Annex 7:

Note to enumerator:
This questionnaire is set out in three parts.

Part A: is an interview with the cook that should be done before the air sampling period begins.
Part B: is for the results from the monitoring
Part C: is an interview with the cook when monitoring is complete and you have returned to the house at the end of 24 hours.

Please do not write in the grey areas. Where any question is not relevant for a particular household, please put a dash (—)

PART A:
QUESTIONS TO BE ASKED BEFORE STARTING THE AIR MONITORING

(revised 30/04/02)

		Field
THE HOUSEHOLD		
1. Identifying household and cook		
Household number		1
Date of interview	**____day____mth____yr**	2
Time of day	**Time =**	3
Morning or Evening?		4
Name of interviewer		5
Identifier for interviewee (NOT her name)		6
2. The family		
Age of interviewee: [Please enter code number of the appropriate age group, (e.g. 4 for age group 25-29)]: Less than 15 (1) / 15-19 (2) / 20-24 (3) / 25-29 (4) / 30-34 (5) / 35-39 (6) / 40-44 (7) / 45-49 (8) / 50-54 (9) / 55-60 (10) / 60-64 (11) / 65+ (12)		7
Details of children UP TO AGE FIVE YEARS usually living in the house, starting with the oldest.		
Child 1 (Oldest child aged less than 5 years)	**Age**: Years and months	_____yrs_____mths 8
Child 2 (Younger than Child 1)	**Age**: Years and months	_____yrs_____mths 9
Child 3 (Younger than Child 2)	**Age:** Years and months	_____yrs_____mths 10
Child 4 (Younger than Child 3)	**Age:** Years and months	_____yrs_____mths 11
How many of your children go to school ? – (this applies to any age) Enter zero if none go to school		12
If you have school-age children, where do they usually do their homework? 1. In the kitchen 2. In another part of the house 3. Out of doors 4. Another house or building 5. No specific place or homework not done		13

				Field
3. Types & uses of household fuel				
Using the fuel list below, what types of fuel do you use for the following purposes? (List in order of importance using numbers shown below)				
Wood =1 Dung = 2 Agricultural residues = 3 Other residues = 4	Charcoal = 5 Kerosene (Paraffin) = 6 Bottled gas (LPG) = 7 Solar cooker = 8 Solar electric (solar PV) = 9	Grid electricity = 10 Batteries = 11 Wax candle = 12 Other = 13		
If 'other' fuel used, please specify fuel	Other fuel =			14
	Most important fuel	**Secondmost important fuel**	**Thirdmost important fuel**	
Cooking (including drinks)				15-17
Lighting				18-20
Keeping warm				21-23
Heating water for other purposes				24-26
Beer brewing				27-29
Cooking food/drink for selling (excluding beer)				30-32
Cooking animal feed				33-35
Electrical equipment				36-38
Other task 1 (specify below)				39-41
Other task 2 (specify below)				42-44
If fuel is used for another type of household task, please specify task (s)	Other task 1 =			45
	Other task 2 =			46
4. Getting fuel; buying and gathering				
Is your main fuel gathered or bought? 1- all gathered 3- mostly bought 2- mostly gathered 4- all bought				47
If you buy it, how much do you pay for it per week? (please remember to put in the unit of currency)				
Wood				48
Charcoal				49
Kerosene (paraffin)				50
Bottled gas				51
Grid electricity				52
Batteries				53
Wax candles				54
Other (e.g. gelfuel)				55
Total cost *(add up the costs above)*				56
What are the reasons for buying fuel? (more than one reason can be selected) 1. Scarcity of fuel for gathering 2. Faster than gathering it 3. Cleaner for cooking 4. Other reason (please specify)				57 -60
If answer to last question was '4', what is your reason for buying fuel				61

