

**FINAL GRANTEE PROJECT EVALUATION/SITE VISIT REPORT  
CBA PILOT PROJECT-PIMS 3508**

**Introduction**

The CBA programme is supporting the implementation of between 8 and 20 community-based adaptation projects, designed to enhance the adaptive capacity to climate change of participating communities, in each of ten countries (Bangladesh, Bolivia, Guatemala, Jamaica, Kazakhstan, Morocco, Namibia, Niger, Samoa, and Vietnam). In order to ensure cost-effectiveness, projects are implemented in areas that are particularly vulnerable to climate change including variability, and where there is high potential to secure global environmental benefits in the context of climate change. Projects like this one under review, emerges from each of the focal areas [biodiversity, land degradation, coastal zone management, etc] depending on local context, specific vulnerability and adaptation analysis in each of the selected sites within the countries. To achieve the objective of this project and in line with the overall CBA programme, all activities discussed during evaluation should provide clear inputs to the three overall outcomes at the global levels. These are:

- (i) Enhanced adaptive capacity allows communities to reduce their vulnerability to adverse impacts of future climate hazards
- (ii) National policies and programmes designed to include community adaptation priorities to promote replication, up-scaling and mainstreaming of best practices
- (iii) Cooperation among member countries promoted for innovation in the design and implementation of adaptation to climate change including variability projects and policies.

**SECTION A: Project Details**

**1.0** Name of Project: Autumnal/early spring fields and pastures irrigation as an adaptive mechanism for efficient use of water resources in Southern Kazakhstan

**2.0** Project Number: CBA/KAZ/SPA/09/06

**3.0** Project Start Date: April 2009

Project End/Termination Date: September 2011

**4.0** No. of Project Extensions If Any: (1) The project had one extension, from May 1 to September 30. The extension was not connected with the project activities (all of them have been completed in time) but with the necessary additional time to prepare and present the project reporting, both financial and activity-related.

**SECTION B: ORIGINAL PROJECT INFORMATION:**

**5.0** Project Goal, objectives, expected outputs and sustainability plans:

The project goal is to demonstrate the opportunities of innovation use of water and land resources given the reduced water supply in the desert zone of the South Kazakhstan and the reduction of vulnerability of the rural inhabitants under the growing aridity conditions by implementing the method of water-charging (autumn) irrigation.

**Outcome 1: Climate-resilient grazing practices implemented**

Output 1.1: Reconstruction of Sharuashlyk canal

Output 1.2: Reconstruction of irrigation system (formerly used for agriculture, now being piloted for fodder crops)

Output 1.3: Selection and implementation of sowing pastures methods through growing alfalfa

Output 1.4: Climate-resilient irrigation techniques (autumn-early spring watering, and production of winter forage) under implementation in pilot sites.

Output 1.5: Using of climatic adopted methods of pasture management

**Outcome 2: Community capacity to adapt to increasing aridity augmented**

Output 2.1: Local awareness of long-term climate change impacts on local communities and livelihoods improved.

Output 2.2: Communities trained in autumn and early spring irrigated pasturage techniques and able to implement them

**Outcome 3: Project results disseminated nationally**

Output 3.1: Publishing of brochure based on project results.

Output 3.2: Demo workshop.

The rehabilitation of the channel and continuous supervision of its safety by the local community members and the implementation of the autumn/ early spring irrigation method enabled the local community to develop the abandoned lands and generate income from the products made. All these ensure the improvement of livelihoods of the local inhabitants. The project outcomes have raised the interest of local inhabitants in developing the new irrigation method and laid the foundation to follow up the project activities on the sustainable use of water and land resources by the local community's efforts.

**SECTION C: METHODOLOGY** (*Describe the innovative methods/systems/strategies used in the project and a listing of name of participants/organisations in this process*):

The project has implemented the innovation **method of autumn and early spring irrigation of lands** maintained by the local community and located along the channel. The peculiarity of such method was the use of water for irrigation in autumn when there is no water deficit. It gave the opportunity to the local community to irrigate their fields and pastures on a free of charge basis using as much water as needed thus creating the forage base for cattle and raising the pastoral productivity. The diversion of water in autumn enables to feed the soil, replenish the deficit of winter precipitation and expand the period of moisture accumulation in the root-formation soil layer because frozen water melts at the same rate as snow.

The use of such approach enabled the LC members to produce high-nutrition hay for winter maintenance of cattle and the use of spring and autumn irrigation of pastures enabled to considerably improve their productivity (by 20-30%).

The second approach of the project implementation was the **forage base development for cattle farming by planting alfalfa on part of the moistened lands**. The use of part of the moistened lands for forage crops that do not require irrigation and resist the draughts laid the basis for the additional forage base for cattle for winter and early spring. In addition, alfalfa contributes to the restoration of fertility of degraded plough-lands.

