

DelAgua

Tubeho Neza Qualitative Research Summary Findings

Research moderated by Prisca Iraguha with Doreen Kayiraba
8 x 90-120 minute groups
W/c May 22nd 2022

Respondents

DISTRICT	KAMONYI
SECTOR	KARAMA
CELL	NYAMIREMBE
Interview group	8 Females Stove users for 2 years

DISTRICT	MUHANGA
SECTOR	NYAMABUYE
CELL	GAHOGO
Interview group	8 Females Stove users for 2 years

DISTRICT	BURERA
SECTOR	GAHUNGA
CELL	KIDAKAMWA
Interview group	8 Females Stove users for >4 years

DISTRICT	MUSANZE
SECTOR	GACACA
CELL	KABIRIZI
Interview group	8 FEMALE STOVE USERS, 1-6MONTHS

DISTRICT	RUHANGO
SECTOR	NTUNGWE
CELL	KEBERO
Interview group	8 MALES FROM HOUSEHOLDS WITH STOVES 6 months-2years

DISTRICT	RUHANGO
SECTOR	NTUNGWE
CELL	NYAGISOZI
Interview group	8 FEMALE, NON-STOVE USERS, COOKING ON 3-STONE FIRE

Group Demographics

- Modal number of children per household: 3

0	1	2	3	4	5	6	7	8	9
1	4	6	14	9	9	2	1	1	1

Each group included 1 stove user who purchased all wood fuel. NB Others in groups also bought wood on occasion.

Stated Occupations:

- 44 Farmers
- 1 Community Worker
- 1 Small Business Owner
- 1 Craftswoman
- 1 Village Leader



Executive Summary

- The Tubeho Neza stove is universally appreciated by households: women, children and men
- It transforms their daily life-this is immediate and applies equally to those who have owned the stove for <6 months as >4 years. Recipients cite: reducing the time taken and frequency of wood fuel gathering; reducing illness caused by wood gathering, smoke inhalation, blowing the fire, burns and poor nutrition; reducing soot and ash so keeping homes and families cleaner; saving women time so they can spend more time with their children, crop cultivation and household chores, weaving baskets, time with their friends and time engaging in community groups
- Wood fuel consumption/cooking event reduced from 5 pieces to 1 piece.
- Stoves are recognised as saving money by all respondents who purchased their wood. Monthly cost reduced by around 70%.



Executive Summary

- The physical burden of wood fuel gathering is the most challenging part of traditional cooking. Respondents were vociferous and emotional in their explanations of the impact this has on them and their children. It exhausts women, damages their health and takes up so much time that they can often only cook 1 meal/day, cannot attend to their children and have no time for any other activities. The contrast with stove owning households was dramatic
- Households with the stove boil water and cook more frequently and prepare a wider range of meals, providing better health and nutrition for the family
- The stove is changing attitudes and behaviours towards cooking. Men participate in cooking duties because of the stove's speed and ease of use. No men from the non stove households cooked. Children are happy to cook as the stove is quick and once lit does not have to be tended



Executive Summary

- The stove reduces the daily stress and anger within the home caused by traditional cooking methods(3 stone and Rondereza). The causes include lack of firewood, meals not ready because they take so long to cook, no meal as no firewood, reluctance to help with the smoky, tedious, dangerous cooking fire. The stove creates a more harmonious household, appreciated by men and women. The local community is also more peaceful with fewer fights and quarrels over scarce wood
- The environmental benefits of the stove for the local community are widely understood- reduced deforestation, reduced soil erosion, flooding and high winds. Cleaner air. Nature conservation is not understood as a benefit
- Tubeho Neza and DelAgua were understood by all recipients to be the source of the stove. Tubeho Neza accurately describes their feelings for the stove
- The stove is seen as durable and excellent quality. Improvements requested related mainly to stove size and the need for a larger stove, additional stove or larger pots, to be able to cater for larger families or for cooking multiple dishes, or when time is of the essence e.g. school lunch break. All recipients stove stack to address theses situations, usually using a Rondereza