		Field
If you or your family gather fuel, how often is it gathered? 1- every day 2- every second day 3- once or twice per week 4- less often		62
If you or your family gather it, about how long, on average, does each collection trip take (hours and minutes) at this time of year?	_____hrs_____min	63
If you gather fuel, do you experience any problems when gathering it? 1 = don't gather fuel 2 = no problems 3 = yes, there are problems		64
If **Yes**, what problem(s) are these?		65
If your household gathers gather fuel, who in your household gathers it?		66
If **your children** gather it, or help you to gather it, what are the ages of the children who most often gather the fuel? (if more than two gather fuel, put in the ages of the two who most often assist)		67
		68
If you gather fuel, how adequate were the supplies the last two weeks you went to collect it? 1- Very scarce 2- Rather scare 3- Just enough 4- Plentiful		69
5. Fuel drying		
Do you ever use 'green' fuel (i.e. wood or plants that are still growing, or have been growing very recently, when collected) 1. not applicable - household does not use biofuel 2. never 3. occasionally 4. usually 5. always		70
The main fuel that you use – about how dry is it usually? 1. not applicable – household does not use biofuel 2. Very dry 3. Dry 4. Damp 5. Wet 6. 'Green'		71
Do you dry your main fuel before use? 1. not applicable (not biofuel or always very dry) 2. never 3. occasionally 4. usually 5. always		72
If you need to dry fuel, where do you dry it? 1. not applicable 2. Outdoors 3. Indoors over or close to the fire 4. Combination of outdoors and indoors 5. Indoors, away from the fire		73

		Field
6. Employment & education		
Are you able to read? Yes/No		74
Did you ever attend school for any period of time? Yes / No		75
If 'yes' for about how long did you attend school?		76
How do you earn a living? (this question is to the woman)		77
How does your husband earn a living? (only ask if the woman is married)		78
If you use fuel to prepare food/drink for selling, about how much of the fuel you use each day is to prepare food/drink for sale? 1. Very little 4. Three-quarters 2. Quarter 5. Nearly all 3. Half		79

7. Women's and children's health and well-being

In what ways do you feel that smoke from the fire affects (a) your health, and (b) health of your children, if at all

Effects on woman's health (*field 78)*	Effects on children's health (*field 81)*	
		80-84 85-89

			Field
Prompt woman using this list: *Please enquire about those aspects **which have not already been mentioned** by the woman*			
Condition	**Effect on woman's health**	**Effect on child's health**	
Eyes	(90-91)	(92-93)	90-93
Cough	(94-95)	(96-97)	94-97
Chest illness	(98-99)	(100-101)	98-101
Shortness of breath	(102-103)	(104-105)	102-105
Headache	(106-107)	(108-109)	106-109

Smoking		
Do you smoke? Yes/No		110
If 'yes', about how much do you smoke each day? *(e.g.number of cigarettes or quantity of tobacco)*		111
Do other people smoke in the kitchen? 1. No 2. Occasionally 3. Yes - regularly		112
Other than health benefits, what do you feel are the most valuable ways in which smoke reduction could benefit / has benefited you? (*This question should be asked differently before and after interventions have been put into the house)*		113

			Field
THE KITCHEN			
8. Kitchen type			
Is the kitchen: 1. Enclosed or 2. Semi-open ?			114
Is the kitchen: ? 1. - Separate building ? 2- Separate room attached to rest of main house ? 3. Part of main living area in house?			115
9. Roof			
Type of roof in the kitchen: 1- Mud or dung 4- Thatch 2- Ferro-cement 5. Tiles 3- Iron sheets 6. Other			116
If 'other' please specify (This box should only be used if answer '6' has been given for the previous question)			117
Permanent ventilation *in roof* of kitchen 1- None 2- Small holes (less than 10cm in diameter) 3- Large holes (more than 10cm in diameter) 4- No roof, or very open roof			118
10. Walls			
Type of walls in room with stove 1. Mud or mud blocks 2. Soil/cement blocks 3. Wattle (woven sticks / reeds / bamboo) 4. Iron sheets 5. Bricks 6. Stone 7. Other	Main type of material used for walls		119
	Second type of material for wall *(if necessary)*		120
If 'other' wall material, please give details – this should be answered if the last question had an answer '7' for either main or second type of wall material			121
11. Eaves spaces (i.e. spaces between the walls and the roof) in room with stove			
Depth of eaves spaces (*see manual*) 1- none 2. less than 10cm in depth 3. 10 – 30cm in depth 4. greater than 30cm in depth			122
Length of eaves spaces 1. All round room 2. Along outside walls 3. Along walls within house 4. Other (*please indicate on sketch at end of questionnaire)*			123
What shape is the eaves space (Type A; Type B; or Type C – *see manual*)			124