A good project result was a well-coordinated teamwork of the local community members of Sadu Shakirov settlement and Kogal NGO, a good understanding of the activities and the willingness to follow up with the project work. Today the project involves 24 households; the other owners of the land plots adjacent to the channel actively join the project.

## 6.0 The table

Objectives	Findings on Activities and strategies Implemented	Lessons learned and Challenges Encountered	Tools and Products developed
<p>M+E performed previously</p> <p>The monitoring of project activities and the vulnerability reduction assessment (VRA) have been conducted on the dates as follows:</p> <p>02.12.2008 – VRA-1</p> <p>15.07.2009 – project monitoring against the indicators</p> <p>12.04.2010 – project monitoring and VRA-2</p> <p>26.05.2010 – project monitoring against the indicators</p> <p>06.04.2011 – VRA-3 and the final project evaluation</p>	<p>The project monitoring covering the project duration from 2009 to 2011 has shown that the project outcomes deserve a high evaluation.</p> <p>The adaptation method implemented has reduced the dependence of local inhabitants of Sady Shakirov village on the increased climate aridity within the project site.</p> <p>Having repaired 12 km of the channel the village inhabitants implemented a new method of autumn and early spring water-charging irrigation by which they are able to produce high-energy hay.</p> <p>On the whole, the local community members are willing and have gained the confidence in their capabilities to be involved in the follow-up of the project activities.</p> <p>The questionnaire survey conducted in the village has demonstrated the participants' confidence in their capabilities and the willingness to continue the activities started by the project using their own resources.</p> <p>The evaluation provided by the local inhabitants has shown that the project helped to overcome a number of constraints on the local level but there is</p>	<p>With CBA Program financial donor aid and the grant provided by the Swiss Government the LC of Sadu Shakirov village managed to overcome the main barrier – the lack of starting capital to perform the climate change adaptation activities, notably: to restore the desolate channel and implement the water-charging irrigation technology. The above measures enabled to build the basic infrastructure in order to develop the seeded grasslands.</p> <p>The project created the new opportunities for the village inhabitants in reviving the irrigated land farming and dealing with the traditional cattle farming under the changing climate conditions.</p> <p>The local community was able to reach those owing to the joint efforts of the inhabitants that have opened the new opportunities in the rational use of land and generating the additional incomes.</p> <p>At the project outset the main challenge was the doubts</p>	<p>The following tools of the project-related information sharing have been used by the project: Field Days, workshops, training, publication of information materials: brochures, leaflets, articles in mass media, creation of video film.</p> <p>The following events have been held:</p> <p>3 Field Days on which the method of water-charging irrigation was demonstrated, the local community members were trained in the new draught-resistant water- and land use technologies;</p> <p>4 workshops were organized for the village inhabitants dedicated to the climate change issues and the application of water-charging irrigation method on the fallow lands.</p> <p>Publications:</p> <ul style="list-style-type: none"> <li>- Project-related booklet on the adaptation methods used;</li> <li>- The Brochure «Water-Charging Irrigation as an Efficient Method of the Rational Method of Moisture Accumulation in Soil »;</li> <li>- The approaches applied by the project were enlisted in the manual of the best practices as applied to «Water-Saving</li> </ul>

	<p>much work to be done to expand the method applied.</p> <p>The method implemented by the local community members was enlisted in the list of the best practices of the Kazakhstan National Concept of Climate Change Adaptation as well as the WOCAT (Switzerland) list of the best practices</p>	<p>expressed by the local inhabitants about the capability to implement the project activities. But owing to a serious work of the initiative group as well as the results attained after the first year of the project the perception has changed.</p>	<p>Land Use Technologies to Adapt to the Climate Change in Kazakhstan»;</p> <p>The project-related information was published in the local newspapers, magazines and other mass media. The video film has been created using the participatory video approach.</p>
<p>Training and Capacity building of grantees and communities</p>	<p>The grantees were actively involved in the training activities for the LC members of Sadu Shakirov village and the neighboring villages dedicated to the technology of water-charging irrigation.</p> <p>The main goal of each meeting was to ensure maximal coverage of the district inhabitants to make them aware of the potential climate change risks, adaptation methods of the rural population and demonstration of specific methods implemented by the project and enhancing the adaptation capacities of the local community members of Sadu Shakirov village.</p>	<p>The training participants were not only actively involved in the activities, but have proposed to use in summer time for the cultivation of other agricultural crops. Having seen the results of their labor people are ready to pay for irrigation water in summer time.</p> <p>The project experience has encouraged the rural NGO to follow up and expand the project activities.</p>	<p>The brochures and articles published in the newspapers contribute to the further growth of the local NGO's authority and capacity development of the local inhabitants as well as expansion of their involvement in the adaptation activities.</p>
<p>Community mobilization</p>	<p>The project approach of water-charging irrigation was presented by the project initiators and discussed by the local community members in autumn 2008. The project activities have been supported by the majority of the meeting participants. Therefore, the initiative group was established composed of the members of 10</p>	<p>From their own experience the project initiators have found that it is important to continuously keep the inhabitants informed of the activities and gradually involve the new LC members in the project. At the beginning of the project the inhabitants did not fully believe in</p>	<p>The general meetings of the village inhabitants, workshops and Field Days are the efficient tools of information sharing. Observations of the project results convince the village inhabitants in the necessity of adaptation activities.</p>

