

Christian Friends of Korea 조선의 그리스도인 벗들

Activity Report

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"You did not choose me, but I chose you and appointed you to go and bear fruit – fruit that will last. Then the Father will give you whatever you ask in my name. This is my command: Love each other." John 15: 16-17

CFK's Fall Visit Advances Multiple Projects

We returned from our most recent visit to the Democratic People's Republic of Korea (DPRK) with great thanksgiving for God's care and provision. This was a complex visit this time, with 22 people rotating in and out over a 27-day period (October 29 – November 24, 2009).

Our North Korean counterparts showed great flexibility in facilitating multiple projects on this visit.

During the first part of the visit, 11 team members worked primarily on two main projects: renovation of the National TB Reference Lab, and construction of a new large passive solar greenhouse.



Renovation team and MoPH guides

The 7 member renovation team worked alongside our North Korean counterparts, the lab staff and scores of local volunteers, including patients and nursing school students. Renovation work included widening of doorways, demolition of floors and some walls in several rooms and rebuilding of the same, installation of a 2500 gallon water tank, hot water heater, booster pump and



Moving the water tank

gravity-fed water system for the lab, installation of four electrical panels, conduit and wiring to the 13 rooms in the lab and a main line into the power house, installation of a power

conditioner and generators, installation of drop ceilings, and assembly and installation of many cabinets and countertops in multiple rooms of the lab.

While the renovation team was working in Pyongyang on the lab, we also had a team of 3 working daily in Sariwon at the North Hwanghae Provincial TB Hospital to set up a new, quarter round, large greenhouse (8 meters x 23 meters or approximately 26 feet x 75 feet). Our team worked alongside staff from the TB hospital, as well as greenhouse staff from a dozen or more of our other supported TB rest homes. This is a much more permanent passive solar greenhouse structure than what

we have sent previously and has many features built in to reduce extreme day/night temperature fluctuations, particularly in the winter months,

such that food production even through the winter is maximized. They were able to make substantial progress on the greenhouse and discuss and work through various challenges and construction issues. Food production in the greenhouse is expected to begin yet this winter, and we hope that a follow up workshop can be organized for next year that can focus more directly on greenhouse husbandry and plant propagation.



Renovating the lab



Greenhouse team



CFK board member confirming CFK shipments

While these teams were working, we were also able to visit 7 rural TB rest homes and 3 of our supported TB hospitals to check on the arrival and delivery of several shipments. We were

deeply grateful for the high level of flexibility and sincere facilitation and partnership of our Ministry of Public Health (MoPH) counterparts to accommodate multiple projects and objectives simultaneously.

The weather turned unseasonably cold just a few days into our visit, with two snowfalls during our stay. The bitter cold temperatures were tough

on everyone, working outside in the elements and in unheated buildings, and it made wire pulling, plumbing and various other installations much more difficult. The lab is located in an area of

Pyongyang that presently receives very limited electricity, so we had to postpone full connection and charging of the water system until later in the Spring after temperatures rise above freezing. We hope by then that central authorities will be successful in securing uninterrupted power to the lab, which is so necessary for full scale TB culturing and sensitivity testing to commence.



Wiring the electrical panels

The majority of the renovation and greenhouse team members departed for home on November 14, and meanwhile, the local lab staff worked late into the night preparing for the next phase of the visit. All of us were impressed by their hard work, diligent effort, and willingness to do whatever it took to get the job done.

The next team to arrive was a lab equipment/supplies delivery team of 3 people. During this time, we inventoried a full container load of lab equipment and supplies sent from the US and two large truckloads from China, several critical pieces of lab equipment were unpacked and installed, and materials and supplies prepared for the workshop.



Unpacking the lab equipment and supplies



Equipment delivery and Stanford orientation teams with National TB Reference lab staff

On November 17th, a team of seven from Stanford University and the Bay Area TB Consortium arrived, along with two additional CFK team members, for the initial lab orientation workshop. (See Dr. Sharon Perry's reflections on our collaboration, page 3.) During this part of the visit, the team was able to orient local staff on safe laboratory practices, the use of state-of-the-art equipment and introduce two different culture and sensitivity testing procedures. The North Korean lab professionals who had worked so hard during the previous weeks in demolition and rebuilding transformed into full TB laboratory scientists. They expressed gratitude for the orientation provided to them on all the equipment, and for the new methods that were demonstrated. They plan to continue testing as they can on a pilot scale over the winter months while also finishing necessary renovations to the lab, and we hope that on our return Spring visit, the lab can be largely completed and scaled up soon thereafter to full capacity.



National TB Reference Lab space

The DPRK National Laboratory Project: A Mighty Task

Contributed by Dr. Sharon Perry

A tuberculosis epidemiologist with the Stanford School of Medicine, Sharon Perry organized the Stanford Bay Area TB Consortium and manages Stanford's TB Diagnostics in the DPRK grant program.