				Field
12. Windows & doors				
How many windows are in the room where cooking is done?				125
What size are the windows in the room with the main stove? (Measure width and enter sizes in table below)				
Window Sizes			Window size	
Size 1 = 2 – 5cm		Window 1		126
Size 2 = 6 – 14cm		Window 2		127
Size 3 = 15 – 29cm		Window 3		128
Size 4 = 30 – 59cm		Window 4		129
Size 5 = >60cm		Window 5		130
How many doors are there in the kitchen?				131
Are the door (s) usually open or closed?				132
13. The stove				
Record main type of stove below, and secondary stove if used				
Type of stove 1. Three-stone or two-stone fire 2. Shielded mud fire or mud stove (including chimney stove) 3. Wood-burning ceramic stove (made of fired clay) 4. Metal stove 5. Improved charcoal stove 6. Pressurised kerosene stove 7. Non-pressurised kerosene stove 8.Gas stove 9. Solar cooker 10. Grid-powered electric stove 11. Other type of stove		Main type of stove		133
		Secondary stove *(if used occasionally)*		134
If 'other' type of stove, please describe				135
How many adults usually sleep in the room with the main stove?				136
How many children usually sleep in the room with the main stove?				137
Is this stove usually kept alight at night?				138
Is a stove used in any other room in the house other than the kitchen ? (Y / N)				139
If 'yes' do people sleep in that room? (please list who sleeps there)				140

			Field
14. Smoke extraction			
Is there any type of smoke extraction in the kitchen (chimney stove, hood etc)? Yes/No			141
If the answer is 'yes' insert number by each type of smoke extraction method used to describe condition of hood or chimney *(eg a smoke hood in poor condition would have a '1' put in the box beside 'smoke hood')*			
1=Poor condition 2= Fairly good condition 3= Very good condition	**Extraction method**		
	Chimney stove		142
	Smoke hood		143
	Other:		144
If 'other' smoke extraction method used, please describe (or sketch) it			145

15. House layout

Sketch of house or kitchen: simple outline plan, indicating layout of

- Rooms, identifying kitchen (if part of main house)
- Position of the fire/stove
- Position of door (s)
- Position of window (s)
- Position of eaves spaces
- Position of cyclone and T82

Sketches please

Referring to manual: **Please circle correct shape code A B C D** **to describe the shape of the house**		146
Refering to the handbook, in order to determine the volume of the kitchen at a later date, please measure dimensions in metres: **(a) =**		147
(b) =		148
(c) =		149
(d) =		150

