The Chain Reaction

Humanitarian Solutions Worldwide

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Sierra Leone Chemistry Education Project

BY DR. A BAKARR KANU

The OMSLCEP project has continued to make progress. Our project goal has remained the same; to develop green chemistry laboratory experiments that support introductory chemistry for high schools and first-year college courses in Sierra Leone, Africa. In an effort to provide much needed educational help to Sierra Leone, Chemists Without Borders volunteers have continued to partner with other organizations to develop greatly-needed chemistry materials to resume science coursework and enhance student learning in Sierra Leone. The hope is to have a basic kit with lab activities ready for use in Sierra Leone by 2017 or 2018. At the beginning of 2016, our team was successful in securing a small grant from the ACS Global Innovation Section. We are happy to report that kits and chemicals have been purchased for twelve written labs from this grant. Testing of this lab started in spring 2017 at WSSU. We have also successfully developed a new lab for inclusion in the package. Some example images of students and faculty working at WSSU laboratory to test written labs with microchemistry kits purchased from RADMASTETM are shown.

In August 2016, our team received an invitation from Dr. Ronda Grosse to participate at the 252nd ACS National Meeting in Philadelphia. The theme for this meeting was "Chemistry of the people, by the people, for the people, Mobilizing Chemistry Expertise to Solve Humanitarian Problems". Based on this invitation, Dr. A Bakarr Kanu gave a presentation about the project in Philadelphia. Another development is that the presentation given by Dr. Kanu led to an invitation by ACS Books to submit a book chapter on the Sierra Leone. This book chapter was completed in March 2017 and submitted for peer-review. The chapter is currently undergoing the peer-review process. The team led by Dr. Kanu is continuing to identify and approach several funding agencies to secure more funding for the project. We want to acknowledge the funding support from ACS Global Innovation grant. We also thank Hopevale Church in Michigan and the Lois Ongley family for their donations towards the goals of this project. There is still a need to secure more funds if the project is to proceed to the next stage.

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Our Mission

Chemists Without Borders solves humanitarian problems by mobilizing the resources and expertise of the global chemistry community and its networks.

Our Vision

A global support network of volunteers providing mentoring, information and advice to ensure every person, everywhere, has affordable, consistent and persistent access to:

- Essential medicines and vaccines
- Sufficient safe water
- A sustainable energy supply
- Education in green chemistry and business which people can apply in their daily lives and teach to others
- Safe processes in work environments where chemical hazards exist
- Emergency support, including essential supplies and technology

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AIDSfreeAFRICA wants your meningitis feedback

BY DR. ROLANDE HODEL

Is meningitis a problem in your country? If your answer is yes to this question, keep reading: AIDSfreeAFRICA is a non-profit organization dedicated to empowering Africans to be self-sufficient in producing quality pharmaceuticals, access essential medicine/diagnostics, and improve science education.

I would like to communicate with people anywhere in the world who are involved in the diagnosis and treatment of meningitis.

I am interested to hear which type of meningitis is the biggest problem? Viral, bacterial, or fungal? Which sereotype dominates?

Diagnostics of meningitis takes time, but time is of the essence to avoid permanent damage or even death. What if there was a rapid test, like a dipstick test? Actually, there is one, exclusively for fungal meningitis.

Do you live or work in a country that uses CrAg LFA, the cryptococcal antigen test? If so, please e-mail me at RRHodel@aol.com.

Thank You.
Dr. Rolande Hodel

Visit of Chemists Without Borders to Panthichila High School

BY GAYATRI KUMARI

Established in 1986, Panthichila High School is situated at Sitakunda under the province of Chittagong, Bangladesh. The school has more than 600 students from classes six to ten with 10 teachers and 3 staff members. In the month of January and February, the school runs from 10:00am to 1:30pm, while from March to November, it runs from 10:00am to 4:00pm. There are two tube wells present in the school, which were installed in 1986 and 2012, from where the students are drinking water. These water sources are constructed inside the school boundary but are open for nearby community members. Interestingly, not only the students but almost 300 family members from the nearby areas are depending on these tube wells for water consumption for drinking purposes. This means there are students from nearby areas who are using these tube wells as their main drinking water source all the time.