	<p>households; the initiative group was actively involved in the project activities. By the end of the project 24 households have been involved in the project. That was due to the mobilization of efforts of the local initiative group that the project has been accomplished successfully.</p>	<p>their capabilities to restore the channel and get the irrigation water in winter on a free of charge basis. But those issues have been resolved by the community leader with involvement of the village akim.</p>	
<p>How project promoted or impacted policy</p>	<p>The main problem of the local inhabitants living within the project site and in the villages of the district is the lack of sufficient hayfields and pastures which productivity has been diminishing due to the climate aridity. As far as all the village inhabitants have cattle said problem is the main reason of their loss of income. Therefore, the project approach strengthening the capacities of the local community members to supply forage and ensure productive pastures to their cattle is the priority and thus has gained the relevant support of the rural and district akimats. The approaches and methods implemented by the project have been broadly discussed at various events (round tables, workshops, training courses) both on the local and regional and national levels and have been recognized efficient and successful. The approaches proposed by the project were enlisted in the list of the best practices of the Kazakhstan National Concept of Climate</p>	<p>It is necessary to maintain continuous contacts, share information and involve akimats in the project activities: organize the project events with their participation; involve them in addressing the problems encountered, inform them of the project successes and challenges and disseminate the necessary information via the official channels. Normally, there are no problems of relations with the executive authorities; but there is a slight probability of their interference with the project activities. At the same time, the facts as noted above have never been observed in the project in question.</p>	<p>The project grantees have accomplished a crucial component of the local community's capacity development that included training in water and land resources management. The project grantees have actively worked to raise the awareness of the local inhabitants of Sadu Shakirov village and the neighboring villages of the climate changes and the risks affecting the livelihoods as well as of the methods of adaptation to such risks to reduce the LC vulnerability to the growing climate aridity. The technology of autumn water-charging irrigation implemented by the project has resulted to the active assistance of the local community members to the project activities. Owing to such involvement the area of desolate plough-land was expanded up to 250ha. To disseminate such experience a broader advocacy of the water-charging irrigation technology is necessary in mass</p>

	Change Adaptation and the list of priority adaptation measures.		media and via the other channels.
Other important activities of Project	Even now the village inhabitants who have not been involved in the project although have lands adjacent to the channel are planning to plant lucerne on the small fields. Kogal PA is ready to deliver them the seeds; the other costs will be covered by the local community members. In the following years the technology of water-charging irrigation could be applied on the other lands along with the cultivation of draught-resistant agricultural crops.	The technology of water-charging irrigation implemented at the desolate plough-land contributes to the improvement of resistance of the local community members to the growing climate aridity. The proposed approach is simple and well understood by the local inhabitants; therefore it guarantees the project sustainability and its replication.	The regular general meetings of the village inhabitants to explain the benefits of water-charging irrigation. The increased hay production has influenced the growth of cattle productivity. Publication and dissemination of the data on the improvement of cattle productivity due to water-charging irrigation among the village inhabitants and throughout the district.

**SECTION D: Environmental Benefits**

**7.0 Summary of the VRA/IAS, Volunteerism Activities and interpretation of the data/information in the M+E table**

Item Description	Supportive Narrative Information and or Data		
Results of the Vulnerability Reduction Assessment	First/Initial	Second/Mid term	Third/Final
<p>VRA Results: Sustainability of the project outcomes is well demonstrated by the results of the workshops dedicated to vulnerability reduction assessment (VRA) of LC members to the climate change risks. There were 3 vulnerability reduction assessment workshops conducted in Sadu Shakirov village. The participants were asked 4 indicator questions as follows:</p> <ul style="list-style-type: none"> <li>• How serious is the current climate change impact, causing the reduction of water level in the Talas River, on your livelihood?</li> <li>• Where the unfavorable years such as 2008 become normal, how serious will be the impact of on your livelihood with the existing agricultural practices?</li> <li>• How serious are the barriers to using the new water-charging method (autumn and early spring irrigation)?</li> <li>• How confident is the community in the reduction of its vulnerability to the climate change risks using the autumn and early spring irrigation technology?</li> </ul> <p>To ensure the experimental integrity all the three workshops involved the same LC members who were asked the same 4 questions (indicators). The scores were assigned by the participants based on a five-grade scale, where 5 means heavy impact, confidence; 0 denotes low impact, lack of confidence.</p> <p>The score analysis of the three workshops on vulnerability reduction assessment of the local community of Sadu Shakirov village performed at the beginning of the project (2008), in the middle of project activities (2010) and at the end of the project (2011) has shown the trends as follows:</p> <p><b>Indicator 1:</b> At the stage of project preparation and development the local inhabitants gave a lot of examples of the ongoing climate change within the project site. They referred to the perennial</p>	<p>VRA workshop was held on 2 December 2008</p> <p>Question 1: score 4,5</p> <p>Question 2: score 4,4</p> <p>Question 3: score 4,35</p> <p>Question 4: score 1,92</p>	<p>VRA workshop was held on 12 April 2010</p> <p>Question 1: score 3,3</p> <p>Question 2: score 4,2</p> <p>Question 3: score 2,9</p> <p>Question 4: score 3,7</p>	<p>VRA workshop was held on 6 April 2011</p> <p>Question 1: score 4,75</p> <p>Question 2: score 2,28</p> <p>Question 3: score 3,28</p> <p>Question 4: score 4,84</p>



