

1. Problem Statement

The Central Asian Republics of Kazakhstan, Tajikistan, Kyrgyzstan, and Uzbekistan are landlocked countries dependent on very fragile natural resource base. The Soviet legacy has left these countries with a highly integrated infrastructure and food production system, but with tensions that hinder regional cooperation. Food security in the region is brittle, and the region has a history of conflict and political instability. USAID is engaged in three countries in the region (Kyrgyzstan, Tajikistan, and Uzbekistan) on food security, with Tajikistan being a Feed the Future (FTF) priority country.

The primary staple crop for the Central Asian Republics is wheat grown in Kazakhstan. Kazakhstan is the 17th largest wheat producer in the world, but the 7th largest exporter.¹ The four other Central Asian Republics and Afghanistan are the largest importers of Kazakh wheat and imports have more than doubled in all of these countries since 2004.² In Tajikistan, for example, wheat provides for more than 50% of daily calories, and a significant portion of that wheat is imported from Kazakhstan. It has also been shown that spikes in food prices have been one of the major sources of food insecurity in Tajikistan and other Central Asian Republics.³

Unfortunately, Kazakhstan's wheat sector is highly vulnerable to climate change, and there is little evidence that the sector has committed to building climate resiliency. Currently, spring wheat production is expected to decrease by 25-70% due to climate change between 2030-2085.⁴ The majority of the wheat production takes place in 3 oblasts in northern Kazakhstan, and production is mostly in the hands of private companies. Moreover, Kazakhstan has no national adaptation strategy and no approach for the wheat sector in particular. In the most recent National Communication, the only outlined adaptation measures for grain production included conservation agriculture techniques that could get carbon funding for sequestration after it had been accepted into the Kyoto Protocol. These measures alone may be insufficient to prepare Kazakhstan's wheat producers for climate change impacts. There are likely are climate adaptation measures that could be implemented immediately, such as decreasing post-harvest losses or soil moisture conservation practices, but medium and long term measures such as development or demonstration of new varieties or efforts to conserve seed genetic diversity.

If the productivity of the sector is severely compromised it will threaten the food security of the entire region. The proposed activities are designed to kick start the process of building resiliency in Kazakhstan. First to understand what the information needs are and what the current capabilities are to deliver them to wheat producers and other stakeholders. Secondly, given information on expected impacts, facilitate the government of Kazakhstan, the private sector, and the other Central Asian Republics in outlining possible responses to changes in wheat production. This project is designed to be an integration of President Obama's Global Climate Change Initiative

¹ FAO, 2009. "Agribusiness Handbook: Wheat Flour"

² RK Customs Control Committee, ATFBank Research

³ UNICEF, 2009.

⁴ 2nd National Communication of the Republic of Kazakhstan to the UN Framework Convention on Climate Change, 2009. P. 101.

into activities at USAID, so monitoring, evaluation, communications, and fostering linkages with ongoing USAID food security programs are important components of the activities.

2. Project Summary

This proposal provides the opportunity to consider climate resilience in food security in Central Asia from the perspective of a “food shed.” The project will have two components: a) In Kazakhstan, it will facilitate a process to bring together stakeholders to develop **a climate information action plan and a roadmap to climate resiliency**, and b) At the regional level it will facilitate **the development of a common vision of the linkages of food security and climate change**.

A. Kazakh Climate Information Action Plan and Roadmap to Climate Resiliency

In Kazakhstan, the project will start with a process to evaluate and improve the state of climate information delivery services targeted at the wheat sector. Farmers who understand the expected impacts of climate change and have the necessary information available to them in consumable formats are most likely adapt their production management. Therefore, the project will start with a rapid assessment of data availability in Kazakhstan, followed by a consultative stakeholder process to determine what information farmers and other stakeholders need, with what frequency, and in what format. From this process a demand-driven action plan for a sustainable delivery system of climate information will be developed.

Once that process is underway and there is greater certainty about the localized impacts of climate on the wheat producing regions of Kazakhstan, the project will broaden the scope to engage all of the relevant stakeholders from the government, private sector, research, and the donor community in the development of Climate Resiliency Roadmap for Kazakh Wheat. This roadmap will outline a broad suite of adaptation measures that should be undertaken in the near, medium, and long term. Implementation of the climate information action plan described above would be one component of this Roadmap. Given the small amount of USAID budget and the relatively larger amount of private and public investment in the wheat sector in Kazakhstan, this project is not aiming to fund the full implementation of the Climate Information Action Plan or the Climate Resiliency Roadmap. Rather, the project will catalyze these processes and seek to institutionalize the implementation management in a relevant government or private sector organization.

As part of this component, it should be possible to launch a GDA or other form of private sector collaboration to co-fund the development and implementation of the Roadmap. There is a significant push to improve the efficiency of the wheat sector in Kazakhstan with high levels of private sector investment. In addition, there are numerous actors in the private sector who would welcome the opportunity, such as food processors who use wheat as an input as well as those who sell technologies associated with climate change resiliency.

