Grantee: Zhuldyz Public Association

Type of organization: CBO

Number of participants: 15 households

Location: Zhangeldy Village (Otyrar District, South-Kazakhstan Oblast)

CBA Contribution: $50,000 USD

Project Partners: local community, Melio-Service-E (private sector), Farmers Foundation of Kazakhstan

Co-financing: Government of Switzerland ($10,000), Kara-Kazim ($58,000USD), Zhuldyz Public Association ($11,200 USD)

Project Dates: June 2009 - June 2011

KAZAKHSTAN
Adapting cattle-farming practices in southern Kazakhstan to reduce climate change risk

BACKGROUND

The Community-Based Adaptation Programme (CBA) is a five-year United Nations Development Programme (UNDP) global initiative funded by the Global Environmental Facility (GEF) within the Small Grants Programme (SGP) delivery mechanism. The UN Volunteers partners with UNDP and GEF/SGP to enhance community mobilization, recognize volunteers' contribution and ensure inclusive participation around the project, as well as to facilitate capacity building of partner NGOs and CBOs. In addition, funding is provided by the Government of Japan, the Government of Switzerland, and AusAID. The CBA's goal is to strengthen the resiliency of communities to address climate change impacts.

Located in Central Asia, Kazakhstan is the world's ninth largest country. A land of vast steppes where up to 80% of the territory is arid, Kazakhstan has a strong tradition of nomadic and semi-nomadic cattle raising. Although its economy relies mainly on oil, mineral resources and metals exports, agriculture remains an important economic activity. The project zone is located in Kazakhstan's densely populated southern region, between the Turan Lowlands and the Tien-Shan mountains. It is composed of plains and hilly, sandy steppes. The climate is arid; summers are long and hot while winters are short and mild with sudden rainfalls and snows. The local environment's fertile soils and abundant sunlight have allowed the development of

Cattle grazing on Kazakhstan's arid southern steppes.

irrigated farming as well as extensive cattle breeding. Commodities include cereal crops, cotton, rice, and cattle for both local consumption and commerce. During Soviet times, Zhangeldy, a village of 150 people, specialized in sheep breeding and irrigated cotton farming. Unfortunately, high population densities, unsustainable farming and soil management practices, and increasing aridity have led to degradation of the fragile ecosystem upon which Zhangeldy's residents depend. Ecosystem degradation is diminishing the profitability of farming and cattle breeding. This threatens local livelihoods and leads inhabitants to engage in increasingly maladaptive practices. For example, local herders compensate for diminishing cattle values by purchasing more animals, which decreases profits, contributes to overgrazing, and exacerbates environmental degradation.

CLIMATE CHANGE RISKS

Long-term climate change projections for Kazakhstan forecast rising temperatures and declining average rainfall. Temperatures are expected to increase 1.4℃ by 2030 and 2.7℃ by 2050. All seasons will be warmer, but the increase will be most pronounced in winter. Rainfall patterns are also forecast to change. The arid climate, traditional in southern Kazakhstan, is expected to expand northward into historically wetter areas. Temperature and rainfall changes will lead to increased aridity across the whole country. In the project area, the combination of reduced precipitation with rising temperatures will decrease snow cover and diminish soil moisture. Hot, dry winds and dust storms will become more frequent, contributing to aridity and soil erosion. This will further degrade the productivity of pasture ecosystems. As forage from pastures accounts for more than 70% of animal diets, climate change threatens to impact the local ecosystem and local subsistence. The Zhangeldy community is highly reliant on natural resources with strong

relationships between the climate, ecosystems and livelihoods. Intense droughts in 2008 highlighted the community's strong dependence on the environment. Residents were unprepared for this extreme event, which significantly reduced the amount of pasture available for grazing and left both livestock and people on the verge of survival. In response, the community decided to take action and start adapting to climate change impact

PROJECT DESCRIPTION AND ADAPTATION MEASURES

The goal of this CBA project is to develop a sustainable pasture management system to reduce vulnerability to climate change. The project was prepared through a participatory process carried out by Zhuldyz Public Association, a community-based organization. It is being implemented in partnership with the farming community, which works voluntarily to improve the sustainability of local livelihoods. The project focuses on improving pasture management by introducing and disseminating a variety of innovations. Resilient strategies implemented by the project include:

A meeting of local farmers during project preparation. Community ownership of projects is a major element of community-based adaptation.

- Replacing intensive and unmonitored grazing practices with collective "dry-land grazing." This innovative pasture management technique monitors pasture conditions including soil moisture content, composition of the vegetation, and the quality of biomass to determine animal impact and regulate it by adjusting cattle load rates or grazing density.

- Introducing enclosed and rotational grazing practices. Also called "rancho-type cattle grazing", this practice helps protect areas from overgrazing, thus preserving the local ecosystem.

- Substituting low-productivity cattle with an adapted and resilient breed of Kazakh White-Head cattle. This breed is highly productive in arid zones, needs less fodder than traditional cattle and produces better quality and higher quantities of meat and milk. Young breeding stock will be selected, purchased and introduced in combination with "dry-land grazing" pasture management practices.

The best practices from this experience will be captured and capitalized on through technical guides that will be disseminated to other communities in Kazakhstan.

FOCUS ON...

Global Environmental Benefit
The project will introduce and disseminate a variety of sustainable land management strategies that will restore degraded pasturelands and combat soil erosion. These new techniques will contribute to the preservation of the fragile local ecosystem, while providing additional income and livelihood benefits.

Community ownership and sustainability
Kazakhstan's high level of literacy and strong tradition of community volunteer mobilization have been major assets for project preparation and implementation. Together, residents conceptualized the project and met regularly to exchange, discuss and prepare activities. Additionally, a group of farmers will participate in the project's initial efforts and then disseminate lessons learned to their peers. Future cattle offspring will be given to new farmers to foster project sustainability and up-scaling.

Policy influence
The project will develop sustainable pasture management strategies incorporating climate change factors. The strategies developed will be disseminated in the region to inform regional policies.

*For more information about CBA or CBA projects visit: **www.undp-adaptation.org/project/cba***
*Further information, lessons learned, and experiences gathered from climate change adaptation activities globally can be found at the Adaptation Learning Mechanism: **www.adaptationlearning.net***