PART B
PM AND CO AIR POLLUTION AND CO EXPOSURE MONITORING

16. Setting up equipment		
Step	**Data**	**Field**
Household number		1
Date		2
Setting up equipment		
• Pump number		3
• Serial number of first cassette	K | | - | | | A	4
Position pump and cyclone		
• Enter height of cyclone above floor level	metres	5
• Enter distance of cyclone from edge of stove	metres	6
Position of CO monitor in room		
• Enter serial number of room CO monitor		7
• Enter height of CO monitor above floor level	metres	8
• Enter height of CO monitor from edge of stove	metres	9
Woman's monitor		
• Record serial number of woman's CO monitor		10
• Ensure woman is comfortable with monitor – tick to confirm		11
Starting sampling - switch on pump in sampling mode.		
• Temperature	degC	12
• Time of day	:	13
• Morning (M) or Evening (E)		14
Press **enter** to start the pump. • Is the flow rate between 2135 - 2265 ml/min? **Yes/No**. NB: If **No**, pump must be recalibrated		15
Switch on room CO monitor – 1 bleep Is there a reading on monitor? (Yes / No) – if 'no' monitor is faulty so do not continue		16
Switch on woman's CO monitor – 1 bleep Is there a reading on monitor? (Yes / No) – if 'no' monitor is faulty so do not continue		17
Describe rainfall over the past 3 days (question to woman) Heavy rain all the time = 1 Rainy sometimes = 2 A few showers = 3 Very dry = 4		18

17. TWELVE- HOUR DATA COLLECTION / FILTER REPLACEMENT

Step	Data	Field
Date	/ /200_	19
• Time of day		20
• Morning (M) or Evening (E) •		21
Procedure for stopping pump:		
• If pump still running, record flow rate, then press **on/hold** and **enter** to obtain full data display.	ml/min	22
• If pump has stopped running, the reason should be displayed (e.g. "flow interrupt" if filter blocked). If display has gone, you will need to press **on/hold**. Record the reason for the pump stopping	**Reason:**	23
Recording pump data after 12 hours		
• Temperature	deg C	24
• Time elapsed)	_____hr_____min	25
• Total volume sampled	litres	26
Inserting new Filter		
• **Enter serial number of second cassette**	K | | - | | | B	27
Press **enter** to re-start the pump: • Is the flow rate between 2135 - 2265 ml/min? **Yes/No**. NB: If **No**, pump must be recalibrated		28
Check CO monitors		
Without switching the CO monitors, check there is a reading on;		
• Woman's monitor (Y/N) •		29
• Room CO monitor (Y/N) *NB: the reading may be zero – this is OK. If either monitor is not showing a reading, the monitoring should be discontinued.*		30

18. TWENTY_FOUR HOUR DATA COLLECTION

Step		Data	Field
Date		/ /2000	31
• Time of day			32
• Morning (M) or Evening (E)			33
Describe rainfall over the past 24hours – i.e. during the time the monitoring has been happening Heavy rain all the time = 1 Rainy sometimes = 2 A few showers = 3 Very dry = 4			34
Procedure for stopping pump: • If pump still running, record flow rate, then press **on/hold** and **enter** to obtain full data display.		ml/min	35
• If pump has stopped running, the reason should be displayed (e.g. "flow interrupt" if filter blocked). If display has gone, you will need to press **on/hold**. Record the reason for the pump stopping	**Reason:**		36
Recording pump data after 24 hours			
• Temperature		deg C	37
• Time elapsed		_____hr/_____min	38
• Total volume sampled		litres	39
Switch off pump:			
• Final reading on **room** CO monitor display			40
• Final reading on **woman's** CO monitor display •			41
Switch off CO monitors – 5 beeps per monitor			

Supervisor check boxes

Is form completed (Yes / No)?		43
If 'No' , what action has been taken ?		44

PART C: QUESTIONS TO BE ASKED AFTER THE AIR MONITORING

ALL THESE QUESTIONS REFER TO WHAT HAS HAPPENED DURING THE TIME THAT THE MONITORS WERE MEASURING THE SMOKE, SO THAT WE CAN RELATE THE AMOUNT OF SMOKE TO WHAT HAS CAUSED IT

