

	Don't know.....3	► 2b.20
2b.18. If yes, what do you do most of the time to the water to make it safer to drink? (<i>Probe for one answer only representing what they do most of the times</i>)	Boil.....1 Add bleach/chlorine.....2 Strain it through a cloth.....3 Use a water filter (ceramic, sand, composite, etc.)4 Solar disinfection5 Let it stand and settle (<i>abatama</i>)6 Other (specify).....7 Don't Know8	
2b.19. When did you treat your drinking water the last time using this method?	Today1 Yesterday.....2 Over one day ago/less than one week.....3 One week ago or more/less than a month ago.....4 One month ago or more5 Don't remember6	
2b.20. Where do you get the water you give the child to drink?	Main source.....1 Keep in special container for baby.....2 Others3	
2b.21 What do you do to it to make the water safe before the child drinks?	Explain	
2b.22. How long does it take you to go to your main water source, get water, and come back?	Minutes [.....].....1 On premises.....2 Don't know.....3	► 2b.24
2b.23. If water is not on premises, who usually collects water? (<i>Check all that apply</i>) (<i>Probe: Is this person under age 15 years? What sex? Circle the code that best describes this person</i>)	Adult woman1 Adult man2 Female child (under 15 years)3 Male child (under 15 years)4 Don't Know5 Other (specify).....6	
2b.24. What is the main source of water used by your household for other purposes, such as cooking and hand washing?	Piped water.....1 Standpipe2 Tubewell/borehole3 Protected dug well.....4 Unprotected dug well.....5 Protected spring.....6 Surface water (<i>river/stream/pond/lake/dam</i>).....8 Unprotected spring.....7 Other (specify).....9	
2b.25. Do you pay for water?	Yes.....1 No2	► 2c
2b.26. If yes, when do you pay?	Every load.....1 Every day2	

	Every week.....3 Every month4 By volume/water meter5 Other (specify)6 Don't know7	
2b.27. If you pay by volume/water meter, what is the unit? PER CUBIC METER/CUBIC	Container/mbudiza.....1 Per litre/gallon.....2 Other (specify)3 Don't know.....4	
2b.28. How much do you pay per load or volume unit?	[K _____]	

Water Quantity Used by Household where Water Source is not in the Dwelling

2c.29. In what type of container is the water carried from your main source? (*Ask only if water is not in the house*)

Type of container		Is it with a lid	
1. Mbudiza/container (plastic or metal)	Yes.....1 No2	Yes.....1 No2	
2. Bucket	Yes.....1 No2	Yes.....1 No2	
3. Drum	Yes.....1 No2	Yes.....1 No2	
4. Jerry can	Yes.....1 No2	Yes.....1 No2	
5. Other (specify) _____	Yes.....1 No2	Yes.....1 No2	
6. Don't know	Yes.....1 No2	Yes.....1 No2	
2c.30. What is the approximate volume in litres of: [<i>Note: If these are containers of standard size and consistently used by all households, this does not have to be asked during the survey, but can be calculated at time of data entry</i>]		Container/mbidiza, Chingumbuli, (plastic/metal) - _____ litres Bucket _____ litres Drum/barrel _____ litres Jerry can _____ litres Others _____ litres Don't know _____	
2c.31. How many of these containers are carried at a time?		Container/mbidiza, Chingumbuli, (plastic/metal) _____ Bucket _____ Drum/barrel _____ Jerry can _____ Others _____ Don't know _____	

2c.32. How many loads do you fetch per day?	Container/mbidiza (plastic/metal) _____ Bucket _____ Drum/barrel _____ Jerry can _____ Others _____ Don't know _____	
2c.33. In the last 2 weeks has the water from this source been unavailable for at least 1 whole day?	Yes.....1 No2 Don't know.....3	► s ec D
2c.34. When there was no water from your main water source, what did you do to get water for drinking?	Wait until water becomes available 1 Get water from a different source22 Other(specify)3 Don't know.....4	

d. Water Storage and Handling

2d.35. Do you store water for drinking in the household?	Yes.....1 No2 Don't know.....3	► sec e
2d.36. Who takes water from these containers? <i>(check all that apply)</i>	Adults.....1 School age children2 Children underfive.....3 Don't know.....4	
2d.37. How do you remove water from the drinking water container?	Pouring.....1 Dipping.....2 Both pouring and dipping.....3 Container has a spigot or tap.....4 Other (specify)5 Don't know.....6	► 2d.40
2d.38. What do you use to remove water?	Same receptacle/cup used to drink from.....1 Receptacle reserved for retrieving water.....2 Other (specify)3	
2d.39. When were they cleaned last?	Today or yesterday1 Less than one week ago2 Several weeks ago3 Never4 Other (specify)5 Don't remember.....6	
2d.40. May I see the containers, please after talking to you?	Yes.....1 No2	

(Please use the observation checklist sheet to conduct observations which has been provided to you as a separate booklet. Note that the observations will be conducted at the end of interview)

e. Channels of Communication

2e.41. What is your main source of information about personal and household hygiene (*bulondo*)?

1. Health worker/Health facility
 2. Television
 3. Church
 4. School
 5. Radio
 6. Others
-
-

2e.42. What is your main source of information about child health (*seba*) in general?

2e.43. Have you been visited by or spoken with a community service worker (promoter) during the past month about water, sanitation, or hygiene?

1. Yes
2. No
3. Don't know (▶ **2e 45**)

2e.44. If yes, which messages did you hear?

2e.45. Have you heard any messages about water, sanitation and hygiene during the past month on the radio or TV?

