this is a tentative figure as reported by the respondents and not to be used for further analysis

THE COMFORT SEEKERS SEGMENT...CONTD

Comfort Seekers 17%



- About 78% mixed fuel users and have access to LPG
- 21% households already using Improved Cookstove (Fixed – KSSP model)
- More than 80% reported purchase of firewood.
- Saving of LPG was reported as key reason for using firewood
- Monthly expense on fuel is around Rs.700/



THE COMFORT SEEKERS SEGMENT...CONTD



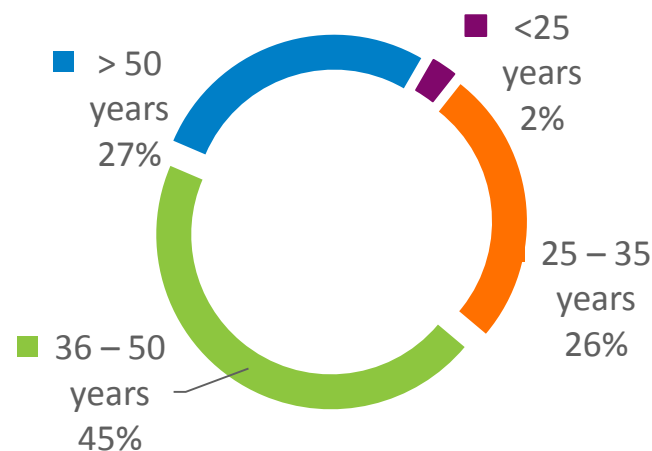
THE STRUGGLING MAXIMISERS SEGMENT

Struggling maximisers - 20%



Location	
Rural	57%
Urban	43%
Districts	
Kannur	10%
Wayanad	18.3%
Malappuram	11.6%
Palakkad	12.1%
Kottayam	9.4%
Alleppey	11.5%
Kollam	9.3%
Thiruvananthapuram	17.8%

Age group of the respondents



- Located mostly in rural areas of the state
- Most commonly reported in Wayanad, Thiruvananthapuram, Palakkad districts (48%)
- Middle age group of the respondents (wives of CWE) – 45% were in the age group of 36 – 50 years.
- More female headed households were also found in this segment (10%)

THE STRUGGLING MAXIMISERS SEGMENT...CONTD

Struggling maximisers - 20%



- Majority of Chief Wage Earners reported having middle school / high school level of education
- Close to one third of the households reported petty business, self employment and service (Govt. / Pvt.) etc. as primary occupation for CWE
- 88% reported in SECC B, SEC C and SEC D category
- Average monthly consumption expenditure around Rs.10000 *
- 40% household members reported participation in SHG

District / Socio-Economic Classifications	Proportion of households - across SEC categories (%)							
	A							E
	(A1+A2+A3)	B1	B2	C1	C2	D1	D2	(E1+E2+E3)
Rural	6.8	9	13.8	26.8	14.1	16	7.5	5.9
Urban	5.3	7.3	16.3	30.8	14.5	13.1	5.8	7
Total	6.2	8.3	14.9	28.5	14.3	14.8	6.8	6.4

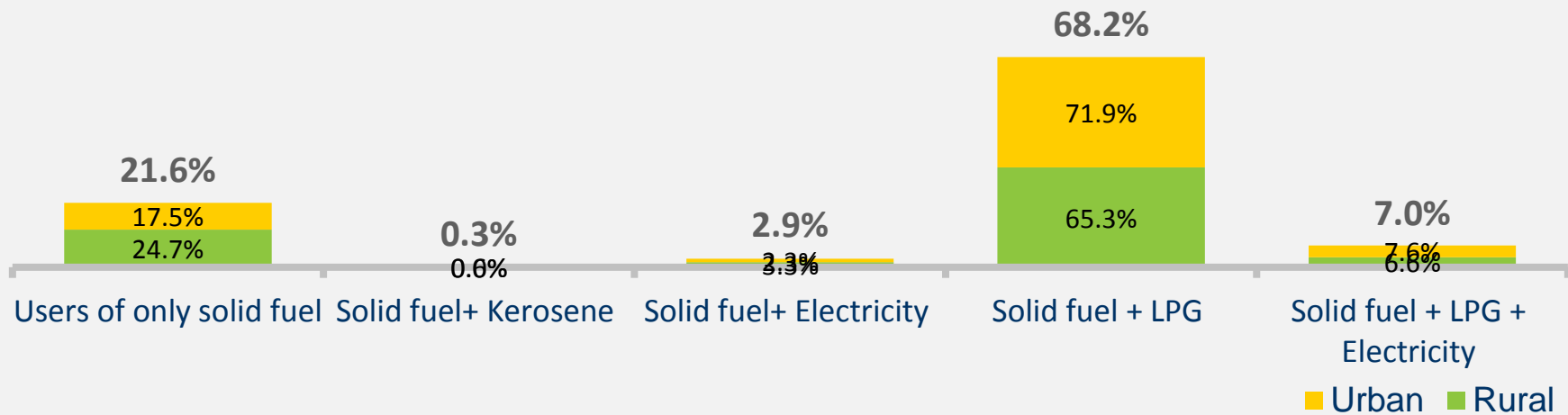
* - this is a tentative figure as reported by the respondents and not to be used for further analysis