B. Regional vision of the linkages between food security and climate change

On the regional level, the project will start a dialogue on the linkages between climate change, the wheat trade and regional food security. Wheat is the staple crop of all five Central Asian Republics and Afghanistan, and climate change in Kazakhstan and elsewhere will impact the supply of wheat in the future. However, uncertainties exist about the magnitude and timing, and the governance response can amplify or mitigate negative impacts. It is important to ensure that all countries dependent on Kazakh wheat imports are aware of possible future scenarios and are working individually and cooperatively to ensure a sustainable and affordable supply.

The project will bring together the major Kazakh wheat importers in the region, e.g. the five Central Asian Republics and Afghanistan, to develop scenarios of potential futures of wheat production under climate change. These scenarios will enable the participants, who will be drawn from government, the private sector, and civil society, to develop a shared understanding of the potential implications of climate change on the wheat trade and regional food security. The process will also identify actions that can be taken cooperatively or individually in the near and long term to reduce risk to changes in wheat production (such as removing bottlenecks in wheat distribution networks, increasing storage capacity, for example). Given the sensitivities of regional cooperation, the implementer will work through existing USAID implementers on the ground in Kazakhstan, Uzbekistan, Tajikistan, Kyrgyzstan, Turkmenistan and Afghanistan to identify appropriate government representatives and other participants. The output from this portion of the project should include a set of recommendations from the participants on points of regional cooperation as well as individual country action plans. In addition, the implementer should provide to USAID a set of recommendations for better integrating outcomes of the process into the next generation of food security programming in the region.

Expected Results

Component 1: Climate information and Climate Resilience Roadmap

1. Development of Climate Information Action Plan (CIAP)- Ensuring sustainable delivery of climate information to farmers, policy makers and other stakeholders is a necessary condition for effective adaptation to climate change impacts. Lack of both short-term weather and long-term climate information in Kazakhstan is viewed as a significant weakness in the agriculture sector. After a rapid assessment of the availability, origin, and delivery of climate and weather information in Kazakhstan, the implementer should work with the providers and consumers of climate information (such as the government of Kazakhstan and farmers, respectively) to assess the needs and develop a Climate Information Action Plan (CIAP) that will result in the delivery of the necessary information with the frequency and in the format. This may happen through a series of stakeholder workshops or some other process, but it should be demand-driven and customer-focused. The action plan should include a vision of what the climate information system and/or products should look like, define roles and responsibilities of the various public and

private sector entities involved, outline and prioritize the necessary steps for implanting the system, and identify areas where international donor assistance may be necessary.

2. Kazakh Wheat Climate Resilience Roadmap- Reliable climate information will not be sufficient to ensure adaptation to expected impacts. Therefore, a broader roadmap to climate resiliency for the wheat sector is also needed. The implementer should engage a wide variety of stakeholders such as the government, wheat producers, the private sector (crop insurers, food processors, etc), civil society, and the research and international communities to develop a road map that outlines near, medium, and long-term measures that can be taken by all the respective stakeholders to build the climate resiliency of the sector. Given the vibrancy of the private sector in grain production, the implementer is expected to secure a formalized mechanism for co-financing, such as a Global Development Alliance (or other) to support either/both the development of the roadmap or/and its implementation. As with the CIAP, the Roadmap should define roles and responsibilities of the various public and private sector entities involved, outline and prioritize the necessary actions in the near, medium, and long term, and identify areas where international donor assistance may be necessary.

Under this portion of the project, the implementer should also expect to provide support in implementing portions of either the CIAP or the Roadmap as determined through the develop process and commensurate with the scope of the project budget.

Component 2: Regional Visioning Process on Wheat, Climate Change, and Food Security

3. Regional Dialogue on Wheat, Climate Change, and Regional Food Security- In order to initiate a dialogue on the impacts of climate change on wheat and regional food security, the implementer should work through their own and USAID contacts in Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Turkmenistan, and Afghanistan to identify policymakers and representatives from the private sector and civil society. The goal of the process is for the participants to develop a common vision and understanding of the possible implications of climate change on wheat and food security in the region and to identify actions that can be taken individually and collectively to respond. Given that the future is uncertain and governance responses can exacerbate or mitigate negative impacts, scenario development allows participants to consider a broad range of possible futures. In developing these scenarios, it may be helpful to have workshops with the participants to gain input in framing the scenarios and identifying critical assumptions. This input should be combined with available data to expand on the possible futures of wheat in the region under climate change. These scenarios can then be presented to the participants to stimulate thinking about actions that could happen for the recommendations described below.
4. Recommendations for Country, Regional, and Donor Action- This process should be a learning experience for the participants and the donor community engaged in food security in Central Asia. Therefore, the participants themselves, facilitated by the implementer,

should prepare sets of recommendations of actions they can take individually and collectively to boost resilience to climate change impacts on wheat production. Building on these recommendations, the implementers should prepare a short report outlining recommendations for donors.

Monitoring, Evaluation, and Communications

The budget for this program was awarded as part of an effort by USAID to pilot the integration of change considerations into USAID programming. Therefore, monitoring, evaluation and communications are critical components of program implementation. The implementer will be expected to complete or sub-contract baseline measurements on agreed upon program indicators and have a rigorous monitoring program in place. A third party evaluation will be conducted at the completion of the project. The below standard climate change indicators may be used to measure the impact of this program; additional custom indicators may be adopted as appropriate.