Timely diagnosis of active tuberculosis is a critical component of TB control, because treatment stops transmission as well as disease. Worldwide, the most common method of diagnosis is observation of acid-fast bacilli in a stained sample of patient sputum, a technique developed by Robert Koch near the end of the 19th century. While this method is quick and cheap, it misses up to 50% of cases. Growing organism from a patient sample takes more time, but improves diagnosis by 30-50%. In addition, a culture is needed before tests for drug resistance can be carried out. In the Western World, routine culture and drug susceptibility tests are the standard of care. With the emergence of multi-drug resistant TB as a global epidemic, world health authorities have recognized the critical importance of developing these resources in every country. The DPRK National TB laboratory project, a collaborative effort undertaken by Christian Friends of Korea, Stanford University, and Mercy Corps in cooperation with the Ministry of Public Health, seeks to address this critical gap in the DPRK national TB program.



Pediatric TB patients

Since the famines of the mid 1990's DPRK has experienced a serious resurgence of tuberculosis, a disease that thrives on malnutrition and other immune-compromising illnesses. In 2008, the rate of tuberculosis in DPRK was estimated to be 344 per 100,000

people, ranking it among the highest burden countries in the world. DPRK is also one of the only high burden countries in the world to lack at least one culture laboratory. Plagued by chronic shortages of drugs and laboratory supplies, in recent years, the proportion of patients who have failed an initial regimen of TB drugs, a high risk group for drug resistance, has been steadily increasing. In the absence of capacity to culture TB and test for drug resistance, the true extent of their need and the drugs needed to control their epidemic cannot be determined.

In 2006, a joint WHO/MoPH team designated a 2500 square foot space at the #3 TB Hospital in Pyongyang for development of DPRK's first national TB culture laboratory. However, the space was never finished due to lack of funding. Following visits in 2008 by MOPH officials to Stanford and by CFK to the laboratory site in Pyongyang, our organizations raised funds to purchase TB diagnostic equipment and supplies and the materials needed for infrastructure renovations. During an unprecedented month-long visit this past November, CFK construction and installation teams, Stanford laboratory scientists, and their MoPH counterparts remodeled 13 rooms



A nearly completed lab room

and installed nearly \$300,000 in furnishings and diagnostic equipment. By the end of the visit, MoPH physicians successfully tested two culture systems, the first cultures to be processed at the laboratory site. While completion of this project should be envisioned as a 1-2 year scale up operation, and will likely require more fundraising, the November trip signifies a major milestone in a 2-year planning effort. As we return to families and friends for the holidays, there is much to be thankful for. For us at Stanford, this includes the opportunity to work with CFK, and the many friendships we have formed along the way.



Lab demonstration by BATC scientist



The Stanford/BATC orientation workshop team

Developing this laboratory is not unlike building a suspension bridge. A good suspension bridge stands as

a testament not only to the harmony of structure and function, but also to sheer human organization. Geologists, mathematicians, civil engineers, divers, carpenters, cablers, cooks, and metallurgists—an entire microcosm of human society—assemble from all corners of the globe to camp out in special dormitories where they share colds as well as bathrooms, and learn that problem-solving is not an accident, but a routine. In the end, what builds a bridge is a common vision, and the human organization that unites behind it. Similarly, the legacy of a bridge is realized selflessly in the new connections it makes possible.

In the annals of civil engineering, what is affectionately known as “The Bridge” in San Francisco claims several distinctions that could also be applied to the DPRK national laboratory project: a lot of people said it couldn’t be done; it was funded entirely by voluntary contributions; it stuck to a schedule; and—something that certainly has not happened in bridge building since— it stayed on budget. When the Golden Gate was completed in 1937, its chief engineer, Joseph Strauss, wrote the following stanzas that I would like to dedicate to some very special bridge-builders: to Heidi Linton and the family at CFK, without whose vision, support, faith, and abiding love of the Korean people, the human community needed to build this laboratory, this new bridge of hope for TB patients in DPRK, would not be possible. Like the Golden Gate, may your efforts endure as a breath-taking symbol of the human spirit.

*Ask of the steel, each strut and wire,
Ask of the searching, purging fire,
That marked their natal hour;
Ask of the mind, the hand, the heart,
Ask of each single, stalwart part,
What gave it force and power.*

*High overhead its lights shall gleam,
Far, far below life's restless stream,
Unceasingly shall flow;
For this was spun its lithe fine form,
To fear not war, nor time, nor storm,
For Fate had meant it so.*

From *The Mighty Task is Done*, by Joseph P. Strauss, Chief Engineer Golden Gate Bridge and Highway District, May 1937



Bay Area TB Consortium

cont. from page 2

The Stanford/BATC team was impressed by the level of scientific capability of the lab staff, and by their commitment and focus



Installing infrastructure at the National lab

to bring this lab into full operation. While this has been a very challenging project for all sides, we look forward to this lab becoming the cornerstone

of a strong national effort to prevent TB infection, provide good care to those suffering currently from TB, and address growing numbers of patients suffering from drug resistant forms of TB. We are deeply grateful for the strong collaborative effort with Stanford University and the Stanford-led Bay Area TB Consortium and their donor, the Global Health Security Initiative, Mercy Corps as well as the gifts from CFK’s donors which have made this project possible. We look forward to continuing our collaboration to bring the lab to full completion.