THE STRUGGLING MAXIMISERS SEGMENT...CONTD

Struggling maximisers - 20%



- 75% households reported using mixed fuel users and have access to LPG
- 19% households already using Improved Cookstove (Fixed – KSSP model)
- Two third of the respondents (65%) reported purchase of firewood.
- Easily available in the premises / neighbourhood, traditional practices being used for long time, less expensive etc. were reported as key reasons for using firewood
- However it was found that the household has been spending around Rs.650/ month for fuel use.



THE STRUGGLING MAXIMISERS SEGMENT...CONTD.



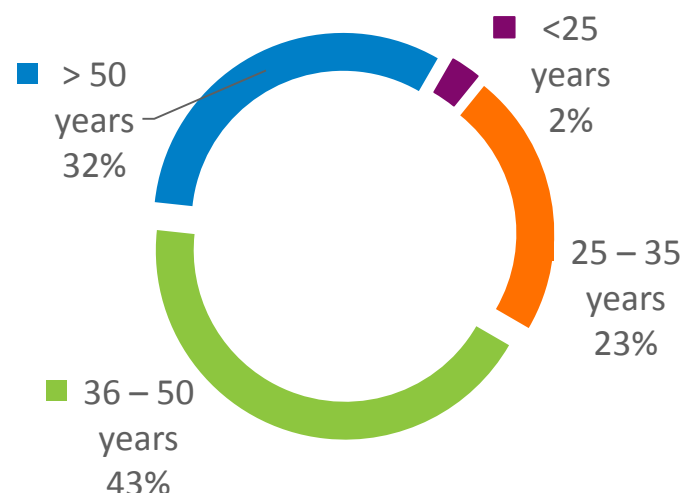
THE WISHFUL SEGMENT

Location	
Rural	49%
Urban	51%
Districts	
Kannur	22.2%
Wayanad	12.6%
Malappuram	13.8%
Palakkad	12%
Kottayam	8.7%
Alleppey	18.9%
Kollam	4.9%
Thiruvananthapuram	6.9%

Wishful – 25%



Age group of the respondents



- Distributed in both rural and urban areas of the state
- Most commonly reported in Kannur, Malappuram and Alleppy (55%)
- Middle age group – 43% of the respondents (wives of CWEs) reported the age group of 35 – 50 years
- Average family size slightly bigger in comparison to other households (4.3)
- Around 10% female headed households reported in this segment

THE WISHFUL SEGMENT...CONTD.

Wishful – 25%



- Low education level for Chief Wage Earners, all most all of them have completed only school level of education
- High proportion of un-skilled labour community (42%)
- 80% reported in SEC C, SECC D and SEC E category
- Average monthly consumption expenditure around Rs.8000 *
- 61% household members reported participation in SHG

District / Socio-Economic Classifications	Proportion of households - across SEC categories (%)							
	A (A1+A2+A3)	B1	B2	C1	C2	D1	D2	E (E1+E2+E3)
Rural	3.1	5.7	12.7	26.1	12.3	16.3	14.4	9.3
Urban	2.6	6.5	10.1	33.7	19.4	11.1	11.1	5.4
Total	2.9	6.1	11.4	30	15.9	13.7	12.7	7.4