2e.46. If yes, which messages on radio/TV did you hear?

f. Food Preparation, Storage, and Handling Practice

<p>2f.47. The last time you prepared food, what steps did you go through before, during and after food preparation? (<i>Do not read the answers, encourage by asking if there is anything else until s/he says there is nothing else and check all mentioned</i>)</p>	<p>Wash hands before preparation.....1 Wash food thoroughly2 Wash utensils and containers before preparation.....3 Cook food thoroughly4 Other (specify) _____.....5 Don't know.....6</p>	
---	--	--

2f.48. Is there any food left from the last time you cooked for the family?	Yes.....1 No2	
2f.49. Is there any food left from the last time you cooked for { name of baby }?	Yes.....1 No2	
2f.50. If yes, how long ago did you prepare the food for the...; (check a and b)		
a. family	Less than an hour ago1 Several hours ago2 Yesterday.....3 Several days ago.....4 Don't know.....5	
b. child? (sampled child)	Less than an hour ago1 Several hours ago2 Yesterday.....3 Several days ago.....4 Don't know.....5	
2f.51. Can you show me where you keep this food after talking to you?	Yes.....1 No2	
(Please use the observation checklist sheet provided to you to conduct observations at the end of interview)		
2f.52. Who takes food from the containers? (Check all that apply)	Adults.....1 School age children.....2 Children under 5.....3	
2f.53. How do you usually remove food from the containers? (Check one answer only)	Utensils dedicated for removal.(e.g scoop spoon/chimpapuzyo).....1 Same utensils used for eating (e.g spoon, folk).....2 Fingers.....3 Pouring from the container.....4 Other (specify) _____.....5 Don't know.....6	

2f.54. Can you tell me how you keep food safe to eat for the?

(Do not read the answers, encourage by asking if there is anything else until s/he says there is nothing else and check all mentioned)

a. family	b. child? (sampled child)
Wash hands before preparation.....1	Wash hands before preparation.....1
Wash hands before eating.....2	Wash hands before eating.....2
Wash utensils & containers before preparation....3	Wash utensils & containers before preparation .3
Wash food thoroughly4	Wash food thoroughly4
Cook food thoroughly5	Cook food thoroughly5
Consume all food at once6	Consume all food at once6
Avoid keeping leftovers7	Avoid keeping leftovers7
Reheat leftovers well before eating.....8	Reheat leftovers well before eating.....8
Cover food containers.....9	Cover food containers.....9
Prevent flies from touching the food10	Prevent flies from touching the food10
Keep food in cold place or refrigerator.....11	Keep food in cold place or refrigerator.....11
Keep food behind doors or screen12	Keep food behind doors or screen12
Use clean utensils for retrieving food.....13	Use clean utensils for retrieving food.....13
Other (specify).....14	Other (specify).....14
Don't know.....15	Don't know.....15

2f.55. Who is the main food preparer (person doing it the most) in this household for the?

a. family	b. child? (sampled child)
The worker.....1	The worker.....1
Other adult female.....2	Other adult female.....2
Grandmother.....3	Grandmother.....3
School age girl.....4	School age girl.....4
Male household member5	Male household member5
Other (specify)6	Other (specify)6
Don't know.....7	Don't know.....7

g. Garbage and WASTE (GREY) WATER DISPOSAL

2h.56. How do you mainly dispose of water that has been used for washing dishes, doing laundry, and bathing? (One answer only-probe for the main method used)	Piped drain (In soak-away/cesspit/septic system).....1	
	Street surface or empty space	
	Outside Premises2	
	Into premises' yard3	
	Directly to garden4	
	Poured or carried into toilet facility5	
	Other (specify)6	
2h.57. What is the main way you dispose of your garbage? (One answer only-probe for the main method used)	Collected from home by company/government.....1	
	In waste pit in yard.....2	
	In waste pit nearby in community.....3	
	No pit/open area4	
	Fed to animals.....6	
	Other(specify).....7	
	Don't know.....8	

Section 3: Child health (Makani a nseba)

3a.1. Has **the child** suffered from any of the following diseases or conditions in the last 2 weeks?

Disease	Response code	Skip inst.
	Yes.....1 No2 Don't know.....3	
1. Diarrhoea (kusomoona)		
2. Coughing (kukola)		
3. Malaria (<i>confirmed at healthy facility</i>)(tutumaazi)		
4. Eye infections		
5. Respiratory infections (pneumonia) (Kuhundilila)		
6. Fever (Mubili kupya)		
7. Skin disease (Bulwazi bwachikanda e.g. bweele)		
8. Other, specify		

(If no to all of the above go to 3a.6)

3a.2. (If yes to any of the above diseases, ask the following) Did you seek medical advice or treatment when the child was sick in the past 2 weeks?	Yes.....1 No2 Child was not sick the past 2 weeks3	► 3a.4
3a.3. (If not), why did you not seek treatment from the health service(<i>Do not read the answers, encourage by asking if there is anything else until s/he says there is nothing else and check all mentioned</i>)	No money1 Too far.....2 Child not seriously ill.....3 Nobody to go to/clinic closed.....4 Place usually has no drugs.....5 Staff are not friendly6 Other(specify)7 Don't know.....8	
3a.4. (If yes), how long after the illness started did you to take the sick child to the health facilities	Within a day.....1 More than day.....2	3a.6
3a.5. If more than a day, why did you wait that long before taking the child to the health facilities? <hr/>		
3a.6. Did (NAME of child) receive vitamin A within the last 6 months?	Yes.....1 No2 Don't know.....3	

