

Annex 2: Market Surveys

Kenya – Key findings

The study was commissioned by ITDG practical action-Kisumu office. The main purpose was to conducting a second market survey on scaling up pathways of indoor Air pollution research project in areas of focus in Kisumu District. The findings was to be use to draw conclusion and recommend implementable and comprehensive plan of action that would enable Practical Action to scale up smoke alleviation technologies (promote demand, facilitate purchase and support production) that addresses comprehensively, issues of Prevention, Control and Management of in door pollution through imaginative and innovative approaches.

The survey covered four (4) components: namely; Effect of promotion campaigns on knowledge of smoke alleviation technology, Utilization of biomass (fuel wood/charcoal) among the target group, Knowledge, Attitude and Practice (KAP) of the smoke alleviation product and components of market demand and supply of the smoke alleviation products take to executive summary. The survey was a cross-sectional design, which adopted participatory methodologies. Quantitative and qualitative approaches were used in collection, analysis and presentation of data. The survey involved the following distinct steps:

Out of the 213 respondents 4.2% (9) were male and 95.8 (204) were female. This is evident that women do most of the cooking in the target population. The findings indicated that the most asset owned was charcoal stove (73.2%), Bicycle (70.9%) and radio 89.7%. There was no significant difference in the person making decision on buying of household items. There was evident that main means of cooking among the target groups was biomass, mostly fuel wood. The findings also revealed that 80.3 % uses three stones as a cooking device and about 95.3 % reported using kerosene wick lamp as a devices used mostly for lighting.

The findings revealed that knowledge on smoke as a health hazard among the target group was average with about 58.7% claiming that they always had the knowledge that cooking smoke was harmful while 4.9% stated that they heard the information from community groups who are creating awareness on smoke and health . The problems associated by smoke mentioned by most households were health problems. This justifies the need for intervention since most households identify smoke as a health hazard indicating high levels of awareness. The most common health problems associated by smoke mentioned by most households were breathing problems 66.7 %, cough 51.6% and eye problems 46.9%.

Most of the target group valued getting rid of cooking smoke and very small percentage 1.4 % did not consider getting rid of cooking smoke as important. Ways of getting rid of cooking smoke from the kitchen that were mentioned by the household were, installation of chimney or smoke hood 48.8%, change to other type of fuel that produce less smoke 19.7% and improved ventilation-windows and eaves spaces 17.8%. The most known methods of reducing smoke were reported to be improved ventilation 80.3% and charcoal stove 46.5%. The respondents reported to have gotten information from different sources, with ITDG Practical Action being the biggest source of information.

The respondents who reported that nothing would put off from buying any of the interventions to alleviate smoke ranges from 79.8% for improve ventilation devices to 58.2% for LPG stove. The fact that the products could be expensive was frequently mentioned as one of the reason that could put them off buy the smoke alleviating products. On the other hand the respondents who reported that nothing much would attracts them to buy any of the smoke reduction devices ranges from 71.8% for LPG stove with gas powered to 43.2% improved wood stove that reduces smoke. However, the product ability to reduce indoor smoke was mentioned as a reason that would attract them to buy the smoke alleviating products.

Despite the high levels of awareness created by the campaign, the demand and purchase of these products are still very low. Many would like to have them but the means to get it is the problem. About 52.6% were willing to pay less than 500 Kshs, 17.4 % and only 5.2% were willing to pay over 3001 Kshs for any of the smoke alleviating products. From the findings of survey there seems to be very little utilization of credit facilities. Out of the 213 respondents,

only 25.4% households reported to have used credit facility while 74.6% had not used credit facility. Discussants reported that most people did not have information on where to get credit while some feared that their properties would be auctioned incase they were not able to pay back.

Improved ventilation was the most used technique yet in terms of preference, it was among the least product preferred as identified by 67.6% of the households, mainly opening windows and doors. It was also noted that majority of the respondents did not use LPG stove/gas powered 96.2% and LPG stove 93%. Only 0.9% did not prefer any interventional technique. The findings of the quantitative market survey revealed that radio could be one of the best channels for raising profiles of smoke as health issue with about 89.7% reporting radio ownership while only 25.8% owned television. While open-ended interview reported that theater kits, drama, songs, dance, puppets shows and demonstrations still present the best and appropriate ways of raising profiles about smoke issues. Discussions with the CRPs revealed that with the community set up people are more likely to be attracted to information presented in capturing ways involving a lot of humor added to it.