Research Findings

Stove Stacking

- All stove recipients used the DelAgua stove as their main cooking method
- Almost all also use an additional form of cooking on occasion, usually the Rondereza. This was provided as a government programme. Gasenyi also used
- Reasons: Needing to cook for larger numbers of people, e.g. visitors; a wedding. NB: For those with families larger than 5, the stove was seen as too small on its own
- Needing to cook for large numbers of children quickly during their school lunch break
- Wanting to be able to leave food cooking slowly whilst away from the home working
- Wanting to cook different types of food simultaneously e.g. Cassava Ugali & Maize Ugali



Cooking Location

- The majority cook outdoors
- Those who cook inside place the stove near a window or doorway
- Those who cook inside do so because of weather or to avoid dirt from their compound
- All groups chose to cook in places where the wind blows to support burning



Frequency of Cooking and Cooking Ingredients

- 80% stove users cook twice a day, 10% cook 3 times a day, 10% once a day
- Prior to the stove, few boiled water. The majority now boil water, twice weekly, in large volumes. Some boil daily
- Porridge or Sosoma (sorghum, soy beans and maize mixture) for children is usual for breakfast
- Lunch or dinner ingredients include: sweet potatoes, beans and green vegetables, rice and beans, beans and maize, cabbage and beans, posho vegetables with beans, beans and bananas, beans and cassava, beans and Irish potatoes, cassava Ugali and cassava vegetable, mixed yams with bean sauce, vegetable soup and small fish, groundnut sauce with bananas
- Cassava is preferred for lunch as it is quick to cook
- All user groups stated that they now cooked a wider variety of meals and were aware of providing better nutrition for their children as a result
- All user groups commented on water and meals no longer tasting of smoke or spoilt by ash

Time Spent Cooking

- The reduction in time spent cooking compared to the 3 stone fire was emphasised and valued by every respondent
- Boiling water is rapid, 5 litres in 5-10 minutes if wood dry and pot covered. 3 stone fire: 30 minutes and complaints that water tastes of smoke
- Porridge 10-15 minutes *40 minutes*
- Cassava 15 minutes *25 minutes*
- Beans 1 hour *2-4 hours*
- Irish potatoes 20 minutes *45minutes-1 hour*



Wood Gathering

- The burden of wood gathering for the 3 stone fire was universally seen as time consuming, physically gruelling and dangerous
- Women responded emotionally and at length when given the opportunity to share their experiences
- Because wood is so scarce, finding sufficient wood could take all day and with the 3 stove fire this was a daily task with children usually required to search meaning they missed school
- Women reported girls being attacked and assaulted
- Snake bites and bee stings are a common occurrence, particularly for children gathering wood.
- Children injured falling from trees
- Families now gather wood just once or twice a week. Non stove users spend 40 minutes - 4 hours daily , and sometimes all day, gathering wood



Wood Gathering

- Suitable wood for the stove can be found nearer to their homes. Children can gather sufficient sticks quickly to prepare a meal
- For non-stove users, gathering wood is the hardest and most challenging aspect of cooking on a 3 stone fire. Physical impacts include back ache, headache from carrying the wood bundle, headache and migraine from the sun, injuries caused by gathering wood during muddy and wet conditions and walking for long distances daily
- Non-stove users reported that on occasion they would return with no wood so the family would go without a cooked meal
- For non stove users their children had to help with the burden of wood gathering. As well as missing school they were also so fatigued that they could not concentrate at school or do their homework
- The constant pressure to source scarce wood is a source of tension and conflict in non- stove user homes



“There were times we would go to bed hungry because of looking for firewood in vain and you can even just lose so much weight. In this case you would wake up and not go to the garden because of no energy at all and feeling dizzy” - Sarafina

“It is very tiresome because you can even get back ache or headache from carrying those bundles” - Devotha

“It is hard because you walk very long distances to and from there while carrying bundles on your head” - Speciosa

“Right now, I do not even mind getting tired while wood gathering because I know that it is only once in a long while and I forget about it and not like before” - Eugenia