3a.7. In the last seven days, did (NAME) take iron pills or iron syrup (like this/any of these)?	Yes.....1 No2 Don't know.....3	
3a.8. Has (NAME) taken any drug for intestinal worms (Mayoka) (deworming) in the past 6 months?	Yes.....1 No2 Don't know.....3	
3a.9. Has the child received all the vaccinations for children below nine months (<i>check the status on the child's clinic card</i>).	Yes.....1 No2 No, child below 9 months3 Don't know.....3	
3a.10. Did [NAME OF CHILD] sleep under a bed net (musikito) last night?	Yes.....1 No2 Don't know.....3	► sec 4
3a.11 What type of net is it?	LONG-LASTING treatment (does not Require re-treatment).....1 Treated (dipped in a solution).....2 Regular net (not treated)3 NO net4 Don't know.....5	
3a.12. If treated, when was it impregnated the last time?	Is a new net1 Less than 6 month ago.....2 Over 6 months ago.....3 No net.....4 Never5 Don't know.....6	

Section 4: Child Nutrition (Busani bwabana)

a. Breastfeeding practices (Kunyohya bana)

4a.1. Did the mother ever breastfeed (NAME)? <i>(don't know only applies if the interviewee is not the mother)</i>	Yes.....1 No2 Don't know.....3	► 4a.12
4a.2. Was (name of child) given anything to drink/eat before putting him to the breast soon after birth? <i>(don't know only applies if the interviewee is not the mother)</i>	Yes.....1 No2 Don't know.....3	► 4a.4
4a.3. if yes, what was (NAME of child) given to drink before putting him to the breast soon after birth? <i>(Continue asking if there is anything else until the respondent has nothing to say. Do not read the list. record all mentioned by circling letter for each one mentioned)</i>	Milk (other than breast milk)1 Plain water2 Sugar or glucose water.....3 Gripe water4 Sugar-salt-water solution5 Fruit juice6 Infant formula7 Tea / infusions8 Honey9	

	Other (specify)10	
4a.4. Is the mother still breastfeeding (name of child)?	Yes.....1 No2 Don't know.....3	► 4a.6
4a.5. If not currently breastfeeding, at what age was (name of child) when-you (or the mother) stopped breastfeeding him/her?	Specify months _____.....1 Do not know2	
4a.6. Did (name of child) drink anything from a bottle with a nipple yesterday or last night?	Yes.....1 No2 Don't know.....3	
4a.7. How soon after birth did you (or mother) put (Name of child) to the breast for the first time?	Less than an hour after birth.....1 1-3 hours after birth.....2 More than three hours after birth.....3 Not applicable.....4	
4a.8. At what age did you (or the mother) give (name of child) liquids other than breast milk for the first time?	Less than 1 month.....1 1 month.....2 2 months.....3 3 months.....4 4 months.....5 5 months.....6 6 months.....7 After 6 months8 still exclusive breastfeeding.....9 Don't know (not the mother).....10	
4a.9. What was the first liquid other than breast milk that you gave (name of child)	Water.....1 Coffee/tea.....2 Formula.....3 Soups/broths/gravy.....4 Other Specify.....5 Not applicable.....6 Don't know/remember.....7	
4a.10. At what age did you (or the mother) give (name of child) his/her first solid or semisolid food? <i>(Note that soups and broths are liquids and cannot be considered semisolids or solid; soup with broken apart vegetables is considered a semisolid food)</i>	Less than 1 month.....1 1 month.....2 2 months.....3 3 months.....4 4 months.....5 5 months.....6 6 months.....7 After 6 months8 still exclusive breastfeeding.....9 Don't know (not the mother).....10	
4a.11. What was the first solid or semisolid food that was given to (name of child)?	Maize porridge.....1 Cassava porridge.....2 Vegetable.....3 Beans4	

	Meat.....5 (chicken/beef/pork/game/lamb) Fish.....6 Egg.....7 Milk product.....8 Fruit.....9 Other Specify _____10 Not applicable.....11	
4a.12. At this age, what type of food do you give (name of child)	More liquid.....1 More thicker.....2 Still breastfeeding only.....3	
b. Motivating the child to continue eating		
4b.13. If (name of child) stops eating and you think that he/she is still hungry, what do you do so that he/she continues eating? (Probe and check all that apply)	Motivates or helps child (Speaks, sings, plays with the child).....1 Forces the child2 Tries another food.....3 Feeds slowly.....4 Ask another person to feed the child.....5 Does nothing.....6 Other Specify _____7	
4b.14. If (name of child) is not able to feed him/herself, who feeds the child food If above 1 year, who assists the child to eat the food.	Mother.....1 Sister2 Grandmother3 Father4 Others, Specify5	
4b.15. If (name of child) refuses to eat many foods, what do you do to let the child have food?	Experiment with different food combinations1 Try different tastes, textures2 Tries to encouragement3 Other Specify4	

c. Dietary diversity score

(List all the foods and drinks eaten by this child yesterday starting from when he/she woke up until he/she went to sleep last night)

I. INDIVIDUAL CHILD DIETARY DIVERSITY			
No	Questions and Filters	Coding	
	Now I would like to ask you about (other) liquids or foods that (Name of child) may have had yesterday from the time s/he woke up in the morning upto the time they sleep in the night. I am interested in whether your child had the item even if it was combined with other foods. Did (Name of Child) drink / eat: [<input type="checkbox"/>] Tick if the child is breastfeeding only	4c.16. In the past 24 hours did (name of child) eat the following? Child 1	4c.17. How many days in the past 1 week did (name of child) eat the following?