While thinking of the decision making process, from the survey 39% of household reported that both husband and wife play an important role on what to buy in the house and about 54% reported that either wife or husband decided what household items to be bought in the house. In this case radio could still be used as a channel to reach men and eventually intensity or improve the decision making process.

Mobilization and utilization of locally available resources, particularly volunteers and community commitment of human resource, with active engagement in the program was a best practice identified by the consultants. Being a community based and drawing on community members for staffing and volunteers help to ensure commitment.

There is clearly growing recognition of the multi-sectoral nature of development and therefore the partnership or the linkage with the community organizations alone may not be adequate. For each action to take place there is need for effective mechanism for collaboration and recognition of smoke reduction as an essential indicator of improved health in various sectors. We recommend that a scaling-up committee should be established to enhance consensus and smooth scaling up operations for the program. A workshop can then be convened to summarize and agree on achievable impacts. In addition, the workshop would consider the relevance of community based information system as a tool to aid in self-monitoring and evaluation.

An overall best practice to scaling up was the use of theater groups emanating from the community-based organizations encouraging bottom-up intervention approaches. However, may need to be intensified and backed up by video production, billboards and radio talk shows such that best practice and lesson learnt are captured and documented electronically for easy dissemination. Awareness has been the main objective of the campaign but there is need to campaign for increased utilization. The mass media such as radio, videos and billboards apart from informing increases interest, desire, preference and attitude towards the smoke alleviating products. Development strategies should consider the homogeneity of the target population identified by the market survey. Even though the target population presented a realistic homogenous segment with almost similar preferences the spending power, borrowing power and attitude towards spending was evidently a challenge and pricing strategies need to be designed in order to increase demand. LPG gas offered both functional and psychological value improving utilization. Therefore there is need to think about calling attention to neglected attributes.

Another element of an effective project or scaling pathways is the availability of legal framework. There is urgent need for Practical Action to facilitate the development of guidelines and policies for dissemination to various sectors not only for creating awareness but for stimulating advocacy strategies and inclusion of smoke alleviation and reduction of indoor air pollution as an agenda in key sector reforms and poverty reduction interventions.

Providing knowledge and skills without community having funds to jump-start their initiatives in this case transport and demonstration materials was mentioned as a challenge. We recommend that learning sites should be established for demonstration. Community based volunteers need adequate remunerations or incentives, whatever form these take. More opportunities for training on resource mobilization, regular feedback to highlight achievements, public recognition and awards in form of bonus pack and other forms of reward can be a good motivation.