“There are conflicts in homes because of lack of firewood. For example, one finds that the husband spent all day in a bar or even at work and comes back drunk only to find there is no food. He will not be able to listen to what the wife will say, and he may even end up hitting her telling her she did nothing all day and yet she went to the garden, took care of children, went to fetch water but that she did nothing” - Celine

“There are times when boys and girls go wood gathering and you never know what really happens there for sure because in these moments girls may be raped or molested” - Immaculee

“There are some children who go to look for wood and then get buried by landslides from the hills or when it rains taken by floods, the child goes for shelter under a tree only to be stroked by thunder” - Celine

“When children went to bed hungry because we did not have wood fuel to use for cooking, they would go to school and not concentrate at all” - Specioza

“Sometimes we tell our children to skip school so that they can go and bring firewood which makes them deteriorate in their academics. Children would go climbing trees and end up falling from trees and could break their arms or legs in the name of wood gathering. But now they concentrate on their books and even participate in class because they had the time to revise their books” - Thacienne

“I would have little pieces of firewood that I would just cook one meal for example, only sweet potatoes without any sauce and also not cook porridge for the children” - Felicilla

“Problems of too much sunshine hitting you, or even when the rain finds you there, you just accept it to hit you, sometimes it rains so heavily before you go wood gathering and then you know you might go to bed hungry” - Florence (Non stove user)

Wood Usage

All stove users were emphatic on the significant reduction in wood fuel usage. Respondents stated:

- 1 bundle would cook 2 meals. Now 1 bundle lasts a week
- Wood fuel for 1 day now lasts 4 days
- 10 pieces of firewood for 1 day now lasts 1 week. About 30 pieces for a whole month. For those buying, the cost is reduced by about 70%
- The 3 stone fire used 5 pieces of wood to cook .The Rondereza used 3 pieces of wood. Now only 1 is needed.
- The first and most frequent response by non stove users to “if you could choose a new cooking method” was “one that uses less firewood”, followed by “less smoke”



Health Impacts

- Respondents noted a very wide range of improvements to the health of their family since using the stove. These improvements were as noticeable among those who had had the stove for 6 months or less as those who had had the stove for >4 years
- Constant headaches and loss of appetite from smoke inhalation and sore, running itchy eyes from smoke have gone
- Coughs, sore throat and 'flu' have reduced because the household air is no longer smoky
- Constant blowing on 3 stone fire throughout cooking caused dizziness, sore eyes, headaches and nosebleeds. Now blowing is only needed to light the stove
- Reduction in burns, particularly among children who had to be left unattended by the fire and would also unknowingly step on hot pieces of firewood
- Reduction in stomach pains caused by uncooked food or too little food as unable to cook because of lack of fuel

Health Impacts

- Clean-burn stove and stove use outside means a cleaner home and reduction in ash and soot. Easier to keep children clean, more time to clean home and wash clothes. Reduced child parasite infestations such as jiggers caused by ash and dirt between the toes
- More boiled water for children means reduction in incidence of intestinal worms and diarrhoea
- Improved infant health, able to prepare cooked meals and boiled water
- Reduced child malnutrition as able to cook and serve a wider variety of foods
- Reduction in rape and assault on girls when away from the village gathering firewood
- Mental wellbeing of family improved due to reduction in stress caused by woodfuel anxiety, inability to provide meals for family and time poverty from cooking duties
- Non-stove users reported incidents of domestic violence triggered by lack of cooked food due to no woodfuel
- Non-stove users reported physical exhaustion, fatigue, heart complications, back pain through constant daily burden of cooking and home responsibilities

“I would take long to cook one single meal and find that my eyes are reddish, sore and with lots of tears, lots of headaches and then one had to put on hold other duties so that the fire does not go out. There was so much pressure because the children coming from school would wish to find food ready. If it is not ready, they would begin to complain and my husband would as well complain. I now look at the time at calculate the minutes it will take me to cook so that my child comes for lunch break and find food ready. I start cooking at 11:00am and by 12 noon, the food is ready. The things that were so much a burden now reduced because I would always be on tension saying my children will be late for school as a result of not getting food on time. There were times when it would rain and you would not find any firewood to use so you end up going to bed hungry” – Olivia

