



QSP



Special Edition

Bringing the World to Central Nigeria

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"RN6HZ, this is 5N9ZHS, Hello Mr. Alex, my name is Thomas. Are you blind like me?"



Shifting the large mass of concrete to get the tilt base level and secure was made difficult by all the rain.



Secretary General 5NØOBA, making 40 meter QSOs using a dipole while staff members look on. From the left: Sam, Thomas, Kunle, Ilyya, William, and Obediah.

It all started with a dream. As a child, Andrew Gani-Ikilama was fascinated by the sounds coming from his neighbor's radio. Over the years he became acquainted with Harry Boudib, 5N9BHA, and learned a lot about Amateur Radio. Thirty years later, as Executive Director of Hope for the Blind Foundation, Andee saw how a ham radio station could be an asset to the students and staff at the Foundation school. Since they had no way to go out into the world, he would bring the world to them and, at the same time, introduce them to new technology, equipment and skills. If successful, it would be the first station in Nigeria to be used by the blind and low-sighted.

A Meeting with Andee

Pete and I first met Andee in Salina, Kansas in the summer of 2005 at the invitation of our friend, Dr Linda Lawrence, an ophthalmologist. She knew we had been to a remote area of Honduras to install a radio station at a medical clinic and she thought we might help do the same in Africa.

When we heard Andee's idea, we knew there were several big challenges ahead, but he had already overcome the biggest obstacle by obtaining a Nigerian station license — 5N9ZHS. At the time, he had a questionable radio, no tower, no antenna, no good source of hardware or cable, not much money, and no help.

A few e-mails and several months later, we decided to take the first tentative step. We sent an all-band dipole antenna, a tuner and coax to Andee so he could determine if a

donated radio was working.



From the right: Vanya, Stephen, and Mary Mohammed inspecting the rebuilt antenna.

Nine months after our first meeting, we got an exciting e-mail. “Pete and Doris, You are not going to believe this! The tower and antenna I used to walk by as a child have been gifted to me if I can move them to my school. Harry is moving!” Wow — it seemed like two other large challenges were being met and the station could really happen.

What we didn’t know at the time was that the tower was home-made and the antenna was over 30 years old having been inactive for years. We also had no idea if it was possible for him to move it all. We wished we could be there to witness the actual move if it ever took place.

Seeds of an Idea

Linda let us know she was returning to Africa in June and invited us to go with her. Over the years she has successfully and happily recruited other volunteers by saying “Have I got a deal for you! You get to pay your own way, use vacation time, work in the heat, put up with a shortage of drinkable water, toilet paper and familiar food, but I guarantee it will change your life.” Does that sound like an adventure to you? It did to us. We couldn’t go in June but the seeds were definitely planted. This was not going to be a common DXpedition; we were not likely to see beachfront hotels or set up a temporary station for the sake of contesting from a rare country. At other times valuable ham radio assistance and travel are associated with disaster aid; this time we had the opportunity to build a permanent station that might influence people for years.



Moving the 50 foot tower through town using a winch truck. This truck was the closest thing to a crane that we could use.

We heard nothing more for a while about how the donated radio was working (it wasn’t) until Andee was back in the States in late July 2006 for an international conference. When Linda asked if Pete and I would like to get together for dinner we jumped at the chance.



Mary Mohammed making new wire jumpers for the antenna rebuilding project by stripping discarded house wire.

Talking with Andee is invigorating. His vision is huge, his dreams are visible, his planning is meticulous and his enthusiasm is infectious. Andee was going to be here for two weeks. Pete stepped far out on a limb and told him, “By the time you go back to Nigeria you’ll have the radio you need.” Everyone was stunned and excited. Now we really had to do our homework: find and purchase the best radio for a difficult climate (nine months of incredible dust and three months of rain), unusual users (blind or low-sighted operators) and put it in Andee’s hands in less than two weeks.



From the left: Vanya, Stephen, Johnson, Pete and Emme installing the rotor prior to raising the tower.

Two Tickets to Africa

Linda surprised us by saying she had another trip to Africa planned for the end of August to complete her series of training clinics, and again we were invited to go. Pete and I looked at each other and said out loud that it might fit our schedule. That felt fairly noncommittal to us but by noon the next day we had our tickets! We would actually be with Andee when he hooked up the radio! We had to get shots and visas, learn as much as we could about sub-Saharan Africa, and take care of all the other details associated with foreign travel — in less than one month! Luckily, language would not be a problem because almost all Nigerians speak English.