		1 = Yes 2= No	(indicate the number of days)
A	Milk such as tinned, powdered, or fresh milk?	<input type="checkbox"/>	<input type="checkbox"/>
B	Tea or coffee?	<input type="checkbox"/>	<input type="checkbox"/>
C	Any other liquids (<i>chibwantu, nselele</i>)	<input type="checkbox"/>	<input type="checkbox"/>
D	Nshima, bread, rice, noodles, or other foods made from grains?	<input type="checkbox"/>	<input type="checkbox"/>
E	Pumpkin (<i>chitende</i>), carrots, squash, or sweet potatoes that are yellow or orange inside?	<input type="checkbox"/>	<input type="checkbox"/>
F	White potatoes (Magwili), white yams (Iusala, chipama), manioc, cassava (Mwaja), or any other foods made from roots	<input type="checkbox"/>	<input type="checkbox"/>
G	Any dark green leafy vegetables? (<i>muchile/lungu, kalembula, chimowa, Kayuniyuni, rape, chomoliwa</i>)	<input type="checkbox"/>	<input type="checkbox"/>
	Other vegetables (cabbage, cauliflower,)	<input type="checkbox"/>	<input type="checkbox"/>
H	Ripe mangoes, pawpaws. muloolo or (<i>any other locally available vitamin a-rich fruits</i>)?	<input type="checkbox"/>	<input type="checkbox"/>
I	Any other fruits (<i>ngai/mbubu, muchingachinga, mbula, vwulimuninga</i>)	<input type="checkbox"/>	<input type="checkbox"/>
J	Liver, kidney, heart or other organ meats?	<input type="checkbox"/>	<input type="checkbox"/>
K	Any meat, such as beef, pork, lamb, goat, chicken, or duck?	<input type="checkbox"/>	<input type="checkbox"/>
L	Eggs (<i>maji</i>)	<input type="checkbox"/>	<input type="checkbox"/>
M	Fresh or dried fish or shellfish? –Kapenta/bream	<input type="checkbox"/>	<input type="checkbox"/>
N	Any foods made from beans, cowpeas (<i>nyabo</i>), bambara nuts (mbwila), peas, lentils, or nuts (nyemu, butele) ?	<input type="checkbox"/>	<input type="checkbox"/>
O	Cheese, yogurt, sour (mabisi) or other milk products?	<input type="checkbox"/>	<input type="checkbox"/>
P	Any oil, fats, or butter, or foods made with any of these?	<input type="checkbox"/>	<input type="checkbox"/>
Q	Any sugary foods such as chocolates, sweets, candies, pastries, cakes, or biscuits?	<input type="checkbox"/>	<input type="checkbox"/>
R	Caterpillars/grasshopper (<i>nsele/inswa, matingatiila, nsozi</i>)	<input type="checkbox"/>	<input type="checkbox"/>

d. EATING PATTERN OF THE CHILD		
Questions	Response Options	
4d.18. How many times does (name of child) normally eat main meals?	<input type="checkbox"/> Meals / day	
4d.19. How many times does (name of child) normally eat snacks?	<input type="checkbox"/> Snacks / day	
4d.20. How many times did (name of child) eat main meals yesterday?	<input type="checkbox"/> Meals / day	
4d.21. How many times did (name of child) eat snacks yesterday?	<input type="checkbox"/> Snacks / day	

4d.22. In the past one week, did (name of child) ever eat less than s/he should have eaten for a day?	Yes.....1 No2 Don't know.....3	► sec 5
4d.23. If s/he ate less, what was the main problem?	1. Illness 2. Loss of appetite 3. Lack of food in the household	

Section 5: Food security

5a.1. In the last 12 months, since (current month) of last year, did you ever cut the size of (name of child's) meals because there wasn't enough money for food?	Yes.....1 No2 Don't know.....3	
5a.2. In the last 12 months, did (name of child) ever skip meals because there wasn't enough money for food?	Yes.....1 No2 Don't know.....3	► 5a.4 ► 5a.4
5a.3. [IF YES ABOVE ASK] How often did this happen?	Almost every month.....1 Some months but not every month.....2 Only 1 or 2 months.....3 Don't Know.....4	
5a.4. In the last 12 months, was (name of child) ever hungry but you just couldn't afford more food?	Yes.....1 No2 Don't know.....3	
5a.5. In the last 12 months, did (name of child) ever not eat for a whole day because there wasn't enough money for food?	Yes.....1 No2 Don't know.....3	

6. Child Anthropometric variables

Name Child	6a.1 ID	6a.2 Date of birth (dd/mm/ yy)	6a.3 Age (mont hs)	6a.4 Sex 1 = Male 2 = Female	6a.5 Weight (kg 0.1) To the nearest	6a.6 Length (cms 0.1)	6a.7 MUAC	6a.8 Oedem a Yes/No
					__/__/.	__/__/.	__/__/.	

7. Maternal Factors

Take the following measurements from:

7a.1 The mother/caregiver: ID	7a.2 The father: ID
Age [] years	Age [] years
Height [] cm	Height [] cm
Weight [] kg	Weight [] kg
Waist [] cm	Waist [] cm

Before leaving this household, verify the entire questionnaire and indicate the outcome of the interview on the first page. Then thank those who participated in the interview:

Thank you for your participation and good bye!

Do not forget to visit water and food storage points, sanitary facilities and garbage disposal sites accessed by this household as part of the household questionnaire (a separate instrument) before moving on to the next household.



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4.0 Observation Checklist

A Study to Evaluate the Effect of Poor Water and Poor Sanitation on Growth in Infants and Young Children aged 6-24 months in Zambia

1. ID:	[][][]
2. Date of Survey Visit	
3. Village	
4. Name of household head	
5. Time of the day when observation is conducted	

Observe the following at the household:

A. Floor

A.1. Floor is made of:

1. Mud 2. Cement 3. Dung 4. Other.....

A.2. Cleanliness of the floor,

1. Clean 2. Not clean

B. Water Storage

B.1. What type of containers are these? (Observe and check all that apply)

Narrow mouthed: opening is 3 cm or less (interviewers use template)

1. Narrow mouthed 2. Wide mouthed 3. Of both types

B.2. Are the containers covered? (Observe and check)

1. All are 2. Some are 3. None are

B.3. Where are the water containers placed (Observe)?