“I had constant headaches all the time due to inhaling too much smoke every single day which are no more. I would spend some time with blurred vision after cooking because of the smoke and crying all the time like as if someone just hit you but now, I cook very comfortably” – Julienne

“I usually experienced shortness of breath because of blowing into the three stone stove and end up coughing and would call for help from my child but now it is no more” - Eugenia



"I had a problem of bleeding through the nose because of over blowing in the stove but after I got the stove, all that stopped" - **Clementine**

"Our children no longer get malnourished or suffer from stunted growth like before because we did not really bother about eating healthy but were more interested in filling our stomachs for survival as getting wood fuel was a battle on its own. We can afford to have proper meals a day" - **Donatha**

"When the wife in a home is very tired from doing all the day's work and coming back to cook every day, she suffers from fatigue. For example, she may get heart complications, back pain and general body weakness" - **Goreth (Non stove user)**

"In the former method, you would tell a child to go to the kitchen to assist with the cooking and they would decline because of that smoke from "rondereza". My eyes would hurt so much from the smoke and my children would ask what the problem was and I would tell them it was because of the smoke. I would get so tired from fanning the fire up that I would end up burning up most of the plastic plates at home" - **Chantal**

"While cooking, I would get tired and end up not eating because I lost my appetite from so much smoke, sneezing and blowing the fire" - **Thacienne**

Impacts on women

Women stove users universally reported the impact for them of time saved by the stove and the activities they now had time for:

- Keeping the home and compound clean. Cleanliness and the lack of the smell of smoke on everything was a recurring theme and a significant benefit of the stove for the women
- Washing and mending the family's clothes
- Fertilising and cultivating more crops, taking better care of animals
- Weaving baskets and mats to be sold
- Attending community support groups and institutions such as the savings group



Impacts on women

- Attending family events, socialising with friends
- Being able to spend more time with their children. Teaching them skills to help the family like gathering grass for their livestock
- Women stove users purchasing firewood welcomed the stove's money saving through fuel reduction. Some choose to sell on the spare wood from their bundle to earn money. Money saved or earned is spent in their savings group, or on additional vegetable plants or school fees and lunch money for their children. They are able to buy clothing and enjoy looking smart

By contrast the non-stove users reported that in village meetings, community events and functions, the participation of women is very low because they have to stay at home and do all the household chores. Women are not able to participate freely because they are always busy with cooking or doing other duties

All stove users emphasised the harmony the stove brought to the home through reducing the daily stress caused by the multiple challenges of the 3 stone or Rondereza fires



"I would get home before and find that my children were still struggling to cook but now I get home to find that they have eaten on time. It reduced the arguments at home where we would all be complaining at who did not do this or that and there is a peaceful environment at home; it feels homely" - Donatille

"We would be very dirty when cooking because we had no choice as you would be touching the ash and firewood at the same time and wiping yourself with the cloth you are wearing" - Marie Assumpta

"We are now clean compared to the years before; no ash, no dust to go on everything around the kitchen area" – Donatha

"I do my handcraft work a lot now; I get more time for it, I no longer borrow salt, soap and the like and even my husband helps put firewood in the stove" - Speciosa

"I go to look for grass and feed my cow and goat, I also go looking for water to use later on in the day and generally get more time to take good care of my family" - Veldiana



"I get the time to go to financial group meetings where I save money and at the end of the year we share the proceeds which money I use to buy fertilizers for my garden or buy a goat to develop myself and my family" - Christine

"Paying mituelle is now very easy for most families as there is some savings done because of not spending so much on wood fuel anymore" - Chantal

"I take that time to wash my family's clothes" – Clementine

"I now get the time to have deep long and fruitful conversations with my children and husband which greatly improves our relationship and bond" – Estelle