Installed antenna and tower viewed from the courtyard.

Pete spoke to a blind friend Craig Martin, WAØWPJ, in Kansas City who recommended the Kenwood TS-450SAT. This radio has an internal voice synthesizer that announces the frequency and other features when cued. Our luck held and the radio arrived in time for the trip.

Fate seemed to be working with us all the way. The evening before Andee was to fly home; our local hams (Central Kansas Amateur Radio Club) had their regular meeting. A few of our club friends knew that we'd been visiting with Andee and were interested in our trip. We invited Andee to attend the meeting with us to talk about his work in Africa and what the radio would mean to him and the school. After he left the room, the club voted overwhelmingly to donate the full price of the radio! I am so proud to be a part of this generous group. Andee had another solid connection in the US and Central Kansas ARC had a new friend.

Wheel's Up

We had many nervous days and worried phone calls related to the visa applications. If you ever choose to do something similar, my best advice would be to start much earlier than we did. But the day finally arrived and we were on the way. Our flight went via Memphis and Amsterdam finally arriving in Nigeria's capital of Abuja. We were staying for two weeks with the first five days spent in the city of Kaduna working with a volunteer surgical team at the National Eye Center (NEC), a huge government hospital.



Early morning view from the tower top. Trees in the foreground are called masquerade trees.

We joined Linda's team of four international eye surgeons at the NEC. Pete, Andee and I provided technical assistance while the doctors trained Nigerian ophthalmologists in a low-tech cataract replacement procedure. We ran video equipment, took pictures, interviewed patients, produced CDs and DVDs, fixed air conditioners, looked at generators and computer programs, and



Andee Gani-Ikilama, 5N9GKA, director Hope for the Blind.

worked with the technical staff at the hospital who wished they had equipment and tools as good as ours. Pete, aka McGuyver, is an Electrical Engineer and I am a Jack, or Jill, of many less impressive things. Pete swears that we saw so many cataract surgeries that he can now operate on his friends with a Leatherman! So far, no one has taken him up on his offer.

Next Stop, Zaria

Days later, after a great banquet, we said goodbye to our medical friends and prepared to travel two hours north to Zaria. No more chauffeured minibuses. No more familiar food. No more hotels. No more hot water. No more air conditioning. And no one who looked like us.

I'll stop here to talk about the universal kindness, consideration and respect shown to us by the Nigerians as a whole. If every minority were treated as well as we, there would be no prejudice or hate crimes. Everywhere we went we found friendly faces, patience and smiles. Though, maybe they were smiling at our clothes; their traditional clothes are beautiful.



University student Johnson in QSO with a station in Europe while Pete and another student look on.

Right before Pete, Andee and I left Kaduna, the Secretary General of the Nigerian Amateur Radio Society, Kunle (Oyekunle B Ajayi, 5N0OBA) joined us for the ride to Zaria. Andee had told him about our arrival, our plans to build a new station and invited him to join us. There are only 82 registered addition to the network is a big deal. So we crammed ourselves, our heaps of luggage, equipment and gifts into a small Peugeot sedan and took off before breakfast.

Lots of Honking Horns and Swerving

The road north is similar to the interstate if you can picture it with lots of people and animals crossing everywhere, roadside vendors and village markets, potholes marked with old tires and tree branches, lots of 125cc motorcycles on the shoulder going the wrong direction and many people honking horns and swerving a lot. Nigeria is the most densely populated country in Africa hams in the whole country and any with 130 million people (The USA has a population of about 300 million.) in an area the size of California and Nevada combined. Even in the countryside, people are everywhere and because it's a warm country, they are mainly outdoors.



Stephen cleaning antenna parts with kerosene from a lantern. With nowhere to buy new hardware, all rust was removed from nuts, screws and bolts using files and brushes

Arrival

Andee's impossibly crowded car bounced over hundreds of ruts in the two blocks leading up to Hope for the Blind School. We had to honk the horn for someone to open the large metal



Staff at Hope for the Blind.



Certificate of appreciation from 5N9ZSH.