Nepal key findings

1. More than 99 percent of houses use firewood as the main fuel in the Chilime, Goljung and Gatlang VDCs. The average household firewood consumption size is about 13.77 *Bharis* or around 23 KGs for each house. Considering the family size of the houses i.e. 5.8 in the surveyed VDCs, the firewood consumption seems high. Due to the excessive fire wood consumption and the construction of houses, which normally do not have ventilations or chimneys, the prevalence of in door smoke in the houses are high.
2. About 88 percent houses are aware of the hazards of indoor smokes and its effect on health. The sources of knowledge are radio, local NGOs, relatives and ITDG working in Gatlang. The majority of household representatives believe that the eye infections, chest related problems, and headaches are the most common diseases associated with the high smokes. The study also revealed that around 84 percent adults, mostly women and 67 percent children mostly below 5 years of old ages are being affecting by the indoor smokes.
3. About 57 percent of the surveyed houses want to get rid from the kitchen smokes and think it is very important followed by 40 percent of houses who think that it is quite important. Less than 3 percent houses do not give any importance.
4. The study revealed that the installation of Chimney hoods at Gatlang VDC has created lots of pride, dignity, curiosity and interest among the people of Gatlang and the peripheral VDCs. At the same time, Smoke hood owners who have had an opportunity and experience about the advantages and disadvantages of smoke hoods share both positive and negative effect among the people
5. Despite the positive aspects of the smoke hood, some of the technical improvements are demanded by the community especially in water leakage problem from the cap of the chimney hoods, which creates problems during the food preparation especially during rainy season. The second drawback, as reported by the community, is the size of Chimney hoods, which sometimes creates problems during food preparation and believe that it should be appropriate with the size of oven. In order to improve the image of the project, such minor technical improvements need to be addressed immediately before entering into the new project area.
6. It was found that the majority of the people of surveyed areas like to install chimney hoods in their own houses but it should be available in a cheap and affordable price. In this endeavor the implementing organization should take necessary decisions to fix the reasonable and affordable price of Smoke hoods. Most of the community people including the district and community level leaders have suggested that the price of smoke hoods should not exceed NRs 1000 (one thousand).
7. The survey result revealed that about 44 percent households expect around NRs. 500 only around 27 percent expects less than NRs.1000, around 16 percent expects less than NRs 1,500, around 7 percent expects less than 2000 and around 5 percent expects less than NRs.3, 000. If the cost of smoke hood rises, the interest of the community people shall gradually decrease. It is suggested that ITDG should take such initiatives with the collaboration of other donor partners.
8. Regarding installation of chimney hoods, it largely depends on the price of smoke hoods. If the price is higher say NRs. 4000 the interest on chimney hoods drastically decreases. The majority of the households i.e. almost 41 percent houses would not be interested to own their own chimney hoods. Only, 23 percent houses are interested, although, they expect some sort of support from the implementing organization. So, it is suggested that if the price is higher the implementation should be undertaken together with the other donor organizations.
9. It was found that the community people of surveyed areas were in different categories in terms of their willingness and capacity to pay. The first, who has the capacity and can offer to pay 100 percent cash payment, comprise of 5 percent households only. The second

category are the people who has the capacity and can offer up to 50 percent cash payment and 50 percent credit system in installment basis, are around 10 percent houses only. The third categories of the people who have the capacity and can offer to pay 100 percent credit with installment basis are around 85 percent.

10. Regarding loan repayment in installment basis, majority of the household representatives i.e., about 57 percent are in favor of 6 to 18 month period. More specifically, about 36 percent are in favor of 6-12 months and 21 percent are in favor of 12 to 18 months. Around 14 percent are in favor of 18 to 24 months and above months and around 6-7 percent are in favor of less than 6 months.

11. Regarding the selection of the project implementing partners at the grass roots level, most of the community leaders and household owners suggest that the local NGOs or Clubs be selected for the promotion of smoke hoods programmes in surveyed VDCs. It was found that the Local Clubs or NGOs are available in each VDCs and are functional in social development fields. However, they do not have knowledge and skills on marketing and micro-credit programmes. So, it is suggested that the capacity of Local Clubs, NGOs or self-help groups should be strengthened especially in the areas of awareness building, systematic micro credit programmes operating and skills in market promotion for the smooth functioning of the project.

12. It was found that most of the community people have had the information about Chimney hoods due to the 'demonstration effect' shifted from the Gatlang VDC or Kerung, China or Kathmandu. It is also equally true that the people of Rasuwa are inherently habituated with their own traditional patterns of lifestyle and they do not easily accept new and modern change in their livelihoods. So, it is suggested that before implementing any project in such communities the implementer should be careful to handle such initiatives and is suggested to provide awareness-building initiatives through local clubs or NGOs or existing self-help groups.

13. Regarding appropriate Outlet or Market place, most of the community people suggested manufacture at Thambuchet or Goljung utilizing local manufacture. If the project is extended to other parts of Rasuwa the appropriate market place will be either Dhunche or Kalikasthan as the next best alternative.

14. The most suitable and potential project implementation areas would be Timure, Bridhim, Syaprubesi, Kalika sthan besides the present survey areas such as Chilime, Gatlang and Goljung VDCs. It was also suggested that ITDG should take initiation to take a short survey in those areas before implementing such initiatives in future.