"I now use less money to buy wood fuel and have extra money to take to the saving groups that I belong to where I am able to take care of myself; buy a nice cloth ("kitengi") or a nice shoe and look good among my friends" - Donatille

"Even in village meetings, events and functions, you find that women are rare there because they have to stay home and do all these chores. For example, weddings, community gatherings because you will not lack firewood and claim to go attend a party. Lack of time to take care of oneself and even when they go out to other places and people, their minds and hearts are actually at home thinking what she will prepare and how she will do so" - Janine (Non stove user)

Impacts on Children

In addition to the many positive health impacts, respondents reported the following improvements to their children's lives since the arrival of the stove:

- Most older children help with cooking. They now enjoy it and no longer complain, because the stove is quick, not dirty and smoky and is outside so they can see and be with their friends. It is easy to light and only takes a few sticks. They can play whilst cooking as the stove doesn't require constant attention
- They get time to play with their friends and are not burdened with chores all the time



Impacts on Children

- The children have their meals on time so they go to bed on time and wake up early. Porridge is ready in the morning so they aren't late for school and don't miss school because of the burden of wood gathering
- They have time and energy to pay attention at school, do their homework and perform better in class
- They are motivated to shower more frequently as they stay cleaner than with the 3 stone fire
- Children get more attention and support from their mothers





“My children were always dirty, lousy and shabby because I did not have time to look at them as I was always busy on the hunt for firewood to start cooking. I am now more organized; I get the time to cook and to take good care of my children; I wash for them and ask them what they are going through and advise them accordingly” - Estelle

“My children loved to gather around the three stone stove to keep themselves warm from the fire thereby getting jiggers and broken heels due to too much dust and ash but now with this stove, this is no longer the case” - Donatha

“I am now cleaner than I was before I got this stove, my children now take a bath and stay clean and looking fresh compared to the previous methods of cooking. They would feel lazy to shower because it would not be long until they went back to the same and dust, ash and dirt as they had to help with cooking” - Christine

“There are some children sleep early from the day’s fatigue and then it so happens that you have not yet given them dinner because you are still struggling in the kitchen. With this stove the food gets ready on time, the children eat on time and sleep on time as well to be able to get up early for school” - Christine

“They no longer go roaming around in the name of wood gathering; they stay home and wash dishes, sweep the compound then concentrate on doing their school revision” - Devotha

“My children and husband are now more positive to the idea of cooking than before. For example, my child loves to put it in the middle of the compound and cook from there while playing with other children and doing her other activities as well” - Thacienne

“Our children now have their rights in full because they play and get to experience a great childhood other than then when they would work too much” - Chantal

Impact on the Environment

- All respondents were aware of the damage to the environment caused by gathering wood for cooking. Soil erosion, surface run-offs floods and mudslides were understood to be consequences of this
- Those using stoves noticed the reduction in trees being harvested around their community and the majority knew about tree planting programmes and their importance
- They noticed the lack of smoke pollution in the air



Impact on the Environment

- Two groups mentioned the link between climate change, protecting trees and increasing rainfall for their crops
- Only one respondent mentioned preserving wildlife and nature: more birds because more trees
- Non-stove users only reported the negative impact of cooking on their environment: cutting down trees and causing deforestation and burning what was supposed to be fertilizers for their soil. The environment and the air they breathe being polluted by too much smoke from their kitchens. Deforestation reducing the amount of rainfall for their crops and causing strong winds which might blow off the roofs of houses, cause soil erosion, flooding and severe harm to the community





"We cut down so many trees and cause deforestation in our environments and burn down what was supposed to be fertilizers for our ground for example, soya and beans husks" -

Stella (Non stove user)

"When we all cut down trees, we reduce the amount of rainfall for our crops" -

Florence (Non stove user)

"There is too much wind as a result of cutting down many trees which causes iron sheets of houses to fall off and cause harm to the community like accidents" -

Janine (Non stove user)

"Many floods come and take away our crops" -

Goreth (Non stove user)

