

The Multi Functional Rural Fuel Platform

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The Multi Functional Rural Fuel Platform

Afghan Vegetable Oil Uplift Project

We envision setting up a network of Multi Functional Rural Fuel Platform based operations all over rural Afghanistan to implement and roll out the vegetable oil uplift system throughout the region.

The first steps have been taken and we have joined the Humanitarian Oil Seed coalition. This coalition's goal is to bring soy cultivation to Afghanistan in an effort to make a big impact on the Afghan protein dietary deficiency.

The Vegetable Oil Uplift System

The Vegetable Oil Uplift System enables community organizations or individual entrepreneurs to begin processing oil seeds. These locally cultivated soy beans are then converted into vegetable oil and meal cake. The vegetable oil is further processed into rural fuel and the meal cake is used as food. The rural fuel is sold to generate cash for the community and the food used to enhance the community's diet.

Vegetable Oil Production Energizes Rural Communities

Rural Development Aid can supply electrification and clean water, but rurally produced vegetable oil is the missing piece in the aid puzzle that can energize rural communities.



The vegetable oil uplift system provides long term income generation opportunities for every one trapped in the poverty cycle that typifies much of rural Afghanistan and at the same time helps Afghan women break free from the slavery of daily fire wood and water collection...

How does the Vegetable Oil Uplift System work?



Rural communities grow soy beans instead of opium...



...process soy beans into vegetable oil, rural fuel and meal cake...



...use vegetable oil to power the MFRFP's diesel engine...

... and sell rural fuel for cash...



...use the diesel power for electricity generation to run the MFRFP's battery charger to power LED lanterns...

... and run the MFRFP's water purifier.



...process meal cake for human and animal diet supplement...



Afghan Vegetable Oil Uplift Project

By kicking off the following two initiatives, we envision making a big impact on the daily lives of poor, rural Afghans:

1. The first initiative is to encourage the widespread cultivation of oil seed crops like Soybeans throughout rural Afghanistan.
2. Once these oil crops are under cultivation, we envision rolling out the Multi Functional Rural Fuel Platform to as many rural farming communities that are growing soy beans as possible.



By successfully implementing these two initiatives we hope to give rural Afghan communities the capabilities to add value to their farm outputs and use this new economic wherewithal to start pulling themselves out of poverty.

The following narrative describes these two initiatives in more detail:

Oil seed cultivation project.

A project in Afghanistan to help improve the nutrition of poor, rural farmers who are currently struggling to survive has been initiated by Nutrition & Education International (NEI), spearheaded by NEI's founder Dr. Steven Kwon.

The project has started an initiative that encourages farmers in Afghanistan to grow soybeans so that Afghan's can supplement their diets with, protein rich soy based products like soymilk drunk in tea and soy flour added to Naan bread.



Dr. Kwon meets with a farmer in Parwan province who wants to grow soybean again in 2007.



Feeding orphans Soymilk in Badakshan providence, Afghanistan.

Pictures Courtesy of NEI



NEI have conducted tests to include just over 10% soy flour mixed in with the wheat flour used to make Naan bread. Consumers either do not notice or prefer the change in taste that this high protein addition makes to their traditional Naan bread.

NEI is producing pasteurized soymilk using soybeans harvested by Afghan farmers.

Through NEI's effort, soybeans have now successfully been grown in all the different provinces in Afghanistan. In order to help the malnourished Afghan women and children receive needed nutrition going forwards, NEI will work with over 10,000 farmers in 2007 to meet the goal of producing 10,000 tons of soybeans. Many farmers are poor and have little financial means, therefore, NEI will repeat what they did in 2006 by donating to these farmers, high quality imported seed, fertilizers, and technical training for soybean cultivation. One ton of soybean seeds will produce about 40 tons of soybeans, which will directly help to provide winter survival nutrition to 1,000 six-member families.

More information on the NEI project is at this URL: <http://www.nei-intl.org>

Humanitarian Oilseed Development Alliance

An alliance has come together with the first meeting held in Ames, Iowa on March 30th 2007. The alliance is made up of a wide variety of individuals and organizations who have come together to initiate the use of oil

seeds in the effort to reduce rural poverty.

The Oilseed Alliance has initially focused on Afghanistan and we anticipate rolling out our Multi Functional Rural Fuel Platforms to farming communities where the Oilseed Alliance has successfully encouraged the cultivation of soybeans. At the moment, these communities currently have no means of processing soybeans into higher value products and we hope that the MFRFP will fill that need.

