EPA

WINROCK INTERNATIONAL

Cook Stoves & Indoor Air

Promoting Clean and Efficient Cooking in the Developing World

WASHplus: What we did, why it matters

June 15, 2016

USAID FROM THE AMERICAN PEOPLE

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Supportive Environments for Healthy Communities

Today's Speakers

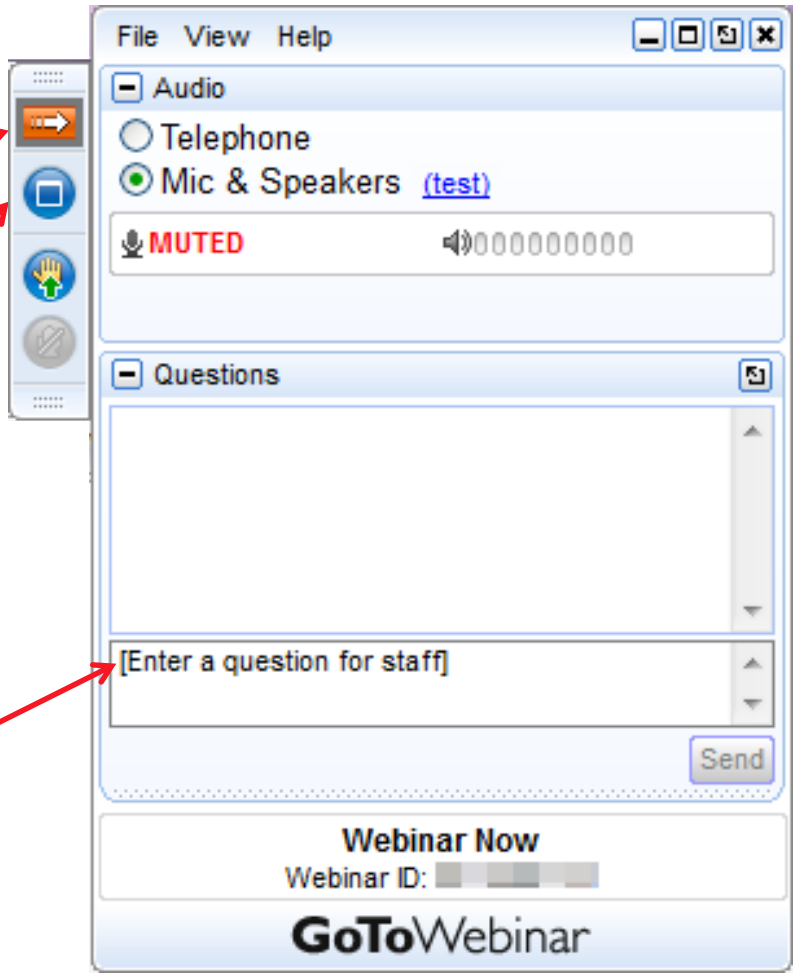
- **John Mitchell**, U.S. Environmental Protection Agency, Webinar Facilitator
- **Elisa Derby,** Winrock International/WASHplus
- **Julia Rosenbaum,** FHI360/WASHplus

Using the Webinar Technology

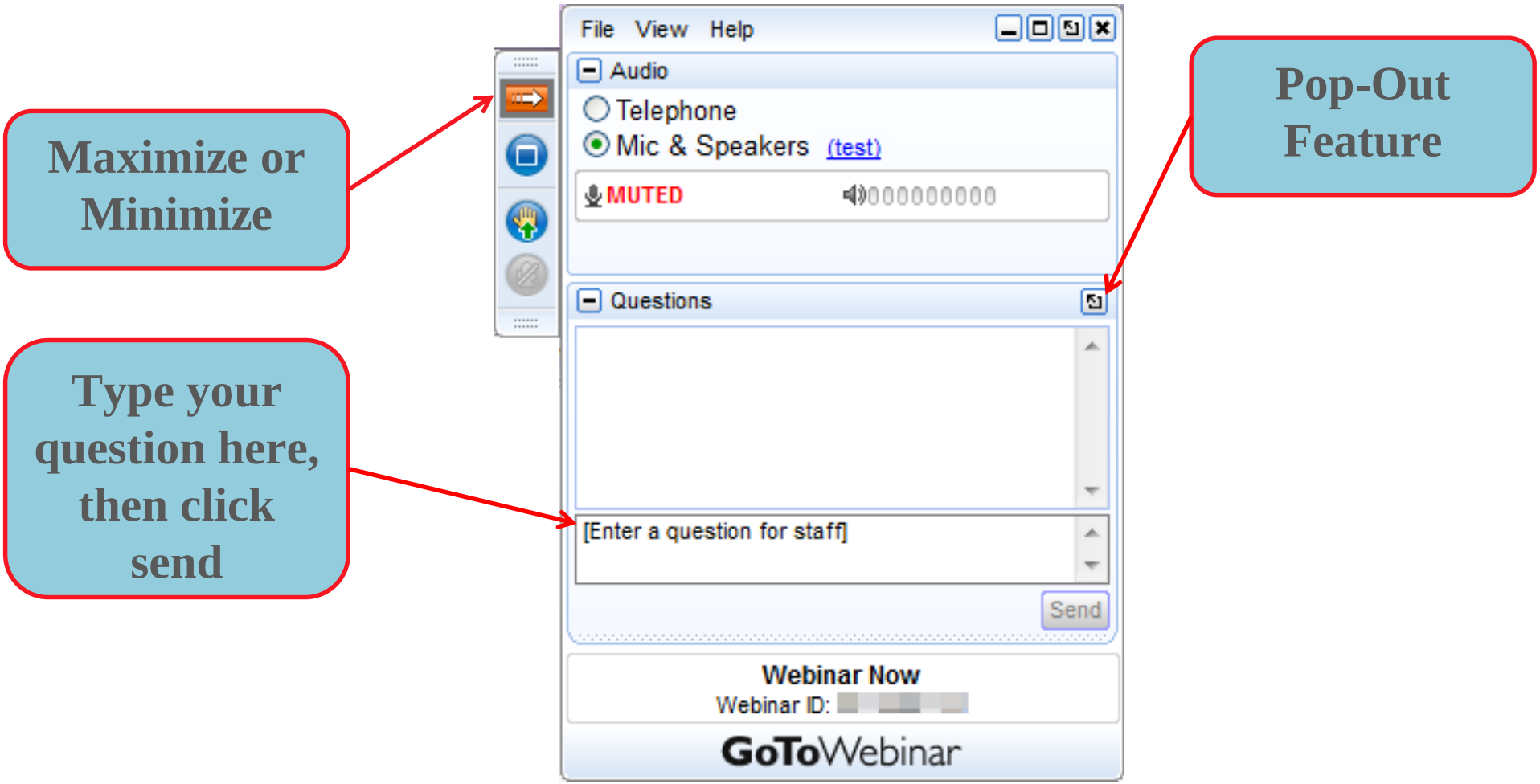
Hide Control Toolbar

Maximize Presentation

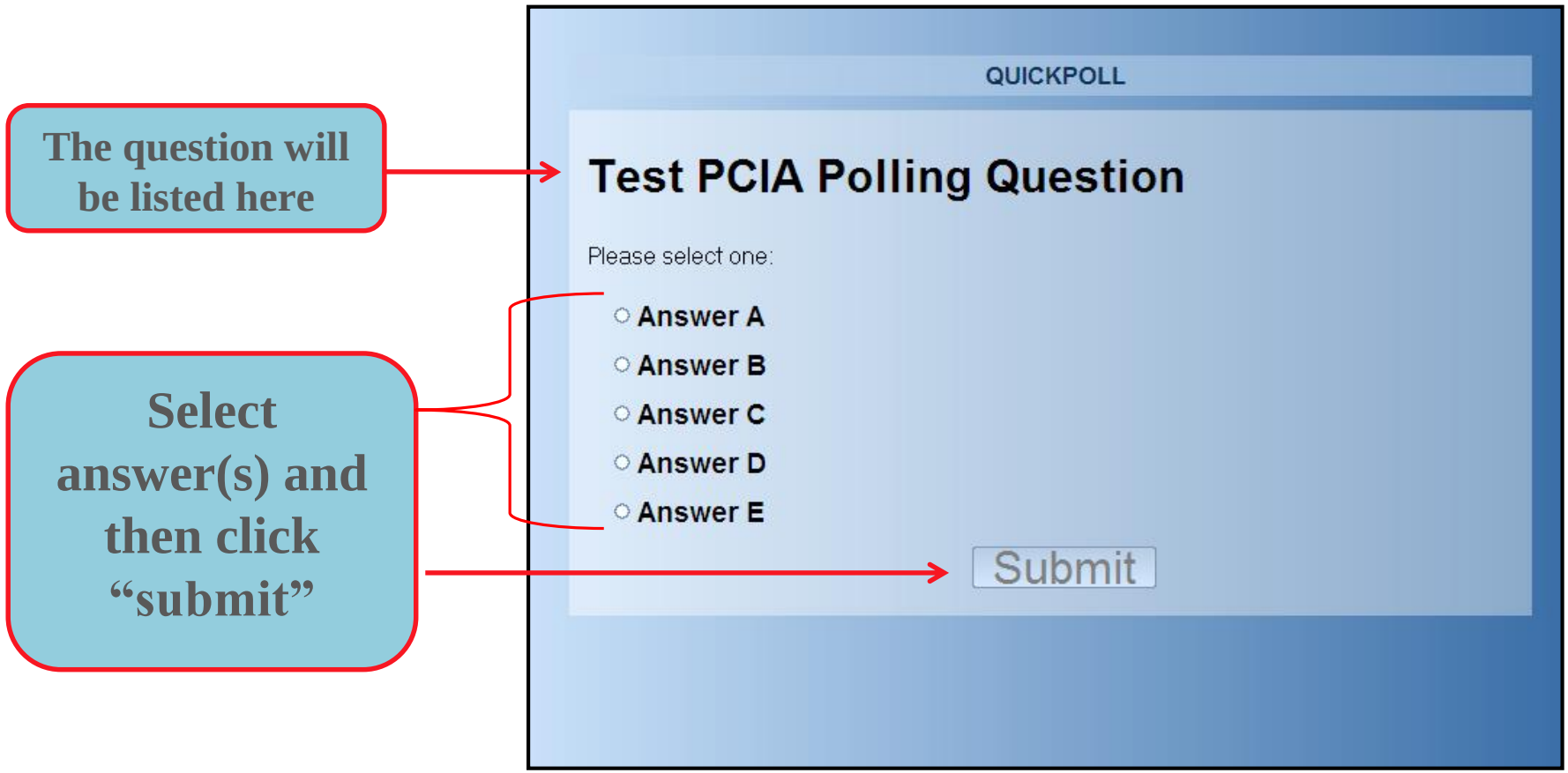
Question Feature



Using the Webinar Technology



Using the Webinar Technology



Purpose of the Webinar

- Report out on innovative activities and compelling results from consumer preference studies in Bangladesh and Nepal.
- Learn how consumer research can help develop marketing and program strategies.
- Introduce a new consumer research toolkit.

Agenda

- Household Air Pollution and Behavior Change
- Consumer Preference & Willing to Pay Studies: Nepal & Bangladesh
- Introducing the Cookstove Consumer Research Toolkit
- Other WASHplus Support to the Clean Cookstove Sector
- Q&A
- Next Steps

Questions to Consider

- How might consumer research improve my project or stove business?
- What parts of the WASHplus toolkit would be most useful to me?
- Whose behaviors do my activities currently focus on?
- Would adding to or changing that focus/audience improve my work?

