

## KITCHEN IDEAS FOR BESONGABANG

September 13, 2014

Here are photos of typical kitchens. 3 stone fire on the ground. Dirt floor. Corrugated tin walls. Cameroon has lots of wood and forests so supply of wood is not a problem. However, we still believe it is beneficial to conserve: Good for the forests. Less work. Less pollution. The rainy season is intense with 20 inches of rain/month at the peak of the rainy season (equal to the total annual rainfall in the San Francisco Bay Area) and many rainy days during 10 months of the year. Mostly people cook in the kitchen sheds and occasionally outside.







Letter to our local team in Besongabang:

I want to discuss some ideas for the kitchen with you. Below are a series of ideas.

We will have water in the kitchen. We are exploring 3 options for water:

1. An elevated storage tank with pipes to 2 faucets in the house: one at the kitchen and another at a bathing and face washing area. Some key parts of this remain to be figured out, especially how to disinfect water when it may be pumped at random times in varying quantities.
2. Water in a small slow sand filter fed into a secure storage container.
3. Water disinfected with chlorine and stored in a secure storage container.

This kitchen shows Option 3 (the simplest, fastest and cheapest).

- Option 3. Secure water storage: 5+ gal (20 liter) container with tight lid and a spigot. For this system we have 3 containers: one for secure storage, one for disinfecting water and one for waste water. The secure storage has a lid and a spigot. The others just have a lid.
  - Secure container with tight lid & spigot. The tight lid keeps insects, animals and dust out of the water and keeps anything from falling into the water. The spigot avoids dipping cups and hands into the water and opening container which allows things to get into the water.
  - To purify water we fill one of the 5 gallon containers with lid and add bleach (4 milliliters of Eau de Javel/20 liters of water) and leave it there for ½ hour. It is then disinfected. When the water is disinfected we pour it into the secure container with spout and refill to disinfect another batch. We have easy use of the water in the container with spout. When it is empty we refill from the disinfection container and start the cycle over. *Feedback from the village suggests we may need several of these containers so that they can disinfect more than 5 gallons (19 Liters) at one time. Sample family of 7 uses 185 gallons (700 liters) of water per day.*
  - Dirty water we throw into the 3<sup>rd</sup> bucket. When this bucket is full (or whenever we want) we empty it into the garden or a grey water sand and plant filter.

## Kitchen

The features of our kitchen are:

- **Stove with chimney.** This takes the smoke out of the kitchen. Improves health. More pleasant to work in. Keeps the kitchen cleaner and brighter. The chimney is located outside of the kitchen so it keeps the kitchen cooler. *Feedback from villagers: they like this.*
- **Stove at waist height.** This is easier to work at. Don't have to bend over for pots. Don't have to bend over to add wood and tend to the fire. *This was discussed with villagers. Some like this idea. Some prefer sitting while cooking. They will get a chance to check it out more and give further evaluation and feedback when the first demonstration or "idea house" is built. Likely we will end up with some houses with one option and some with the other, and maybe some with both (e.g. a movable gasifier stove, or ??).*
- **More efficient stove.** Uses less wood, so there is less wood to carry, less to store and more protection of the forest.