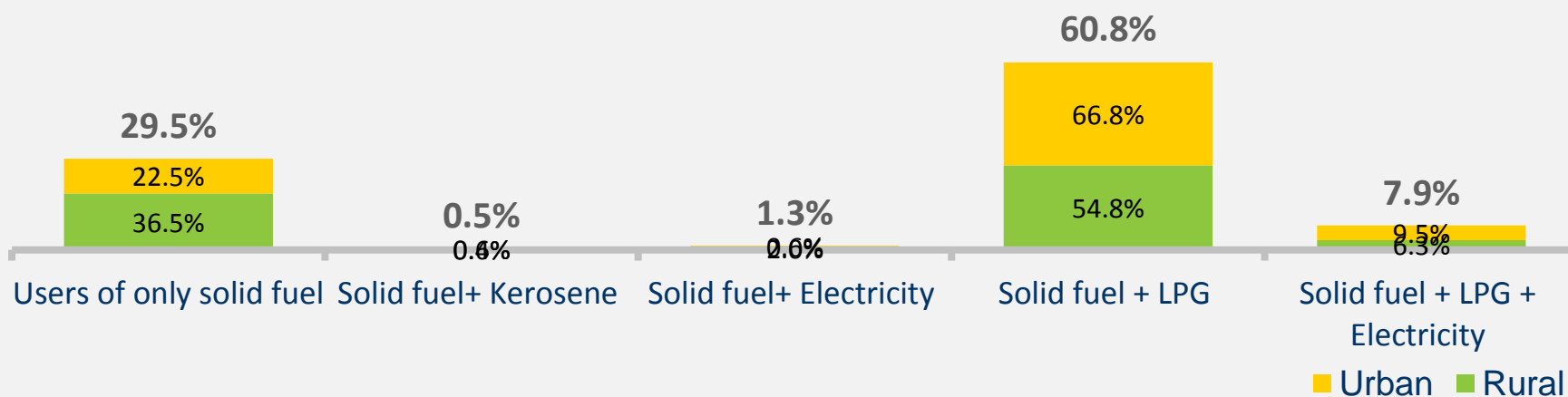
* – this is a tentative figure as reported by the respondents and not to be used for further analysis

THE WISHFUL SEGMENT...CONTD.

Wishful – 25%



- Around 68% mixed fuel users and have access to LPG
- 14% households already using Improved Cookstove (Fixed – KSSP model)
- Around 40% respondents reported purchase of firewood.
- Easily available in the premises / neighbourhood are the two key reasons for continue using firewood



THE WISHFUL SEGMENT...CONTD.

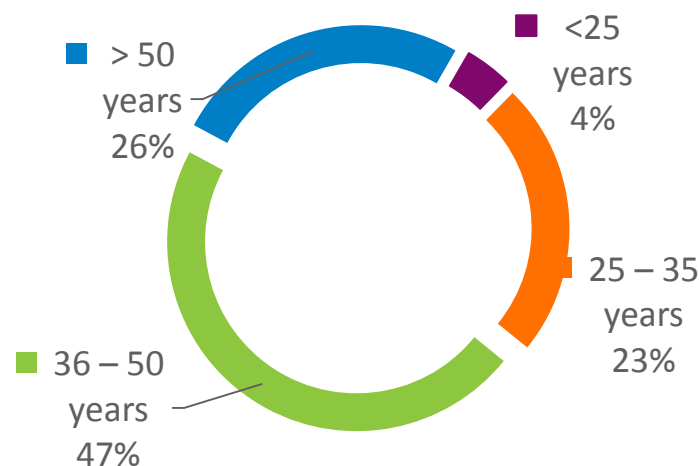


THE STRAPPED SEGMENT

Strapped 25%



Age group of the respondents



Location	
Rural	50%
Urban	50%
Districts	
Kannur	11.4%
Wayanad	11.9%
Malappuram	10.6%
Palakkad	12%
Kottayam	13.8%
Alleppey	14%
Kollam	11.8%
Thiruvananthapuram	14.7%

- Distributed in both rural and urban areas of the state
- Most commonly reported in Kottayam, Alleppey and Thiruvananthapuram(42.5%)
- Younger age group – almost three fourth of the respondents (wives of CWEs) reported the age group as below 50 years

THE STRAPPED SEGMENT....CONTD.