1. More than 99 percent of houses use firewood as the main fuel in the Chilime, Goljung and Gatlang VDCs. The average household firewood consumption size is about 13.77 *Bharis* or around 23 KGs for each house. Considering the family size of the houses i.e. 5.8 in the surveyed VDCs, the firewood consumption seems high. Due to the excessive fire wood consumption and the construction of houses, which normally do not have ventilations or chimneys, the prevalence of in door smoke in the houses are high.

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peripheral VDCs. At the same time, Smoke hood owners who have had an opportunity and experience about the advantages and disadvantages of smoke hoods share both positive and negative effect among the people

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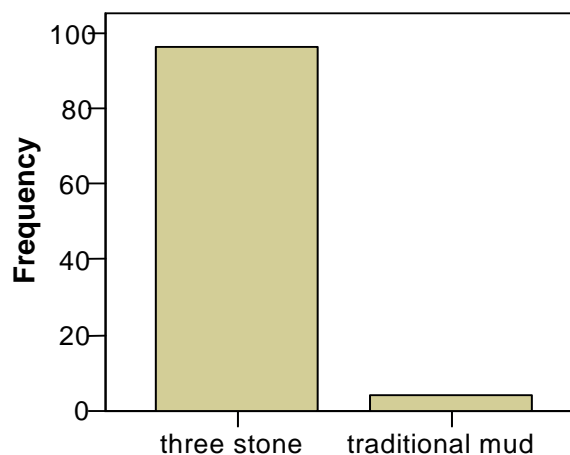
Annex Market survey :Sudan key findings

Fuels

The main fuel used by most of the households prior to this project was wood, with food cooked on a traditional three-stone fire or improved stove. The main fuel for lighting is kerosene, burnt on a traditional wick lamp

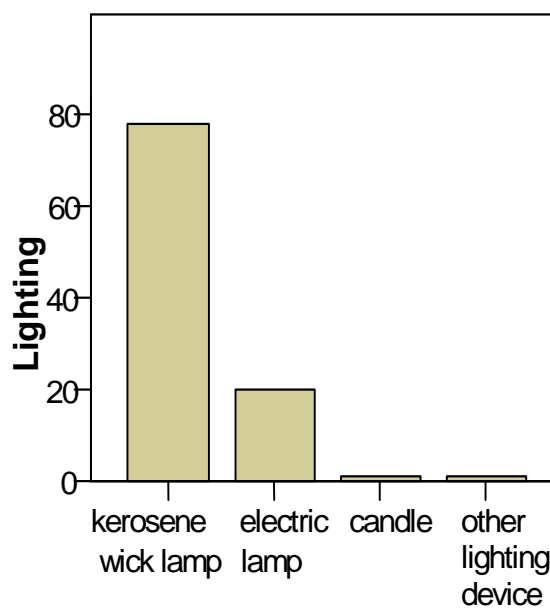
Cooking

	What is the main fuel you use for cooking	the main fuel used at home in lighting
wood	87	
dung	1	
agriculture residues	12	1
kerosene (paraffin)		76
electricity (main)		13
electricity (battery)		1
other fuel		9