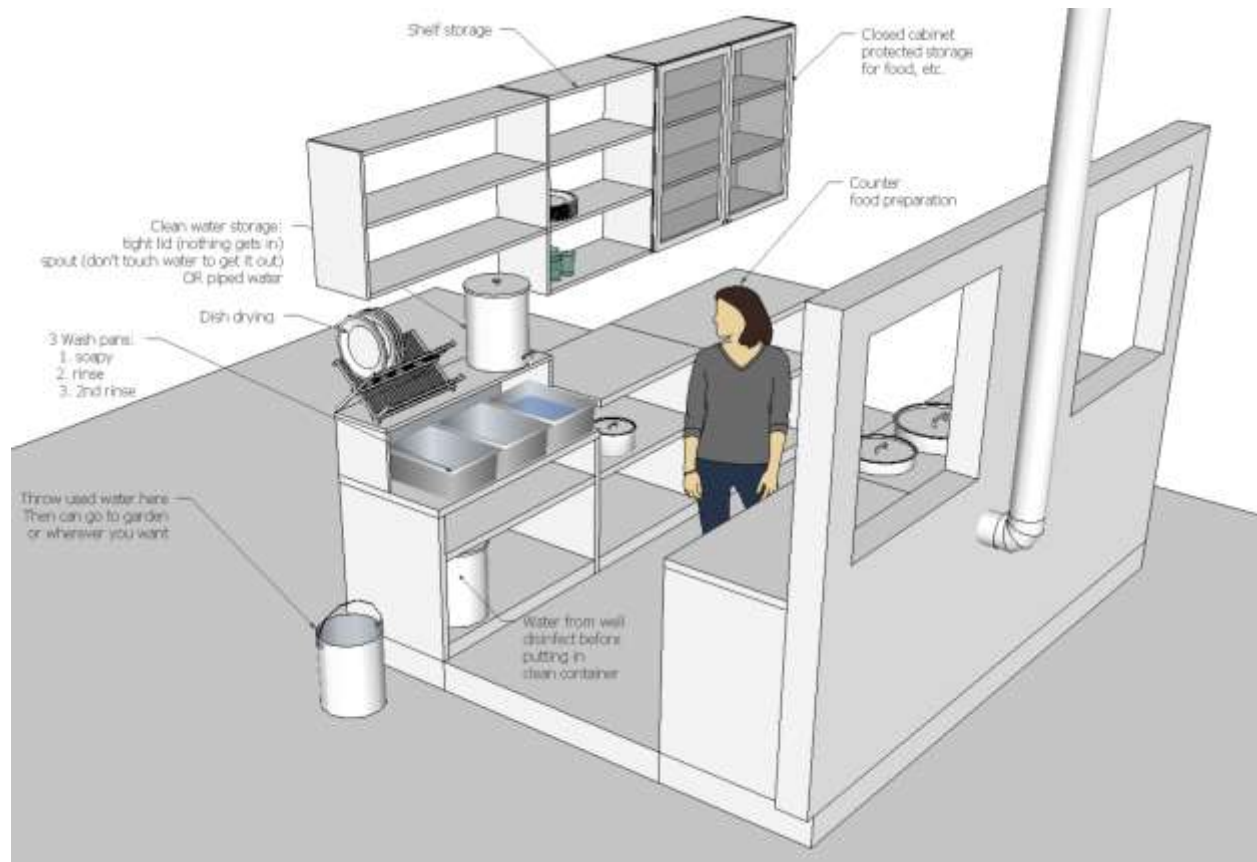
- **Can have more pots on the stove.** The stove can be built for 1, 2 or 3 pots. This means you can cook more things at once. However, if you have place for 2 pots but only use one, it is less efficient and uses more wood than if you only had a place for 1 pot. *Villagers would like more than one pot. Most with 3 stone fire have 1 pot and rotate pots on and off the fire, but sometimes make 2 fires and on special occasions more than 2.*
- **Enclosed stove** puts more heat into the pot and less heat into the kitchen making the kitchen more comfortable.
- **Cross ventilation:** windows on at least 2 walls. Some smoke will get into the kitchen even though we will have a chimney to keep smoke out and employ cleaner burning stoves that give off less smoke. This can occur during lighting or other moments of non-optimal functioning and when pots are changed.
- **Wood storage next to stove.** Enough for 1 day. Pay attention to a space that is easily cleaned to avoid problems with insects or rodents. Wood won't stay there long as it will be emptied each day.
- **Dry storage for lots of wood.** There is a separate shed to store larger quantities of wood. The shed is designed to help dry wood and to keep it dry in the rainy season. Dry wood is easier to light and gives more heat so less wood is required for cooking. Dry wood produces less smoke. *Many people do this and have storage for one or more months' supply. To season wood it would be good to have enough for 1 year (approximate time it takes for wood to dry, but varies depending on a number of factors).*
- **Waist height counters for food preparation.** More convenient chopping, grinding, cleaning, mixing.
- **Storage for cooking pots and kitchen utensils.** Shelves above counters and also below.
- **Food storage.**
  - Screened or fully enclosed cabinets to keep out animals and insects. *Feedback: concern that screen would be fragile.*
  - Food in secure containers can be stored on open shelves. *People put food in containers now to avoid ants.*
  - Cool cabinet. If the family does not have a refrigerator we will design an insulated cabinet protected from sun and with night time ventilation to keep items as cool as possible.
- **Clean water from a spigot.** Clean, disinfected water is easily available just by turning a faucet. It is there for:
  - Drinking
  - Cooking
  - Washing dishes. For dishes we would have basins (can be inexpensive plastic basins): 1 for soapy water, a second for a first rinse (because the water rinses many dishes it cannot remove all the soap), and a 3<sup>rd</sup> for a final rinse which should get most of the remaining soap.
- **Grey water (left over from cooking and washing dishes).** There is a bucket for used water. You can throw water into it at any time. When it is full it can be recycled into the garden or a specially made sand and plant filter to use and clean grey water.
- **Dish rack to dry dishes.**
- **Smoking & Drying:** Can we incorporate drying space or cabinets using heat of the fire to dry maize or other food? Can we divert smoke into a smoking chamber?
- **Social Space & Communal Cooking.** Cooking and eating are very basic functions shared with a family, community and visitors. Being able to connect with or cooperate with others in cooking