A team from Chemists Without Borders (Shahena, Sumayea, Noreen and Chathuri) visited Panthichila High School on Jan. 19, 2017.


Shahena


Sumayea


Noreen


Chathuri

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Finding the location of the school was challenging for CWB members. Our team didn't have sufficent information about the location, just the headmaster's contact information. When CWB members reached Sitakunda, the headmaster was in constant contact with the members, but it was still hard to get a clear idea about the location. Later, the team members asked for help from a rickshaw driver, who gave incorrect directions.. Thankfully, a shopkeeper helped them to get the correct location, which was in the opposite direction from where they came. Finally, CWB members reached the school.

Shahena and the rest of the group measured the arsenic presence in the water sample from these two tube wells using Arsenic Hach Test Kit.

Measuring arsenic concentration using Hach Test Kit


Shahena meeting with Headmaster of Panthichila High School

The result indicated arsenic presence in the water sample as 50ppb (parts per billion) for one well and 100ppb for the second one. For further confirmation, the water from the second well was sent to the BCSIR lab in Chittagong; that lab measured only 24ppb for this well (only only ¼ the value measured with the Hach kit) Now we are planning to repeat the measurements and also send samples to the DPHE lab in Dhaka to resolve the discrepancy. While collecting the sample, CWB group talked to some students and asked if they are aware about arsenic in water and its effect. They replied saying that they haven't even heard about it. After the test was completed, our team members had a meeting with the headmaster and the school president (a representative from school committee). The Headmaster (Md. Ekramul Haq) was very cooperative and showed interest in contributing whatever way he can to assure good health of the students and villagers.

He is highly interested in having our arsenic awareness program and Health Education Courses in the school. The CWB team will soon decide and confirm when the arsenic awareness program will be held at Panthichila High School.

Health Education Course at PSD Pearabag School in Mogbazar, Dhaka

BY SHARMIN MOMOTAJ, DHAKA

The introductory class of Health Education Course was held on 16th February, 2017 at PSD School at Mogbazar in Dhaka, Bangladesh.

Finance director Dr. Tazkera Khanom and program director Shibnath Sarker of Agami Education Foundation inaugurated the pilot project on Health Education Course developed by Chemists Without Borders volunteers. Fifty participants of classes three & four were present in the session among them were 36 girls and 14 boys. In

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that school, the first lesson was on "Water". At the beginning of the session, I was introduced to the students as their instructor. I started the session through asking some basic questions related to water. Some of the examples of those are given below:

1. Do you drink water?
2. How much water you drink per day? What amount is recommended per day?
3. What is water?
4. What are the properties of water?
5. Why water is necessary for our health?

After listening some of their answers and ideas, I explained the relevant points in details. Then I discussed about the water cycle with some illustrations on the whiteboard.

After the initial session, I gave some time to the students for group discussion on some of the items explained already, as well as some new items/questions. After about 15 minutes into the group discussion, some of the group representatives were asked to present what they have come up with as a group. For example, one group representative said that "water is colorless, odorless and it is liquid. We can use it in our daily life". Another group representative mentioned about the different diseases that we may have by drinking polluted water such as cholera, diphtheria, dysentery, and skin diseases.

This photo was taken during the introductory class of the Health Education course.

After listening to a few of their presentations, I discussed about how water gets polluted and potential health impacts of drinking polluted water.

The students enjoyed the full session. I found all of them are as enthusiastic about learning, as they were asking many questions. Not all of the group representatives got a chance to present; some felt deprived. As a result, he group who did not get their chance to present but were bold enough to talk to the class about what they discussed as a group. This indicated their eagerness of learning.

At the end of this introductory session with the elementary kids at the PSD Pearabag School, we told them to read the handed-out materials at home and to disseminate today's acquired knowledge to their family members.

The other lessons in the course will cover: Seeing the Doctor, Nutrition, Exercise, Hygiene, Mental Health, Meditation and Sleep.

This course at PSD Pearbag School is the second time the course is being given. The course was given for the first time last year at Bhurhani BSRM High School in Chittagong, also a school supported by Agami. The course was rewritten by Chemists Without Borders volunteers for the elementary school students at PSD Pearbag School.