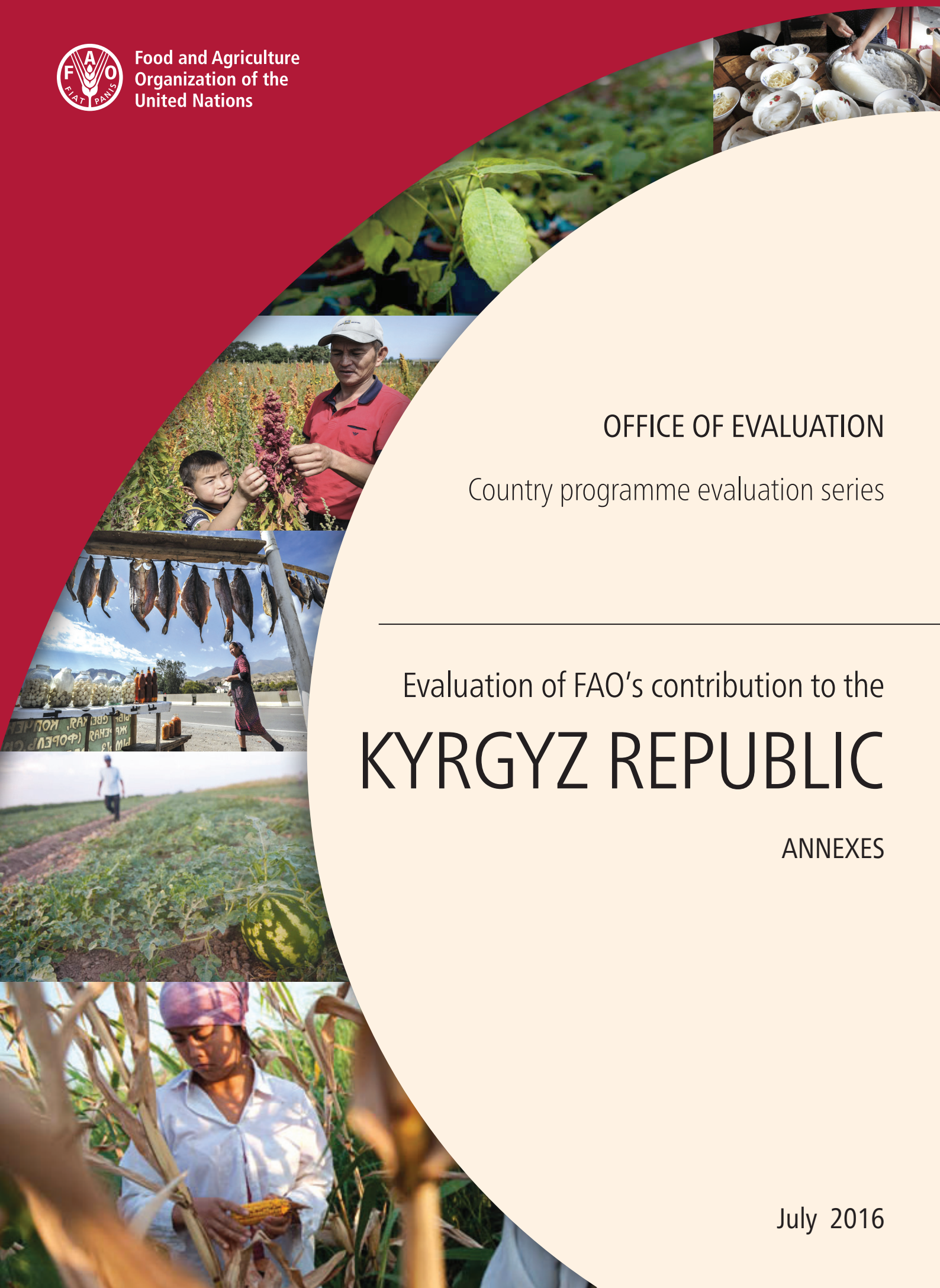




Food and Agriculture
Organization of the
United Nations



OFFICE OF EVALUATION

Country programme evaluation series

Evaluation of FAO's contribution to the

KYRGYZ REPUBLIC

ANNEXES

July 2016

COUNTRY PROGRAMME EVALUATION SERIES

Evaluation of FAO's contribution to the Kyrgyz Republic

ANNEXES

**FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
OFFICE OF EVALUATION**

July 2016

Food and Agriculture Organization of the United Nations

Office of Evaluation (OED)

This report is available in electronic format at: <http://www.fao.org/evaluation>

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Map of Kyrgyzstan



Acronyms and abbreviations

CBA	Community-Based Association
FAO	Food and Agriculture Organization of the United Nations
GEF	Global Environmental Fund
MoAA	Ministry of Agriculture and Amelioration
NGO	Non-Governmental Organization
REU	Regional Office for Europe and Central Asia
SAEPF	State Agency for Environmental Protection and Forestry
SEC	Sub-regional Office for Central Asia
SO	Strategic Objective
TCP	Technical Cooperation Project
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
WFP	World Food Programme
WUA	Water User Association

Annex 1: Terms of reference for the country programme evaluation in the Kyrgyz Republic

1. Introduction

The FAO Office of Evaluation (OED) has been conducting country programme evaluations since 2005 to provide accountability to Member countries, national governments and development partners, and draw lessons and suggestions for programme improvement. Kyrgyzstan was selected as one of the countries in which to carry out a Country Programme Evaluation (CPE) in 2015.