makes it more enjoyable. People in Besongabang share preparation and share food with each other. Our design should include space connected to the kitchen in a way that allows people to cook while socializing and allows several people to participate in the cooking.

- **Cooking and Eating.** Create easy access from cooking area to a place to eat but with the possibility of feeling separate (and being away from the heat).

We would like to collaborate with local craftspeople to use our shared creativity to make each of these items, for example the dish drying rack, shelves, counters, stove, etc.





Show how this kitchen connects to eating space and how others can participate in cooking. Show alternate layouts that connect more directly to space for others to participate or socialize during cooking.

These are preliminary ideas. There are lots of options and alternatives and details to be developed. Please send your thoughts and suggestions.

Huck

*Note: some comments have been added based on comments from our team, consultants and people in the village.*

## Comments, Discussion, Descriptions

See:

Email from Cary August 7, 2014

One thing that Pearly and I have discussed is the question about how to making cooking and kitchens more fun. I have asked this question multiple times to many different people and they usually just laugh or give me a blank stare. I don't want to give them too many examples of what would be fun for me, because then they just say yes and agree with what I say. So far, I haven't gotten any ideas that were completely generated by them. We will keep working at this.

Some things that Pearly and I have discussed is that it seems important to have the kitchen outdoors. I thought it could be interesting to have it on a corner of the house and have the 2 outside walls have big doors or windows that open to the outside. Pearly said she thinks people would prefer a completely outdoor kitchen. Indoor kitchens are more common in Mamfe than in Besongabang, but even here there is almost always a door that leads directly outside that people leave open while they cook. It is also interesting to mention that many people in Mamfe that have a "modern" kitchen still cook outdoors on a 3 stone fire.

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Cooking and Kitchen Questions.docx from Cary August 7, 2014

Cooking and Kitchen Questions:

1. What kinds of cooking do people do? By that I mean how they cook food: boiling & stewing, frying, broiling (radiant heat source), baking, BBQ over open flame (actually not flame, BBQ is radiant heat from the glowing charcoal.), griddle (like tortillas, etc.), slow cooked, smoked, steamed.
  - Boiling
  - Stewing
  - Grilling
  - Smoking (fish)
  - Frying
2. Which ones are most common?
  - Boiling
  - Stewing
  - Frying
3. How often do they do the other kinds of cooking? For example, Americans BBQ, but they might only do that once a month or once a year. In my house we cook a lot on the gas stove top frying and boiling (soup, beans, etc.).
  - It depends on the person, but smoking is done once or a few times per week. Grilling is



mostly of corn and plums, so that is seasonal.

4. What foods are cooked?

- Plantain
- Rice
- Beans
- Fufu
- Coco yam
- Cassava
- Bananas
- Plums
- Corn
- Vegetable
- Garden eggs (similar to eggplant)
- Potato

5. What foods are served without cooking?

- Oranges
- Papaya
- Banana
- Grapefruit
- Guava
- Pineapple
- Cabbage
- Tomato
- Avocado
- Green Beans
- Lettuce (not common)

6. Cooking is often a social activity. People like to hang out while cooking, or do it together. What is that like in Besongabang. What do people do? What would make cooking more fun?

- Cooking is a social activity in Besongabang. People say it is most fun when they cook together so they can share their knowledge and talents. This is why they like to cook outside so that they can share with friends as they are passing by.