1. On the floor 2. Elevated above the floor

B.4. Are the water containers cleaned? (Observe and check)

1. Yes 2. No

C. Child cleanliness

C.1. Are the child's hands clean?

1. Clean 2. Not clean

C.2. Are the child's nails clean?

1. Clean 2. Not clean

C.3. Is the child's skin clean?

1. Clean 2. Not clean

C.4. Is the child's face clean?

1. Clean
2. Not clean

C.5. Are the child's clothes clean?

1. Clean
2. Not clean

D. Mother's cleanliness – (dress, skin, face)

D.1. Are the mother's hands clean?

1. Clean
2. Not clean

D.2. Are the mother's nails clean?

1. Clean
2. Not clean

D.3. Is the mother's skin clean?

1. Clean
2. Not clean

D.4. Is the mother's face clean?

1. Clean
2. Not clean

D.5. Are the mother's clothes clean?

1. Clean
2. Not clean

E. Cooking and feeding utensils

E.1. Where are family feeding utensils kept

1. On a stand
2. On the floor

E.2. Are family feeding utensils left clean

1. Clean
2. Not clean

E.3. Where are children's feeding utensils kept

1. On a stand
2. On the floor

E.4. Are feeding utensils left clean

1. Clean
2. Not clean

F. Food Preparation, Storage, and Handling Practice

F.1. Can you show me where you keep this food?

1. Yes
2. No

F.2. *Observe: are the containers covered?*

1. All are
2. None are
3. Some are



F.3. *Observe: where the food containers are placed?*

1. On the floor
2. Elevated above the floor

F.4. *Observe: what is the access to the food containers?*

1. Kept in refrigerator
2. Kept behind solid doors
3. Kept behind screened doors
4. Containers are in the open
5. Other?

G. Sanitation facilities:

G1.Toilet facility observation:

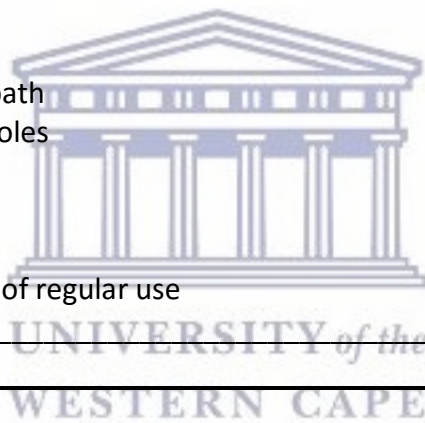
G1.1. *Return to question 2a.3 (section 2) and verify that the type of latrine indicated there is correct*

1. Yes, is correct
2. No, correction made
3. Did not verify
4. No toilet

G1.2. *Observe access to the facility; are there obstacles in the path, are there signs of regular use? (Check all that apply)*

1. Dense vegetation
2. Waste or debris in its path
3. Major crevices or potholes
4. Mud
5. Entrance is obstructed
6. Path is clear
7. Path well-worn as sign of regular use
8. Other observation _____

9. No toilet facility



G1.3. *Observe the superstructure of walls, roof and door (Check all that apply)*

1. Has walls
2. Has a roof
3. Has door(s)
4. Superstructure damaged
5. No superstructure
6. Other _____

G1.4. *If door(s) are present, can they be closed?*

1. Yes, are locked
2. No
3. Impossible to determine

G1.5. *If any type of pit latrine, are the holes covered?*

1. Yes
2. No
3. Not a pit latrine

G1.6. Does it have any of the following child-friendly features? (may be separate or in the same compartment as an adult facility. observe and check all that apply.)

1. Pit latrine with smaller hole
2. Lower seat
3. Potty available
4. None of the above
5. Cannot identify
6. Not a pit latrine
7. Other _____

G1.7. Is there faecal matter present inside the facility on floor or walls (human or animal)?

1. Yes
2. No
3. Cannot assess

G1.8. Is there faecal matter clearly visible in the pit at less than 30 centimetres depth? [As a sign that the pit is full]

1. Yes
2. No
3. Cannot assess

G2. Hand washing Place

G2.1. Is there a place for hand washing in the toilet facility or within 10 meters?

1. Yes
2. No
3. No toilet

G2.2. Observation only: is there water? Interviewer: turn on tap and/or check container and note if water is present

1. Yes, found in hand washing place
2. Brought by caretaker within 1 min
3. No

G2.3 Observation only: is there soap or detergent or ash?

1. Found in hand washing place
2. Brought by caretaker within 1 min
3. No

G2.4. Observation only: if there is soap, detergent, or ash, mark all that are present?

1. Soap
2. Detergent
3. Ash

G2.5 Observation only: is there a hand-washing device such as a tap, basin, bucket, sink, or tippy tap?

1. Yes, found in hand washing place
2. Brought by caretaker within 1 min
3. No

G2.6. Observation only: does the washing device allow unassisted washing and rinsing of both hands, for example, a tap, basin, bucket, sink, or tippy tap?

1. Yes
2. No

G2.7 Observation only: what method is used to dispense water?

1. Tap or spigot
2. Tippy tap or similar device
3. Pipe without tap
4. Pour water into a basin or bucket
5. Pour water from container onto hands (Assisted by another person)
6. Pour water from container onto hands (Without assistance)
7. Other (specify) _____
8. Don't know

G2.8. Observation only: is there a towel or cloth to dry hands?

