



Kenyon College: Zolzaya Erdenebileg '14 and Tselmeegtsetseg Tsetsendelger '15
Fighting Malnutrition in Rural Mongolia
May – June 2014 | Khongor, Mongolia

Objective: To promote peace in rural Mongolia by providing the next generation with access to better nutrition and opportunity for economic stability. We will increase awareness of the causes, symptoms and treatments for malnutrition in a rural town in northern Mongolia, while providing the local school and community with tools to grow supplemental nutrients and encourage food independence.

Background: Mongolia is a landlocked country situated between the Russian Federation and the People's Republic of China. Only about 10% of the land is arable, while harsh summers and long winters dictate the seasons.¹ A meat-heavy diet coupled with high intake of salt has resulted in the near epidemic statistics of lifestyle-related diseases, such as high blood pressure, diabetes, chronic kidney and cardiovascular diseases, as well as early aging.² As a developing nation undergoing rapid urbanization and fluctuating rates of economic growth, Mongolia is projected to experience an increased burden of these dietary health issues.³ Additionally, a 2011 World Bank Report indicated that food price inflation in Russia and China—up to 90% for basic grains and vegetables upon which the Khongor people depend— would have a devastating impact on food security. Indeed by April 2012, the overall food index had risen by 31%, with meat inflation up by 80.6%.⁴

Education about nutrition and access to nutritious food are critical to the health and economic vitality of Khongor. Mongolia needs to gradually decrease dependence on food imports from Russia and China in order to stabilize food prices.

Project for Peace: We will be working with the local school, the 14th school, in Khongor, a small town in the northern province of Darkhan-Uul. As a rural town far from the capital of Ulaanbaatar, residents of Khongor are at higher risk for malnutrition. The 14th School teaches about 500 students between the ages of six and eighteen, and houses about 20% of the students during the school year. Some children come from distant rural yurts, while others are from Khongor.

The project will consist of two parts. First, we will construct a greenhouse next to the 14th School. The principal, Maamiin Narmandakh, has already allocated a 10x10 meter area for the use of the greenhouse. Within it, we will grow vegetables high in nutritional content that the average Mongolian is unable to afford or find locally, such as, tomatoes, peppers, lettuce, herbs, berries, cucumbers, etc. Any remaining plot land will be used for the planting of onions, potatoes, cabbage and carrots. The school cook will use the greenhouse to provide students with more nutritious meals. Second, we will work closely with the science instructor in providing students

¹ World Vision Mongolia. "Mongolia Facing Food Challenges." Accessed January 8, 2014. <http://www.worldvision-institut.de/downloads/allgemein/Food%20security%20in%20Mongolia.pdf?mysid=pranvmjp>.

² Komatsu F, Kagawa Y, Kawabata T, Kaneko Y, Purvee B, Otgon J, Chimedregzen U. "Dietary habits of Mongolian people, and their influence on lifestyle-related diseases and early aging." *Curr Aging Sci* 2008;1:84-100. Accessed January 15, 2014. <http://www.ncbi.nlm.nih.gov/pubmed/20021377>.

³ Giovanna Dore & Tanvi Nagpal. "Urban Transition in Mongolia: Pursuing Sustainability in a Unique Environment, Environment." *Science and Policy for Sustainable Development*, 2006, 48:6, 10-24, DOI: 10.3200/ENVT.48.6.10-24. Accessed January 17th, 2014. <http://dx.doi.org/10.3200/ENVT.48.6.10-24>.

⁴ World Bank. "Mongolia Quarterly Economic Update." January 2011. <http://www.mongolbank.mn/documents/moneypolicy/worldbank/2012/2012-06e.pdf>

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with a curriculum in nutrition, as well as maintenance of greenhouse plants. Further, we will also conduct a series of town workshops at the 14th School for locals on malnutrition and its consequences.

We will arrive in Khongor, Mongolia at the end of May, whereupon we will begin planning in detail with critical actors (the principal, science teacher, a local engineer and the cook) about construction of the greenhouse. Supplies for the greenhouse will be bought from the nearest town of Darkhan. The greenhouse will be built by hired workers, and will take about one week to be completed. The science instructor will maintain it after our departure, utilizing it in the science curriculum, and it will also serve to supply vegetables for the school's meals. As the greenhouse is being built, we will begin working with the science teacher to outline nutrition lessons, which will then be taught to students at the beginning of the academic year.

Over the next two weeks, we will present three workshops, held at the 14th School, for the town residents: one on diet and exercise; another on the causes and treatment of malnutrition; and finally, one on how to grow nutrient-rich vegetables and fruits in homes. The workshops will be promoted through the use of posters, as well as word of mouth within the small Khongor community. To encourage attendance, we will share homemade meals and recipes during each workshop. Further, we will strongly encourage community leaders to attend, with the hope that their presence will attract more people. Our workshops will stick closely to WHO outlines on nutrition.

With the project's success in spreading knowledge about the causes, symptoms and treatments of malnutrition, as well as reducing the cost of nutritious food by providing locally grown crops, we hope that it will ameliorate malnutrition in rural Mongolia. By improving the living conditions and simultaneously offering economic stability, we ultimately preserve a sustainable peace for all.

About Us: Zolzaya (Zoey) Erdenebileg is a senior Economics and International Studies double major with a minor in Chinese. Her concentration is on development and East Asia. She is co-president of Asia Society at Kenyon, a group focused on bringing current issues in the field of Asian Studies to Kenyon's campus. Zoey also has experience planting and growing vegetables in Mongolia. Tee Tsetsendelger is a junior International Studies major with a focus on transnationalism and Central Asia and is currently studying abroad for the year in Russia. She is the other co-president of Asia Society at Kenyon.

Not only are we both Mongolian, but we both have been to Mongolia, and Darkhan specifically, several times. We know first-hand the critical issues of diet that plagues modern Mongolians. We see beyond the statistics; those most at risk are people like our fathers and mothers, uncles and aunts. Living and studying in the United States has made us aware of healthy diet and nutrition. Majoring in international studies has given us an analytic perspective on the issue. We believe that there is a long-term solution, and we are eager to implement and lead the initial change that we see as being sorely needed.

What We Intend to Leave Behind: A more knowledgeable population of residents better equipped to decrease rates of dietary-health related illnesses with access to a sustainable and cheaper source of food to diversify the Mongolian diet. For years to come, students will have a living laboratory—a working greenhouse—in which to learn about nutrition, biology, and sustainability, and the school will have a dependable, low-cost source of vital nutrients.