REFRESCH Report on December 2014 Trip to Gabon

From December 4 – December 11, 2014, REFRESCH team members Prof. Johannes Schwank, Prof. Joseph Trumpy, Prof. Roy Clarke, Brenda Vyletel, and external advisory board member Prof. Jean-Jacques Taty of Howard University traveled to Gabon to explore methods that REFRESCH might work with rural villages to identify challenges and solutions in the areas of energy, water, and food. M. Jean-Medard Madama of DrillWatt Gabon and Mme. Alba Biffot, Economic and Commercial Counselor from the Embassy of Gabon, both made invaluable contributions toward the success of this venture by arranging vehicles, meetings, and opportunities for thoughtful discussions.

This report is organized into three main sections – (i) results of spending the day with community members of Ayema Agoula, (ii) meetings with people in the government, NGOs, and private industry and (iii) REFRESCH’s next steps in Gabon.

1. Ayeme Agooula – Community Assessment
Community members expressed that they feel isolated and disconnected. They would like to see improvements/expansions in the road, electricity, agriculture, water, health clinics, and perhaps livestock.

Electricity: A 10-year-old Siemens solar installation for outdoor lighting has not been serviced in three years, and few bulbs are working. The light is only available from about 6:00pm to 10:00pm. The villagers would like outdoor lighting for longer periods of time and indoor lighting as well. There is a generator in the village, but they do not use it much due to lack of access to fuel. They need dependable cell phone charging. Prof. Clarke feels that the large stream that runs near the village has enough power in its flow to provide basic electrical power needs the village using existing technology.

Food security: The villagers eat fish they catch out of the stream and crops they grow and, in general, expressed no concerns over food security. They would like to have more land cleared and to be able to buy more seeds. Part of their income comes from selling extra crops at the main road each Saturday. They do not have any type of cooperative but would be open to the concept.
Water: Though the village has access to a well, they are dissatisfied with it, as the young children and older persons who get the water often do not have enough strength to work the foot pump.

Cookstoves: The kitchens of the people in Ayeme Agoula utilize open fires. Women would be interested in a cookstove with a chimney that would direct smoke outside as long as there is a mechanism to smoke meat.

2. Meetings with Government/NGO Officials/private industry

The REFRESCH team met with the following government officials with these results:

Joseph Mayombo, Deputy Executive Communications Director of the Gabonese National Parks:
This meeting forged an additional, exciting motivation for REFRESCH – helping to safeguard Gabon’s elephant population. Joseph explained that people in villages near the national parks can be rather resentful of (i) the efforts spent on building up the parks instead of helping them and (ii) the elephants that damage their crops. The parks were established to help diversify the economy of Gabon by bringing in ecotourism. One of the major draws to the parks are the majestic elephants, but poaching is decreasing their numbers alarmingly. The National Park system needs the villagers to see that preserving the elephants will help develop popular national parks that will, in turn, drive support for the growth of local small businesses. Through that knowledge and methods of deterring the elephants from destroying their crops, the people in nearby villages may be motivated to help stop the poaching.

Minister of Energy
The Minister of Energy talked about Gabon’s vision for electrification – to supply electricity and water to both urban and rural populations, empowering them to obtain their need. The minister noted that companies have frequently dropped in unsupported and unsustainable projects. This is a severely flawed model, as follow-up is essential. Both the minister and REFRESCH realize that the challenge is not only supplying energy but also determining what the villages can do with the electricity to develop economic growth. There are 2,500 villages in Gabon that have water as a resource for the provision of electricity. Ayeme Agoula is one of those villages and has been targeted for electrification. The minister said that projects can overlap – the key is that REFRESCH and the Ministry stay in touch. The population is growing and becoming more sophisticated, desiring cell phones and refrigeration. The Gabonese government would like the people to stay in rural areas and help diversify the economy.

Minister of Agriculture
The Minister of Agriculture explained that his ministry is divided into three segments – Fish, Agriculture, and Livestock – and he would like us to talk with the persons in charge of each department in the future. He
noted that having enough water is a concern in the dry season. There is a strong need in Gabon to mitigate human/elephant conflict. He was interested in our team’s experience and knowledge, and he especially responded positively to the ideas we presented about beekeeping (to keep elephants away from fields) and crocodile farming. Fish farming is a high priority subject in Gabon, as there is far more demand for fish than supply. The minister is extremely interested in interfacing with Prof. Jim Diana about best practices in fish farming.