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Dinner.docx from Cary August 7, 2014

Dinner

1. Where or how do people usually have meals?

**Takor:** It's very rare to sit around a table and eat together, wherever you are you just eat. People eat their meals (traditional dishes – fufu, plantain, rice) with their hands usually, but some meals are taken with spoons (western dishes – pasta, etc.)

**Women neighbors:** We always prepare our own meals and then take them around the table with the family.

2. Do people sit at chairs around a table? Or sit in chairs and hold their plates? Or ???

**Takor:** It is rare to sit around a table, except for special occasions and holidays. In some families, the father will sit at a table to take his meals. Usually most people just hold their plate in their hands.

**Women neighbors:** People sit at chairs around a table and eat with their family. Sometimes people will sit in chairs and hold their plates just eating where they are.

3. Do people typically eat together? i.e. In a family does everyone have dinner at the same time, together?

**Takor:** Yes people eat mostly together except for the father of the family who will sometimes sit at the table.

**Women neighbors:** The family all eats together at the same time. If someone is at the farm, we will save food for when they return.

4. Can you describe a typical evening including the dinner?

**Takor:** In the evening, he goes for leisure to discuss with neighbors and friends. Then he will watch films in the house, read and go to bed.

**Women neighbors:** After finishing the evening meal, we watch films and then gather the family to pray before going to bed.

5. A typical day?

**Takor:**

4am – Wake up, read or watch films, pray  
6am – go to pig farm  
9am – take breakfast and bathe  
12pm – eat a small lunch  
1pm – go to job site in town, travel for job  
2pm – rest  
4pm – bathe, eat, go for leisure  
7:30pm – sleep

**Women neighbors:**

4am – wake up  
5am – fry puff puff (beignets) and make beans, pop  
6:30 – begin selling puff puff, beans and pop  
9am – wash pans and arrange things

10am – prepare to go to farm  
1-2pm – return from farm  
2pm – bathe  
2:30 – prepare food for the family  
4-5 – eat the evening meal  
6 – watch a film  
7 – gather family and pray  
8-9 – go to bed

6. Who does the cooking? What times? Who eats and how many?

**Takor:** Takor cooks for himself. Sometimes he will cook very early in the morning and other times after 4pm, depending on his schedule for the day. He is usually cooking just for himself, but he will feed any friends who come around. He prepares to have 2-3 visitors every day.

**Women neighbors:** One neighbor does all the cooking for her family. She cooks in the morning to sell and cooks in the afternoon just for her family. She invites anyone passing by to come and eat. She prepares for 10-15 people. The other neighbor cooks with her children and sometimes the children cook alone. Occasionally she will cook in the morning, but usually she cooks in the afternoon. She only prepares food once per day. Anyone passing by will come and eat. There are 4 family members in the house, but they cook plenty of extra food for anyone passing by.

Another thing to add in is that each household will have a monthly family meeting where all will come together in one house to discuss family matter, and eat together, usually in the living room. So we can keep in mind designing spaces for many visitors visiting at the same time.

Pearly

On Wed, Aug 6, 2014 at 3:42 PM, Pearly Wong <[pearly419@gmail.com](mailto:pearly419@gmail.com)> wrote:

I thought of something to add here. Takor's neighbors have Woodstoves. And I don't see them eating in house but bringing the food back to their verandah and bed room. The kitchen is smoky.

Pearly

- Fufu cooking might not be so convenient at counter height because of the big stick they use. But pounding is not a problem because it is done in the mortar, not on the stove.



Casava root. Casava plants in background.

### **MORE DOCUMENTS**

See: PearlyKitchen in Besongabang.pdf

<http://www.groundwork.org/English/Cameroon/PearlyKitchen%20in%20BesongabangWeb.pdf>

### Videos:

1. Cooking Fufu Videos:  
P:\My Documents\GRAPHICS\Photo Loader\Image  
Library\MoreGraphics\Cameroon\Cooking\Water Fufu Cooking Photos and  
Videos  
CookingFufu\_Video 1.MP4 – Fufu\_Video 4.MP4  
Youtube: <http://youtu.be/PM0b9RT8GY0>
2. CookingEru Videos:  
P:\My Documents\GRAPHICS\Photo Loader\Image  
Library\MoreGraphics\Cameroon\Cooking\Eru Cooking Videos  
Video 1.MP4 - Video 13.MP4

YouTube: <https://youtu.be/shh9oxjmJXc>