<p>observations of air temperature elevation, reduction of precipitation in spring and summer i.e. increase of the climate aridity. Therefore the score 4.5 showing heavy impact of the climate change on the LC's livelihood was assigned at the first workshop.</p> <p>The score 3.3 assigned at workshop 2 is lower compared to workshop 1, although the participants have noted the further aggravation of climate. The reduction of the climate change impact is explained by the local community members by the positive effects of the project activities. The channel repaired and the agreement made with the water management department on the free-of-charge water supply to the fields maintained by the local community members in autumn enabled the local inhabitants to establish the seeded lucerne fields containing 30ha and to restore 60ha of degraded hayfields.</p> <p>It follows from the third assessment conducted in 2011 (score 4,75) that the ongoing climate changes worry the village inhabitants. The high score may be explained by the fact that the third workshop was attended by more participants including those who were not directly involved in the project.</p> <p><u>The general trend identified through Indicator 1 is the reduction of the climate change impact on the local community members' livelihood as a result of the project activities.</u></p> <p><b>Indicator 2:</b> The impact of further increase of adverse years (in terms of the weather) was estimated by the workshop participants at 4,4 (2008), 4,2 (2010) and 2,28 (2011). The comparison of the above scores indicates a slight reduction of the climate impact on the LC's livelihood. The trend, however, is more likely connected with the project activities. The participants have noted that the obtained and expected project results gave them confidence in future adaptation to the growing climate aridity.</p> <p>The workshop participants understand and have mentioned in their answers that the project activities need to be continued and the areas of seeded hayfields need to be expanded in order to improve the evaluation score.</p> <p><u>The general trend identified through Indicator 2 is the alleviation of concern about the growing climate</u></p>			
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<p><u>aridity due to the project activities and outcomes attained.</u></p> <p><b>Indicator 3.</b> In 2010 the score dropped to 2,9 vs 4,35 assigned in the beginning of the project. It follows from the assessment that in 2010 the project helped to overcome a number of barriers: the material and financial support has been obtained, the necessary equipment has been purchased, and the channel and sluices have been repaired. The project was able to negotiate with the water management department concerning water supplies to the project participants' lands. However, the score assigned at workshop 3 attended by the LC members whose lands are located along Kazakbai channel was higher and made 3,28. The remaining challenges were the difficulty to get water in summer etc.</p> <p><u>The assessment provided by the local inhabitants shows that the project has helped to overcome a number of obstacles on the local level, but there is much work to be done to expand the method applied.</u></p> <p><b>Indicator 4:</b> This is the most indicative question to assess the project impact. The results under Indicator 4 have shown maximal changes as a result of the project activities. In 2008 the score 1.98 assigned by the LC members has shown practically the full uncertainty of the participants in their capabilities to implement the project objectives. At the second VRA workshop the participants have assigned the score 3.7 in relation to their abilities and willingness to continue the project activities at the end of the financing. The score was quite explicable since the funds received from CBA and the project activities implemented have stimulated the village inhabitants' interest along with their willingness to joint the project. The local community members encouraged by the project results express their readiness to pay for the irrigation water in summer time to gain a higher effect from the project activities.</p> <p>The score assigned by the local community members (4,84) at the third workshop has shown the confidence of the project participants in their capabilities and willingness to follow up the project activities using their own resources.</p> <p><u>Indicator 4 has shown convincingly the willingness of the local community members and their confidence in</u></p>			
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<p><u>their capacities to follow up with the project activities at the end of the project.</u></p> <p>The method to conduct the vulnerability reduction assessment workshops is rather convincing to show the project sustainability.</p>			
<p>Description of the voluntary contribution (capacities, knowledge, know-how, manual labor, materials, tools, etc.). Gender segregated data on communities engaged, opportunities and barriers to volunteerism, existing volunteerism activities before and after implementation of project.</p>	<p>The members of local community acting as volunteers have performed a large amount of preparatory work to select the project idea, discuss its concept and specific activities, assess the necessary work scope, compile the budget, estimate the potential amount of co-financing etc. Key project initiators were able to get together and establish a public association. All the activities related to its establishment were also on a volunteer basis.</p> <p>After the project startup, having seen the benefits of the restored channel the village participants on a free of charge basis actively assisted in construction and repair works as well as irrigation activities and seeding of perennial plants. The adults along with the high school children were involved in the project works.</p> <p>On the whole, the inhabitants' involvement on a volunteer basis ensured transparency of the project activities and the assessment provided by the village inhabitants themselves.</p> <p>Women also took part in the project activities. But there were not many women involved since the main works involved heavy physical labor. At the same time, women were actively involved in the workshops and field days thus contributing to the promotion of the project ideas through their husbands and other men who were the members of their families.</p> <p>On the whole, the project implementation encouraged the development of volunteer movement in the district.</p>		
<p>The results of the Impact Assessment System Indicators (Global Environmental Benefit focal areas + Livelihood and Empowerment)</p>	<p>Verification of the project activities against the indicators identified for the project has shown a high efficiency of the project activities.</p> <ol style="list-style-type: none"> <li>1. The sustainable management has been developed in the area of 250ha of degraded (abandoned) pastures by way of restoring 12 km of the channel and internal irrigation network and construction of 5 water distribution sluices.</li> <li>2. 60ha of idle lands have been restored that are</li> </ol>		