Center of Excellence

In conjunction with the Oilseed Alliance, we wish to see a Center of Excellence established in Afghanistan that can act as the center for all the activities needed to promote the adoption of the Multi Functional Rural Fuel Platform throughout the region.

This Center would employ agricultural specialists to help farmers with their cultivation, technicians to train operators and field technicians how to maintain the Multi Functional Rural Fuel Platforms and Micro Finance specialists to ensure that the farmers are getting financed.

Multi Functional Rural Fuel Platform pilot install

A partner organization has started sponsoring an orphanage located just outside of Kabul called the Kufa Orphanage and Women's Shelter that is taking in orphans and widows. <http://www.kufaev.de>

We would like to send a Multi Functional Rural Fuel Platform to the orphanage as soon as possible so that we can test our prototype design in Afghanistan and start letting these abandoned teenagers and women in the village start helping pulling themselves out of the poverty trap.

If the prototype works successfully at Kafu, then we would like to start installing MFRFPs all over Afghanistan.

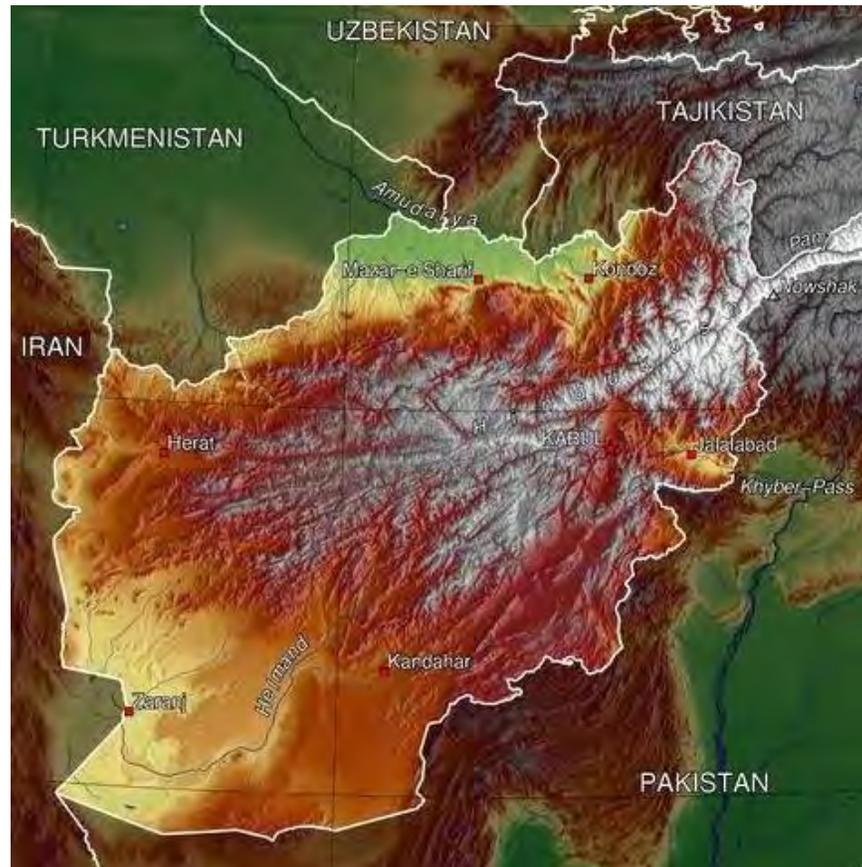
Project Milestones

1. We have built an initial prototype that is currently being readied for field trials in North Carolina (USA). [Click this link to follow its progress.](#)
2. If successful, a second unit will be sent to Kafu just outside of Kabul.
3. If this prototype works successfully in Kabul, we would like to start distributing the MFRFP's throughout Afghanistan.

Afghan Land Available for Agriculture

Afghanistan is 5 times bigger than Iowa and a little smaller than Texas, with a land mass of 250,000 square miles or 650,000 square kilometers and a population of approximately 30 million people.

There are approximately 22 million acres of land currently under agricultural cultivation in Afghanistan. 5% of that land or 1 million acres is estimated at being currently available for soybean cultivation.



At yields of 40 bushels per acre which matches the soy yields seen in Minnesota and half the soybean yields achieved in Iowa, cultivating 1 million acres in Afghanistan with soybeans will produce approximately 40 million bushels of soy or 2 billion pounds (lbs) of soy meal cake.