Polling Question #1

What is your organization's primary involvement in the clean cooking sector?

a. Stove or fuels production/distribution
b. Research / academia
c. Support / technical assistance to stove producers/distributors
d. Donor / financing and investment
e. Other

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Behavior Change Approaches To Facilitate Clean Cooking and Reduce HAP

Reducing HAP requires changing behaviors…

COMPLEX behaviors, of many actors, practiced consistently and correctly …. sustained over time

Stoves

- Select it
- Buy it or finance it
- Use it
  - consistently
  - correctly
- Maintain it
- Sustain it

Framework for Impact – HAP

Supply
- Improved Cookstoves
- New/ Improved Fuels

Demand Creation / Promotion
- BC Communication
- Promotion

C/C Use of ICS
Reduced HAP
Energy/Health Benefits

Enabling Environment
- Standards
- National Policies
- Financing and Subsidies
- Cross Sectoral Coordination
- Capacity

Whose behavior are we aiming to change?

For HAP and clean cooking

- Cooks
- Head of household$
- Stove manufacturers
- Policy makers
- Microfinance
- NGOs

To change behaviors …

…We need to systematically understand what motivates a particular behavior for a particular target group

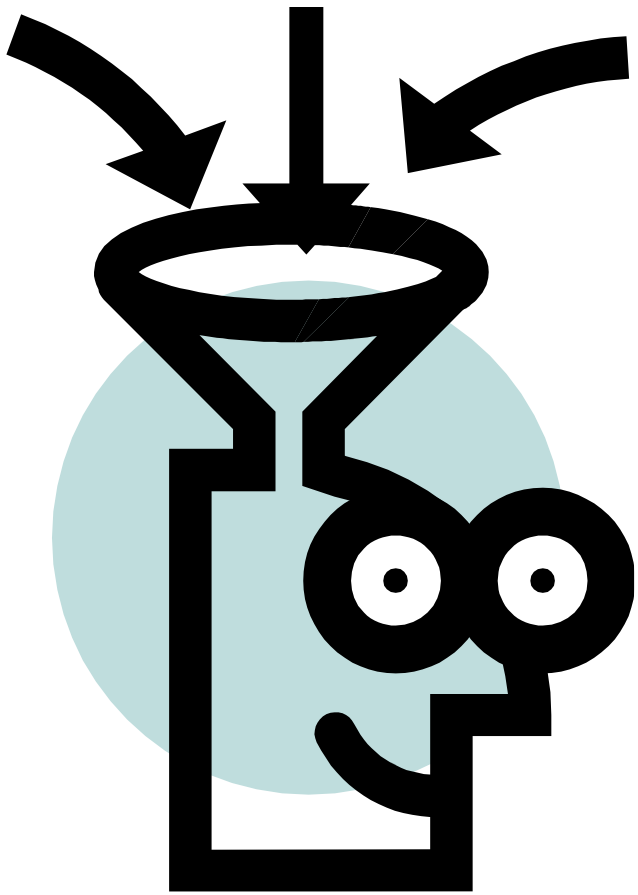
Health is rarely the strongest motivator for behavior

Significant Statistical Differences in Perceptions of Latrine Owners and Open Defecators in Amhara, Ethiopia

(USAID Hygiene Improvement Project/WSP)

Perception Areas	Specific Content	Role
Personal/Family Image	Makes you popular	✓
	Gets you community respect	✓
	Makes you respected by visitors	✓
	Makes you look modern	✓
	Makes your family proud	✓
Comfort/Safety	Provides safety to women all day long	✓
	Makes defecation easier for elderly	✓
Cleanliness	Keeps compound clean	✓
Health	Reduces diarrhea	⊘
	Reduces disease	⊘

A word about knowledge



Knowledge is necessary,

but not sufficient!

- Identify key information
  - Skills like fuel prep
  - Place to buy
  - XXX
- … and then what else ???

Find the feeling!

From WASH

Handwashing

- Disgust, affiliation, nurture

Stopping Open Defecation

- Dignity, pride

Purchasing a latrine

- Being modern, social status

Stoves

- Modern, saving money for kids, able to charge phones

Organizing a Strategic Approach to Increase the Purchase and Adoption of Stoves

Using Research to Shape the Marketing Mix

Polling Question #2

How often do you perform consumer research?

a. Very often, a regular part of our organization's strategy
b. Occasionally, when there is a new product or service we are developing
c. Seldom, have conducted interviews or focus groups in past, but not often
d. Never, but we're interested in conducting future consumer research
e. N/A

Consumer Preference & Willing to Pay Studies: Nepal & Bangladesh

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Photo credits to Berkeley Air Monitoring Group, RDN, and Winrock International Nepal

Consumer Preference

Why is consumer preference so important?

Cooking is personal, if cooks don't like or can't buy the stoves, they won't use them; no benefits!

1. No "one size fits all" cookstove
2. Lab performance ≠ field performance
3. The "best" stoves can be unappealing to cooks
4. Stove "stacking" is the norm
5. Lack of IAP health risk awareness
6. Poverty
7. Higher priorities for $
8. Lack of HH purchase decision making power

Study Objectives

- Elicit desired ICS attributes/perceived benefits
- Compare consumer reactions to five ICS types
- Assess willingness to pay, consistency of use
- Test efficiency, impact on household fuel use
- ***Make recommendations to USAID/CCEB and AEPC to expand the selection of improved cookstoves (ICS) offered in each country***

WASHplus Study Team

Funders

- USAID Bureau for Global Health, Maternal and Child Health
- USAID/Bangladesh Mission
- USAID Asia Regional Bureau
- State/Global Partnership Initiative

Implementation/research partners

- Winrock Nepal and FHI360 Bangladesh staff
- Karabi Dutta
- Berkeley Air Monitoring Group
- Right Direction Nepal
- Global Alliance for Clean Cookstoves
- Aprovecho Research Center
- iDE Bangladesh

Baseline options

Bangladesh

Nepal

Study stoves

Bangladesh

Envirofit Z3000
- Single-pot built-in-place rocket-design stove

EcoZoom Dura
- Single-pot portable rocket-design stove

Both

Prakti LeoChimney
- Two-pot metal chimney stove

Greenway SmartStove/JumboStove
- Single-pot portable natural draft gasifier stove

Alpha Renewable Energy EcoChula
- Single-pot portable fan stove (battery/solar)

Nepal

Xunda Field Dragon
- Single-pot portable rocket-design stove

Local AEPC-promoted mud/chimney stove
- Double-pot built-in-place mud stove

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Consumer preference trials

TIPS includes semi-structured questionnaires- qualitative and quantitative elicitation questions

- Baseline/demographic
- Stove installation (e.g. 5 stove models; 140 HH)
- 3-6 day initial assessment/problem solving
- Endline survey (at 4/8/12 weeks)
- Market demos and FGDs
- Willingness to Pay (2 methods)

- Add-on monitoring
  - Fuel wood usage (CCT, KPT)
  - Stove usage (SUMS)
  - Indoor air pollution monitoring

Market Demos & FGDs

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CCTs and KPTs

CCT: Assess fuel use and cooking time in local context pre-trials

KPT: Assess impact of stove on HH fuel consumption

Stove Use Monitoring

Stove use monitors (SUMs)

- Temperature-sensitive iButton data loggers
- Record stove temperature every 10 minutes

Maxim iButton

WTP methodologies

Determine how consumers value and are willing to pay for these technologies, including through installment plans

- Auction/bargaining in Nawalparasi: participants invited to bargain for stove; lump sum or installment payment options
- Buy-back in Dang: participants given stove as gift, offered a cash buy-out

Consumer preference trials

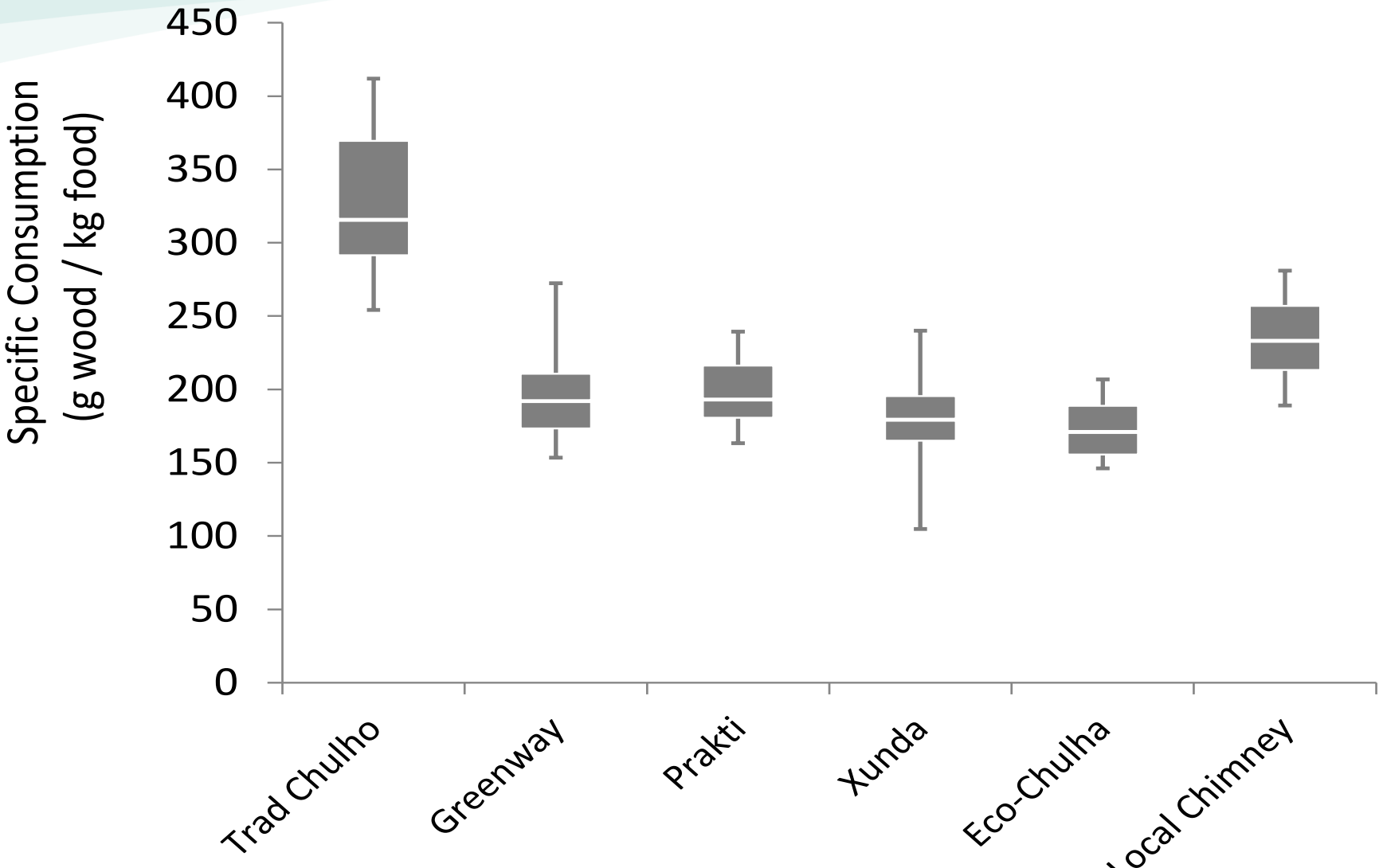
	Bangladesh	Nepal
Stove types	5 imported	4 imported, 1 local
Households	120	140*
Geography	8 villages across 2 districts	4 villages across 2 districts*
Trial duration	3 weeks	4-7 months*
KPTs	116 intervention 24 control	123 intervention 27 control
SUMS	Intervention in all study HH, traditional in ½ of study HH	Intervention and traditional stoves in all study HH
IAP monitoring	Limited sample	None