Strapped 25%



- Low education level for Chief Wage Earners, all most all of them have completed only school level of education
- Highest proportion of un-skilled labour community (48%)
- More than 80% reported in SEC C, SECC D and SEC E category
- Average monthly consumption expenditure around Rs.8000 *
- 61% household members reported participation in SHG

District / Socio-Economic Classifications	Proportion of households - across SEC categories (%)							
	A (A1+A2+A3)	B1	B2	C1	C2	D1	D2	E (E1+E2+E3)
Rural	4	4	8.9	24.1	18.9	24.5	9.7	5.8
Urban	4	6.4	10.5	31.2	18.1	16.3	10.3	3.2
Total	4	5.2	9.7	27.7	18.5	20.4	10	4.5

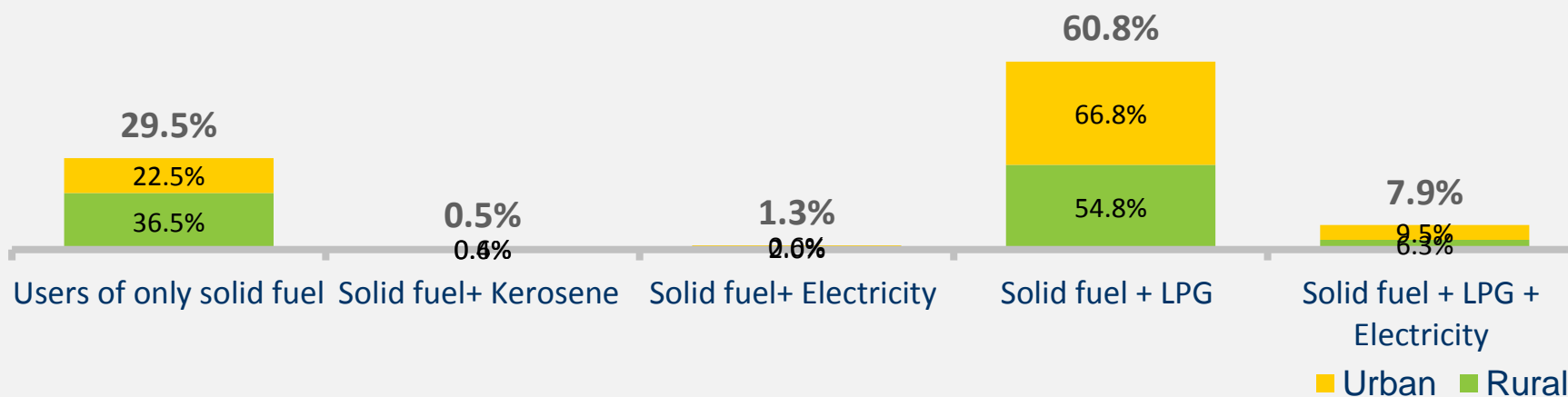
* - this is a tentative figure as reported by the respondents and not to be used for further analysis

THE STRAPPED SEGMENT.....CONTD.

Strapped 25%



- Around 68% mixed fuel users and have access to LPG
- 14% households already using Improved Cookstove (Fixed – KSSP model)
- Two third of the respondents (38%) reported purchase of firewood.
- Easily available in the premises / neighbourhood and affordability are the key reasons for continue using firewood

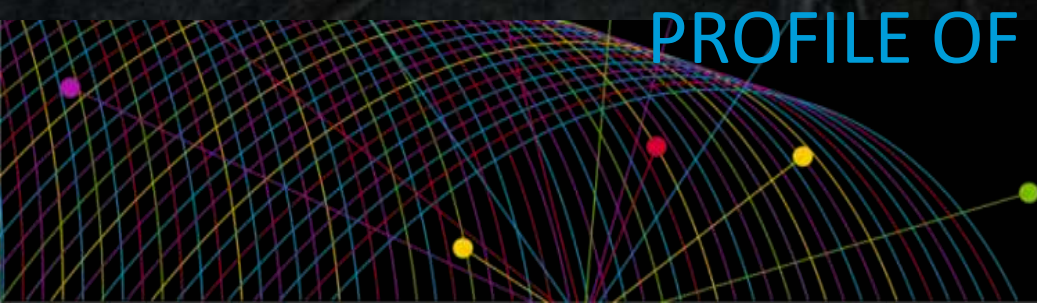


THE STRAPPED SEGMENT.....CONTD.





PROFILE OF THE PRIORITY SEGMENTS



PRIORITY SEGMENTS FOR CLEAN FUEL

Comfort Seekers Segment 17%



- The segment is having the highest SEC profile, affordability is not a concern
- Needs 'convenient' life, comparatively more educated
 - Having significant health awareness
 - Clean fuel / stove usage likely to grow with improved health awareness and suitable BCC initiative