- Number of institutions with improved capacity to address climate change issues
- Stakeholders with increased capacity to adapt to the impacts of climate variability and change
- Person hours of training completed in climate change
- Numbers of laws/policies/plans, etc. agreements or regulations addressing climate change
- Evaluation of stakeholders climate knowledge before and after process (custom)

3. Links to the Big Picture

This program supports Objective 1 of the Central Asia Assistance Review's Strategic Framework for Assistance to Kazakhstan entitled: *Improve Kazakhstan's Trade and Investment Policy Framework*. This program also is in line with the Kazakhstan Mission Strategic and Resource Plan (MSRP) Objective 4: *An Open, Diversified Economy Linked to World and Regional Markets*, as well as Objective 2, *Increased Sustainable Economic Prosperity through Trade, Job Creation, and Food Security*, of the USAID/CAR Strategic Focus 2012-2015.

4. Analytical/Consultation Process

Evaluations/Analyses

USAID communicated via email, telephone, and in person with a number of organizations involved in agriculture and climate change in Kazakhstan to understand the contextual landscape for this proposal, which was submitted to USAID/EGAT's Global Climate Change Integration competition in October 2011. However, because of the uncertainty of funding, no explicit references were made about the scope of the project or potential funding. During the evaluation process the following organizations and individuals were contacted:

- FAO;

- UNDP;
- USDA/FAS;
- ADB;
- Kazakh Space Agency;
- Kazakh Ministry of Emergency Preparedness;
- Kazakh Ministry of Agriculture
- Kazakh Ministry of Environment;

No separate evaluation is needed to support this project design.

Related Programs

There are no current programs by either the Government of Kazakhstan or international donors focused specifically on climate change adaptation in agriculture or wheat, in particular. However, there are a few related programs:

- UNDP has collaborated with the government on a 2008 report “Climate Change and Its Impacts on Kazakhstan’s Human Development” and is currently working with the GOK on developing a government-wide climate change adaptation strategy.⁵
- In agriculture, the International Wheat and Maize Improvement Center (CIMMYT) of the Consultative Group on International Agricultural Research (CGIAR) network has a program of research focused on conservation agriculture techniques for grain production in Kazakhstan.⁶
- In July 2011 FEWS Net published an analysis of the importance of the wheat trade to food security in the region, which identified monitoring the production and pricing of Kazakhstan wheat as early warning indicator of acute food insecurity in the region.⁷

This program is designed to reinforce and support investments USAID is making in food security around the region. These include:

- Kyrgyzstan’s Local Development Program (176-C-00-09-00022) allocates approximately half of its efforts on activities in agriculture (primary production and post-harvest processing).
- Tajikistan’s Productive Agriculture Project (ProAPT) ((119-C-09-00021) which provides on-farm assistance to Tajikistan’s farmers to help them maximize the value of their outputs and transition to a competitive marketplace for primary agriculture output. The Family Farming program which works with small farmers to increase their yields and access markets for the sale of their surplus harvests.
- Turkmenistan’s Agricultural Technology (AgTech) (AID-176-TO-11-00003) program provides assistance to livestock producers through improvements in veterinary practices and introduction of new genetic material to improve herd health. The AgTech project also works with high-value-horticulture producers to improve their ability to serve demand on domestic and international markets.

⁵ The report can be found at <http://hdr.undp.org/en/reports/nationalreports/europethecis/kazakhstan/name,3444,en.html>

⁶ <http://www.cimmyt.org/en/about-us/organizational-structure/regional-offices/kazakhstan>

⁷ http://www.fews.net/docs/Publications/Regional_View_of_Wheat_Markets_in_Central_Asia_July_2011.pdf

- Uzbekistan's AgLinks Plus (AID-176-TO-11-00002) program will provide assistance to Uzbekistan farmers to raise productivity in high-value fruit and nut crops.
- CAR Regional has worked with World Bank and the International Fund for Saving the Aral Sea (IFAS) (176-A-00-10-00002-00) to fund vulnerability studies of the Central Asian Republics' power sectors, which are heavily dependent on hydropower (and thus the region's hydrology, with corresponding climate-change risks).

Host Government interest/involvement

While the Government of Kazakhstan has not yet actively engaged in adaptation efforts for wheat production, Government agencies are involved in numerous related efforts. The Government of Kazakhstan does report regularly to the UN Framework Convention on Climate Change (UNFCCC) via its national communications. The most recent communication was submitted in 2009, and the government did work with Potsdam Institute of Germany to prepare climate change projections for the 2009 2nd National Communication, which outlined impacts expected for wheat production. In climate information production, the Department of Agriculture buys data from the Ministry of Emergency Preparedness and the Ministry of Environment. The Kazakh Space Agency also has some geo-spatial data relevant to wheat production, but it is unclear how or if the data is being used. The Kazakhstan Ministry of Agriculture also has efforts underway to promote conservation agriculture practices, which are a likely adaptation strategy.