	<p>currently under lucerne.</p> <p>3. The project implemented 2 innovative technologies: water-charging irrigation (in the area of 250ha) and cultivation of forage crops (60ha) contributing to the improvement of the forage base and thus the livestock productivity and, eventually, enhancement of the local inhabitants' livelihood.</p> <p>4. The two rules have been developed on the project site: the agreement was made with the district water management department on the restoration and transfer of the channel to its balance (1) and on water supply in autumn and early spring (2).</p> <p>5. 24 households making about 120 people benefited from the project.</p> <p>6. The project involved one NGO, one LLP and 6 farms.</p> <p>The project has built the basis to improve the well being of the local community. Through the project activities implemented, the local community members of Sadu Shakirov village were able to increase their incomes from cattle farming development activities that, in turn, was made possible by virtue of the forage base developed and strengthened and putting the derelict lands into service. In 2010 due to the increased volumes of hay collected and the weight gains of the cattle the local community has made the total income of US\$18,862. By the end of 2011 the aggregate income is expected to exceed US\$25,000.</p>
<p>Describe the results of the Adaptation indicators measured during the project</p>	<p>The project outcomes were verified against the UNDP adaptation indicators:</p> <p><i>1. The number of methods implemented focused on the mitigation of risks induced by the climate change and included as part of the activities on natural resources sustainable management: the project has implemented 2 climate-adaptation methods:</i></p> <ul style="list-style-type: none"> <li>- Water-charging irrigation;</li> <li>- Production of forage crops.</li> </ul> <p><i>2. The number of tested approaches on the natural resources sustainable management to improve the livelihood of local community and protect the resources;</i></p> <p>The project tested an efficient adaptation method of sustainable use of water and land resources – the use</p>

	<p>of water-charging irrigation and restoration of derelict lands. Those have built the basis for cattle breeding and contributed to the livelihood enhancement of the local inhabitants</p> <p><i>3. The number of rules prepared/ adopted through the project implementation</i></p> <p>The two agreements have been made: the agreement of rehabilitation and transfer the trunk irrigation channel to the water management department; and the agreement of water supply in autumn and early spring where there is no demand for the irrigation water and it is discharged to water reservoirs.</p> <p><i>4. The area under the sustainable water and land resources management;</i></p> <p>- 250ha of degraded plough-land.</p> <p><i>5. The number of participants (households) benefited from the activities of sustainable resources management (i.e. increase of income or food safety provision etc.).</i></p> <p>- 24 households.</p>
<p>Provide a Summary Paragraph on the above monitoring and evaluation activities</p>	<p>The project «Autumn/early spring fields and pastures irrigation as an adaptive mechanism for the efficient use of water resources in Southern Kazakhstan (Autumn Irrigation)» is a successful initiative of the local inhabitants that has been successfully accomplished in the desert zone of Zhambyl Oblast. The project approach is built on implementing the principles of sustainable community management of the natural resources that include the application of rational water use methods for irrigation, moisture accumulation in soil and prevention of land degradation under the growing climate aridity conditions. Owing to the project the hay provision of the village inhabitants has considerably improved; they are able to grow perennial grasses on the irrigated fields and developed the additional high-yield rangelands that are less dependent on the weather conditions.</p>

**8.0 Project outcomes with respect to the following variables:**

**Objective 1: To implement the Climatically Sustainable Grazing Practice**

The project has implemented the climatically sustainable cattle farming practice. Notably, it laid the basis to establish and develop the forage base with the efficient use of water and land resources.