"We now have more trees in our environment which helps to conserve it" -

Christine



"We now breathe in fresh air because of the many growing trees around" - **Clementine**

"Soil erosion reduced immensely because of the growing trees that help hold back the waters" - **Estelle**

"We would always destroy very many trees all at once as we were all looking out for large amounts of firewood. This is different now since we use one bundle of many pieces of firewood for a week or two, we then let and give chance to the remaining trees to grow" - **Marie Assumpta**

"We have more knowledge as a community because everyone takes it upon themselves to plant a tree" - **Flaviana**

Impact of the Stove on Men

The impact of the introduction of the stove on men's behaviour and attitudes was explored in an all male group from households who had a stove for >2 years.

- The stove has a significant impact in encouraging men to participate more in cooking duties. This is corroborated by female respondents
- The men find the stove user-friendly compared to previous methods, quick to light and cook, so are willing to use it
- Men still see cooking and childcare as primarily the woman's role as the weaker and more caring sex. As the stronger sex men's role is gathering, chopping and storing firewood



Impact of the Stove on Men

- All the men said they were more involved in cooking duties than their parents' generation
- They claimed they cooked 2 to 5 times per week. By contrast no men participated in cooking duties in the non-stove group
- They would like cooking lessons. It is girls, not boys, who get taught how to cook
- All the men noticed and were appreciative of the significant impact the stove had on improving the health and quality of life of their wives and children
- They recorded how the stove had changed the family dynamic and created more harmony within the household. This is consistent with what the women's groups said
- Men particularly noted and calculated the financial saving the stove made. They talked in some detail about the cost of purchasing firewood and how savings were reinvested, suggesting that they control the family finances



"My husband no longer feels lazy to look for firewood or even to cook" - Thacienne

"While using the former methods, you would find the husband is waiting for you to come and cook for him and the family due as they did not want to bother themselves with the smoke full "rondereza". It is different now as I sometimes come home to find that my husband has cooked for the whole family" -

Marie Assumpta

"It is because this stove is user friendly for us; it does not cause us to struggle so much while we cook like other methods" - Paul

"Children no longer argue as to who should cook but instead fight to be the first to do so with the DelAgua stove because if a child has school assignments, they will do them without feeling pressured to first finish cooking" - Joseph

"My wife now gets the time to chat with her friends, refresh her mind and recharge or get away from the daily stress" - Paul