*Not as planned

Nepal study challenges

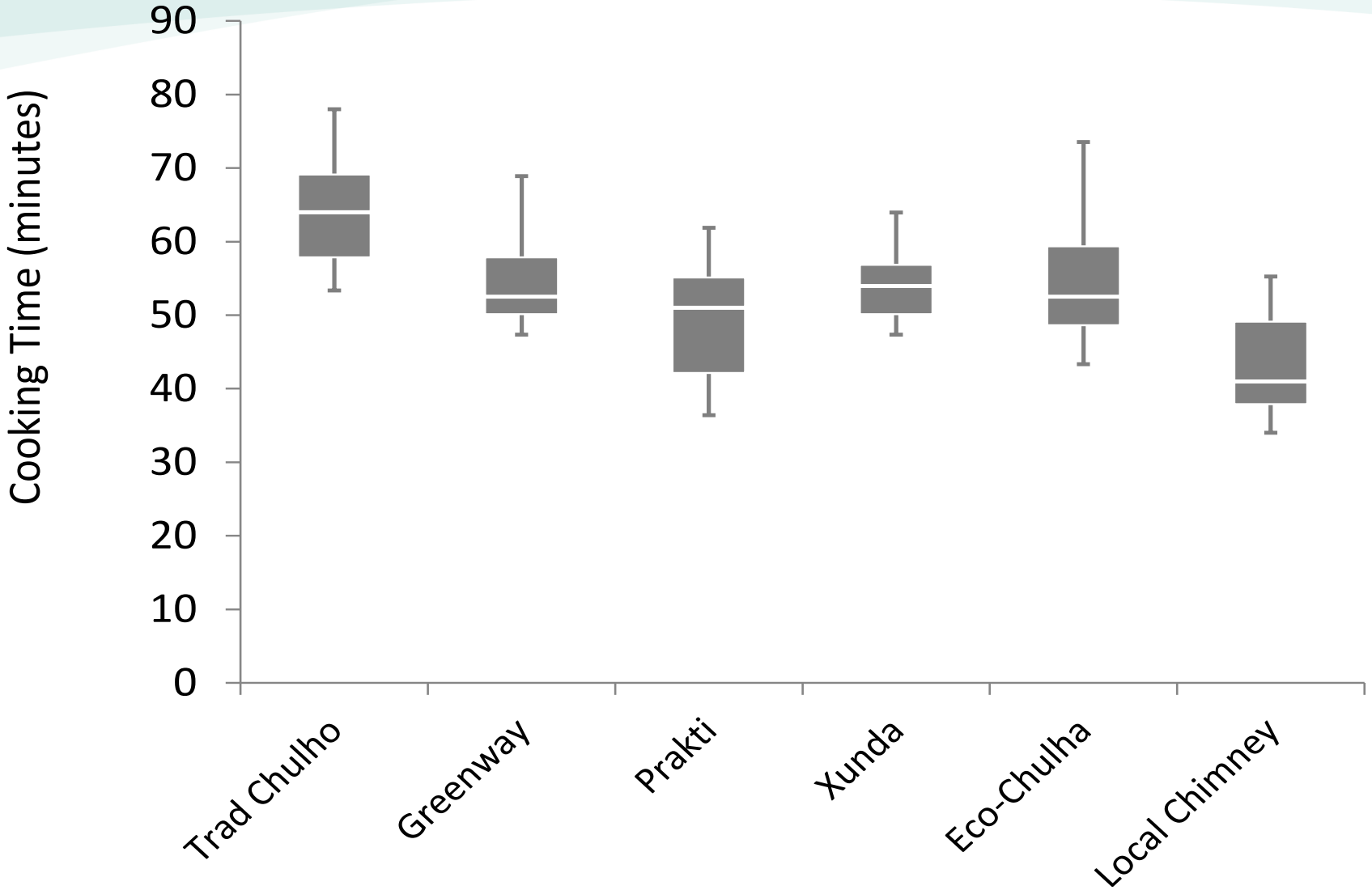
- April – May earthquakes
  - Loss of Dolakha district
  - IRB delays
- Accidental fire first day in field
- Political unrest, delays in field visits
  - Inability to reach Dang = 4 month gap in SUMS data
  - KPT, endline and WTP delayed from Sept to Dec in Dang (into winter)

Nepal CCT: Fuel Savings



Significant fuel savings for all stoves: 29-47%

Nepal CCT: Cooking Time

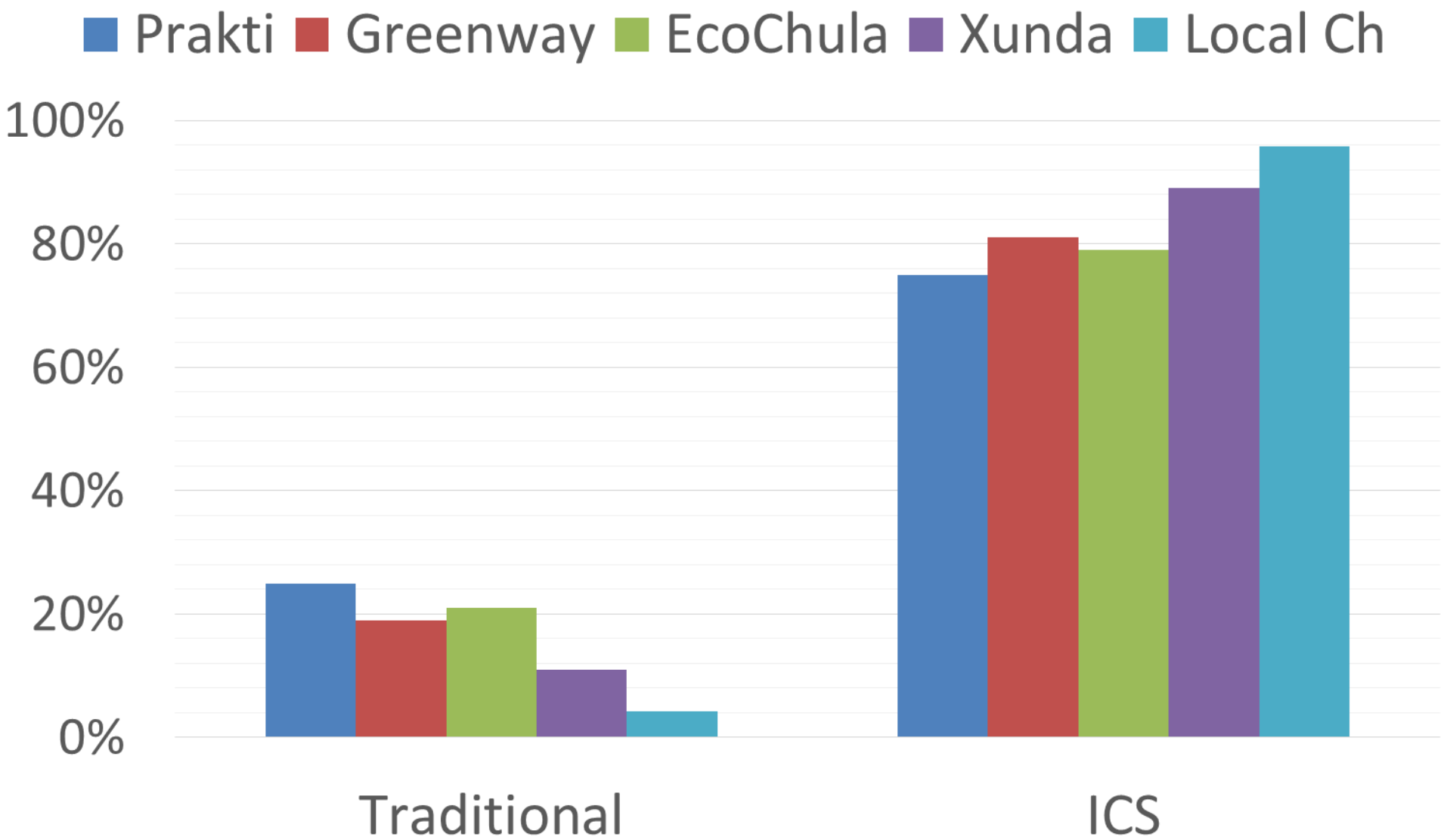


Significantly reduced cooking times for all stoves: 15-33%

Nepal study sample

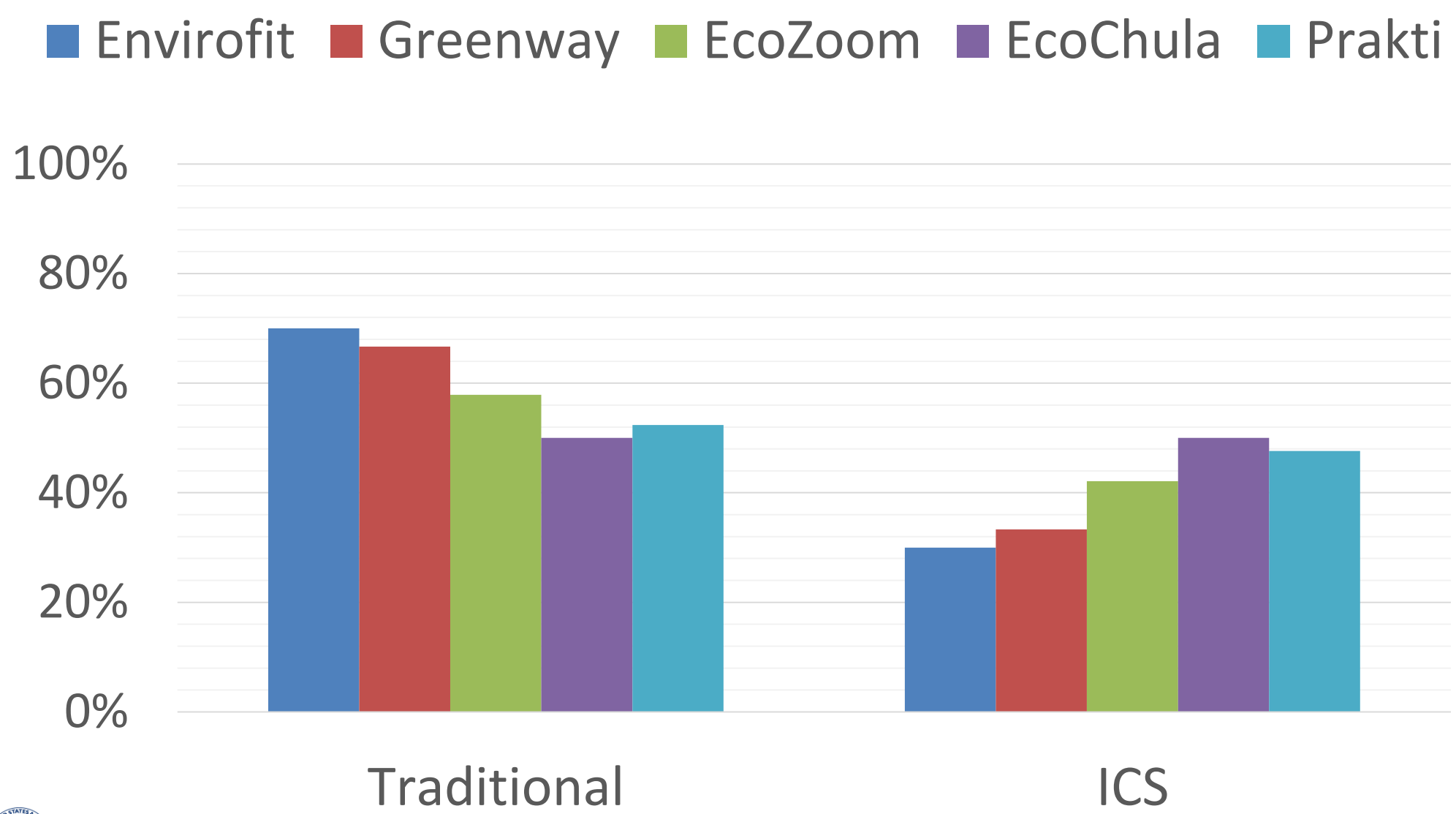
- Nawalparasi & Dang
- Most families 4-5 people; average = 5
- Primary wood fuel usage, mostly gathered
- Poor, but not the very bottom of the pyramid
- All participants 18-50yo; ~50% were 21-30 yo