Graffiti, Nigerian style.

gate leading into the compound. It was still early and the university students were expected shortly to start a technical “clinic” that Pete would help teach. Immediately to our right, inside the gate, the freshly painted tower lay on the ground, and the concrete base with imbedded attachments sat crookedly in a very large hole. Nothing is wasted in Nigeria, so instead of pouring a new 4’x4’x6’ base, they picked up the whole mass with a crane, put it on a truck, and brought it across the city. The receiving hole was dug by hand with primitive tools. We were quickly introduced to some of the staff, especially Emme, who was to help us a lot the next few days. The antenna was in pieces in the storeroom and, though all the pieces seemed to be there, seeing it up close did nothing to reassure us that it would actually work. No one was interested in eating so we rushed through a quick breakfast. The first task was to lay out, clean, assemble and test the antenna, which took several hours. Pete’s testing equipment showed that the antenna was a good one with a good signal. Relief. Another hurdle overcome.

The Students

Stephen, Jacob, Johnson, Ezekiel and a woman named Vanya were intensely interested in every step. They were engineering students from Ahmadu Bello University in Zaria and had to take two busses every day to reach us. They were every teacher’s dream: inquisitive, fun, intelligent, hardworking and creative. A young Muslim couple also joined us for two days, Mary Mohammed and Bello. We were greatly surprised that Mary Mohammed seemed to be more interested in the hands-on work than her husband and ended up stripping wire ends for connectors. The interest shown by the students, both college and high school, and the staff took Pete back to his own early memories of being fascinated with ham radio. He says he can’t remember another time when he has seen such enthusiasm and awe in young people. On top of that, the students didn’t complain “Do I have to learn Morse code?” they said, “When can I start?” It was very gratifying given the ho-hum reception that ham radio can get in America.

During one of our breaks, we tossed a Frisbee we’d brought. It was a picture of real diversity in nationality, race, religion, age, sex, education and ability with my clumsy attempts providing the comic relief. There was no diversity in our ability to have fun.

Scrounging, Nigeria Style

In search of a support cable for the large antenna we witnessed the challenges of shopping in northern Nigeria.

Hardware stores as we know them do not exist. There are only small roadside shops with thousands of miscellaneous recycled things. The long boom needed support against sagging, and we had no appropriate wire and none was to be found on two excursions to the shops. Some creative thinker, Andee I think, came up with the idea of using the internal wire from a car's speedometer cable. Perfect! So if there are now two cars in Zaria without working speedometers, don't look at us.

While we were waiting for the truck to return to lift the 50 foot, one-piece tower, Emme climbed two nearby mango trees and tied off the ends of the dipole while the pet monkey and several curious goats watched. We ran the coax through a window into the new shack and Kunle made the first contacts on 40 meters from the new station. He had many curious onlookers and listeners and he gave them all a great introduction to the highway in the sky.

Working Between Downpours

September is the rainy season in Nigeria. It keeps the dust down but all of the work related to the tower had to be done between downpours. Because the ground was muddy, we had some concern about whether back filling around the huge lump of concrete and wedging it with rocks and pipes would make it stable enough to support the tower. The Secretary General was especially worried and clearly let us know his concerns. The next day the big crane returned to the walled compound and the first thing the operator did was to nudge the tower into position on the ground so two of the three anchor points could be connected. Pete and Johnson, one of the university students, attached the rotor right before the tower was lifted. The crane man next hooked the tower in the perfect spot and began to raise it. Just when we thought it was clear sailing, the tower slowly sank back down! Not enough hydraulic fluid. Uh oh. So while Pete tried hard to keep the tower from swinging out of position and bending, the driver ran and added fluid to the cylinder. After that, all went smoothly — the tower was raised and the wet ground held. The crane operators were just as intrigued with this part of the project as everyone else and stayed to help long after the crane was no longer needed.

The now-upright tower presented another concern. The only guy wire we had was from the old site. Was it long enough for the anchors Andee had pre-set? Thank goodness he had done his measuring well; we had less than 5 inches to spare. We knew that turnbuckles would not be available, so we had carried six with us. By this time, we had the Secretary General, two staff people, five students, two crane operators, Pete, Doris and Andee all helping. There were lots of spectators too.

We could hardly wait to raise the antenna and right after lunch Andee and Pete climbed the tower with the ropes and tools to set the antenna. Luckily, this tower has a working cage at the top, so they had a good place to stand. The students guided from the ground, Doris took pictures, and everything went smoothly though it was a very hot, hard job hauling it up by hand. A good day's work.

The next problem? You're probably ahead of me here. The rotor cable was far too short to reach the shack. The piece we did have was eight-stranded. The local electrician told us that he'd never seen any like it and didn't know where to get any.