				Field
During the time that the monitor was working, we would like to know the way fuel was used				
19. Cooking meals:				
Morning meal (if cooked)				
What fuel(s) did you use to cook the morning meal when the monitor was working? *(list them in order of importance as required)*				
No cooking =1 Wood =2 Dung = 3 Agri - residues = 4	Other residues = 5 Charcoal = 6 Kerosene = 7 Bottled gas (LPG) =8	Solar cooker = 9 Solar (PV) electric = 10 Grid electricity = 11 Other = 12	Fuel 1	1
			Fuel 2	2
			Fuel 3	3
If 'other' fuels used to cook the morning meal, please specify (The answer to the last question should be '12' if you need to use this box)			Other fuel =	4
If wood, dung or crop residues were the main fuel, how dry were they when they were used? (*see manual for definitions)*				5
Not used = 1; Very dry = 2	Dry = 3 Damp = 4	Wet = 5 'Green' = 6		
About what time did you start to prepare the meal?			Time =	6
How long did it take to prepare the meal?			____hrs____mins	7
What food and drink were cooked for the morning meal? (If no food or drink was cooked, please write 'none')				8
How many men did you cook for?				9
How many women did you cook for?				10
How many children aged less than 16 did you cook for?				11
About what time of day did you eat the meal?				

ALL THESE QUESTIONS REFER TO WHAT HAS HAPPENED DURING THE TIME THAT THE MONITORS WERE MEASURING THE SMOKE, SO THAT WE CAN RELATE THE AMOUNT OF SMOKE TO WHAT HAS CAUSED IT

					Field
Second meal of the day meal (if cooked)					
What fuel(s) did you use to cook the second meal of the day when the monitor was working? *(list them in order of importance as required)*					
No cooking =1 Wood =2 Dung = 3 Agri - residues = 4	Other residues = 5 Charcoal = 6 Kerosene = 7 Bottled gas (LPG) =8	Solar cooker = 9 Solar (PV) electric = 10 Grid electricity = 11 Other = 12	Fuel 1		12
			Fuel 2		13
			Fuel 3		14
If 'other' fuels used to cook the second meal of the day, please specify (This box should only be filled if the answer to the last question was '12')				Other fuel =	15
If wood, dung or crop residues were the main fuel, how dry were they when they were used?					16
Not used = 1; Very dry = 2	Dry = 3 Damp = 4	Wet = 5 'Green' = 6			
About what time did you start to prepare the meal?					17
How long did it take to prepare the meal?					18
What food and drink were cooked for the second meal of the day? (if nothing was cooked, please write 'none')					19
How many men did you cook for?					20
How many women did you cook for?					21
How many children aged under 16 did you cook for?					22
About what time of day did you eat the meal?					23

Third meal of the day (if cooked)					
What fuel(s) did you use to cook the third meal of the day when the monitor was working? *(list them in order of importance as required)*					
No cooking =1 Wood =2 Dung = 3 Agri - residues = 4	Other residues = 5 Charcoal = 6 Kerosene = 7 Bottled gas (LPG) =8	Solar cooker = 9 Solar (PV) electric = 10 Grid electricity = 11 Other = 12	Fuel 1		24
			Fuel 2		25
			Fuel 3		26
If 'other' fuels used to cook the third meal of the day, please specify (This box should only be filled if the answer to the last question was '12')				Other fuel =	27
If wood, dung or crop residues were the main fuel, how dry were they when they were used?					28
Not used = 1; Very dry = 2	Dry = 3 Damp = 4	Wet = 5 'Green' = 6			
About what time did you start to prepare the meal?					29
How long did it take to prepare the meal?					30
What food and drink were prepared for the third meal of the day? (if nothing was cooked, please write 'none')					31
How many men did you cook for?					32
How many women did you cook for					33
How many children aged under 16 did you cook for?					34
About what time of day did you eat the meal?					35