1. Yes, found in hand washing place
2. Brought by caretaker within 1 min
3. No

G2.9. Observation only: does the towel or cloth appear to be clean?

1. Yes
2. No
3. No cloth

G3 Hand washing Practice

Can you show me how you wash:

[Ask the caretaker to demonstrate/show how the child under 24 months washes his or her hands.] (Interviewer: observe the hand washing and answer the following questions)

a. your hands?	b. Baby's hands
1. Yes 2. No	1. Yes 2. No
1. Does the person use water? 1. Yes 2. No	Does the child use water? 1. Yes 2. No
2. Does the person use soap? 1. Yes 2. No	Does the child use soap? 1. Yes 2. No
3. Are both hands washed? 1. Yes 2. No	Are both hands washed? 1. Yes 2. No
4. Does (s)he rub hands together three times or more? 1. Yes 2. No	Does s/he rub hands together three times or more? 1. Yes 2. No
5. How does the person dry his or her hands? 1. With towel or cloth 2. In the air 3. Garment 4. Other (specify) _____	How does the child dry his or her hands? 1. With towel or cloth 2. In the air 3. Garment 4. Other (specify) _____

6. Does the towel or cloth the person uses appear to be clean? 1. Yes 2. No 3. N/A	Does the towel or cloth the child uses appear to be clean? 1. Yes 2. No 3 .N/A

G4. Household environment

G4.1 Ask to see the room where cooking takes place: observe evidence of indoor smoke

1. Smoke-filled room
2. Blackened ceiling or walls
3. Open fire place
4. No exhaust
5. Other (specify) _____
6. Don't know

G4.2. Are livestock (poultry, goats, pigs, etc.) kept inside living quarters at night?

1. Yes 2. No ► **G4.5**

G4.3 If yes, observe presence of livestock in living quarters during visit

1. Livestock found in living quarters 2. Non found

G4.4. Are faeces (human or animal) visible in the house or in the yard?

1. Yes 2. No

G4.5. Is there garbage lying in the open in the house or in the yard?

1. Yes 2. No

G4.6. Observe only: is the garbage covered?

1. Yes
2. Uncovered ?, but no garbage
3. Uncovered? , but with garbage

G4.7. Is there sewage in the yard?

1. Yes 2. No

G4.8. Is there garbage outside the premises or in the streets within 10 meters of dwelling?

1. Yes 2. No

G4.9. Is there sewage or are there open sewers outside the premises or in the streets within 10 meters of the dwelling?

1. Yes 2. No

G4.10. Is there considerable smoke around premises coming from the outside?

1. Yes 2. No

G4.11. Does the smoke come from burning garbage in the area?

1. Yes 2. No 3. Don't know

G4.12. Is the house swept especially where the child most often plays

1. Yes
2. No
3. Don't know

G4.13. Is there stagnant water in the yard

1. Yes
2. No
3. Don't know



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WESTERN CAPE

5.0 Age calendars for children and adults

a) Age in months calendar for children under five years of age (May 2014)

Month	Age	Month	Age	Month	Age	Month	Age
May 2015	0						
April 2015	1	Dec 2013	17	Aug 2012	33	Apr 2011	49
Mar 2015	2	Nov 2013	18	Jul 2012	34	Mar 2011	50
Feb 2015	3	Oct 2013	19	Jun 2012	35	Feb 2011	51
Jan 2015	4	Sept 2013	20	May 2012	36	Jan 2011	52
Dec 2014	5	Aug 2013	21	Apr 2012	37	Dec 2010	53
Nov 2014	6	Jul 2013	22	Mar 2012	38	Nov 2010	54
Oct 2014	7	Jun 2013	23	Feb 2012	39	Oct 2010	55
Sept 2014	8	May 2013	24	Jan 2012	40	Sept 2010	56
Aug 2014	9	Apr 2013	25	Dec 2011	41	Aug 2010	57
Jul 2014	10	Mar 2013	26	Nov 2011	42	Jul 2010	58
Jun 2014	11	Feb 2013	27	Oct 2011	43	Jun 2010	59
May 2014	12	Jan 2013	28	Sept 2011	44	May 2010	60
Apr 2014	13	Dec 2012	29	Aug 2011	45		
Mar 2014	14	Nov 2012	30	Jul 2011	46		
Feb 2014	15	Oct 2012	31	Jun 2011	47		
Jan 2014	16	Sept 2012	32	May 2011	48		

b) Age Calendar for Adults

Year	Age	Year	Age	Year	Age	Year	Age
2009	6	1989	26	1969	46	1949	66
2008	7	1988	27	1968	47	1948	67
2007	8	1987	28	1967	48	1947	68
2006	9	1986	29	1966	49	1946	69
2005	10	1985	30	1965	50	1945	70
2004	11	1984	31	1964	51	1944	71
2003	12	1983	32	1963	52	1943	72
2002	13	1982	33	1962	53	1942	73
2001	14	1981	34	1961	54	1941	74
2000	15	1980	35	1960	55	1940	75
1999	16	1979	36	1959	56	1939	76
1998	17	1978	37	1958	57	1938	78
1997	18	1977	38	1957	58	1937	79
1996	19	1976	39	1956	59	1936	80
1995	20	1975	40	1955	60	1935	81
1994	21	1974	41	1954	61	1934	82
1993	22	1973	42	1953	62	1933	83
1992	23	1972	43	1952	63	1932	84
1991	24	1971	44	1951	64	1931	85
1990	25	1970	45	1950	65	1930	86

6.0 Ethical approval

6.1 University of Western Cape Approval



OFFICE OF THE DEAN DEPARTMENT OF RESEARCH DEVELOPMENT

14 December 2011

To Whom It May Concern

I hereby certify that the Senate Research Committee of the University of the Western Cape has approved the methodology and ethics of the following research project by Mrs RH Mugode (School of Public Health)

Research Project:	Evaluation of the effect of poor water and poor sanitation on growth in infants and young children aged 6-24 months in Zambia
Registration no:	11/10/34


A handwritten signature in black ink, appearing to read 'Patricia Jorjic'.