First CQ

We now had an antenna, a radio and such anticipation that no one was interested in supper. So eight or 10 sweaty people piled into the closet-sized shack to see what would happen. With no rotor, the antenna was temporarily stuck on north. Pete had the honor of the first CQ. Within seconds he

had a response from Russia. Ears straining, arms hanging over each other, black and white, student and teacher, blind and sighted, old and young, American and Nigerian, we talked and listened with huge ear-to-ear smiles. We talked to folks in Rome, Portugal and Russia. We told our story: the story of Andee's dream for the school, the dream of bringing the world to a group of sub-Saharan African

Then came some of the best moments of the whole trip. Mike in Portugal told Stephen, "The whole of Europe is listening to you tonight." It gives me goose bumps just to write it. Later Thomas was speaking to Alex in Russia. He was very shy at first, so we told him to just say his name and ask a question. He said, "Hello, Mr. Alex. Are you blind like me?" And finally, Stephen was talking to a new friend in Rome who said, "If you ever get to Rome, you have a place to stay." Stephen was dumbfounded. How could it be that someone he'd never even met would invite him to his home? Pete told him that ham radio operators were like that all over the world. Quickly the pileup got bigger and bigger till it was so noisy that it was impossible to distinguish anything.

Have Cable — Will Rotate

The next day the local electrician arrived on the back of a 125cc motortaxi with a coil of wire over his shoulder! It was a length of 12-stranded wire. To this day we have no idea where he found it. It is another example of the work ethic of the Nigerians and the interest shown in helping with the project. It poured off and on all day and we ended up waiting till after dark to connect the rotor. We stood in the mud with Andee's mother, holding flashlights and hoping that the malaria-carrying mosquitoes would leave us alone.

We have many more stories to tell: Stephen telling us he'd heard that Americans didn't like black people, teaching a blind man to crochet, being woken early every morning by the gobbling of the pet turkey, our struggles with the local food and the walk to the food market (which did nothing to help our appetites), . and the children at the wells, to name a few. There was also the incredible day at the Durbar, a festival given at the behest of an Emir, a traditional ruler, culminating in a horse race. With roots in the Islamic way of life, the Durbar is colorful, exciting and open to all to watch.

About the School

Hope for the Blind School was founded 30 years ago by Andee's father, Dr Bitrus Gani-Ikilama, blind from age five. He was the first blind Nigerian to finish secondary school and to graduate from medical school. He became a well respected physiotherapist and the head of the Department of Physiotherapy at the largest university in Nigeria. Over the years the school has helped hundreds of blind Nigerians attain education, independence, vocations, literacy and a dignified life that is denied to most blind in Africa. The school individually tailors the program for each student and they do it without any government aid. Their work is recognized often by national papers, magazines and educational organizations. It was a privilege to work with them.

In the End

What do we think the long-term benefits of this work will be? We think the radio will be a magnet for those interested in hands-on experience with ham radio and electronics. Contacts around the country and the world will help Hope for the Blind Foundation become better known. The radio will bring new friends to their virtual doorstep. It will instill confidence in those who gain new knowledge and skills. It will help Andee communicate without cost to new friends in America and beyond.

Are we adventurers? Ambassadors of ham radio? Aid givers? We took advantage of an intriguing in-

vation, overcame some fear of the unknown and, in the end, became all three of the above. Maybe the work we did will improve the difficult lives of some people in an out-of-the-way place. We certainly made friends who have affected us immensely. Pete and I think there are so many opportunities to do similar work in so many places. Hams have a lot to offer and the need is great. You can do it too or help it happen by helping others who are able or willing to travel. You will not regret it.

If you are ever in Zaria, Nigeria, look for the red and white tower with the big antenna. It stands as a beacon of hope at Hope for the Blind school.

Pete's Epilogue

Andee's dream to have an Amateur Radio station has come true. Students, staff and club members can now converse with people all over the world, especially Europe. In the back of my mind, I wondered whether we could actually talk to my station in Kansas from Nigeria. Twice during our time in Nigeria we were able to reach the East Coast of the US, but Kansas is a long haul from there and with the low sunspot activity we are experiencing now, everything would have to be optimal for it to happen. The antenna would have to be working like new and it was over 30 years old. Time would tell if our rebuild job was good enough to get maximum gain from an unknown (looked somewhat like an old Hygain or Mosley) Yagi antenna. It had 4 elements and the driven element had a chrome pipe splice repair where it had broken. The cable power losses from the antenna to the transmitter are a factor as well as the rotor directional accuracy. We would need the entire 100 W of power the transmitter was capable of. (In Nigeria, amateurs can operate up to only 150 W.) There could be no damage or excess loss in the RG8X cable or connections in the 125 foot span from antenna to the shack.