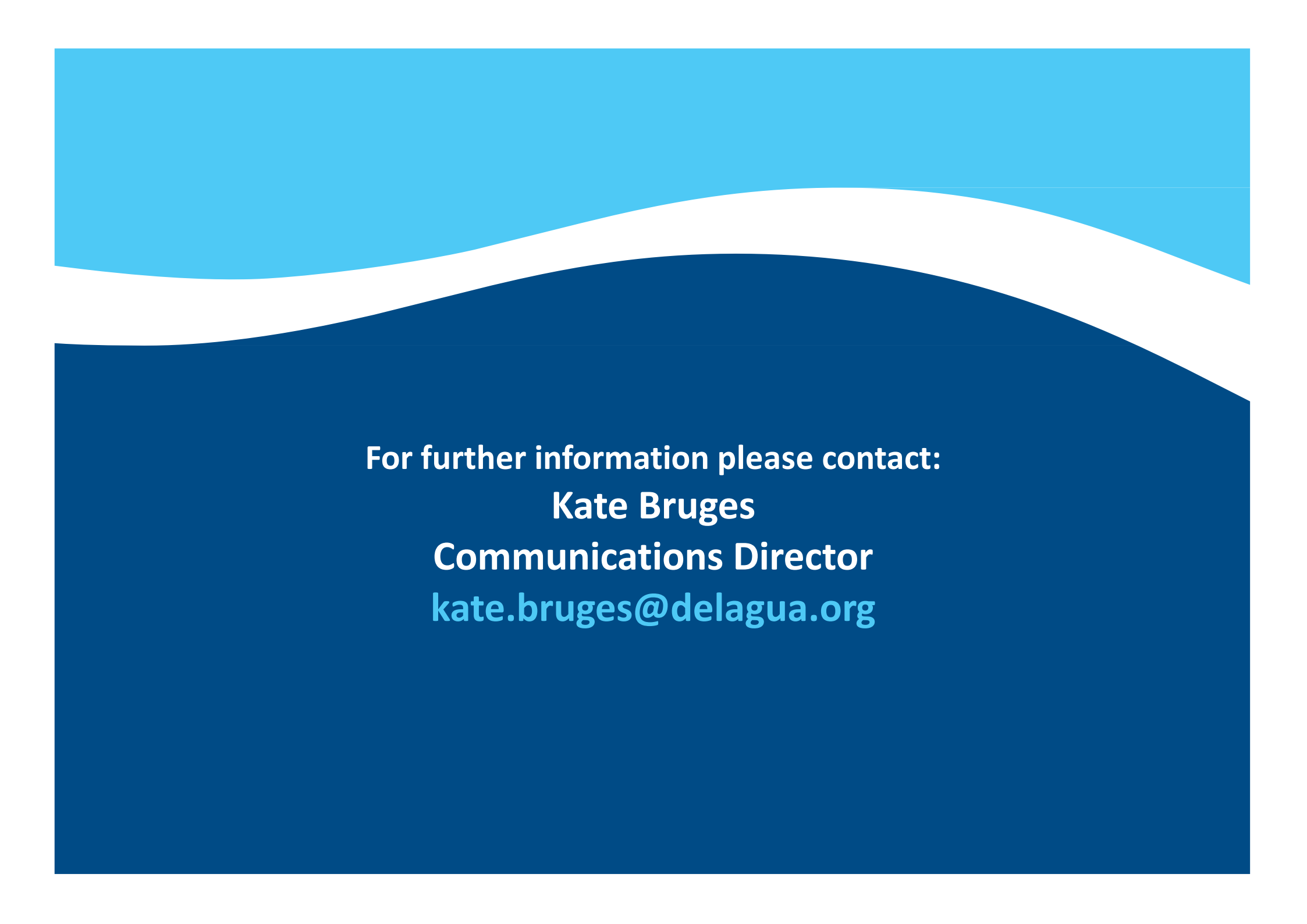
"My husband also pushes the firewood into the stove in case I am doing some other chore and so we all cooperate at home while cooking" - Olivia

Feedback on Tubeho Neza

- All groups know the Tubeho Neza programme and were aware of DelAgua
- Overall the stove is appreciated and valued by all recipients. 10% called it the DelAgua stove. Other names used across several groups were : An Answer; Cane Rumwe (*1 stick*). A variety of other names, also reflecting the transformative effect of the stove included: A Chance, Life Stove, Rescue Stove, A Good Life (Tubeho Neza?)

Suggestions for improvements include:

- Increasing ability to cook for larger families: its own large saucepan and space for an additional saucepan
- Providing a set of saucepans
- The stove should be raised higher so easier to cook standing and improve the space for wind to blow into the stove
- Option for charcoal or connecting it to electricity, gas or solar as other alternative sources of fuel (men's group only)
- Since the Tubeho Neza stove is more economical, it should be produced in large numbers and sold to the community members even in areas where the project is not implemented. This would reduce the firewood consumption as well as conserving the environment