Nepal ICS vs traditional stoves



Responses at endline (4 months)

BD ICS vs traditional stoves

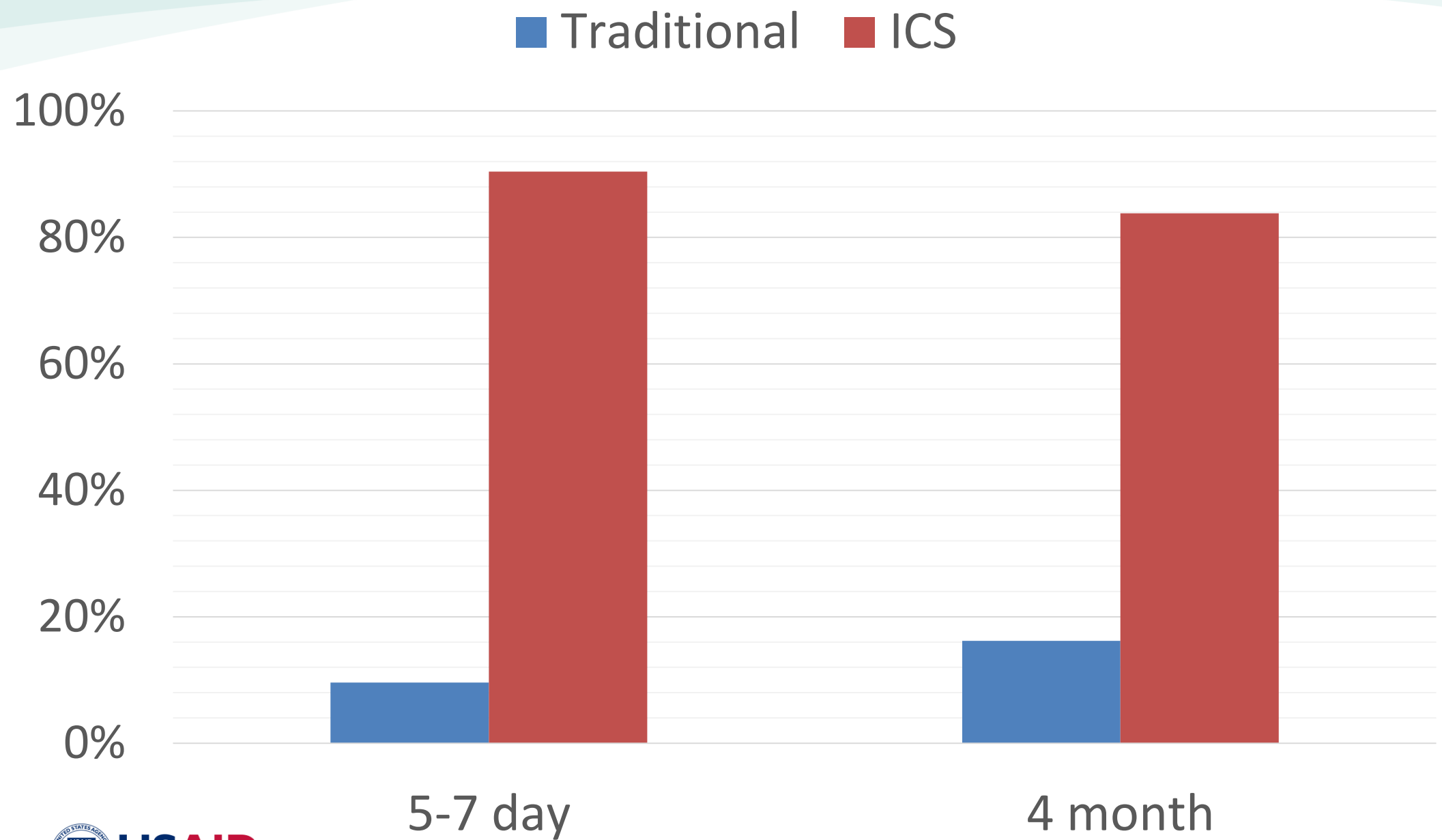


Responses at endline (3 weeks)

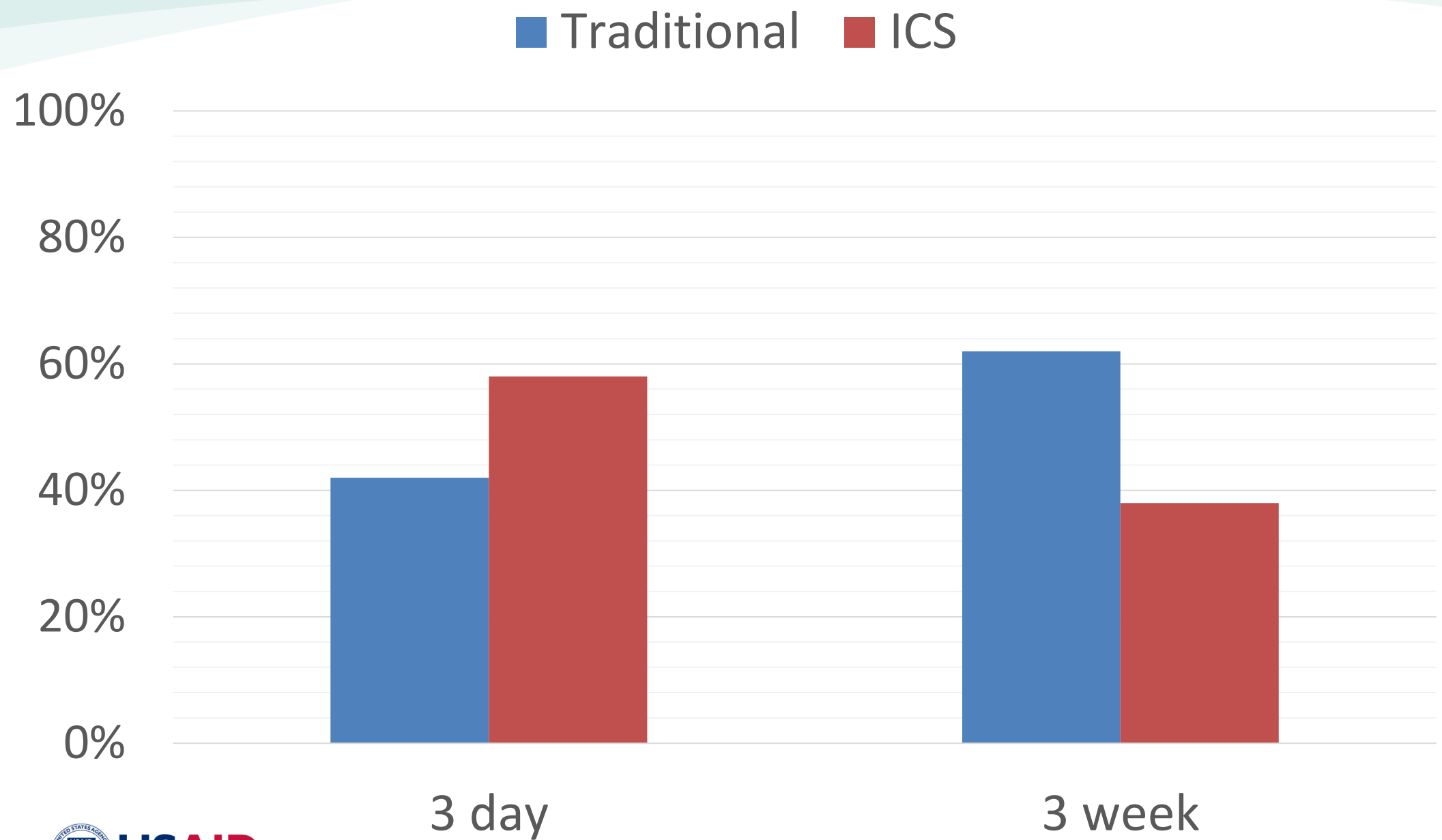
What cooks liked

Responses at endline (Bangladesh)

Nepal preference over time



BD preference over time



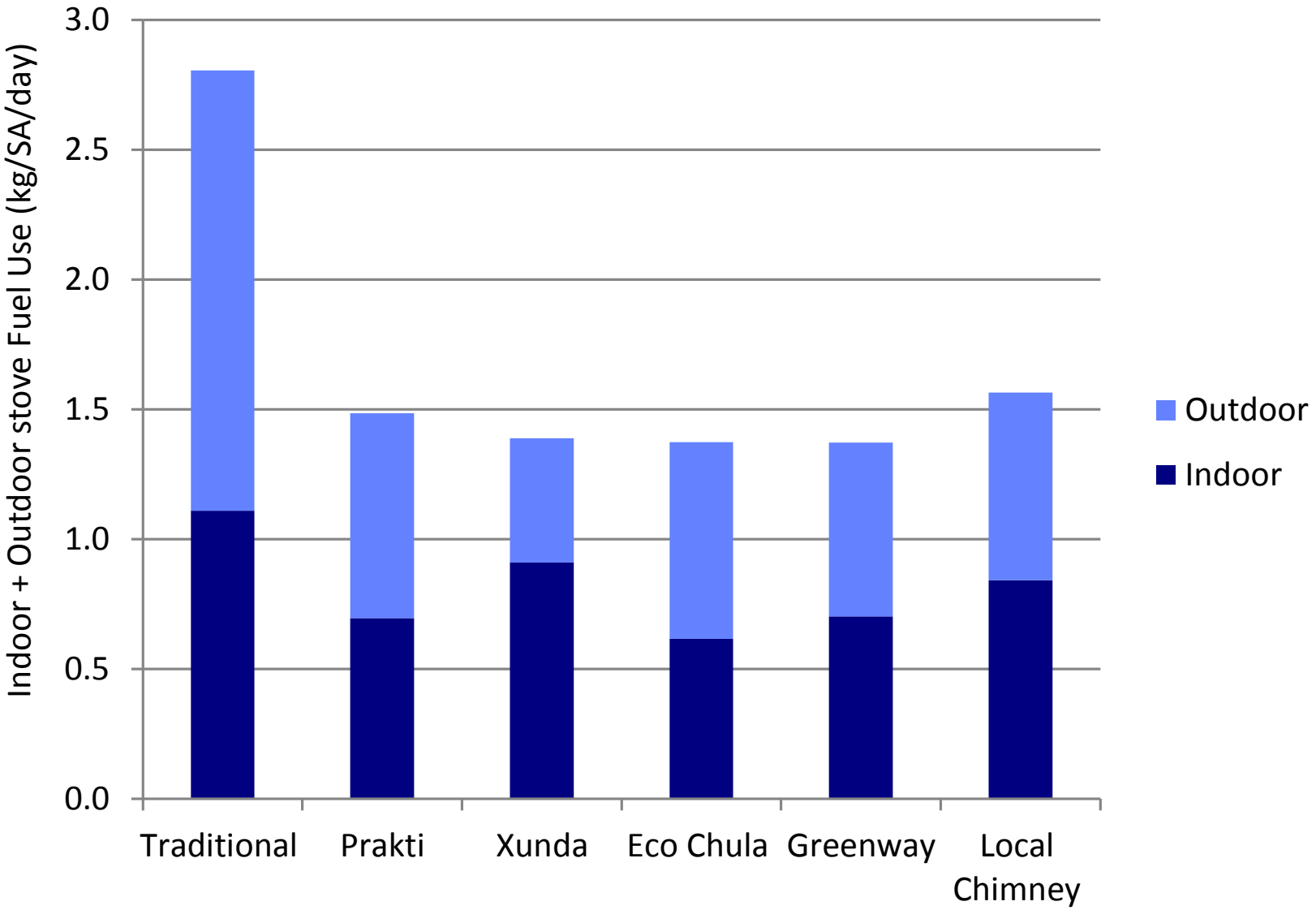
Nepal: who would buy?