The Terms of Reference (ToR) for the Kyrgyzstan country evaluation are the result of the preparatory phase, consisting of: a *desk review of existing external documentation*¹; a preliminary *analysis of FAO's portfolio* of work in Kyrgyz Republic; and *scoping interviews* with FAO staff at the country, sub-regional and regional levels and in HQ. The ToRs also benefited from discussions held during the inception mission with a selected number of partners at the national level including government officials, donors, UN agencies, academia and civil society. The evaluation will cover the past five years of the programme (2011-2015); ongoing and pipeline projects will be referred to but unless conducted for a relatively long period these will not be evaluated in detail.

These ToRs represent a guiding document for the Evaluation Team. Their purpose is to describe the programme in Kyrgyzstan and identify some key areas of work undertaken over the past five years, table the scope of the evaluation and define the initial evaluation work plan. The ToRs have been shared with and commented upon by FAO staff in the Country Office (CO), the Sub-regional Office for Central Asia (SEC), the Regional Office for Europe and Central Asia (REU) and key FAO stakeholders in the Kyrgyz Republic. A set of key questions has been developed to further define the objective and inform the methodology to be employed at different stages of the exercise. The methodology and the evaluation tools will be further developed by the team over the course of the evaluation.

2. Purpose of the evaluation

The purpose of the evaluation is to provide inputs to better orient FAO's programme in Kyrgyzstan, making it more relevant to the needs of the country. It will **provide accountability** to the Government and non-government partners, communities and resource partners in the country, as well as all member countries. It seeks to **draw lessons and make recommendations** that will be useful for FAO's future engagement in the country. Besides providing lessons specifically on FAO's work in Kyrgyzstan, the evaluation will also enrich FAO's synthesis of findings and guidance for its country-level support.

In addition to providing advice to management and staff at the national level on how to improve the impact and relevance of FAO's programme, the evaluation will also identify potential areas for future interventions in line with FAO's comparative advantage. This aim is particularly relevant in the case of this CPE, considering the progressive and recent reinforcement of the country programme in Kyrgyzstan, potentially opening up new areas of collaboration with the Government and other partners.

The *main audience* for the evaluation, to which most of the lessons and recommendations will be addressed, are the FAO Representative, his staff, and the Government of Kyrgyzstan. Other important users of the evaluation are the Regional and Sub-regional Offices and FAO as a whole, including divisions in HQ and other Country Offices that will benefit and build on lessons learnt and good practices. Further users of the evaluation will be FAO's partners within the broader development community, including resource partners, NGOs, implementing partners and other UN agencies, in particular those with whom strategic interventions were identified in the context of the UNDAF. Although not a target group for the evaluation report itself, the evaluation also

1 Including government planning documents, the United Nations Development Assistance Framework (UNDAF), existing FAO evaluations of projects in Kyrgyzstan, and academic papers and reviews.

aspires to provide accountability with respect to communities and in particular vulnerable groups in Kyrgyzstan that FAO has sought to assist.

Since the adoption of the Paris Declaration on aid effectiveness, the international community has given increasing attention to country ownership of the development process. In this spirit, the evaluation will focus on the participation of national partners, in particular the Government, to ensure the appropriation of the evaluation results by the relevant national institutions and promote their use at the national level. To this end, OED envisions regular contact with relevant Government and local stakeholders in FAO's areas of work².

3. Brief overview of Kyrgyzstan

Kyrgyzstan is a small, mountainous, landlocked country in the heart of Central Asia with more than 65% of the population living in the rural areas. Over 90 percent of the country's territory is covered by mountains and about 4 percent by glaciers. Out of a total area of 198 000 square kilometres, only 7 percent is arable, of which approximately 44 percent is used for pastures³.

In 2010, the country's 'Human Development Index' score was 0.598, making it 109th of 169 countries. With an average GDP per capita of US\$ 864, the Kyrgyz Republic is classified as a low income country⁴; its GDP is the lowest of the 27 former USSR republics. Furthermore, the Kyrgyz Republic is classified as a 'Low-Income Food-Deficit Country', so it depends on wheat imports to cover about one quarter of its consumption requirements.

The official poverty rate in the Kyrgyz Republic declined slightly in 2013 in comparison with the previous years. According to the National Statistics Committee (NSC) data, the absolute poverty rate was 37% in 2013 despite GDP growth estimated at 11%.⁵ About two thirds of Kyrgyzstan's population live in rural areas, and livestock breeding is the mainstay of most rural households outside the few major valleys. The rural population includes three quarters of the country's poor — 1.8 million people — who live mainly in remote and mountainous areas⁶.

4. FAO in Kyrgyzstan

4.1 The country office

The Country Office (CO) in Kyrgyzstan, Bishkek was opened at the end of 2009, first as a double accreditation to the Sub-regional Office SEC in Ankara, and then, since 2012, as a fully-fledged Representation. The CO was able to operate independently in May 2013, after the establishment of an imprest account and the roll out GRMS. Currently it has 5 Regular Programme (RP) staff posts that are filled⁷. The Representation also employs national project personnel (NPP), local consultants and other non-staff (PSA). As of December 2014 there were 33 NPP and PSA holders working within TCP and TF projects. Currently there is no country host agreement in place. Negotiations to sign a formal host agreement with the Government have not been concluded yet as the Government does not agree to all conditions (e.g. tax exemption) so FAO currently does not have an official status of representation in the country.