Struggling Maximisers Segment 20%



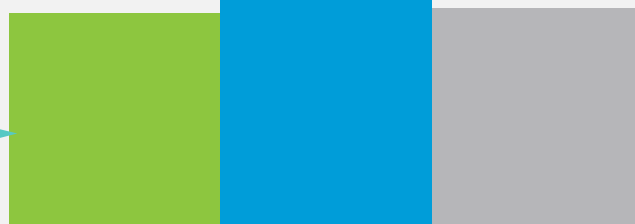
- Convenience and affordability are the determining criteria for choice of fuel and stove
- Spend more on fuel without doing the cost benefit analysis
- Traditional values and health awareness was also reported
- Clean fuel / stove usage likely to grow with improved health awareness and suitable BCC initiative

EARLY ADOPTERS FOR CLEAN FUEL

80% of the households have adopted clean fuel, however the key challenge remained as sustained adoption

Current usage of LPG and Electricity

77% 85.5% 78.7%



Comfort Seekers Segment & Struggling Maxisers Segment

■ Rural ■ Urban ■ Total

Given the penetration of LPG and Electricity these two segments are most likely early adopters for clean cooking fuel

17% of the households reported willing to shift to complete use of LPG / Electricity in next two years

Willing to shift to complete LPG and Electricity use

15% 19.8% 17.2%



Comfort Seekers Segment & Struggling Maxisers Segment

■ Rural ■ Urban ■ Total

Base: 1446 households

SUMMING UP

Comfort Seekers Segment

- 'Health for entire family' can be a strong platform'
- Given the high education level of these households, it's important to highlight the global environmental issue
- LPG distribution issue at micro level needs to be resolved

Struggling Maximisers Segment

- 'Saving time and money' should be the key message for the segment and 'good for kids' need to be touched upon
- SHG network needs to be used for improving awareness and increase usage of clean fuel.



PRIORITY SEGMENTS FOR IMPROVED COOKSTOVE (ICS)

The Conventional Segment – 13%



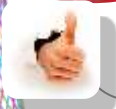
- Deeply rooted to traditional cultural values
- Affordability and time and convenience factors do not play a major role towards choice of cooking fuel and stove
- Health awareness remain less, not likely to shift to clean fuel entirely
- ICS penetration is already there however unwillingness to invest in ICS

The Wishful Segment 25%



- Middle income profile, one of the large segments
- Strongly associated with the challenges for firewood usage
- Improve cookstove penetration is low
- Improved cookstove usage likely to grow with availability of convenient affordable options

The Strapped Segment - 25%

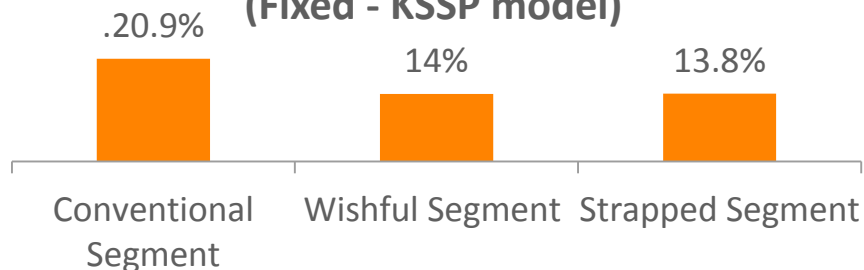


- Affordability is the key factor determining the choice of fuel and stove
-]The segment is also connected to traditional beliefs
- Improved cookstove usage likely to grow with availability of consumer finance options

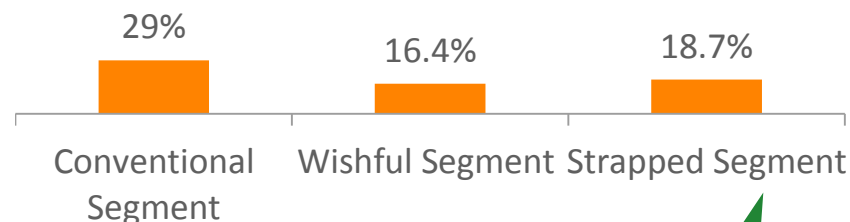
AWARENESS AROUND IMPROVED COOKSTOVES

Improved cookstove (fixed model) has notable penetration across these segments, and good proportion of respondents also reported willingness to adopt the same.
All three segments are most likely early adopters for Improved cookstoves