What Kind of People Would Use This (These) New Stoves?	Frequency n = 136	Percentage (%)
Ordinary person	**128**	**94.1**
Poor people	16	11.8
Thrifty	11	8.1
Modern	8	5.9
People who are taken as a example in society	8	5.9
Respected person	3	2.2
Smart	2	1.5

Willingness to Pay

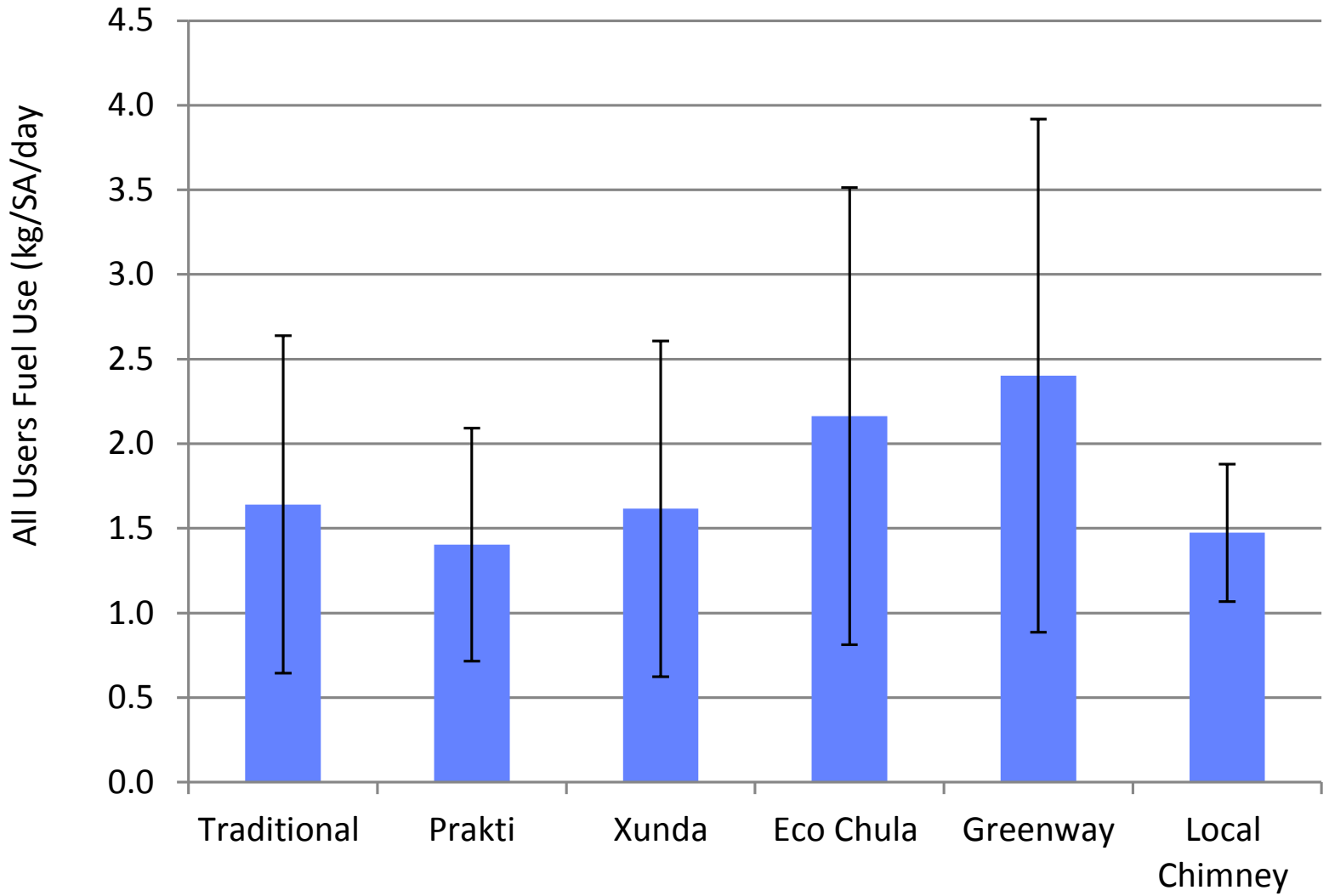
	Bangladesh	Nepal
Action/bargaining	105 households (7 villages)	70 households (1 district)
Discounted stove $	$19-53	$6-43
# purchased	1	37 (53%) 23 cash, 14 installment
Buy-back	15 households (1 village)	66 households (1 district)
Discounted stove $	$19-53	$6-43
Chose the $	3	8
Kept the stove	12 (80%)	58 (88%)

Fuel use in Nawalparasi



Significant fuel savings: 32-50%

Fuel use in Dang (trad+ICS)



No significant fuel savings; min ICS use add'l to trad use

Study outcomes

Bangladesh: The majority of study households did not prefer study stoves over traditional stoves, and were not willing to pay for them.

- CCEB did NOT add stoves into their portfolio
- Used features feedback to identify/develop local models
- Manufacturer modifications

Nepal: Enthusiastic support of study stoves over traditional stoves, majority willingness to pay

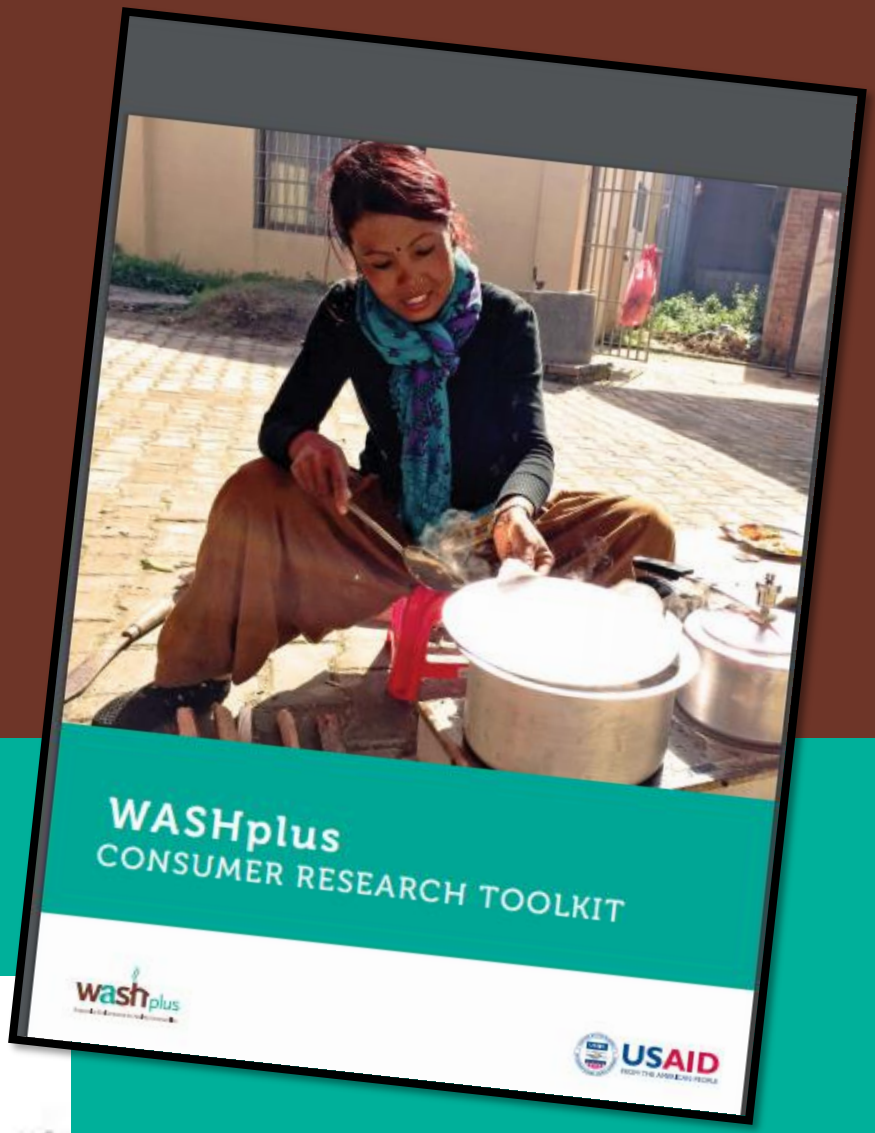
- Recommendation to AEPC for inclusion of these or similar models into national stoves program

Polling Question #3

What is the main barrier to you undertaking consumer research, or more of it?

a. Lack of knowledge
b. Lack of tools
c. Lack of funds
d. N/A

Introducing the Cookstove Consumer Research Toolkit



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WASHplus Toolkit

Guidance to implement TIPS consumer preference studies

- WHY care about consumer wants and needs
- Guidance on HOW to measure them accurately:
  - Description of the methods, techniques and tools
  - How to use them

Toolkit components

Guidance on…

- Trials of Improved Practice (TIPs)
- Market demonstrations
- Controlled Cooking Testing
- Kitchen Performance Testing
- Stove usage monitoring
- Household air pollution monitoring
- Willingness to pay assessments

WASHplus Toolkit

- Study Management
- Logistics / Timeline
- Partnerships / Vendor Selection
- Sampling
- Stove Selection
- Ethical Review/IRB
- Interviewer Training
- Guidance on qualitative data analysis
- Presentation of findings and report writing

WASHplus Toolkit

Methods, techniques and tools – all designed for CS-Pro public shareware platform-- including:

- TIPs surveys (paper and mobile-based)
- Data entry templates
- Data analysis platform
- Video tutorial guidance on:
  - ✓Downloading CSPro, installing the CSPro data templates
  - ✓Editing templates for local context
  - ✓Data entry
  - ✓Compiling/coding/cleaning data
  - ✓Data analysis
  - ✓Generating output tables and creating graphs/graphics
  - ✓Exporting data
- Guidance on qualitative data analysis
- Presentation of findings and report writing

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WASHplus Consumer Cookstove
TOOLKIT

Less soot/cleaner
Well manufactured
Looks nice
Less firewood/fuel
Portable/good handle
Cooks food quickly
Emits less smoke

This consumer research toolkit is designed to help cookstove-related businesses and organizations to collect information from and about potential consumers for more effective design, selection, promotion, and sale of improved cookstoves (ICS). Stakeholders can use that information to design approaches that best support complete adoption and correct and consistent use of the technologies most acceptable to the target group.

The tools help toolkit users identify: 1) stove designs, features, or models that appeal to consumers; 2) needed modifications to stove technologies based on consumer input and stove performance; 3) necessary consumer education on use and maintenance of stoves; and 4) marketing and financing approaches that stimulate stove dissemination and adoption.