4.2 Overview of FAO's field programme

The FAO project portfolio in the Kyrgyz Republic during the period 2010-2014 included a total of 50 projects, out of which 26 were national, 10 sub-regional, 9 regional, and 5 inter-regional. The total budget of national projects during the period evaluated amounts to USD \$16,638,408, and

2 Specific ToRs have been developed for this Group. The CG will include the Prime Minister's Office, the Deputy Minister of MoA, independent Agencies such as SAEPF, Phytosanitary and Sanitary Agency and the NSC.

3 FAOR Annual Report 2014

4 Kyrgyz Republic Livestock and Market Development Programme Design Completion Report, Volume I: Main Report and Annexes, IFAD, October 2012, p.1.

5 World Bank-Kyrgyzstan Partnership Programme Snapshot, p. 10

6 <http://www.ruralpovertyportal.org/country/home/tags/kyrgyzstan>

7 FAOR P5, Outposted TCI Officer P4, AFAOR N2, Administrative Assistant G5, and Driver G2

has significantly increased after the start of several large government cooperation projects (GCP) projects in 2014. Even though the national technical cooperation projects (TCP) outnumber all other types of projects implemented in the country (30% of the total number), GCPs still form the biggest share of the country portfolio budget (60% of the total budget).

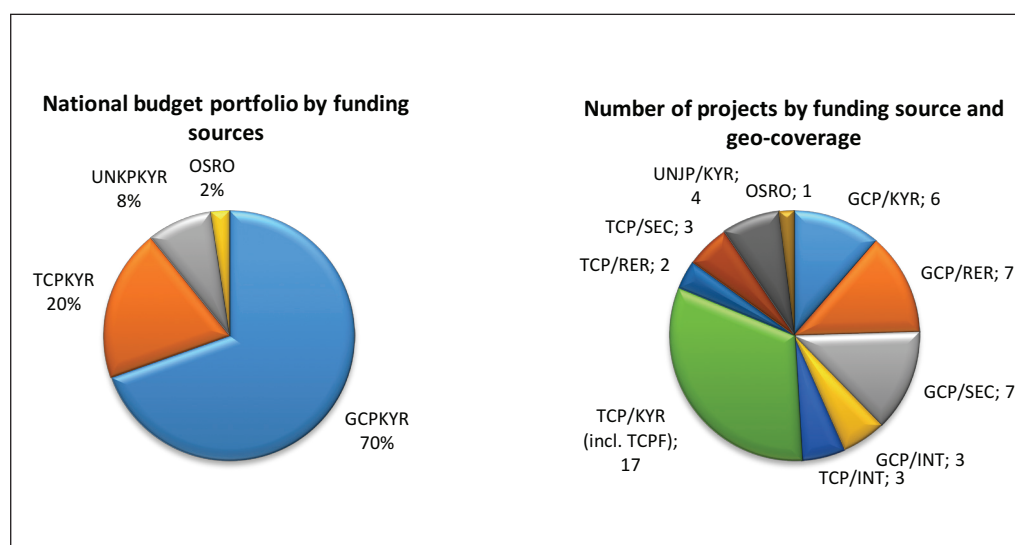


Figure 1: Number of projects (2010-2014) by funding source & percentage of the portfolio by funding source (budget in US\$)⁸.

Kyrgyzstan is a focus country for FAO Strategic Objectives 3 and 4: Reduce Rural Poverty and Enable Inclusive and Efficient Agricultural and Food Systems. As a result, it is involved in two regional initiatives (RI): 1) Empowering Smallholders and Strengthening Family Farms in Europe and Central Asia, and 2) Agri-food Trade and Regional Integration in Europe and Central Asia. In-country activities related to RI1 and RI2 have not yet been implemented, and therefore no specific consideration will be given to assess contributions related to these regional initiatives as a part of this CPE.

4.3 FAO's Country Programming Framework

The Country Programming Framework (CPF) that guided the activities implemented by FAO in the Kyrgyz Republic during the period under evaluation (2010-2014) was adopted in 2011 and was effective till early 2015. In mid-2015 the CPF was significantly revised and prolonged till 2017 upon request of the Government of Kyrgyzstan (GoK). This revised CPF for 2015-2017 identifies four priority areas for cooperation:

- PA1: Enhanced capacity to assess, plan and implement action for achieving sustainable food and nutrition security
- PA2: Strengthened core conditions (professional and institutional capacities; legal frameworks; support services) to ensure sustainable natural resource use for agricultural productivity growth, effective inclusive agricultural value chains, and increased rural income, with special emphasis on the fisheries and livestock sectors
- PA3: Improved resilience in responding to Climate Change, Crises and Disasters
- PA4: Enhanced capacity for strengthening a socially sensitive market economy to reduce rural poverty, especially among women headed households

The second priority area (sustainable management of natural resources) appears to have the biggest number of projects implemented on the country-level followed by the first priority area (food and nutrition security). However, the biggest amount of funding mobilized for the implementation of the country-level projects was towards realization of the second (sustainable management of natural resources) and third priority areas (climate change), which is above \$7 mln for each of these areas.