Potential National Protein Implications

A person needs 65 grams of total protein per day and approximately 1/2 of that protein requirement for a healthy diet can be met using soy based protein.

Soy protein can be used to make soy milk and soy flour, which when used in a 10% rate is a great protein fortification for Naan bread, an Afghan staple food.

3 pounds (lbs) of soy meal cake produces 1 gram of protein. At this rate, 1 person's annual protein needs can be met with 100 pounds of soy meal cake.

Cultivating 1 million acres with soybeans will produce 40 million bushels of soy or 2 billion pounds (lbs) of soy meal cake per year. 1 million acres of soybeans will produce sufficient protein for 20 million people.

This is sufficient protein to eliminate the entire Afghan protein deficiency that plays a large part in Afghanistan having the highest mortality rate for children under 5 years old, currently running at a stunning rate of 1 in 4.

Potential National Economic Implications



The envisioned Afghan soybean industry and using soybean derived vegetable oil used as a diesel fuel production feedstock replacement has the potential to transform the prospects for many poor, rural Afghans...

5,000 Multi Functional Platforms and 500 Fuel Reactors installed throughout rural Afghanistan could produce approximately 35 million gallons of diesel fuel. This volume of diesel production would represent approximately \$70 million dollars in sales revenue and replace most of Afghanistan's diesel imports at 2004 levels.

\$70 million dollars of economic income usually results in a 7 to 1 multiplication in economic activity. At this rate, 5,000 MFP's and 500 Fuel Reactors installed throughout rural Afghanistan could potentially result in \$500 million dollars of economic activity. Adding this much economic activity into the rural communities would result in the tripling of the average rural Afghan's per capita income, from the current level of:

\$1 per day or \$365 per year
to
\$3 per day or \$1,095 per year.

What is the Rural Poverty Trap like in Afghanistan?

Rural poverty in Afghanistan is characterized by the lack of opportunities, capabilities and representation. These characteristics make poor, rural farmers vulnerable to economic shock, which manifests itself in waves of migration.

Add to this burden, the existence of vested interest who are preying off the rural poor, and you have a poverty trap that is inescapable without assistance.

How to break the Afghan Poverty Cycle.

The Vegetable Oil Uplift System provides a path of escape from the Afghan poverty trap.

But to escape from this trap, the rural poor of Afghanistan will need some security help from the outside to create the conditions that enable a break out from this poverty cycle.

Luckily Afghanistan is an incredibly beautiful place, is populated by an extremely determined population and the agricultural land is incredibly productive, so the picture is very positive.



Picture care of Embassy of Afghanistan - <http://www.embassyofafghanistan.org>

Banking in Afghanistan

Less than one-third of Afghan businesses have a bank account and fewer than 1% take out bank loans.

Shariah-law prohibits rewarding depositors with interest which does crimp this industry, so most Afghans prefer to use the traditional Hawala system. The Hawala system is an informal network of money-transfer businesses that move money and enable Afghans to take out loans, but they are typically charging interest rates of around 20%.

Kabul Bank is now the biggest in Afghanistan with \$206 million in deposits and \$122 million in loans and has Shariah-law compliant accounts, which respect Islam's prohibition on interest, rewarding depositors with a monthly lottery instead.

AIB is another bank, though a little smaller with \$32.5 million in deposits and \$28 million in loans. AIB has focused on its ATM and internet banking networks, serving higher net worth customers.

The interest-rate spread is fat, Kabul Bank pays customers 5% on savings accounts and 6% on term deposits, but claims its loans yield 10.4%. Competitors say the real figure may be as high as 20% for less creditworthy borrowers...

[Click this link to view our Afghan Power Point Presentation.](#)

Links of Interest for Afghanistan

Travel Links

Ariana Afghan Airlines - <http://www.flyariana.com>
 Azerbaijani Airlines - <http://www.azal.az>
 Afghan Airports - <http://afghanairlines.tripod.com/airports/airports.html>
 Denton - Cargo Space on DOD aircraft - <http://www.dentonfunded.com>
 Kam Air - <http://www.airarabia.com>
 Karbul Caravan - <http://www.kabulcaravan.com>
 Karbul Guide - <http://www.kabulguide.net>
 Pamir Travels (Trips to Afghanistan) - <http://www.pamirtravels.com>
 PACTEC International - <http://www.pactec.org>

Reading Links

Afghan Scene Magazine - <http://www.afghanscene.com>
 Afghan News - <http://www.afgha.com>
 Afghan Daily - <http://www.afghandaily.com>