*Ms Patricia Jorjic
Research Ethics Committee Officer
University of the Western Cape*

Private Bag X17, Bellville 7535, South Africa
Tel: +27 21 850 3914/6
Fax: +27 21 850 3170
Website: www.uwc.ac.za

UNIVERSITY OF THE WESTERN CAPE
DEPARTMENT OF RESEARCH DEVELOPMENT
Private Bag 11, Bellville 7531, South Africa
Tel: +27 21 850 3914/6
Fax: +27 21 850 3170
Website: www.uwc.ac.za

6.2 Biomedical Research Ethics Committee Approval


THE UNIVERSITY OF ZAMBIA
BIOMEDICAL RESEARCH ETHICS COMMITTEE

Telephone: 260-1-256067
Telegram: UNZA, LUSAKA
Telex: UNZALU ZA 44370
Fax: + 260-1-250753
E-mail: unzamec@unza.zm
Assurance No. FWA00000338
IRB00001131 of IORG0000774

Ridgeway Campus
P.O. Box 50110
Lusaka, Zambia

10th August, 2012.

Your Ref: 003-03-12.

Ms. Raider Habulembe,
PO Box 32669,
Lusaka.

Dear Ms Habulembe,


RE: RE-SUBMITTED RESEARCH PROPOSAL: "EVALUATION OF THE EFFECT OF POOR WATER, SANITATION AND POOR HYGIENE PRACTICES ON GROWTH AND INFECTIOUS DISEASES INCIDENCE IN INFANTS AND YOUNG CHILDREN AGED 6-23 MONTHS IN MONZE RURAL, ZAMBIA OVER A PERIOD OF 12 MONTHS"

The above mentioned research proposal was re-submitted to the Biomedical Research Ethics Committee with recommended changes on 7th August, 2012. The proposal is approved.

CONDITIONS:

- This approval is based strictly on your submitted proposal. Should there be need for you to modify or change the study design or methodology, you will need to seek clearance from the Research Ethics Committee.
- If you have need for further clarification please consult this office. Please note that it is mandatory that you submit a detailed progress report of your study to this Committee every six months and a final copy of your report at the end of the study.
- Any serious adverse events must be reported at once to this Committee.
- Please note that when your approval expires you may need to request for renewal. The request should be accompanied by a Progress Report (Progress Report Forms can be obtained from the Secretariat).
- **Ensure that a final copy of the results is submitted to this Committee.**

Yours sincerely,


Dr. J.C Mwanthali
CHAIRPERSON

Date of approval: 10 August, 2012 **Date of expiry:** 09 August, 2013

6.3 Ministry of Health Approval

All Correspondence should be addressed to the
Permanent Secretary
Telephone: +260 211 253049/5
Fax: +260 211 253344


REPUBLIC OF ZAMBIA
MINISTRY OF HEALTH

In reply please quote:
No. _____

MH/101/17/6
NDUKE HOUSE
P. O. BOX 30205
LUSAKA

17th September, 2012

Ms. Raider Habulembe
P.O. Box 32669
LUSAKA

Dear Ms. Habulembe,

Re: Request for Authority to Conduct Research

The Ministry of Health is in receipt of your request for authority to conduct a study on "Evaluation of the effect of poor water, sanitation and poor hygiene practices on the growth and infectious disease incidence in infants and young children aged 6-23 months in Monze rural, Zambia over a period of 12 months". I wish to inform you that following submission of your research proposal to my Ministry, our review of the same and in view of the ethical clearance, my Ministry has granted you authority to carry out the study on condition that:

1. The relevant Provincial and District Directors of Health where the study is being conducted are fully apprised;
2. Progress updates are provided to MoH quarterly from the date of commencement of the study;
3. The final study report is cleared by the MoH before any publication or dissemination within or outside the country;
4. After clearance for publication or dissemination by the MoH, the final study report is shared with all the relevant Provincial and District Directors of Health where the study was being conducted, and all key respondents.

I consider your research topic to be of policy relevance.

Yours sincerely,


Dr. P. Mwata
Permanent Secretary
MINISTRY OF HEALTH

7.0 Participant Information Sheet



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959, Fax: 27 21-959

E-mail: tpuoane@uwc.ac.za

INFORMATION SHEET

Project Title: A Study to Evaluate the Effect of Poor Water and Poor Sanitation on Growth in Infants and Young Children aged 6-23 months in Zambia

What is this study about?

This is a research project being conducted by Raider Habulembe Mugode at the University of the Western Cape. We are inviting you to participate in this research project because you have a child who is aged between 6 to 23 months in your household. The purpose of this research project is to collect data that will help us researchers and program officers to understand how issues of water, sanitation and hygiene affect the growth of children in this community. This will therefore help address issues of water, sanitation and hygiene and the growth of children in such a way that will lead to effective programming. In addition, outcomes of this study can also help other communities that have not participated in this program in terms of programming, it is also a requirement at my University in order for me to obtain a degree in Public health nutrition. The interview will take about 45 minutes.

What will I be asked to do if I agree to participate?