⁸ The tentative estimate of funding for the Kyrgyz Republic in inter-regional, regional and sub-regional projects was done by dividing the total budget of the project by the number of participating countries.

5. Scope of the evaluation

Country programme evaluations generally cover the totality of the institution's assistance provided to a FAO member state, irrespective of the source of funding. This includes activities funded through regular programme as well as extra-budgetary resources; national, regional⁹ and global projects and initiatives; emergency and development interventions.

Since the CPE is a **programme evaluation**, the exercise does not focus on single projects, but rather assess FAO's overall contribution to results in the priority areas defined in the CPF. Also, use and usefulness of global **FAO's knowledge products and services** (guidelines, publications, training programmes, etc.) and regional initiatives (RIs) are assessed within each CPF priority area.

6. Objectives

The specific objectives of the CPE are to:

- Assess the strategic relevance of FAO's interventions in responding to country needs;
- Assess FAO's contributions to results identified in the CPF under the four priority areas;
- Identify lessons learnt as well as causes of successes and failures;
- Identify gaps in FAO's country programming and potential areas of future work.

During the inception mission the cooperation on **food security and nutrition** and on **sustainable management of natural resources** (comprising livestock, forestry, fisheries and aquaculture) emerged as key areas in which FAO has been providing and is planning to provide more cooperation in the future. *Policy support* and technical assistance for *livestock, fisheries and aquaculture development* were singled out as areas for more in-depth study. The evaluation will assess the effects of FAO interventions and also identify possible directions for the future, indicating ways to enhance FAO's contributions.

With the country affected by recurrent and increasingly frequent adverse climate-related events, **Climate Change Adaptation (CCA)** and **Disaster Risk Reduction (DDR)** are growing concerns in Kyrgyzstan, and according to the portfolio analysis have been primary focuses of FAO programming. The evaluation will investigate the integration of CCA and DRR in past projects and identify future needs in these areas.

Last but not least, the evaluation will also review FAO's contributions to **poverty reduction**, including women empowerment, across the above thematic areas.

7. Evaluation questions

The following questions have been developed to further define the objective of the evaluation. More specific questions will be developed by the team at the beginning of the in-country investigation phase.

9 Regional cooperation project will be covered by the ongoing FAO-Turkey Partnership Programme (FTPP) Evaluation

Box 1. Evaluation questions

Strategic positioning: Are we doing what is needed?

Strategic relevance

- Is the country programme coherent with FAO's overall Strategic Framework, and aligned with the country's policies and strategies and with the UNDAF?
- Has the Country Programming Framework responded to the most challenging issues and needs of the country under each of its priority areas?
- Was the Country Programming Framework flexible in implementation to respond to emerging needs?
- Were the Country Programming Framework and related projects designed to achieve the expected outputs and outcomes?

Partnership and coordination

- Were FAO and its programme activities engaged in various partnerships to enhance synergy and complementarity?
- What is the role of FAO in the coordination of various actors in the rural development and food security sector?
- Were there cases of FAO's influence on decisions made by partners?

Normative values

- Did marginalized, vulnerable and disadvantaged populations benefit from the programme?
- Did the programme include marginalized, vulnerable and disadvantaged populations in design and implementation?
- How was gender mainstreaming implemented?

Comparative advantage

- Were FAO's core functions and comparative advantages applied to the most challenging issues of the country?
- Was FAO's role based on its own comparative advantage vis-à-vis other development actors?

Programme contribution: Are we making a difference?

Programme relevance

- How appropriate and well-considered was the design of programme activities for achieving the targeted outcomes?
- Was timely and sufficient FAO technical support available?
- Was implementation supported by baseline analysis and needs assessments?
- How successful was targeting of the most vulnerable households?

Impact and effectiveness

- What changes can be observed that are attributable to FAO's interventions (e.g. behavioural changes; institutional changes; policy changes; technical adaptations; tangible socio-economic benefits)?
- To what extent have these changes contributed to progress towards outcomes?

Sustainability of results

- What was the sustainability level of the FAO programme's results?
- What was the degree of ownership by beneficiaries?

Coherence and synergies

- How coherent the Country Programming Framework was as a framework?
- To what extent there was synergy/cross-fertilization between/among operations?

8. Methodology

The evaluation will be guided by the above evaluation questions. More specific evaluation questions contextualised according to different types of activities, individual projects, and stakeholders involved will be developed for each priority area under review. These specific questions will be proposed by the team and validated with FAO Country office staff.

To answer the question “strategic positioning: are we responding to needs”, the team will start by researching whether the FAO programme was based on a preliminary assessment of the needs of different stakeholders: e.g. Government, research centres, communities, vulnerable households. It will then research what these needs were, and whether the programme responded to them. To gather information related to this question the team will conduct semi-structured interviews and review relevant documents. Through stakeholder mapping carried out with the support from the country office, the team will identify who is best able to respond to each question. Sources of information will be key informants, internal and external stakeholders at the central and decentralised levels and secondary sources. Protocols for interviews will be developed by the team before the main evaluation mission and during the first week of the mission. In addition, workshops targeting different groups of stakeholders will be organized to identify issues, lessons learned and potential areas for future interventions. Facilitation techniques, developed by the evaluation team at the beginning of the main mission, will be employed during the workshops. Information from different sources it will be validated through triangulation.