Alba Biffot, Economic and Commercial Counselor, Embassy of Gabon to the USA
Mme. Alba Biffot contributed invaluable efforts in arranging the government meetings and providing an extra vehicle from the national park service for our team. We met with Alba several times, discussing the results of our meetings with the ministers, the Gabonese post-secondary education system, and issues centered around energy, water, and food. She stressed the need for communicating with points-of-contact within the ministries and urged us to find a way for the Minister of Agriculture to be invited to tour a best-practices fish farm with Prof. Jim Diana in a location with a climate similar to Gabon. She will be supporting our project at government levels and would like to be kept abreast of REFRESCH’s upcoming plans in Gabon.

Katherine Brucker, Deputy Chief of Mission, American Embassy to Gabon
A meeting with Ms. Katherine Brucker capped off the trip to Gabon. She offered a provide a briefing to the U of M student group when they arrive in the spring. Topics of discussion varied widely. Ms. Brucker talked about the need for agricultural development within Gabon and noted that the collaboration with the U of Georgia is in agriculture. The only collaborations within Gabon involving universities from the United States are those with the University of Oregon and the University of Georgia. The interest in developing coffee and cocoa as crops was mentioned.

Albert Schweitzer Foundation
At the Albert Schweitzer Hospital, we learned that there is a focus in Gabon on building new hospitals in urban centers as opposed to increasing the number of clinics that serve rural populations. There is no ambulance service in rural areas. A fortified peanut paste that is being produced to combat...
imbalanced diets in rural areas was described, and the recipe obtained.

On the way to the hospital, the REFRESCH team talked with a homeowner whose house was fitted a rain catchment system and learned there that 50,000l is enough water to take the family through the dry season.

Jean-Medard Madama, CEO of DrillWatt Gabon
M. Madama is a substantial ally to the REFRESCH team on the ground in Gabon. He has a heart for helping people in rural areas through sustainable energy and water practices and was integral to the success of our visit to the village of Ayeme Agoula, making the 4-hour trek up to the village on Sunday to inform the people about our arrival on Monday. He and others in his corporation have extensive knowledge of the small villages within Gabon, an excellent understanding of their needs, awareness of concepts that might be rejected culturally, and local customs. He informed us on a wide variety of topics, from the cultural composition of the twin communities within Ayeme Agoula to the fact that Gabon produces only 1/10 of the local need for fish. DrillWatt’s competencies are in well drilling, installation of devices for generation of electricity, and pumps. The company works for a variety of clients including the government, NGOs, and companies doing social projects. DrillWatt sees value in hearing our ideas and learning about new technology.

Hardware store/metalworking shop
A hardware store and a metalworking shop were visited to determine what local materials are available for use during the trip in March.

3. REFRESCH’s next steps in Gabon

February-March 2014
A REFRESCH team consisting of Prof. Joe Trumpey, Prof. Roy Clarke, Prof. Jean-Jacques Taty, Nancy Senabulya, and a student cookstove builder is planning on returning to Gabon during the U of M spring break, February 26 - March 7. The team is anticipating doing the following:

Ayeme Agoula:

- Install a cell phone charger into the existing outdoor solar lighting system, with permission
- Do experiments with a prototype microhydropower unit
- Build a rain catchment system on the school
- Build a demonstration model of a cookstove at the primary school
- Discuss how new resources could be used to bring additional income to the village
- Test existing solar outdoor lighting system to determine what could be fixed

Libreville - Talk with subgroups in the Minister of Agriculture – Fisheries, Agriculture, and Livestock.

Lope – Conduct interviews with a couple villages near Lope National Park to identify a village that would be conducive to the student group coming in May.

May 2014
Joe Trumpey is looking forward to taking his class of undergraduate students to Gabon, to a village near Lope identified in March. The students would be involved in cookstove and perhaps electrification projects. Roy Clarke anticipates accompanying him.