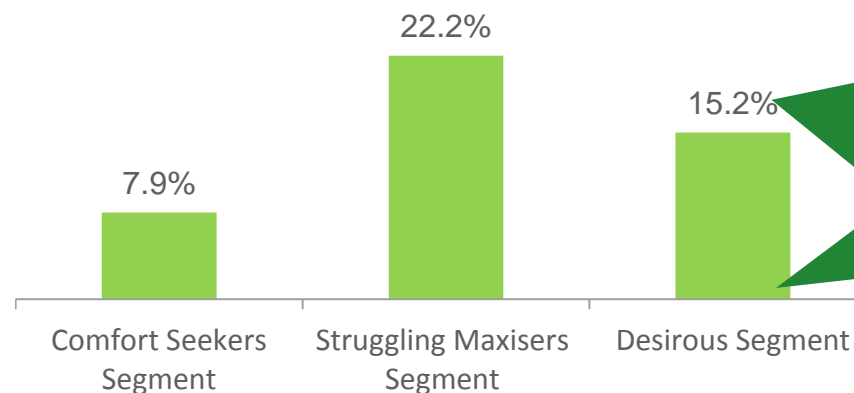
**Current usage of ICS
(Fixed - KSSP model)**



**Willingness to shift to ICS
(Built-in model)**



Awareness of ICS (Portable model)



A small proportion of households reported heard of portable ICS, however most of them are not aware of complete functionalities / available options etc.

Base - All Respondents in the category

SUMMING UP



The Conventional Segment

- Will adopt high end improved cookstove model as affordability is not the key concern
- Handholding in terms of product demonstration and post marketing support would be important

The Wishful Segment

- Will adopt improved cookstove model (the models which are most convenient to use and affordable.
- Handholding in terms of product demonstration and post marketing support would be important

The Strapped Segment

- Will adopt improved cookstove low end model with the help of consumer financing model

IMPROVED COOKSTOVE DEVELOPED BY KSSP/IRTC

Improved Cookstove – commonly known as Parishad Chulha

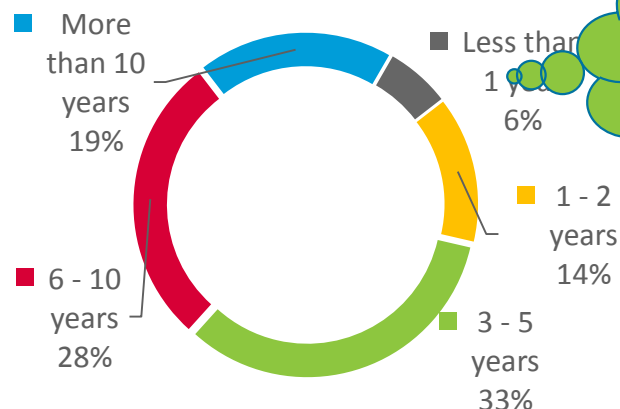
- Parishad Aduppu was developed in 1987
- Fuel efficient wood burning chulha with a efficiency of 28%, certified by CPRI, Bangalore.
- Reduces the firewood consumption to one-third in comparison to traditional cookstove
- Motivation to develop the chulha was to conserve energy and save the depleting forests

Marketing channel:

- Awareness campaign, Demonstration conducted in Kudumbashree groups and high schools / colleges, further creates high awareness levels and increased demands
- Subsidies provided by ANERT to households for construction of the Parishad chulha
- ANERT trained self-employed workers installed these chulhas with subsidy
- More than 5 lakh units of these Improved Cookstoves have been installed in the state.
- Parishad Aduppu still remains the standard bearer of KSSP Research & Developmental work
- The original design has been further modified and extended to meet commercial and community needs (Aluva Aduppu)
- At present KSSP / ENERT is not implementing the project

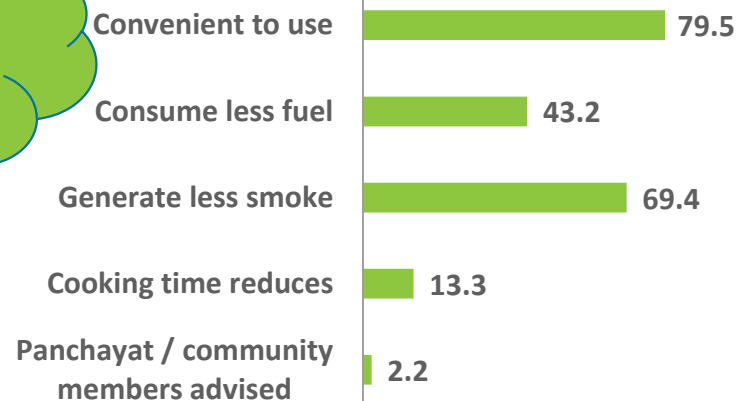
WHO HAS ADOPTED PARISHAD CHULHA

Duration of use ICS



Almost 90% households reported using ICS regularly and majority of them have never faced any challenge