A technique that may be used for the section on “**programme contribution: are we making a difference**” is Outcome Harvesting. The idea of this methodology is to start out by identifying changes that have taken place in a determined area of work, region or target group, and then determine FAO's specific contribution to these changes¹⁰. This approach, rather than measuring progress towards predetermined objectives, collects evidence on achievements and works backwards to determine how a particular intervention or project contributed to the change. Outcome harvesting can be used not only to identify positive results, but also negative outcomes and missed opportunities. This technique is particularly useful to investigate programme impact and effectiveness, but also for gathering information on relevance, sustainability, programme coherence and synergies. For the purpose of present evaluation this technique will be used for an in-depth study on policy incidence, which was planned as an outcome of Priority Area 1 of the CPF.

Given the importance placed on **results**, two in-depth impact studies will be conducted in two focus areas (agriculture and aquaculture development) to assess changes brought by FAO's interventions on the beneficiaries' lives and livelihoods. In so far as possible, considering time, logistical and methodological constraints, the team will assess short and long term impacts and negative and positive results at community level. Project sites for field visits will be selected in consultation with the Country Office, aiming at relevance and geographic variety. During site visits the team will use different evaluation tools, both quantitative and qualitative, to collect the views of the beneficiaries and of communities at large. Participatory Rural Appraisal techniques may also be employed to enhance the quality and reliability of data collected. The team will also meet with non-beneficiary households to explore targeting issues and spill-over effects. Visits to sites that benefited from projects that are presently closed will be included in the sample to investigate sustainability issues and exit strategies.

Emphasis will be placed on assessing FAO's contributions to capacity development. The definition adopted in FAO's Capacity Development Corporate Strategy (2009), based on the enhanced capacities across three dimensions (individual, organizational, and enabling environment dimensions), it constitutes an important analytical framework for this evaluation.

The evaluation will adopt a consultative approach, seeking and sharing opinions with stakeholders at different stages throughout the process. Different sources will be used to verify information. Triangulation of information across stakeholders will be a key approach for validating evidence.

Finally, the evaluation will follow UNEG Norms and Standards as well as ethical guidelines. Gender and equity aspects will be examined throughout the evaluation.

¹⁰ More on Outcome Harvesting can be found at the following link
http://www.managingforimpact.org/sites/default/files/resource/outcome_harvesting_brief_final_2012-05-2-1.pdf

9. Process

9.1 Preparatory phase

These ToRs are the result of the preparatory phase, which included:

- An *inception mission*, carried out to discuss with FAO staff at regional, sub-regional and country levels as well as to engage with the national government and set up a framework for collaboration with key national counterparts, scope the national research and evaluation capacity to establish collaborations for the evaluation process, and discuss evaluation design and activity plans with the relevant programme managers. Interviews with internal and external stakeholders were conducted to identify key issues for the evaluation and formulate related evaluation questions.
- A *portfolio analysis*, prepared to better understand FAO's past priorities and the details of its programme in the country, providing an overview of activities and, when possible, of results achieved.
- A *context analysis*, prepared to highlight the country's needs and priorities falling within FAO's areas of work.

9.2 Main evaluation phase

This phase will include the following:

- Desk review of existing documentation, and in particular any previous evaluations, monitoring information and M&E studies;
- On the basis of the ToRs, development of more specific evaluation questions;
- With the support of the country office, mapping of FAO's internal and external stakeholders able to provide information in relation to the evaluation questions;
- Consultation with key informants, national institutions at central and decentralised level, and development partners, including donors, NGOs, UN agencies and others in Bishkek, Ankara, Budapest and Rome;
- Field visits to project sites selected in coordination with the Country Office to meet with government staff at provincial and district level, project beneficiaries and beneficiary communities;
- In-depth studies will be carried out of the results of FAO-support on irrigation, fisheries and aquaculture and livestock-development at community level. Forms of collaboration will be sought with the National Agriculture University and other local entities to carry out the study;
- An in-depth review of FAO policy support on food and nutrition security will also be conducted. Forms of collaboration will be sought with the Institute of Public Policy and Administration of the Central Asia University to carry out the review.

The main evaluation will take place in the period July-October 2015, and include work in several streams undertaken in parallel by the evaluation team members. An initial mission will take place in July 2015 to refine the evaluation questions, methodology and tools, as well as to launch the in-depth studies and the policy review. A second mission will be conducted in early September to undertake complementary data collection. A final mission will be conducted in late September/October to analyse the information collected, on which basis the team will discuss and agree on main conclusions, recommendations and lessons learnt. At the end of this mission, preliminary results will be presented to FAO country office staff, the Consultative Group, and during a larger stakeholder workshop.

9.3 Drafting and dissemination of the report, follow up of findings, conclusions, recommendations

The Evaluation Manager (EM), with the support of the Associated Evaluation Manager (AEM), will consolidate team members' contributions to prepare the draft report. The draft report will be circulated to FAO staff and relevant partners, who will provide comments and suggestions before the finalisation of the report.

The final report will be presented to the national government counterparts, development partners, implementing partners and other national and regional stakeholders in order to validate the overall conclusions reached by the team, build consensus on the way forward, promote ownership of the evaluation results and maximise their use. The FAO Representative will be responsible for coordinating the management response to the report and its recommendations.