North Korea Facing a TB Medicine

Shortage in 2010

During our visit, we met twice with representatives from the World Health Organization (WHO) to gain a better perspective on national needs for the TB program, and current initiatives.

Current emergency ad hoc funding identified by WHO for North Korea for the coming year will only provide enough medicine for about 79,000 patients – resulting in a projected shortage of medicine for about 40,000 patients that is expected to materialize fully by August of 2010. We are being urged to send as much first line TB medicine as we can by both WHO and by the Ministry of Public Health. While efforts are underway now to bring longer-term, more stable funding for TB control to North Korea through the Global Fund, this is a lengthy and complex process, fraught with continuing uncertainty. In the best case, this funding will not be fully accessible to North Korea until sometime



Confirming arrival of TB medicine

in 2011. Once the National TB Reference Lab is fully online, it will enhance North Korea's ability to diagnose TB, identify and treat drug resistant TB, and generate the necessary studies needed to fully document the disease load and hence secure more resources for disease control. However, this is still several months to a year away from full scale operation. We are collectively working very hard to identify possible alternative funding sources for TB medicine so as to avoid a break in the pipeline, and we hope with your help we can send more TB medicine kits that will save many lives, and prevent further spread of this dreaded disease.

Oxygen Bottling Machine Installed and Other Highlights

In addition to the major projects described above, our team also installed an oxygen bottling machine at a new building constructed for us at the Central Medical Warehouse facility in Pyongyang. The need for this machine was identified after we had completed the first of our operating room renovations at the four hospitals last year. We had been told at the outset of these projects that bottled oxygen would be available to be used with anesthesia equipment that was part of the scope of these operating room renovation projects. However, we later learned that it wasn't available locally in a safe and usable form. So with funding support from the United Methodist Committee on Relief (UMCOR), we were able to send the equipment in a recent shipment, and fully install it on this visit. We also provided a supply of large oxygen bottles that will go into a rotation cycle so that filled bottles will always be available for use at our supported TB hospital operating rooms.



Oxygen Bottling Machine

CFK Invited to Begin Hepatitis Prevention and Treatment Intervention

On this visit, we were also invited to visit the Pyongyang #2 Prophylactic (Hepatitis) Hospital and two #2 Prophylactic Rest Homes located some distance from Pyongyang. These are care facilities devoted primarily to prevention and to providing supportive care for patients who are suffering from hepatitis and later

stage liver disease. Like tuberculosis, hepatitis carries a significant negative stigma – so it is rarely referred to by its real name – instead people refer to it by the euphemism “#2 disease” (in the case of hepatitis), or “#3 disease” (in the case of TB). It is estimated that 12% of North Korea's population are chronic carriers of hepatitis B. Among these patients, 15-25% will likely die prematurely from liver failure or liver cancer.

A full cure for hepatitis B is beyond reach in most countries, but especially in North Korea, due to the high cost of anti-viral medication that most patients must take for life, so the emphasis has to be on prevention and also on providing supportive care for those patients with advanced liver disease. Hepatitis B vaccine has been given to children in the DPRK since 2003, but children born in the prior decade are not fully vaccinated and North Korean health officials are keenly interested in identifying support for a campaign to protect these children. We have also been asked to begin providing the same kinds of support to hepatitis care facilities as we have been providing to TB facilities for many years (such as supplemental protein-rich food, general medicines, blankets, greenhouses, tractors, doctor's kits, etc.). Many of these facilities are located very near to our existing supported TB care facilities, so it will be possible from a logistical standpoint to expand into providing additional support to these new places. We will, however, need to seek significant additional funding and resources to support this major new effort.



CFK team at a hepatitis rest home

We believe that we must reach out with the love of Christ to those who are most vulnerable and in need. Chronic and debilitating illness creates hardships for individuals and families in any country – but particularly in North Korea where normal daily life is already so difficult. We are reaching out for new partners and resources, and will also ask for your expanded support as we broaden the reach of Christian Friends of Korea beyond the boundaries of tuberculosis to begin caring for those who are suffering from hepatitis. As one regional health official put it, “CFK has already provided so much important help to the TB facilities and patients, you must now also help the hepatitis facilities.”

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Pyongyang Pediatric TB ward with hand knit sweaters, hats and scarves from CFK volunteers

CHRISTIAN FRIENDS OF KOREA

Christian Friends of Korea is a tax-exempt, non-profit organization founded in 1995 to share the Gospel of Jesus Christ through humanitarian, educational, and religious programs. Contributions to CFK are tax-deductible to the extent allowed by law. CFK also accepts stock or in-kind donations. Please make all checks payable to "Christian Friends of Korea."

If you are interested in supporting the work of CFK or to request information or materials, please contact us.

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ADDRESS SERVICE REQUESTED

*"I tell you the truth, whoever accepts anyone I send accepts me;
and whoever accepts me accepts the one who sent me." John 13:20*



Sariwon greenhouse and team



Building lab cabinets



Sifting sand to mix with concrete for the lab renovation