The project activities under Objective 1 have successfully been accomplished with the following outcomes attained:

- 12 km of water channel Sharuashlyk have been reconstructed and the irrigation network has been restored for the autumn water-charging irrigation;
- Over 7000m of flume channel way have been cleaned; the channel sides have been reinforced by the soil banks in several points;
- 104m of the channel sides have been restored (cemented) to prevent water losses;
- Five water distribution sluices have been constructed;
- The irrigation system has been restored to irrigate the forage fields;
- The method of seeded pastures has been implemented by seeding lucerne, a high-yield forage crop;
- The climatically resilient irrigation techniques (autumn and early spring irrigation; production of winter forage) have been applied within the project site;
- Water-charging autumn irrigation has been performed in 2009 and 2010 in the area of 190ha and 250ha respectively;
- The lucerne was seeded on a 30-ha field in 2009 and the additional 30ha (2010) funded by the Swiss Government grant;
- 30 tons of lucerne hay and 30 tons of natural hay have been collected in 2010 thus providing high-quality forage to 500 heads of sheep maintained by the LC members within the two months of housing season;
- The hay collected by the local community members enabled to extend the housing season and conserve the pastoral cover in the period of vegetation;
- The proper selection of technology ensured high yields of seeded grass (lucerne) for the given climate zone; the yield capacity was 3 tons/ha i.e. 2.0-2.5 times higher compared to non-irrigated fields. The yields of natural hay was 1,5 times higher; in 2011 the area under water-charging irrigation was expanded up to 190ha;
- The cattle maintained by the local community members was grazed on the lands (190ha) moistened in autumn 2009;
- Cattle grazing has been arranged in due regard of the permissible environmental load.

### **Objective 2: Development of the Local Community's Capability to Adapt to the Manifestations of the Growing Aridization**

The efficiency of the activities under Objective 2 is proven by the outcomes attained:

- The local community members are aware of the growing risks associated with the long-term climate change and the impact of increased climate aridization on their livelihood;
- The local community members have been trained in the autumn and early spring irrigation technique and apply it on their lands;
- The number of households involved in the project activities increased from 10 to 24;
- Although the project planned to grow lucerne without irrigation to produce one hay-cutting, in 2010 the project participants inspired by the outcomes, managed to pay for 2 irrigation seasons (in May and end of June) from the own incomes made and had two cuts for hay in summer.

### **Objective 3: The Project Outcomes are Widely Disseminated**

The result of the activities under Objective 3 was publication of the brochure «Water-Charging Irrigation as an Efficient Adaptation Method of Moisture Accumulation in Soil under the Growing Climate Aridization Conditions». The brochure was broadly disseminated amongst the general public both on the local and national levels.

To improve the awareness of local inhabitants living in Sadu Shakirov village of the climate change and the adaptation methods thereto an Information Bulletin has been prepared, translated in Kazakh and distributed among the local community members.

The village inhabitants were continuously receiving the information concerning the project activities, its goals, the outcomes expected and attained. The local community members were actively involved in the project activities such as water-charging irrigation, maintenance and protection of lucerne plantations, summer irrigation and haymaking. The results attained by the project in 2009 and 2010 and the experiences gained have convinced the village inhabitants in the capability of producing the lucerne hay in spite of the increased climate aridity.

The Field Days were organized on 20 October 2009, in September 2010 and in March 2011 for the village inhabitants where the method of water-charging irrigation was demonstrated, the the local community members were trained in the new draught-resistant water-and land use technologies that enabled to increase the income and develop agriculture on a sustainable basis under the changing climate conditions.

The training workshop was held on 10 January 2010 for the village inhabitants dedicated to the climate change and the use of water-charging irrigation technique on the fallow lands.

The regular meetings, discussions and joint activities were organized for the local community members.

An article about the project, its goals and outcomes has been published in the district newspaper Talas Tynysy as of 20.01.2010.

In line with the CBA Program requirements three seminars on the vulnerability reduction assessments of the local community living in Sadu Shakirov village have been held by the project. The comparative analysis of the assessment data is provided in the table above.

The positive result of the advocacy of the project activities and outcomes was the enhancement involvement of the village inhabitants and their understanding that the system of water and land resources management needs to be changed on the local level. Even now the village inhabitants who were not engaged in the project but have the lands adjacent to the channel are planning to seed lucerne on the small land parcels using the winter irrigation technology. The lucerne seeds collected from the lucerne plantations will be provided by Kogal PA, the other expenses will be at the cost of the local community members. In the following years water-charging irrigation and production of the draught-resistant agricultural crops could also be applied on the other lands.