Key reasons for using ICS



- Parishad Chulha was adopted by the higher socio economic groups, around 42% of the adopter households belong to SEC A and SEC B categories
- Despite subsidies available, less than 20% households from SEC D and SEC E categories have adopted Parishad Chulha

	SEC A		SEC B		SEC C		SEC D		SEC E	
	Adopters of ICS	Non-adopters of ICS	Adopters of ICS	Non-adopters of ICS	Adopters of ICS	Non-adopters of ICS	Adopters of ICS	Non-adopters of ICS	Adopters of ICS	Non-adopters of ICS
Rural	12.8	3.2	30.9	18.1	34.9	41.3	19.2	29.7	2.1	7.7
Urban	10.6	3	29.6	18.9	42.6	50.9	15.9	22.2	1.3	5
Total	11.8	3.1	30.2	18.5	38.4	46	17.6	26.1	1.8	6.4

Base for adopter households – 687 households

Base for non-adopter households – 3262 households

KEY PLAYERS FOR ICS (PORTABLE MODEL) KERALA

GREENWAY APPLIANCES

Design

- A single burner, high-efficiency cookstove designed for long-term, everyday use.
- The stove can use any type of solid biomass fuel including, but not limited to, wood, cow dung and agricultural waste.
- Produces 70% less smoke and uses 65% less fuel than traditional mud cookstoves.
- It has been tested and certified by the Ministry of New & Renewable Energy (MNRE), Government of India.
- Automatic internal oxygen supply in the stove and hence they don't have to keep blowing to keep the flame on.
- Less carbon monoxide because of which less eye irritates and burns.
- Based on user's design has been modified several times

Current Market/Consumer

- People who have disposable income to purchase the product (Rs.60 – 70 / week)
- **Marketing:**
- Marketing through ESAF, catering to the reach of the MFI.



KEY PLAYERS FOR ICS (PORTABLE MODEL) KERALA

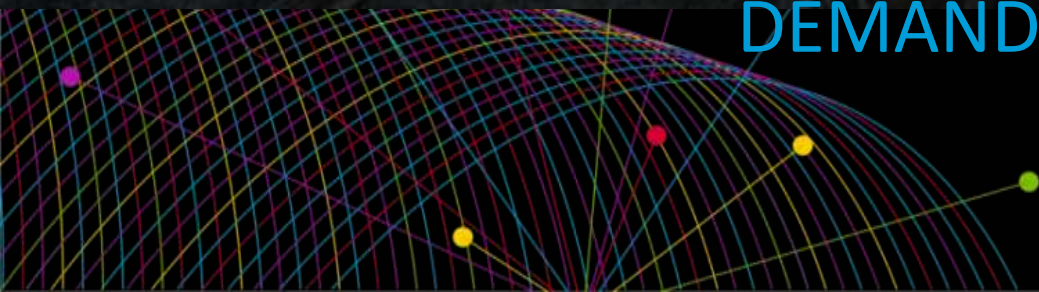
ENVIROFIT

- Envirofit is a social enterprise designing, producing, and selling efficient, durable and affordable cookstoves that create environmental, health, and social impacts for homes and institutions in developing nations.
- **Design**
 - Works on any biomass fuel, including firewood
 - Up to 80% reduction in smoke & toxic emissions, Up to 50% reduced cooking time
 - Up to 60% reduced fuel requirement, high improvement in cooking efficiency
 - Retains the same taste of the food and No Blow-Pipe required
- **Addressable market:**
 - 1.5 to 1.8 lakh (monthly income of Rs. 5000 and above)
 - Focusing on early adopters, people who want to reduce the burden on LPG
 - Advantage: In Kerala, people prefer slow cooking due to the type of rice and fish they consume. Envirofit provides them the option of slower cooking to suit their local needs
 - Envirofit stove does not take bigger wood logs - a disadvantage.
- **Awareness, Marketing**
 - Identified consumer durable retailers, demonstrations in public places like markets.
 - Marketing through retail model failed in Kerala.
 - Started working with Micro-finance channel through SKS (Swayam Krishi Sangha)