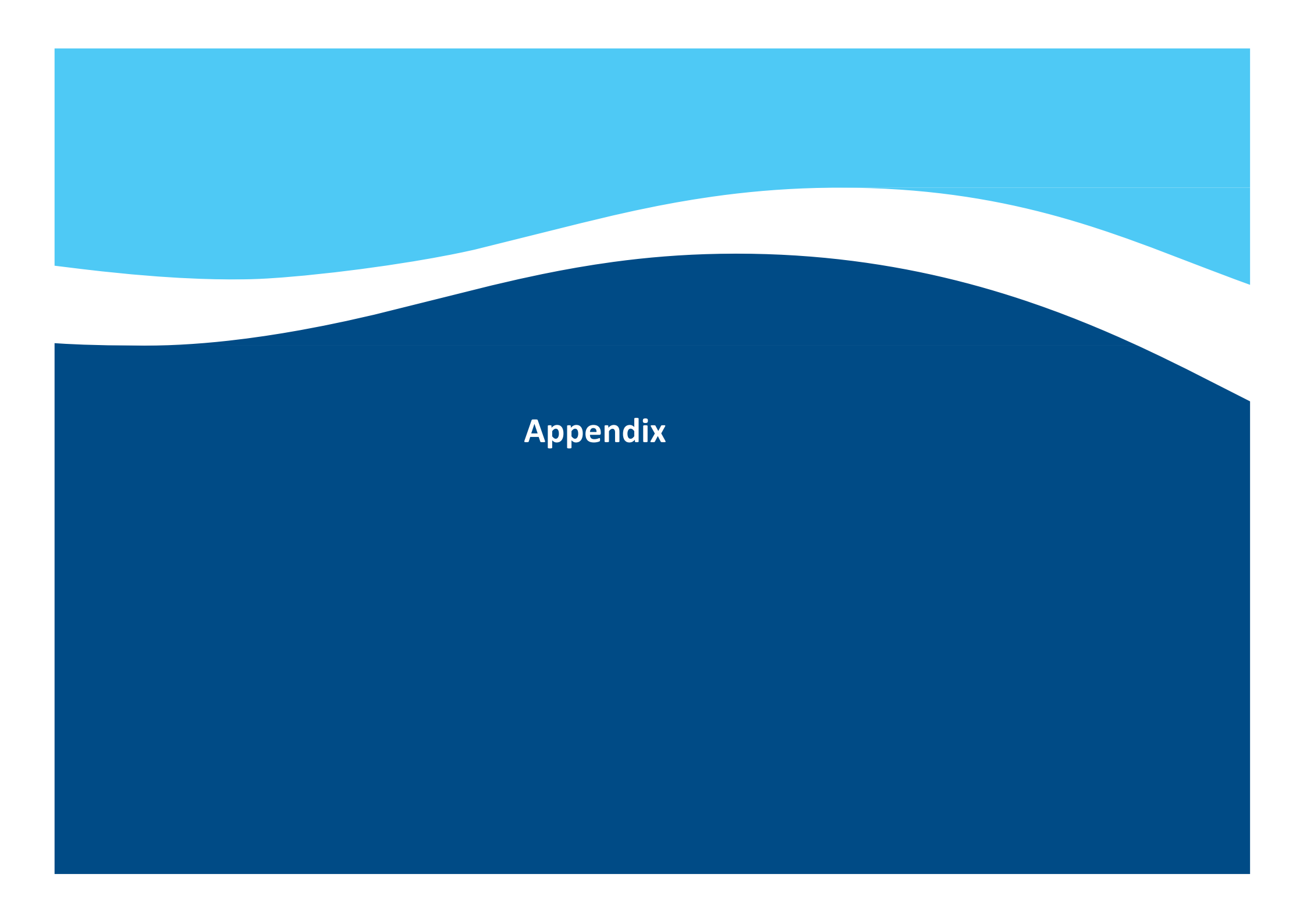


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The background features a large, dark blue shape at the bottom, which is topped by a white, wavy line. Above this white line is a light blue, wavy shape that fills the top portion of the image. The overall effect is a modern, minimalist design with organic, flowing lines.

Appendix

Value of Stove

Stove users and non-users appreciated the benefits of the stove and were keen to indicate their willingness to purchase the stove, IF they had the available income. Ability to pay from current income was not explored.

Stove users proposed a range of prices (RWF) they would be willing to pay for the stove:

5,000	10,000	15,000	20,000	25,000	30,000	40,000
1	7	11	10	3	3	1

Non stove users(with 100% awareness of Tubebo Neza) proposed a range of prices between 5,000 and 15,000 RWF

The higher prices proposed by stove users may indicate greater ability to pay for the stove, due to money saving since having the stove, as well as the proven value of stove