During our time at Hope House, all of Europe was strong and loud. We had good signals from Moscow to the western Mediterranean, an early indication that the equipment was indeed working well. The 15 meter signal reports we received were consistently good, if not great, from all directions. But we were not able to hear much stateside activity and we left with questions about the likelihood of making regular contacts work with Andee.

Saturday Morning Schedule

Andee and I decided to try a Saturday schedule when I got home. The time at his station is seven hours ahead of mine. We agreed to a frequency of 21.230 MHz at my local time of 11 AM. The first time I made many calls at the appointed hour but heard nothing from our friend. I decided to tune lower in frequency and listen for any activity that might indicate propagation to Africa. On Morse code I heard a weak French station so I thought there might be hope. I tuned back to our scheduled frequency, pointed my antenna to Nigeria and still heard nothing. It was then that I decided to hook up an amplifier that would boost my output from 100 W to 500 W in hopes that he could hear me even if I wasn't hearing him. That took me about 10 minutes. Then I thought I heard a signal on 21.230. I heard Andee's call sign but still couldn't tell if it was him or someone trying to call him. All of a sudden the signal got louder and I heard Andee's voice! He was talking to a station in Europe.

The Ionosphere Cooperates

I broke in and Andee came right back. Things were working! I phoned Doris at home so she could hear our friends across the ocean. Thomas, Emmanuel, Andee and many of the staff were in the radio room waiting to say hi. What a thrill. I've been a ham for over 45 years and this ranks as one of

the best contacts ever, even better than contacting the space shuttle and bouncing signals off the moon. We talked and laughed for a while till the European pile-up started again. Many people in Europe wanted to log their first Nigerian contact. I listened with a huge smile on my face as Andee made contacts all over Europe and told his story.

As it turned out, we had a 30 to 45 minute mutual window when the solar flux index numbers were in the high 60s allowing us to make a 15 meter QSO. Higher solar flux numbers, 80 plus, allowed us to talk until his sunset.

Equipment

Obtaining radio equipment in Nigeria is problematic at best as witnessed by having a homemade 50 foot welded tower and an improvised repair job on their Yagi. In the Southern delta region one can buy coax and other small items, but that is a 12-hour drive away and would take two days as it's too dangerous to travel after dark. The best way is to bring in smaller equipment that will fit into airline luggage, although that is allowed only if one has a Nigerian ham license. We have found that shipping larger items via air freight is about \$3 USD per pound and there are additional customs fees. So a ham radio operator in Nigeria or some other African country has to be extremely resourceful in order to enjoy the hobby.

What's Next?

FM repeaters

As in the USA during the 1970s, Nigeria is seeing the value of having local VHF or UHF FM repeaters, but not for the reasons you might think. While explaining ham radio to a local group of people who showed up during the radio installation, I mentioned VHF repeaters. This caught the interest of a gentleman who said he was part of a neighborhood watch group that assisted local police in fighting crime. He immediately saw how the group could use handheld radios to be in contact with its members and assist the police. Another gentleman saw the benefit of VHF / UHF FM radios while tracking poachers and game hunter violators. In Nigeria ham radio can serve in these life and death situations not unlike what we do as Storm Spotters.

A compact, single site, easy to maintain UHF repeater small enough to go into airline luggage is our next project. We will build the antenna on site, and bring a few handhelds to make a repeater system. Getting their ham licenses will be the least of their problems.

Make a Trail

Use your ham radio license and your love of the hobby to become an ad hoc ham ambassador. Travel off the beaten path and engage the people you meet in conversation about what is important in their lives. Visit universities and talk to professors and students and speak about what ham radio can do in bringing people together. No trail to follow? Make one.

Doris Bedinger, KCØYCM and 5N9BGD, is retired from the financial services industry. She spends her time doing volunteer work, gardening, reading and visiting her family. She was granted Nigerian Amateur Radio license 5N9BGD by the Nigerian government as a "Thank You" for her and her husband's efforts helping Andee, 5N9ZHS, get his station on the air.

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