Wide dissemination of the report to maximise the impact of the evaluation results will be ensured by OED, with the support of the CO. The final report and FAO's management response are public documents and will be broadly disseminated both internally and externally¹¹ (see below).

10. Organisation of the Evaluation

10.1 Roles and Responsibilities

Office of Evaluation: OED is responsible for managing the evaluation and leading the team through the designated Evaluation Manager (EM). During the preparatory phase, the EM is responsible for drafting the ToRs for the evaluation, selecting team members, and drafting individual ToRs. In the main evaluation phase, the EM will oversee and guide the evaluation team, especially during the launch. Towards the end of the evaluation, the EM will facilitate discussions during the analysis of findings, conclusions and recommendations. OED, in collaboration with the CO, will promote the dissemination of the report.

Evaluation Team: The evaluation team will be responsible for collecting data and analysing evidence to develop findings, conclusions and recommendations under their areas of responsibility. For this purpose, the team members will participate in the initial briefing sessions delivered by OED, and through group discussions will contribute to the refinement of the methodology and preparation of the evaluation tools. At the beginning of the main evaluation phase, each team member will carry out a desk review of documents in their area of work. During the investigation phase, team members will work on their respective assignments. Once the draft report is circulated and the comments received, the team members will provide advice on the integration of comments received from the Consultative Group and FAO staff.

Country Office: The Country Office staff will provide comments on the ToRs, support OED in mapping FAO's stakeholders in the country, support the preparation of the evaluation programme and the identification of locations for the field visits, ensure that the team has access to all relevant documentation, be available for meetings and discussions with the evaluation team, provide administrative and logistical support to the evaluation as needed, and provide comments to the draft report. The FAOR (with the support of REU, SEC and with inputs from relevant units at HQ) is responsible for leading and coordinating the preparation of the management response, and after one year of preparing the follow-up report informing on progress in the implementation of the evaluation's recommendations.

REU, SEC and HQ divisions: Relevant HQ divisions and FAO staff involved in the country programme will also provide their comments to the draft ToRs and later to the draft report, ensure time for meetings with team members, and provide information and documentation upon request.

The evaluation team will also engage relevant Government counterparts and local stakeholders throughout the evaluation process.

10.2 Composition and profile of the evaluation team

The evaluation team will consist of experts with technical and evaluation expertise and will work under the leadership of the OED evaluation manager. An effort will be made to achieve gender balance in the team makeup. Following the preparatory phase, necessary expertise identified for members of the evaluation team are the following:

¹¹ The Office of Evaluation posts all reports on the OED website. The FAO representative is responsible for distributing the report to all key stakeholders at the country level after its finalisation.

- A **senior consultant** will evaluate the outcomes under the priority areas of **climate change and disaster risk reduction**, as well as work on **women's empowerment**. The senior consultant will focus on specific interventions in these areas, as well as on how these concerns have been integrated into all of FAO's interventions.
- A **policy analysis expert** will be responsible for assessing the performance and results of work at the policy and institutional levels in food security and nutrition, and for providing a forward looking contribution on how to enhance FAO's work in these areas.
- A **natural resources expert** will conduct an assessment of the outcomes achieved under the priority area of sustainable management of natural resources.
-

The Associate Evaluation Manager will conduct the in-depth field studies with the support of an aquaculture and a livestock development experts as well as graduates of the **Kyrgyz National Agrarian University** and the Central Asia University who will assist with data collection and analysis.

10.3 Tentative evaluation timeline

March-May	Preparatory work
May	One week inception mission with the aim of involving the Government of Kyrgyzstan, FAO staff and partners in the evaluation process, refine the questions that the evaluation will raise, develop a detailed methodology;
June-July	Development and Distribution of the ToRs to the Country Office and to the Consultative Group for comments, and finalisation of the ToRs Development of protocols for field studies
August-early September	Conduct of in-depth studies and reviews
Mid-September	Main evaluation missions during which the evaluation team will carry out interviews with stakeholders including GoK, non-government organisation and private sector. Field visits will be organised covering different provinces where FAO implemented interventions
Early October	Workshops with the country office team and relevant stakeholders to present preliminary findings
Mid-October-January	Drafting of report and distribution of draft to Country Office for comments
February-March	Integration of comments and preparation of the final draft report
April-June	Distribution of draft report to FAO stakeholders and relevant partners
July-December	Finalization of the report and dissemination
Early 2017	Presentation of the final report and Management Response at stakeholder workshop in Bishkek