Convincing consumers to buy, adopt, and exclusively use new, improved stoves is a complex proposition, affected not only by the choice of stove but also by fuel collection and preparation, cooking behaviors, and inter-family dynamics. Consumer research can help develop marketing and program strategies including selecting appropriate products most likely to be acceptable, affordable, and properly used by key target groups—groups that can also be

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TOOLS TO GET STARTED

DOWNLOAD PDF

WASHplus Consumer Research Toolkit

The toolkit provides guidance on how to undertake consumer preference research on improved cooking technologies through Trials of Improved Practice (TIPs), including guidance in using associated data collection, entry, and analysis tools based on CSPro software available for free online. This toolkit also provides guidance on useful add-ons to consumer preference studies:

1. Willingness to Pay assessments, to determine how consumers value and are willing to pay for these technologies, including through installment plans
2. Market demonstrations, to gather feedback from non-study participants
3. Controlled Cooking Testing, to assess stove performance in the local context; gauge the ability of the proposed technologies to meet local cooking needs; and identify necessary use and maintenance instructions for cooks
4. Kitchen Performance Testing, to assess the impact of the introduction of the improved stove on household fuel consumption
5. Stove Usage Monitoring, to determine how frequently the stove is used, for what purposes, and to what extent its usage displaces traditional stove use
6. Household air pollution monitoring, to assess the impact of the introduction of the improved stove on household air quality

Questionnaires (Surveys and Scripts)

- BASELINE SURVEY
- THREE-FIVE DAY FOLLOW-UP SURVEY
- EIGHT WEEK FOLLOW-UP SURVEY
- EIGHT WEEK FOLLOW-UP SURVEY /DECISION-MAKER
- WILLINGNESS TO PAY BUY BACK SCRIPT
- WILLINGNESS TO PAY BARGAINING SCRIPT

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Using CSPro to Manage Survey Data

This toolkit uses a free software package called CSPro for questionnaire management, data entry, and analysis. Files are then exported to Microsoft Excel to create graphic files. Below is the link to a Zip file with a number of CSPro files related to the various data instruments and instructions and tutorials for downloading and using CSPro.

Download CSPro here

Unzip these files to link to all the CSPro data files

For PC | For Android

Click on the various icons and videos below to learn more about downloading and using CSPro.

- General guidance on using CSPro (not customized for the WASHplus toolkit)
- Guidance on downloading CSPro and installing WASHplus CSEntry templates
- Guidance on editing and modifying CSEntry templates in line with any changes made to the questionnaires
- Guidance on entering data from paper-based questionnaires
- Guidance on compiling data from multiple questionnaires
- Guidance on data analysis and generating output tables and graphs
- Guidance on exporting data to other statistical software (this is an optional step for those who have access to another software analysis program that they'd prefer to use instead of CSPro)
- Guidance on translating CSEntry templates into a local language
- Guidance on installing CSEntry templates on an android mobile phone for mobile data collection
- CSPro for Mac users (PDF 316KB)

MORE RESOURCES

WASHplus report: Understanding Consumer Preference and Willingness to Pay for Improved Cookstoves in Bangladesh

Journal of Health Communications article: Understanding Consumer Preference and Willingness to Pay for Improved Cookstoves in Bangladesh

What Do Cooks Want? What Will They Pay? A Study of Improved Cookstoves in Bangladesh

Household Air Pollution: What's Behavior Got to Do with It?

Behavior Change Communication: A Key Ingredient for Advancing Clean Cooking

Understanding Consumer Preference and Willingness to Pay for Improved Cookstoves in Nepal

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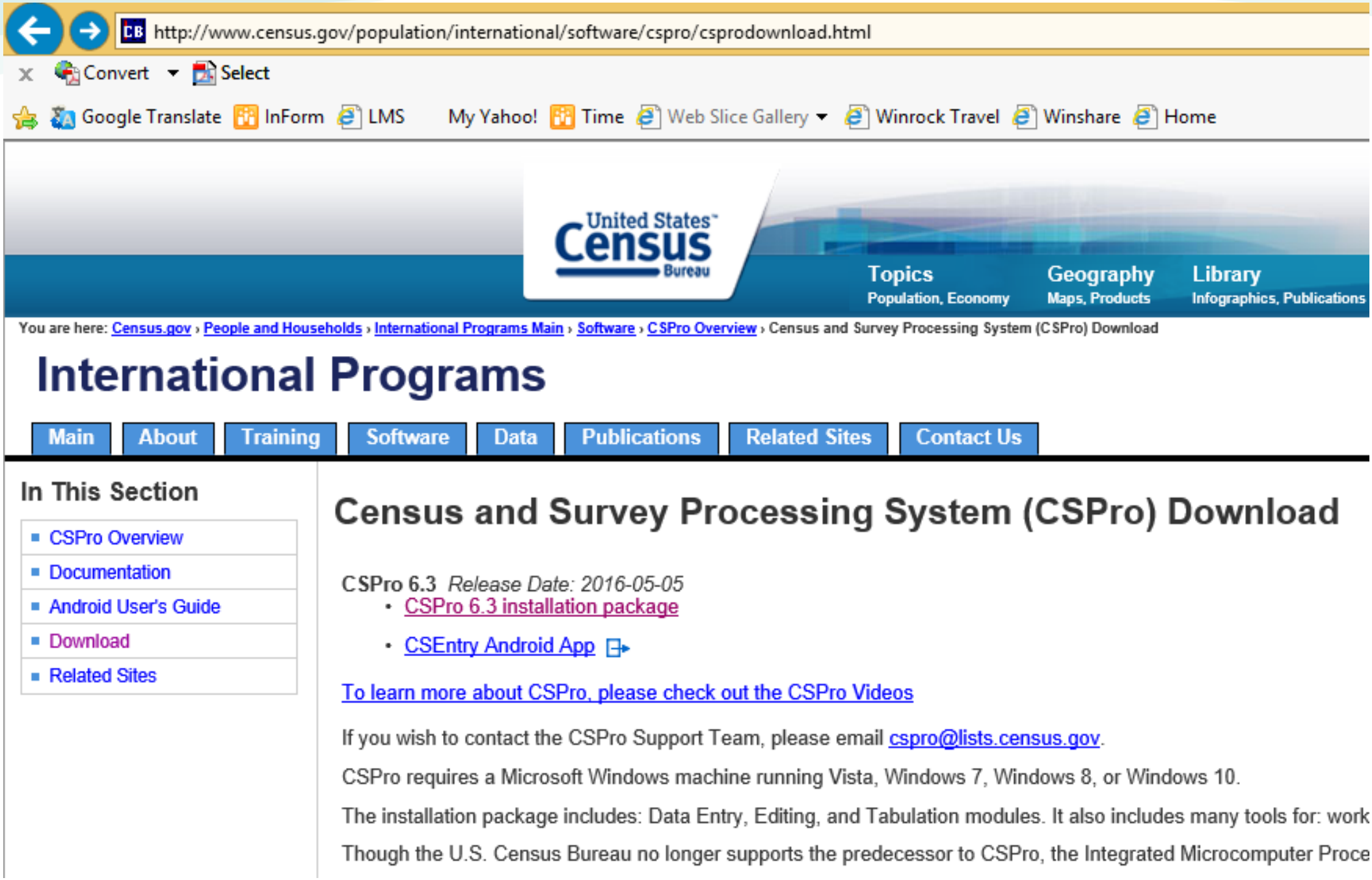
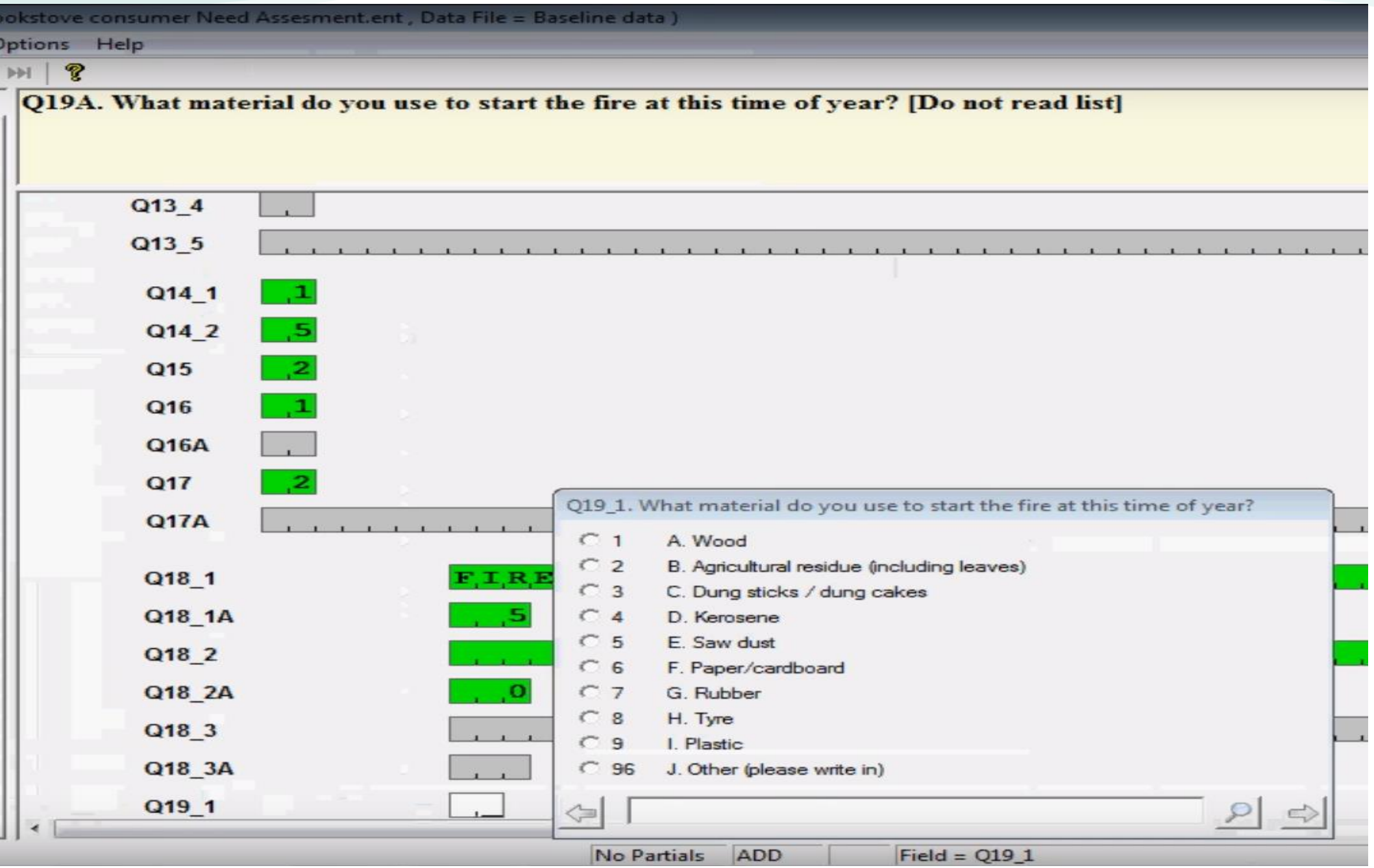
Download CSPro