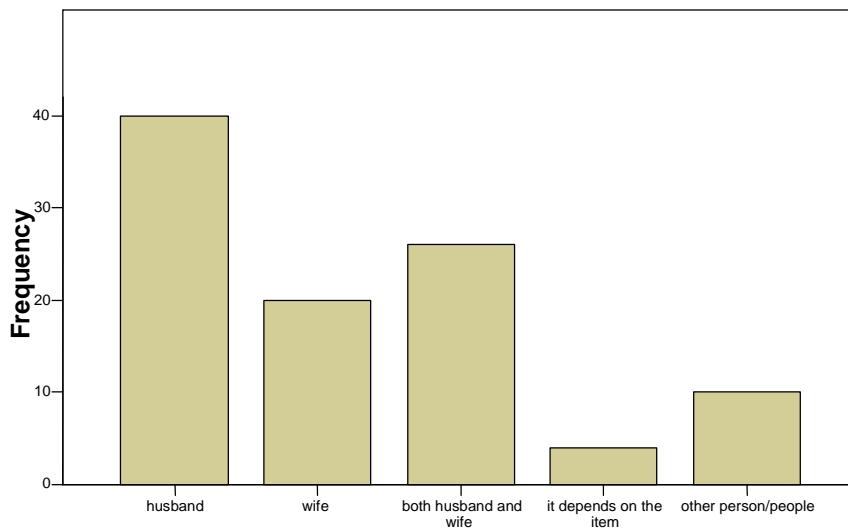


Lighting

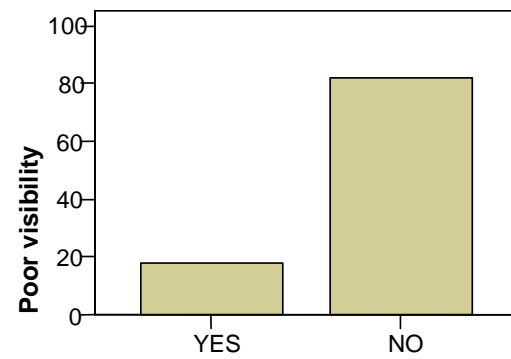
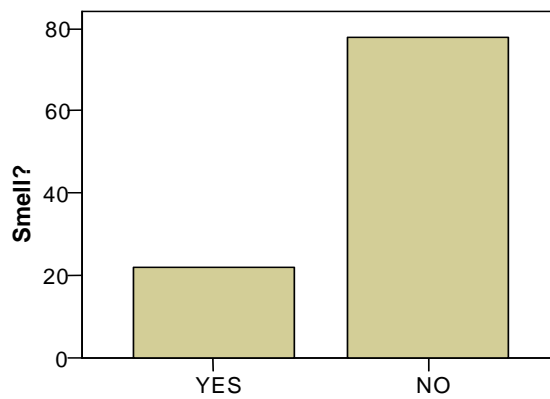
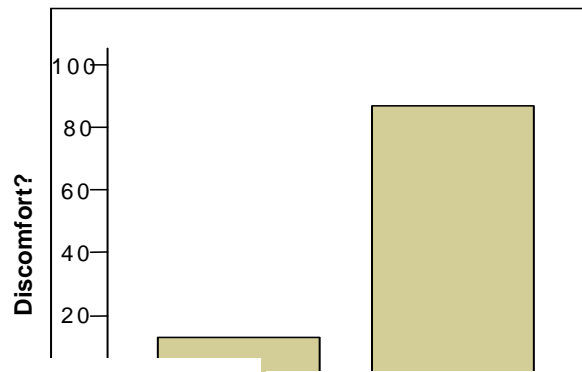
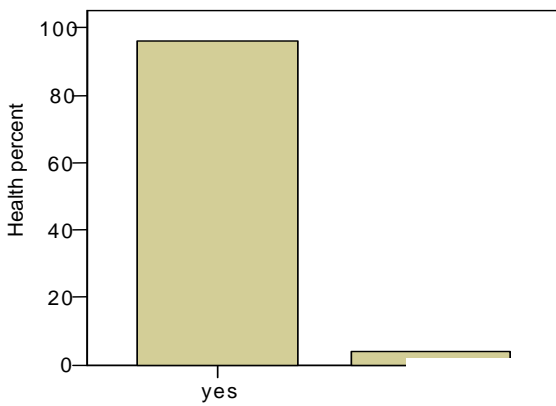
	Frequency	Percent
kerosene wick lamp	78	78.0
electric lamp	20	20.0
candle	1	1.0
other lighting device (touch)	1	1.0
Total	100	100.0



Husbands, or both husband and wife generally decide what to buy



Smoke is recognized to cause health problems, but discomfort, smell and poor visibility were not considered problems by the majority.



The key health problems identified by the correspondents were as shown below:

	Eye problems caused by smoke (EYE)	Breathing and chest problems caused by smoke (CHEST)	Headache caused by smoke (HEAD)	Coughs caused by smoke (COUGH)	Dizziness caused by smoke (DIZZY)	Burns (BURNS)
YES	87	67	33	24	8	55
NO	13	33		76	92	45

Most believed that smoke had no particular use – their knowledge about the problems coming mainly from friends and them media

	Do you know about the problems and usefulness of smoke?	Does your knowledge come from a friend?	Did you learn from the media?	Did you learn from CBOs?	Did you find out from health centers?	Did you find out from books and magazines
YES	79	73	27	14	19	2
NO	21	27	73	86	81	98

Most households do not try, or else open windows or doors, despite a recognition (probably because of the project) that it is important to do so.