Appendix 1: Projects by Priority Area of the CPF

Priority Area 1: Build capacity amongst key stakeholders to assess the food, agriculture and the food nutrition security situation in the country and prepare strategic food and nutrition security plans and strategies aimed at achieving Zero Hunger in Kyrgyzstan	
Outcome: Improved basis for Food Security Policies, Plans and Programmes in the Kyrgyz Republic	
GCP /KYR/006/EC "Strengthening of the National Food Security Information System in the Kyrgyz Republic"	\$1,860,681.00
GCP /KYR/008/TUR Development of an Agricultural Development Strategy in Kyr-gyzstan for 2011- 2020	\$ 200,000.00
TCP/KYR/3401: Baby 2 Assistance to the Kyrgyz Ministry of Agriculture and Amelioration in coordinating donors' support for implementation of agricultural policy in Kyrgyzstan.	\$ 86,000.00
TCP/KYR/3301 TCP Facility: baby 1 Support to the Kyrgyz Government in formulating a TCP project on institutional strengthening of the Ministry of Agriculture on Agribusiness and Marketing, baby 2 Support to formulating an EU funded Trust Fund project, baby 3 Carry out a Crop Production Assessment in the Kyrgyz Republic	\$95,257
TCP/KYR/3401 BABY03 Institutional capacity development for improving the performance of irrigation systems in the Kyrgyz Republic	\$ 4,786
TCP/KYR/3405 Technical assistance for the testing and promoting of quinoa in Kyrgyzstan to address the food security issues	\$50,000
TCP/KYR/3501 TCP Facility: baby 4: Formulation of Project Document for Implementation of the Animal Identification and Traceability System in the Kyrgyz Republic, baby 1: Assistance to the National Statistics Committee in preparing a project document for the Agricultural Census of 2016, baby 3: Support to formulation of the national legislation on organic farming in Kyrgyz Republic	\$ 182,075
TCP/KYR/3303 Emergency assistance to support the recovery of agriculture-based livelihoods systems of conflict-affected farm families in Southern Kyrgyzstan	\$ 367 000
TCP/INT/3401 Support for the implementation and development of the Coun-trySTAT framework in the Eco-nomic Cooperation Organization (ECO) countries	
GCP /SEC/006/TUR* "FAO-GIEWS Price Database and analysis tool"	
TCP/RER/3303 Support to the design of immediate country-level actions in response to the current high food prices in Europe and Central Asia	
GCP /RER/044/TUR* ECO Regional Coordination Centre for Food Security (RCC-FS)	
GCP /RER/029/TUR* Capacity Development for Analysis and Strengthening of Agricultural Innovation Systems (AIS) in Central Asia and Turkey	
GCP /INT/123/MUL Seed Sector Development in Countries of the Economic Cooperation Organization	
TCP/SEC/3403 Strengthening capacities of the national phytosanitary control services in Central Asia	

(*): Regional projects funded by the FAO-Turkish Partnership Programme will be separately evaluated.

Priority Area 2: Build sustainable agricultural systems with special emphasis on fisheries and livestock sectors for the promotion of sustainable rural livelihoods	
Outcome: Improved contribution of the agriculture, particularly the fisheries and livestock sectors, to national food security	
GCP /KYR/003/FIN Support to Fishery and aquaculture management in the Kyrgyz Republic	\$2,383,918
TCP/KYR/3404 "Development of an Animal Identification and Traceability System in Kyrgyz Republic"	\$417,000
TCP/KYR/3401 Preparation of National Livestock Sector Development Policy and Strategy in the Kyrgyz Republic	\$ 92,801
GCP /KYR/012/FIN Towards Sustainable Aquaculture and Fisheries Development in the Kyrgyz Republic	\$ 1,983,209
UNJP/KYR/005/UNJ Small-scale community based agriculture to enhance and diversify agricultural production and rural livelihoods	\$411,008
TCP/KYR/3301 TCP Facility	\$95,257
TCP/KYR/3203 Pistachio and Walnut Development Project	\$ 359667
TCP/KYR/3306 Pistachio and Walnut Development Project - phase II of TCP/KYR/3203	\$120,000
TCP/KYR/3205 Strengthening the Bishkek laboratory for quality and safety of agrochemicals	\$164,000
TCP/KYR/3403 Development of farmer field schools to promote modern crop management and pest control technologies	\$397,000
TCP/KYR/3502 Enhancing aquaculture production for food security and rural development through improved feed value chain, production and use	\$337,000
TCP/KYR/3302 Assistance in controlling transboundary animal diseases of livestock	\$312,000
TCP/KYR/3404 "Development of an Animal Identification and Traceability System in Kyrgyz Republic"	\$417,000
GCP /RER/031/TUR* Central Asia Regional Programme for Fisheries and Aquaculture Development (FISHDEV - CA)	
GCP /RER/042/GFF* Lifecycle Management of Pesticides and Disposal of POPs Pesticides in Central Asian Countries and Turkey(PPG)	
GCP /RER/040/EC* Improving capacities to eliminate and prevent recurrence of obsolete pesticides as a model for tackling unused hazardous chemicals in the former Soviet Union	
GCP /RER/035/TUR* Initiative for Pesticides and Pest Management in Central Asia and Turkey	
TCP/RER/3304 Establishment of a standard methodology (RuralInvest) for effective small and medium scale rural investments	
TCP/SEC/3402 Strengthening adaptation of Aquaculture and Culture-based Fisheries to Climate Change	
GCP /SEC/001/TUR** Cattle Production Improvement in Central Asia	
GCP/SEC/003/TUR* Promoting the Management of Animal genetic Resources in SEC countries	
TCP/INT/3503 Technical assistance for the formulation of strategies for the control of peste des petits ruminants (PPR) at global and regional levels	
TCP/INT/3202 Improving management of migratory and other locusts in the Caucasus and Central Asia	

(**): This national component of this regional project will be covered by this CPE.