Fourth meal of the day (if cooked)					
What fuel(s) did you use to cook the fourth meal of the day when the monitor was working? *(list them in order of importance as required)* No cooking =1 Wood =2 Dung = 3 Agri - residues = 4 Other residues = 5 Charcoal = 6 Kerosene = 7 Bottled gas (LPG) =8 Solar cooker = 9 Solar (PV) electric = 10 Grid electricity = 11 Other = 12		Fuel 1		36
		Fuel 2		37
		Fuel 3		38
If 'other' fuels used to cook the fourth meal of the day, please specify (This box should only be filled if the answer to the last question was '12')			Other fuel =	39
If wood, dung or crop residues were the main fuel, how dry were they when they were used? Not used = 1; Dry = 3 Wet = 5 Very dry = 2 Damp = 4 'Green' = 6				40
About what time did you start to prepare the meal?				41
How long did it take to prepare the meal?			____hr_____min	42
What food and drink were prepared for the fourth meal of the day? (if nothing was cooked, please write 'none')				43
How many men did you cook for?				44
How many women did you cook for				45
How many children aged under 16 did you cook for?				46
About what time of day did you eat the meal?				47

20. Other uses of stove

Since monitoring started, did you use the stove for other cooking activities (for example, food/drink for sale)? Yes / No		48
What was prepared using the stove? *(Beer brewing can be classified as 'Small scale food/drink production' if people are concerned)*		49
Was it using the same stove and at the same time as: 1. First meal of the day 2. Second meal of the day 3. Third meal of the day 4. Fourth meal of the day 5. A different time of day 6. Using a different stove		50
What fuel(s) did you use for this activity? *(list them in order of importance as required)* Wood =2; Dung = 3; Agri - residues = 4; Other residues = 5; Charcoal = 6; Kerosene = 7; Bottled gas (LPG) =8; Solar cooker = 9; Solar (PV) electric = 10; Grid electricity = 11; Other = 12		
Fuel 1		51
Fuel 2		52
Fuel 3		53
If 'other' fuels used for this activity, please specify what you used (The answer to the last question should be '12' if you need to use this box)	**Other fuel =**	54
If wood, dung or crop residues were the main fuel, how dry were they when they were used? Not used = 1; Very dry = 2; Dry = 3; Damp = 4; Wet = 5; 'Green' = 6		55
About what time did you start cooking for this activity?		56
How long did this activity take?	____hr ____min	57
About what fraction of the total fuel today was used in this activity?		58
Was the stove kept alight especially for heating (not cooking)? Yes /No		59
If 'yes' how many hours was fuel put onto the stove especially to keep it alight for heating?		60
Was the stove kept alight especially for lighting (not cooking)? Yes /No		61
If 'yes' how many hours was fuel put onto the stove especially to keep it alight for lighting?		62

21. Time budget for day on which household was monitored

Mark hour when air monitoring began (X)	Time of day *(starting at midnight)*	Was the fire: Not lit = 1 Smouldering = 2 Burning well = 3		What fraction of the time was the woman in the monitored room with the fire?						If a child was present, what fraction of the time was the youngest child in the monitored room with the fire?					
	Midnight to midday														
				None of the time	Quarter of the time	Half the time	Three Quarters	All the time		None of the time	Quarter of the time	Half the time	Three Quarters	All the time	
AM	12-1 o'clock														
	1-2 o'clock														
	2-3 o'clock														
	3-4 o'clock														
	4-5 o'clock														
	5-6 o'clock														
	6-7 o'clock														
	7-8 o'clock														
	8-9 o'clock														
	9-10 o'clock														
	10-11 o'clock														
	11-12 o'clock														
	Midday to midnight														
PM	12-1 o'clock														
	1-2 o'clock														
	2-3 o'clock														
	3-4 o'clock														
	4-5 o'clock														
	5-6 o'clock														
	6-7 o'clock														
	7-8 o'clock														
	8-9 o'clock														
	9-10 o'clock														
	10-11 o'clock														
	11-12 o'clock														

If there is a child recorded in the table above, please give the age of the child		63

22. Comments and observations	
Can you think of any ways in which your day is different from how it would have been if monitoring had not been taking place?	64
Other comments and observations from interviewee (please feel welcome, but not obliged, to fill this in)	65
Other comments and observations from interviewer (please feel welcome, but not obliged, to fill this in eg reluctance of interviewee to answer a particular question)	66