E-Ariana - On-Line Afghan news - <http://www.e-ariana.com>
 Internet version of a Historical Guide to Afghanistan - <http://www.zharov.com/dupree/>
 IPS Afghan News Feed - <http://ipsnews.net/afghanistan/index.asp>
 The Killid Group Multi Media - <http://www.thekillidgroup.com>
 Sarah Chayes Book - The Punishment of Virtue: Inside Afghanistan After the Taliban
 Sarah Chayes on Book TV - <http://www.booktv.org/General/index.asp?segID=7435&schedID=453>
 Sarah Chayes Pictures - <http://www.theconnection.org/photogallery/chayes/>
 Greg Mortensen's Book - <http://www.threecupsoftea.com>

Organization Links

Afghans for a Civil Society - <http://www.afghansforcivilsociety.org>
 Afghan-American Chamber of Commerce (AACC)- <http://www.a-acc.org>
 Afghan Academy of Hope - <http://www.aaoh.org>
 Afghanistan Investment Support Agency - <http://www.aisa.org.af>
 Afghan 4 Tomorrow - <http://www.afghans4tomorrow.com>
 Afghan Friends - <http://www.afghanfriends.net>
 Afghan Grown - <http://www.afghangrown.org>
 Afghan Orphanage - <http://www.afghanorphans.org>
 Afghan Business Gateway - <http://www.globalbusinessgateways.com/country/afghanistan>
 Afghan National Development Strategy - <http://www.ands.gov.af>
 Afghan Relief Organization - <http://www.afghanrelief.com>
 Afghan Reconstruction Group - <http://www.dod.mil/afghanistan/>
 Afghan Solar - <http://www.afghan-solar.org>
 Afghan Women's Mission - <http://afghanwomensmission.org>
 Aims - <http://www.aims.org.af>
 Afghanistan Watch - <http://www.afghanistanwatch.org>
 Afghanistan Research and Evaluation Unit - <http://www.areu.org.af>
 Aga Kan Microfinance - <http://www.akdn.org/microfinance/index.html>
 Arghand Hand Crafted Products from Kandahar (Sarah Chayes) - <http://www.arghand.org>
 Arman FM radio - <http://www.arman.fm>
 Barakat World - <http://www.barakatworld.org>
 Business Council for Peace - <http://www.bpeace.org>
 Central Asia Institute (Greg Mortensen) - <http://www.ikat.org>
 Development Gateway - <http://topics.developmentgateway.org/afghanistan>
 Embassy of Afghanistan - <http://www.embassyofafghanistan.org>
 Global Partnership for Afghanistan - <http://www.gpfa.org>
 Green Village Schools - <http://www.greenvillageschools.org>
 Help Afghanistan - <http://www.helpafghanistan.org>
 Institute for Simplified Hydroponics - <http://www.carbon.org>
 Laguna Beach Rotary Club member Sadiq Tawfiq sets up Rotary Club in Herat - http://www.lagunabeachrotary.com/resources/documents/32_Breeze%20June%2005.pdf
 Libraries for Orphans - <http://www.rukhsanakhan.com/orphanafghan.htm>
 NEI - Nutrition & Education International - <http://www.nei-intl.org>
 New Roots in Afghanistan - <http://newrootsinafghanistan.blogspot.com>
 MercyCorps - Afghan Microfinance - <http://www.mercycorps.org/countries/afghanistan/1480>
 Microfinance Investment Support Facility for Afghanistan (MISFA) <http://www.misfa.org>
 Mission Afghanistan - <http://www.missionafghanistan.com>
 Privatization of Government Organizations - <http://privatization.mof.gov.af/EN/>
 Roshan's Social Program - <http://www.roshan.af/socialprograms/>
 Society of Afghan Engineers - <http://afghan-engineers.org>
 United Nations Development Program Afghanistan - <http://www.undp.org.af>
 United Nations Afghan Assistance Mission - <http://www.unama-afg.org>
 US Embassy - <http://afghanistan.usembassy.gov>
 USAID - http://www.usaid.gov/locations/asia_near_east/afghanistan/
 Women of Hope - Cultivating Soil-less gardens <http://www.womenofhopeproject.org>
 World Food Program - http://www.wfp.org/country_brief/indexcountry.asp?country=004

Afghan Despora

Afghan Communicator - <http://www.afghancommunicator.com>
 The Khyber Pass - Afghan Rugs and Art - <http://www.thekhyberpass.com>
 Society of Afghan Professionals - <http://www.sapnet.org>