	Frequency
I do not try	41
smoke hood or chimney	3
improved stove	4
using cleaner fuel	10
drying fuel	16
opening windows or doors	26
Total	100

Importance of removing smoke	Frequency
not important	2
quite important	28
very important	70
Total	100

There was a good understanding of cleaner fuels mainly drawn from friends, relatives and PRACTICAL ACTION staff.

	LPG /kiswa sag which will not produce smoke	LPG stove which will not produce smoke	Improved ventilation which will get rid of some of the smoke	Charcoal stove to remove a lot of the smoke the smoke	Improve wood stove that gets rid of some smoke and use less fuel stove
yes	55	67	45	63	12
no	45	33	55	37	88

	PRACTICAL ACTION staff	Friends and relatives	Health workers	Other NGOs	Women's groups	Village elder	Community social worker
LPG and kiswa sag	21	20	3	8	9	1	
LPG stove	4	35	10	13	18	1	2
improve ventilation	1	6	12		10	11	
charcoal stove		7	5		15	27	

improve wood stove		1	2	2	7	3	
nothing	74	31	68	77	41	57	98

Interviewees were asked if they knew about any of the following that reduce cooking smoke and they were then asked what put them off for the interventions they had selected. Cost of capital item seemed to be the main concern, along with safety, rather than fuel availability. Relatively few respondents were concerned about changes in cooking practices.

Changes in cooking practices					
	LPG stove / kiswa sag	LPG stove	Improved ventilation	Charcoal stove	Improved woodstove
not selected	47	31	76	45	85
yes	11	18	9	1	1
no	42	51	15	54	14

Unprompted, very few identified reduced fuel consumption and improved cleanliness as positive attributes for the majority of the interventions, but the majority, again no surprise, identified reduction in indoor air pollution. Timesaving – a major factor for LPG, was not identified.

Uses less fuel					
	LPG stove / kiswa sag	LPG stove	Improved ventilation	Charcoal stove	Improved woodstove
not selected	44	33	66	37	86
yes	9	14		13	2
no	47	53	34	50	12

Reduces indoor air pollution					
	LPG stove / kiswa sag	LPG stove	Improved ventilation	Charcoal stove	Improved woodstove
not selected	45	33	66	36	86
yes	44	45	23	36	11
no	11	22	11	28	3

Requires less cleaning					
	LPG stove / kiswa sag	LPG stove	Improved ventilation	Charcoal stove	Improved woodstove
not selected	46	35	65	38	86
yes	5	9	7	26	6
no	49	56	28	36	8

Improves health					
	LPG stove / kiswa sag	LPG stove	Improved ventilation	Charcoal stove	Improved woodstove
not selected	43	33	67	37	86
yes	32	50	23	19	7
no	25	17	10	44	7

Increases prestige					
	LPG stove / kiswa sag	LPG stove	Improved ventilation	Charcoal stove	Improved woodstove
not selected	43	33	67	37	88
yes	17	29		2	1
no	40	38	33	61	11

Faster – uses less time					
	LPG stove / kiswa sag	LPG stove	Improved ventilation	Charcoal stove	Improved woodstove
not selected	43	33	67	37	88
yes	17	29		2	1
no	40	38	33	61	11

Finally, familiarity with credit was investigated. Most people had not used credit in the past, but of the eleven households that had used it, ten would use it again. There was a strong positive response that credit would make installing products acceptable, and this has been borne out in the subsequent months. LPG stoves and kiswa plates were the interventions of choice.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	a bit interested	9	9.0	9.1	9.1
	interested	39	39.0	39.4	48.5
	very interested	49	49.0	49.5	98.0
	don't know	2	2.0	2.0	100.0
	Total	99	99.0	100.0	
Missing	System	1	1.0		
Total		100	100.0		

The study showed that even about SDD5000, there was a market of over 50% of households.

	Count
below5000SDD	30
between 5000-10000	32
between 10000-15000	24
between 15000-20000	9
between 20000-25000	1