The demonstrational workshop dedicated to the project outcomes was held on April 6, 2011. 27 participants attended the workshop represented by the local community members involved in the project, the local inhabitants, the village akim and the experts. The questionnaire survey was organized among the workshop participants covering 20 village inhabitants. The survey results are provided here below:

1. All the participant mentioned the climate change on the project site
2. All the participants are aware of the project and gave the positive assessment of the project outcomes



3. Although 2 of 20 respondents have not been involved in the project activities, all of them expressed their willingness to participate in the follow up activities at the end of the project
4. All the workshop participants believe that such projects are necessary for the rural areas.

#### **8.1. Organisational: Has this project impacted the organization?**

Yes, it has. The Public Association Kogal of Sadu Shakirov village has considerably strengthened in terms of the organization and obtained the new supporters. By virtue of the successful project implementation the association has enhanced its authority, the village akimat recognizes the opinion of the rural NGO and its head has gained a lot of authority and respect among the village inhabitants.

#### **8.2. Capacity Building: How were local capacities enhanced and how did it contribute to project success?**

The project outcomes attained have given the local community members the full confidence in their capabilities to adapt to the further increase of climate aridity. The local community members, now confident in their capacities, are willing to follow up on the project activities, specifically, they plan to repair the channel Kazakbai and thus expand the areas of water-charging autumn irrigation at the low-productivity fallows and pastoral lands. The above conclusion is supported by the responses of the local community members to the four indicator questions incorporated in the vulnerability reduction assessment (VRA) of the local community and the results of the questionnaire survey conducted at the end of the project. Owing to the project activities, the local inhabitants have got the necessary skills to implement similar demonstrational projects in the sphere of efficient land and water resources utilization, gained the grant experience, strengthened their capacities in addressing the social and environmental issues.

#### **8.3. Poverty Reduction: How the project impacted poverty**

Due to the project activities the local community has got the additional amounts of high-quality, nutrient-rich lucerne hay and the additional grazing lands. All those contributed to the increment of live weight of the cattle owned by the local community members and the value of such cattle will certainly increase. Therefore, the project outcomes enabled to increase the incomes of those households that maintain cattle and thus contribute to poverty alleviation. By the results of the year 2010, one head of cattle gave the average additional income ranging between US\$150-210 to its owner.

#### **8.4. Community Participation**

Basically, the main income of all the households of Sadu Shakirov village (266 households) is generated from the sale of livestock products – meat, milk and wool. The problem of winter forage and provision and grazing was of special significance for the village inhabitants. Therefore, the project idea to increase the volumes of collection of high-quality hay and improve the grass cover on the public rangelands was positively perceived and actively supported. The above is proven by the fact that the number of active project participant increased from 10 to 24 households. 10 of all the households involved in the project have the lands along the channel i.e. they are directly interested in the opportunity to arrange irrigation of their lands and produce their own hay or the other draught-resistant crops. 14 households have no lands but they are interested in collecting the lucerne hay and grazing their cattle on the improved pastures.



The practice has shown that the inhabitants need to be actively informed about the project implemented and the outcomes attained; the problems should also be openly discussed. Without the above measures active project support by the village inhabitants will be impossible.

### **8.5. Sustainable Livelihoods/Benefits**

The benefits gained by the project participants are obvious based on the above information concerning the additional profits from the sale of the livestock products.

The short-term benefits include the additional amount of hay collected and arrangement of the sustainable management of pastoral resources adapted to the climate change.

The long-term benefits include the capability to establish the own lucerne plantations using the accessible technology of autumn (water-charging) irrigation. At the same time, the technology in question gives the new opportunities of growing the other agricultural crops.

The long-term benefits may also include the fact that after the 4-years' period of lucerne plantation the soils will become nitrogen enriched that will improve the plough-land bonitet and enable to grow the other draught-resistant crops such as sugar beat, melons and vegetables.

### **8.6. Project policy impact**

The project has made a certain impact on the district and oblast structure of the water resources management system. They have seen that due to the local inhabitants' initiative and support of the international organizations it is possible with few resources and active involvement of people to restore the irrigation network destroyed 15-20 years ago. Having restored the trunk (state-owned) channel the NGO transferred it under supervision and management of the district water management department. Now the farmers themselves are interested in securing its safety and uninterrupted operation. In addition, the use of winter irrigation technology releases a certain tension from the water management department to discharge extra water to the special reservoirs that are often overfilled and threaten to flood the populated settlements. Therefore, the consumption of a certain amount of water for winter irrigation is a great boon to the local authorities.

It needs to be noted that the project work and the approaches used were widely discussed also on the national level and were enlisted in the list of priority adaptation activities of the National Adaptation Concept developed in 2010.

### **8.7. Sustainability Plan**

The plans to achieve the project sustainability have been developed and implemented in the full scope. Restoration of the channel enables many inhabitants to use the autumn irrigation technology to establish their own plantations of perennial and other crops under the climate change conditions. The village inhabitants have certain plans to expand the lands to be put into service using the water-charging irrigation technology. Therefore, the project activities will be expanded to about 1000ha, i.e. gradually the abandoned and degraded plough-land will be rehabilitated.