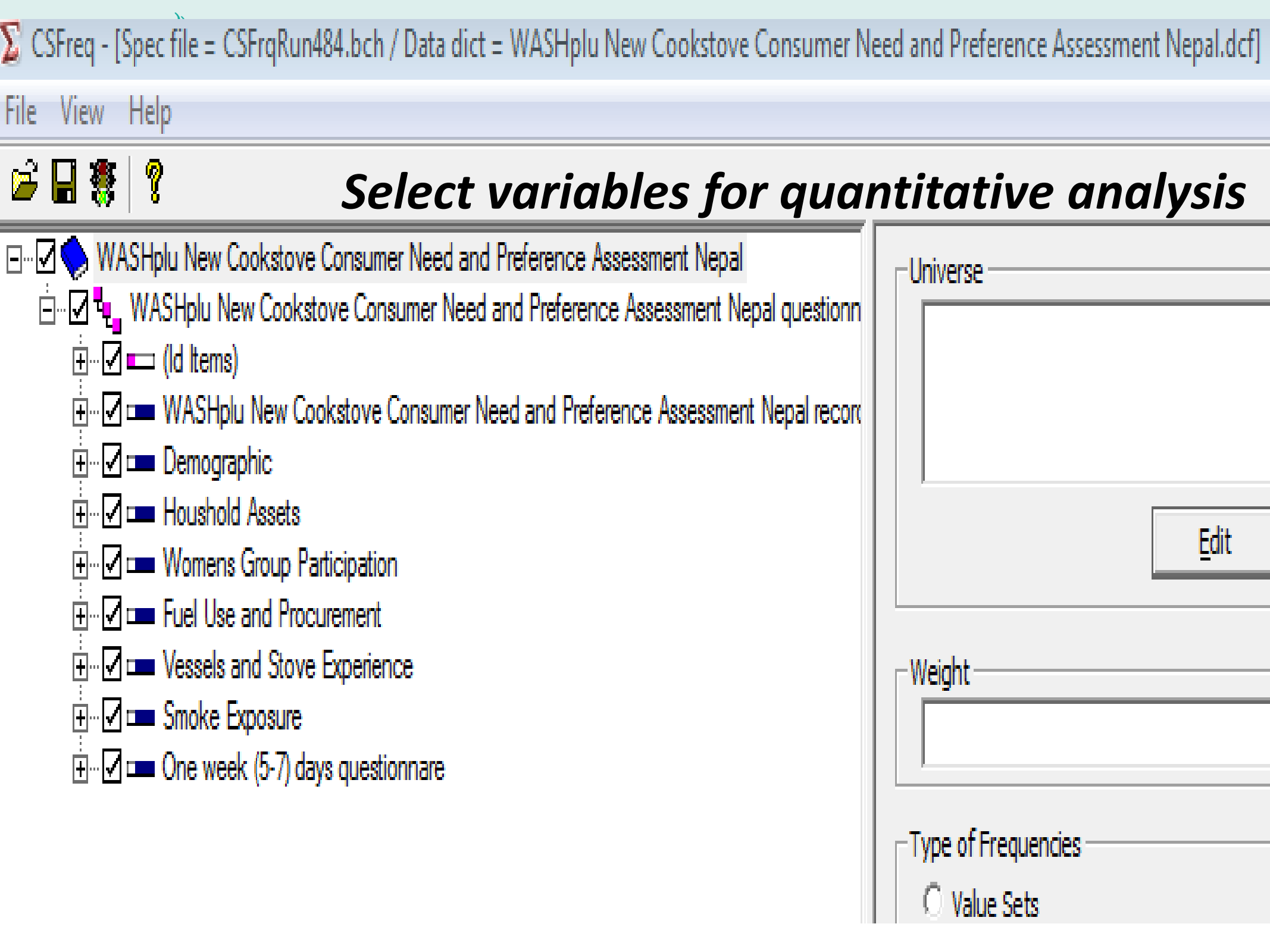


Questionnaires

348	Do you feel that using this new type of stove makes you more modern/less modern/ or is there no difference?	A. More modern	1	
		B. Less modern	2	
		C. No difference	3	
349	Do you feel that using this new type of stove make you more admired by your community, less admired, or is there no difference?	A. More admired	1	
		B. Less admired	2	
		C. No difference	3	
350	What, if anything, did you talk about with family and neighbours about the new stove? [Do NOT read list; check all that apply]	A. Saves (wood) fuel	1	
		B. Can't use other fuels	2	
		C. It emits more smoke than a traditional stove	3	
		D. It emits less smoke than a traditional stove	4	
		E. I recommend you get one.	5	
		F. Stick with your traditional stove/ I don't recommend you purchase one	6	
		G. Nothing/ don't remember	7	
		H. Other (please write in)	96	
351	If you always had a stove like this one, would you use it for every meal, most meals or only for specific meals?	A. Every meal	1	*If coded 1 or 4 then skip to 356*
		B. Most meals	2	
		C. Specific meals	3	
		D. Don't know/can't tell	4	
352	If you would use the stove only for specific meals, list the main foods you would prepare on it. *[Do NOT read list; check all that apply]*	A. *insert common foods*	1	
		B. *insert common foods*	2	
		C. *insert common foods*	3	

Data Entry Templates




CSFreq - [Spec file = CSFrqRun484.bch / Data dict = WASHplu New Cookstove Consumer Need and Preference Assessment Nepal.dcf]
File View Help
Select variables for quantitative analysis
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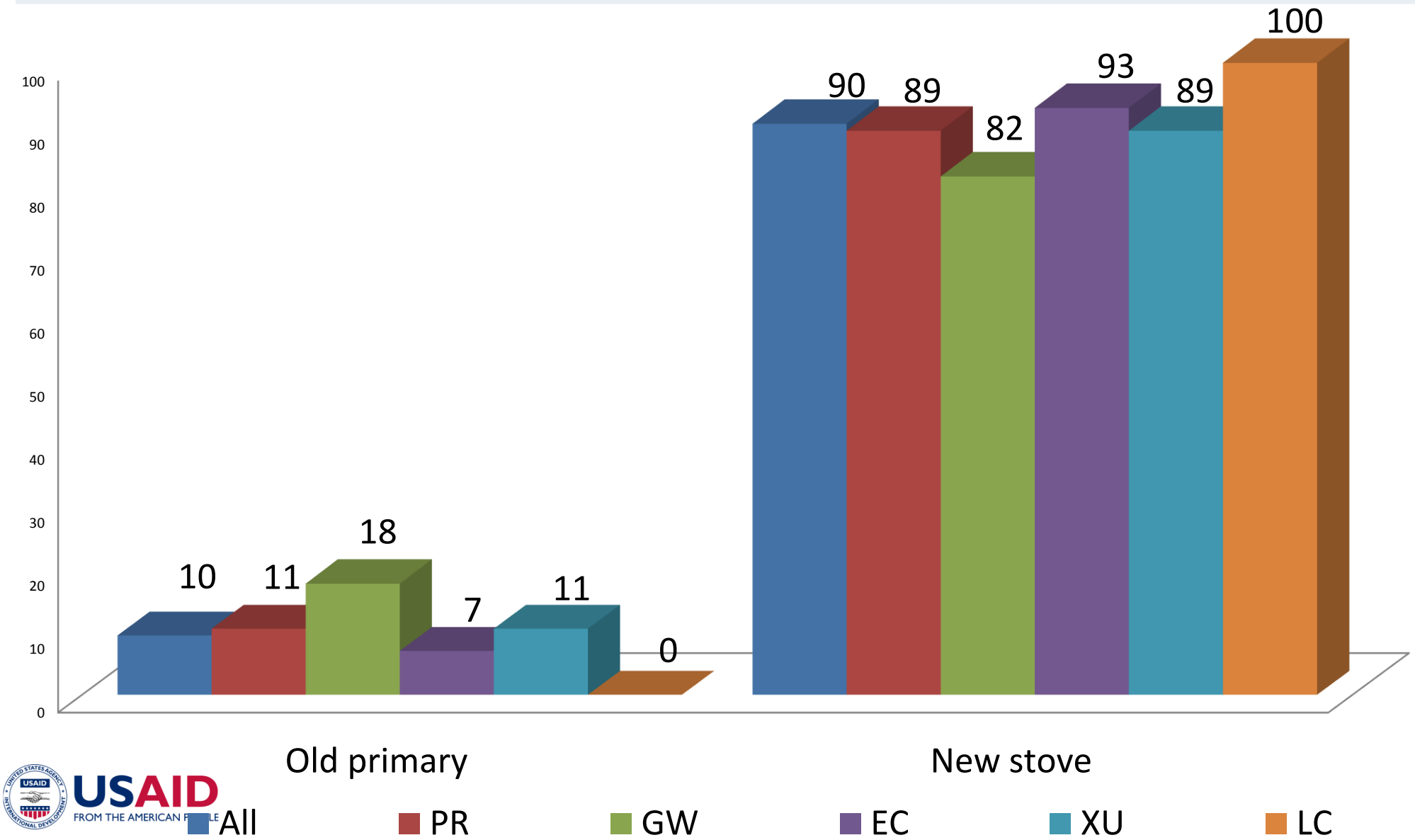
(Id Items)
WASHplu New Cookstove Consumer Need and Preference Assessment Nepal recor
Demographic
Houshold Assets
Womens Group Participation
Fuel Use and Procurement
Vessels and Stove Experience
Smoke Exposure
One week (5-7) days questionnare
Universe
Edit
Weight
Type of Frequencies
Value Sets

Create graphs, tables

Figure 13 : Preference of cook stove by ICS trial group



Available June 2016 –now!

- Available on WASHplus (now) USAID and GACC websites (soon)
- Promoted/disseminated by email, IAP Weekly,
  events in Nepal in May and DC in June
- http://www.washplus.org

Polling Question #4

How likely are you to use the WASHplus consumer research toolkit?

a. Very likely to use some/all of it
b. Likely to use some/all of it
c. Unlikely to use it
d. N/A

Other WASHplus Support to the Clean Cookstove Sector

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Global Alliance Support

Supported Alliance launch; prioritized early actions and strategic planning

Working groups

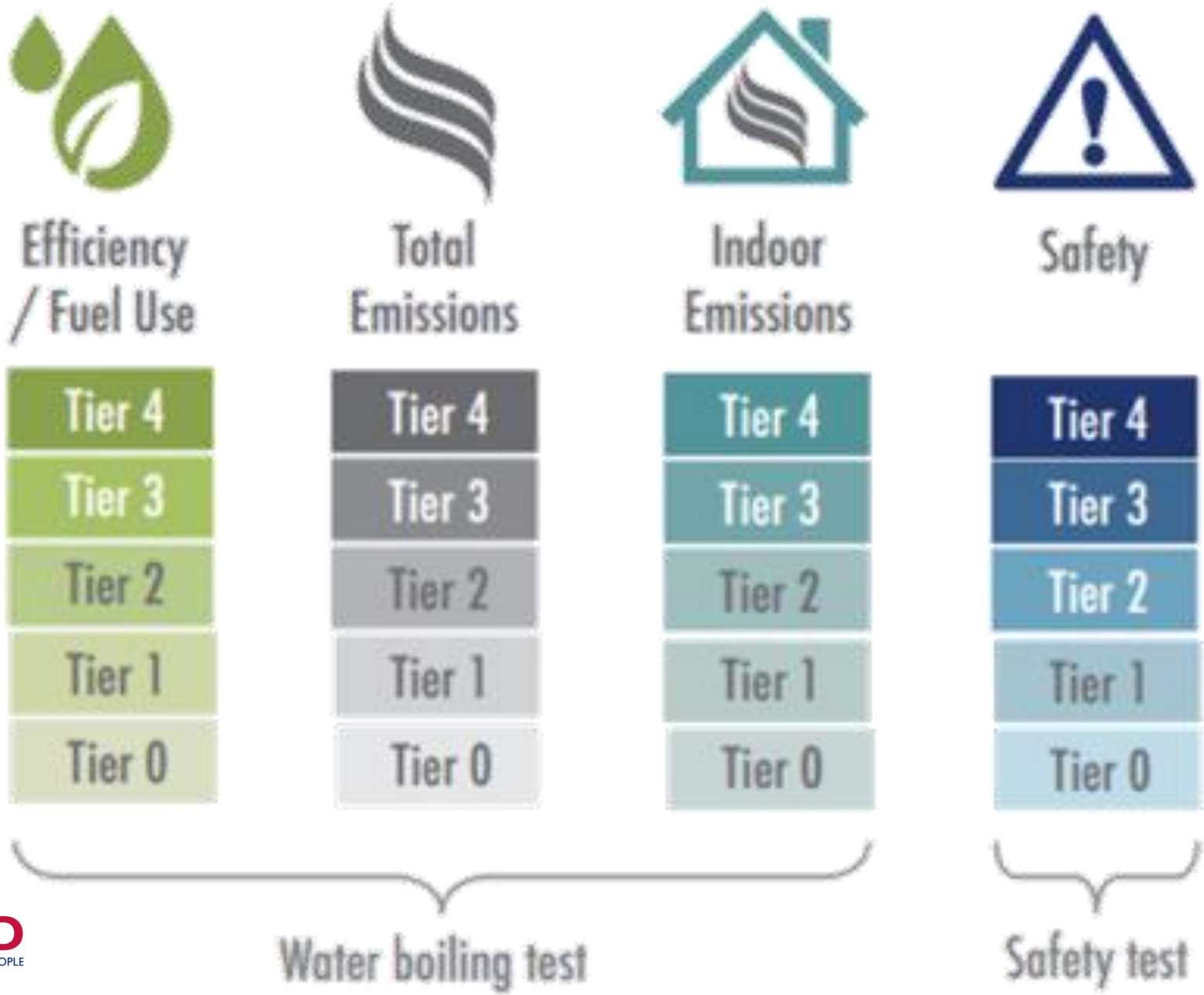
Event presentation/ moderation

- Forums
- Adoption workshop
- Many others!