DEMAND ENHANCING STRATEGIES
FOR THE SEGMENTS



KEY RECOMMENDATIONS – IMPROVED COOKSTOVES

Product

- Consumers in Kerala will adopt improved cookstove with following features
 - a) Stove which reduce smoke and toxic emissions
 - b) Stoves with multiple burners, can hold bigger size vassals / pot needed for cooking rice
 - c) A table top model / stoves which can be kept on a platform would be preferable
 - d) Works on any biomass fuel including coconut husks mid ribs etc.
 - e) Stove which emits lesser smoke
 - f) Stove which can reduce cooking time would be preferred
 - g) Stove which reduce fuel requirement would be preferred as well
 - h) Stove which can be lighted quickly
 - i) Stoves which can be cleaned and maintained easily, collecting ashes should not be a difficult process
 - j) Stove which won't require continuous attention and allow multi tasking along with cooking
 - k) Stoves which are aesthetically appealing would do good in Kerala market
 - l) Product demonstration is important for adoption and sustained use

KEY RECOMMENDATIONS – IMPROVED COOKSTOVES

Price

- Ability to pay varies across consumers, the consumers from higher income group can pay around Rs. 5000 for improved cookstove
- However consumer with lower socio- economic strata can only pay up to Rs.2000 for improved stoves

Place

- Distribution of cookstoves through Kudumbashree / Self Help Group network would be the best way to reach the market
- Government health infrastructure can be followed for awareness generation as well as distribution

Promotion

- Improved cookstove should be promoted with the key messages around time and convenience along with the health related messages
- Instead of mass media, innovative business model like advertisement through social media should be opted
- Advertisement through local cable channel / SMS etc
- Not many consumers have opted for consumer financing model

CONCLUSIONS

- Behaviour Change Communication (BCC) strategy to be designed targeting the consumers and decision-makers in the household
- BCC strategy should address several of the barriers to purchase and consistent use of clean and efficient cookstoves and fuels while referring the triggers and barriers identified through this study
- For sustained adoption of Improved Cookstove, also need better design, more efficient stove, design need to be finalised in close interaction with the users.
- Promotion and distribution strategy to be worked out considering the targeted segment and study geography

An abstract graphic in the bottom-left corner of the page. It features a series of concentric, overlapping arcs in various colors (blue, red, green, yellow, purple) that form a dome-like shape. From the base of this dome, several thin lines of corresponding colors extend upwards and outwards, each terminating in a small, solid-colored dot. The lines and dots are scattered across the lower half of the page, creating a sense of dynamic movement and connectivity.

nielsen
.....

AN UNCOMMON SENSE
OF THE CONSUMER™

ANNEXURES

ABOUT NIELSEN

The Nielsen Company is the world's leading provider of marketing information, audience measurement, business media products and services.

By delivering an unmatched combination of insights, market intelligence, advanced analytical tools, and integrated marketing solutions, Nielsen provides clients with the most complete view of their consumers and their markets.

More than 80 years in Market Research, Nielsen operates in over 110 countries across the World.

In India, it is called Nielsen (India) Private Limited.

Nielsen has a dedicated social research division - experience of conducting social research in India, Nepal, Srilanka, Pakistan, Bangladesh, UAE, Indonesia, Nigeria

Work across various social sectors including health, education, water sanitation, rural development and poverty alleviation

Work with Government, Donors, UN, NGOs & Civil Society

SAMPLE COVERAGE

Quantitative survey in 3929 households across eight districts of the state

District	District-wise households covered					
	Rural		Urban		Total	
	N	%	N	%	N	%
Kannur	245	12	245	13	490	12.5
Wayanad	267	13.1	223	11.8	490	12.5
Malappuram	240	11.8	234	12.4	474	12.1
Palakkad	264	12.9	235	12.4	499	12.7
Kottayam	257	12.6	241	12.8	498	12.7
Alleppey	241	11.8	251	13.3	492	12.5
Kollam	281	13.8	229	12.1	510	13
Thiruvananthapuram	246	12.1	230	12.2	476	12.1
Total	2041	100	1888	100	3929	100

Qualification criteria for Respondents

- Households reported using any one type of solid fuel; Firewood /Coconut husk /Coconut leaves / fronds/ midribs / Any other agriculture residue / Coal / charcoal / Dung cakes / Sawdust / Wood powder etc.
- Wives of CWE (women responsible for cooking in the age group of 20 – 70 years).



Utensils used on traditional stove:

- Earthen vessels
- Aluminium vessels
- Iron vessels



Every end is beginning of a new
journey...

THANK YOU

FOR INQUIRIES PLEASE CONTACT
SUCHANDRA NANDY SUCHANDRA.NANDY@NIELSEN.COM OR
JULIE IPE JIPE@CLEANCOOKSTOVES.ORG