You will be asked to answer questions regarding the type of water and sanitary facilities you use in this household in particular for [name of child] and the hygiene practices you observe in the household. In addition, you will also be asked questions on how you feed [name of child], diseases that the child may have suffered in the previous 2 weeks and finally, the weight and heights of [name of child] and the mother will be taken. The interview will take about 40 minutes and about 10 minutes to observe some areas of your household such as the toilet, kitchen and where children play

Would my participation in this study be kept confidential?

We will do our best to keep your personal information confidential. To help protect your confidentiality, the information that will be collected from you and your household will be kept confidential and will not be given to any partner or project for further analysis. The questionnaire will be given a pseudo name and a number that will be used to enter as identity in the computer instead of real names. The computer will be protected with a password to avoid unpermitted accessing of the file. If we write a report or article about this research project, your identity will be protected to the maximum extent possible.

What are the risks of this research?

There are no known risks associated with participating in this research project.

What are the benefits of this research?

This research is not designed to help you personally, but the results may help the investigator learn more about how diseases resulting from poor water, sanitation and hygiene affect the health of children. We hope that, in the future, other people might benefit from this study through improved understanding of how safe water and sanitation can help to improve the health of their children.

Do I have to be in this research and may I stop participating at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

Is any assistance available if I am negatively affected by participating in this study?

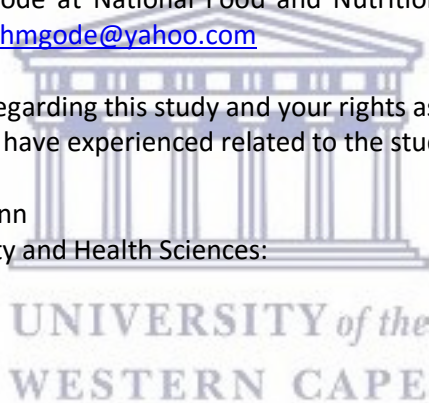
If your household will be found to be affected negatively in this study, the team will offer counselling on matters in which they have expert or refer you to the health facility for further assistance.

What if I have questions?

This research is being conducted by *Raider Habulembe Mugode, School of Public Health* at the University of the Western Cape. If you have any questions about the research study itself, please contact Raider Habulembe Mugode at National Food and Nutrition Commission, P O Box 32669, Lusaka, [Tel:0955763630](tel:0955763630), email: rhmgode@yahoo.com

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Head of Department: Uta Lehmann
Dean of the Faculty of Community and Health Sciences:
University of the Western Cape
Private Bag X17
Bellville 7535
South Africa



Or

The Chairman
The University of Zambia Biomedical Research Ethics Committee
Box 50110
Lusaka, Zambia
Tel: 260 1 256067
Email: unzarec@zamtel.zm

This research has been approved by the University of the Western Cape's Senate Research Committee and The University of Zambia Biomedical Research Ethics Committee.

8.0 Permission Forms

8.1 Consent Form-Household Head or Spouse



UNIVERSITY OF THE WESTERN CAPE

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E-mail: tpuoane@uwc.ac.za

A Study to Evaluate the Effect of Poor Water and Poor Sanitation on Growth in Infants and Young Children aged 6-24 months in Zambia

The study has been described to me in language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

Participant's name.....

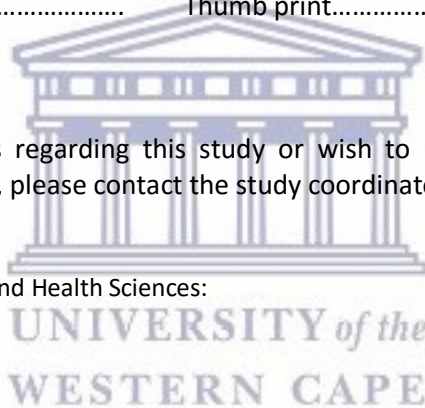
Participant's signature..... Thumb print.....

Witness.....

Date.....

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

Head of Department: Uta Lehmann
Dean of the Faculty of Community and Health Sciences:
University of the Western Cape
Private Bag X17
Bellville 7535
South Africa



Or

Professor Thandi Puoane
University of the Western Cape
Private Bag X17, Bellville 7535
Telephone: (021)959-
Cell: 0827075881
Fax: (021)959- 2809
Email: tpuoane@uwc.ac.za

Or

The Chairman
The University of Zambia Biomedical Research Ethics Committee
Box 50110
Lusaka, Zambia
Tel: 260 1 256067
Email: unzarec@zamtel.zm

8.2 Assent Form – Children Under five Years



UNIVERSITY OF THE WESTERN CAPE
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A Study to Evaluate the Effect of Poor Water and Poor Sanitation on Growth in Infants and Young Children aged 6-24 months in Zambia

ASSENT FORM FOR CHILDREN AGED 6-24 MONTHS

The study has been described to me in language that I understand and I freely and voluntarily agree to allow my child to be part of this study. My questions about the study have been answered. I understand that my child's identity will not be disclosed and that I may withdraw the participation of my child from the study without giving a reason at any time and this will not negatively affect me and my child in any way.

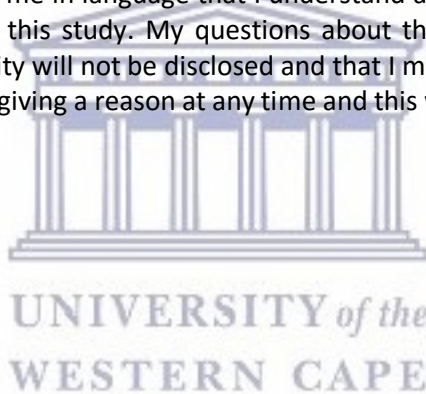
Statement of Assent:

Name of Child

Name of Mother

Name of Witness

Name of Investigator



Signature/Thumb print Date

Signature/Thumb print Date

Signature/Thumb print Date