Market Research Guide

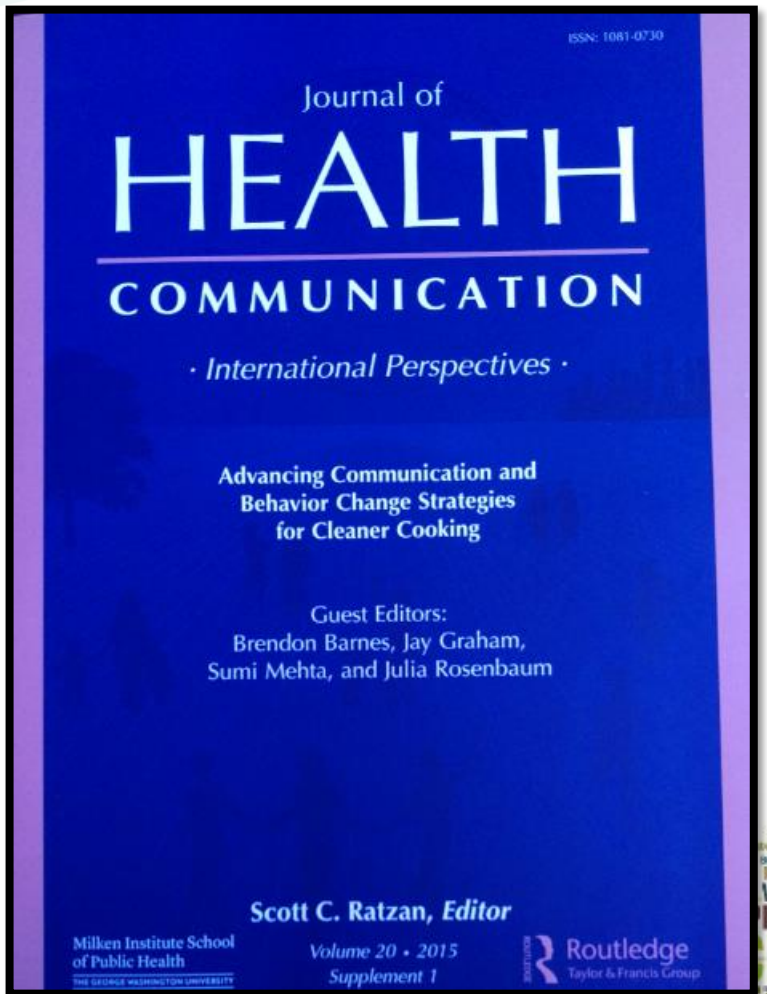
http://www.washplus.org/resources/tools/2015/11/09/market-research-clean-cooking-sector-tools-and-tips

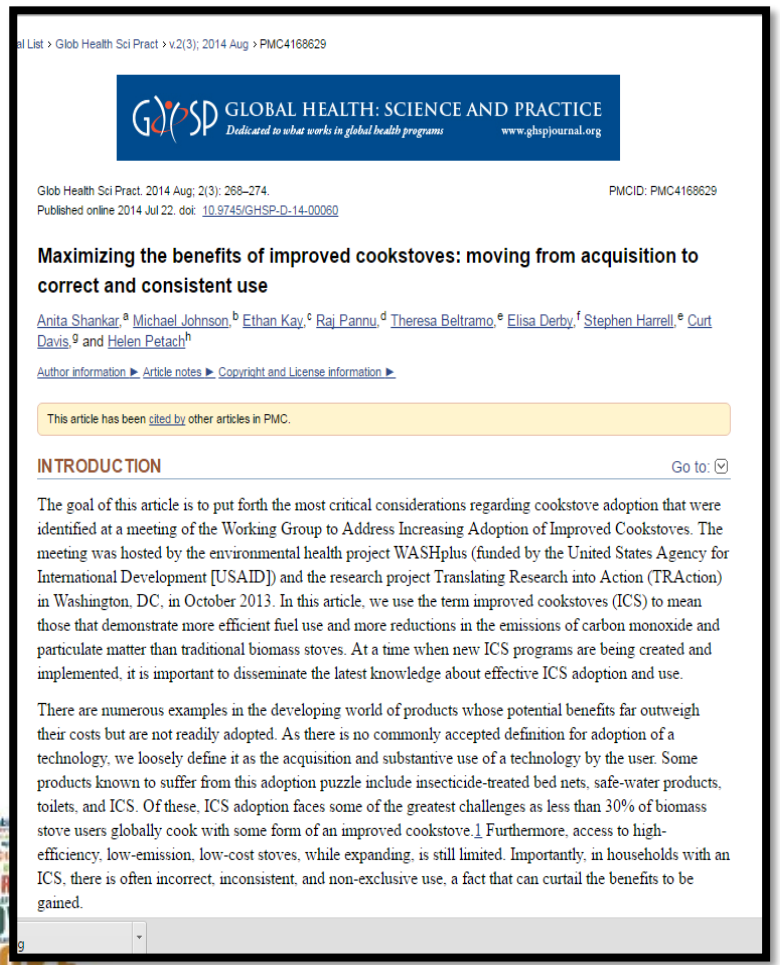
ISO TC 285 - Standards



Other USG support

TRAction collaboration





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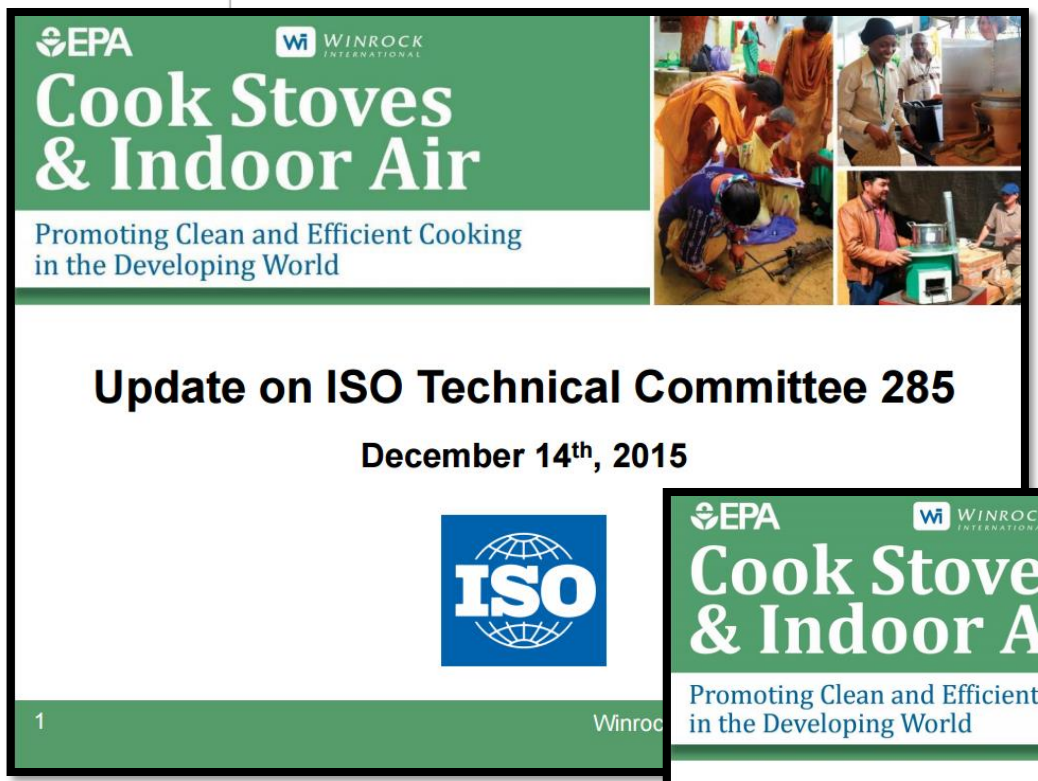
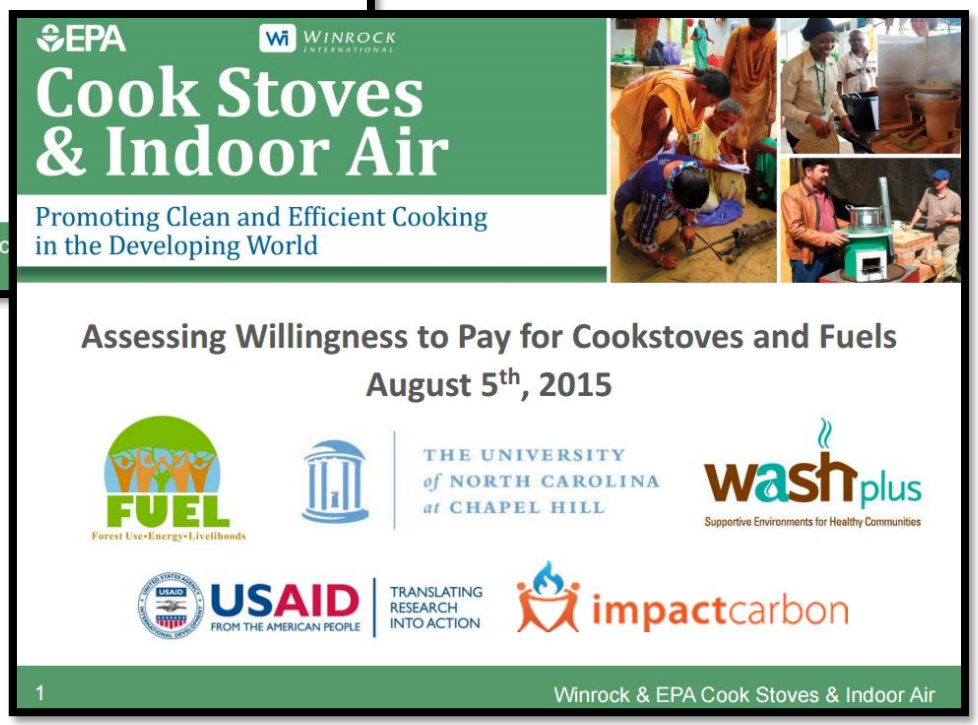
Webinars/Q&A

cathytao89 Sep 29, 2014 10:33 AM

Q&A Session #1: What have we learned about consumer preferences of cookstoves in Bangladesh and Indonesia?





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Panelists:

washplus
Supportive Environments for Healthy Communities

Why it matters

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Questions and Answers

To ask a question, please type in your question in the Questions/Chat pane on your webinar console.

Next Steps

Following the webinar…

- The presentation and answers to your questions will be posted to www.pciaonline.org/webinars
- Please complete the Survey Monkey Evaluation you will receive shortly

Let us know…

- What surprised/interested you most about what you heard from the presenters?
- What information would you like to hear more about?
- What other topics would you like to see presented in the future?