Development of partnership relationships and the project support of the local executive authorities (rural and district akimats) are of great significance for the project sustainability. Owing to the active activities in the village the rural and district akimats are aware of the projects and the outcomes attained and will try to use the experiences gained (implement in their villages).

The project sustainability was influenced by the establishment of partnership relationships with the other NGO's and experts (Farmer of Kazakhstan Foundation, the Scientific and Research Institute for

Cattle Farming and Fodder Production etc.) that have considerably strengthened the project and contributed to its dissemination.

### **8.8. Financing and Co-financing**

Under the UNDP GEF Adaptation Program the project obtained grant financing in the amount of US\$43,140 (including the planned grant of US\$2,000). The project also obtained the additional co-financing from the Swiss Government amounting to US\$10,000. The project activities have been strengthened by that grant and the additional plantations of lucerne have been made covering 30ha (seeds purchased and seeding activities performed along with the other agricultural works). The input of the project executing parties (NGO and local inhabitants) amounted to US\$30,505.

### **8.9. Replication: Is this project suitable for replication in other communities or regions. Plans or what has taken place in this regard**

The project can be replicated in the other areas of the Southern Kazakhstan by applying the most accessible and rational methods of agriculture adaptation to the climate change in the rural settlements located within the irrigated zone.

In the process of project implementation the active works were focused on the training of LC members in the adaptation technologies and their application; a number of meetings were organized with the participants of various target groups: the inhabitants of Sadu Shakirov village, farmers and other agricultural producers from the neighboring villages and the district, the specialists of district and rural akimats. Some other activities were implemented to demonstrate and disseminate the experience. The main goal of each activity was to ensure maximal coverage of the village and district inhabitants for the purposes of broad public awareness of the potential climate change risks, methods implemented by the project to improve the adaptation capacities of the village inhabitants.

### **8.10. Gender Mainstreaming:**

Women play a key role in the use of natural resources. They fulfill a great number of tasks in agriculture, specifically in cattle farming as well as in the households and families. The rural population migrates looking for the jobs and better living conditions. Mainly the able-bodied men and young people leave the rural settlements for temporary jobs. So, the load on women as the only earners of the families remaining in their care is growing. At present many women are engaged in the agricultural production. The reduction of soil fertility threatens the agricultural production and the food provision of rural families. In such conditions, the role of rural women increases more than ever in addressing a broad range of problems on the local level: establishment of farms; selection of the rational land use methods; selection of the most productive crops and demanded agricultural products; sustainable cattle farming development; restoration of the traditional agricultural practices.

Such important role of rural women should not be underestimated; they need to be provided more decision-making opportunities, access to the training workshops, environmental education; the projects involving women need to be supported. The population of Kazakhstan is quite literate and with the adequate support of the government, international funds, non-governmental organizations can participate (with involvement of women) in the development and implementation of the projects of sustainable land tenure and rural development.

Since the implementation of the project activities is connected with the great physical labor input, women took the minimal part in the project. In the rural areas women mainly deal with the household

works and these are determined by the eastern mentality. At the same time, there is no implication of any violation of gender equality. Women were actively involved in the workshops; their influence on the husbands and men should not be underestimated since very often the endeavors in the family business are initiated by women. So, a special emphasis in the project was on the broader participation of women in the training and field workshops.

**8.11 Were all the objectives achieved? If not, what were the challenges related to the objectives not achieved?**

All the project objectives have been fully accomplished and all the outcomes attained.

**8.12 How did the project contribute to the outcomes and impact identified in the Country Programme Strategy?**

The project was one of the most successful demonstrational practices under CBA Program in the field of efficient use of water resources under the growing climate aridity conditions. Due to the successful activities, the project was enlisted in the list of best climate change adaptation practices of the National Climate Change Adaptation Concept.

**9.0 Other Lessons learned not captured in section/part 6 above:**

The continuous works are necessary with the local community members including the representatives of the local authorities. The activities and works performed by the projects need to be described and demonstrated; their advantages and shortcomings need to be shown for the further joint discussion in order to develop the follow up action strategy. The positive practices of the project implementation need to be shown and promulgate at the regional and national events (round tables, demonstrational workshops and training courses), specifically in the areas with similar natural and climatic conditions.

**10.0 Annexes and other relevant documentation (could be sent if required)**

**11.0 Final comments by the Evaluator/Grantee/Individual filling the evaluation template**

The project is a good example of the innovative approach in addressing the issues of efficient water and land resources management under the climate change conditions. It also contributed to improvement of living conditions of the rural inhabitants in the district that are most vulnerable to the climate change.

**12.0 Digital photographs taken during the evaluation/appraisal with title to be attached here:**

Name of Person Compiling Report:  
Vladimir Levin

Signature:



Evaluation/Appraisal Date or Period:  
April 2011

Date Evaluation/Appraisal Report was submitted:      October 2011