Priority Area 3: Enhance overall disaster preparedness in Kyrgyzstan through adaptation and mitigation measures in the agriculture sector as well as targeted disaster risk reduction and emergency response strategies	
Outcome: Climate Change mitigation and adaptation in the Agriculture and Forestry Sectors, and resilience in disaster and crises situations enhanced	
GCP /KYR/010/GFF Sustainable management of mountainous forest and land resources under climate change conditions (FSP)	\$ 5,454,545.00
GCP /KYR/011/GFF Sustainable management of mountainous forest and land resources under climate change conditions (PPG)	\$90,909
TCP/KYR/3204 Capacity building for national forest and tree resource assessment and monitoring	\$51,021
TCP/KYR/3503 Capacity building and awareness raising for the sustainable use and tenure governance of pastures in Kyrgyzstan	\$ 330,000
OSRO/KYR/001/CHA Immediate time critical support to most vulnerable farming households to protect their livelihoods and to restore agriculture production - (10-FAO-025)	\$404,790.00
TCP/SEC/3401 Support to the preparation of the country reports on forest genetic resources (FGR) in AZ, TJ, KG, KZ, and UZ	
GCP /SEC/002/TUR* Capacity Building for Sustainable Management of Mountain Watersheds in Central Asia and the Caucasus	
GCP /SEC/004/TUR* Towards better national and regional locust management in Caucasus and Central Asia	
GCP /RER/026/AUS Increasing resilience of small scale farmers to the impacts of soaring food prices by improving capacity and institutional environment for seed production and the use of irrigation technologies	
Priority Area 4: Reduce rural poverty, especially of rural women, through capacity development and small- to medium-scale enterprise development	
Outcome 4: Reduction of Rural Poverty and Empowerment of Rural women	
UNJP/KYR/009/PBF Promoting stability in Kyrgyzstan through administration of justice, infrastructure for peace and engagement of critical stakeholders	\$300,000.00
TCP/KYR/3403 Development of farmer field schools to promote modern crop management and pest control technologies	\$397,000.00
UNJP/KYR/004/UNJ ONE UN Fund Initiative for Kyrgyzstan - Agricultural assistance to vulnerable, food insecure female-headed households	\$649,240.00
UNJP/KYR/005/UNJ Small-scale community based agriculture to enhance and diversify agricultural production and rural livelihoods	\$411,008
UNJP/KYR/013/UNJ Accelerating Progress towards the Economic Empowerment of Rural Women (RWEE) in the Kyrgyz Republic	\$74,900.00
GCP /SEC/008/TUR* Strengthening national capacities for production and analysis of sex-disaggregated data through the implementation of the FAO Gender and Agriculture Framework (GASF)	

Acronyms and abbreviations

CCA	Climate Change Adaptation
CG	Consultative Group
CO	Country Office
CPE	Country Programme Evaluation
CPF	Country Programming Framework
EC	European Commission
EM	Evaluation Manager
ECO	Economic Cooperation Organization
FFS	Farmer Field Schools
FMD	Food and Mouth Diseases
FPMIS	Field Programme Management Information System
GCP	Government Cooperation Project
GEF	Global Environment Facility
GIZ	German International Cooperation Organization
HQ	Headquarters
IFAD	International Fund for Agricultural Development
MoAM	Ministry of Agriculture and Melioration of the Kyrgyz Republic
NSC	National Statistics Committee of the Kyrgyz Republic
OED	Office of Evaluation
OSRO	Emergency project
PPR	Peste de Petits Ruminants
REU	Regional Office for Europe and Central Asia
SAEPF	State Agency on Environment Protection and Forestry of the Kyrgyz Republic
SDC	Swiss Development Cooperation Agency
SEC	Sub-regional Office for Central Asia
TAD	Transboundary Animal Diseases
TCP	Technical Cooperation Programme
UN FAO	United Nations Food and Agriculture Organization
UNJF	United Nations Joint Fund

Annex 2: Impact assessment of livestock projects

Cattle production Improvement in Central Asia Countries (GCP/SEC/001/TUR)

Background

Project context

Livestock is a major component of the agricultural sector in the Kyrgyz Republic, making up 45% of agricultural outputs. ¹² Meat and dairy production make up 60% of the gross livestock production. ¹³ The geographic conditions of the country facilitates livestock development, with 83% of agricultural land and 9.6 m hectares of natural mountain pastures. ¹⁴ However, productivity has significantly weakened since the country's independence in 1991. Capacities for large-scale production of various forages, and livestock feeds have also decreased. ¹⁵ The increase in small-scale production, coupled with weak technical and fodder base of the farming households as well as the lack of systematic animal breeding work, has led to the worsening of the livestock qualities and a loss of valuable genetic material.

Table 1. Selected livestock sector indicators (1990 & 2010)

1990			2010			Average quantity of milk produced by one cow, kg	
Total number of livestock, thousands	Of which, brood cows, thousands	Proportion of brood cows, %	Total number of livestock, thousands	Of which, brood cows, thousands	Proportion of brood cows, %	1990	2010
1 205.2	55.0	4.6	1 278.0	13.5	1.1	3 070	2 037

Source: National Statistics Committee of the Kyrgyz Republic, 2014

The Agricultural sector in general, and livestock in particular, has an important place in the National Sustainable Development Strategy of the Kyrgyz Republic for 2013-2017, which recognizes the urgent need to raise the productivity levels of the sector¹⁶, and address the declining quality of the animal genetic resources¹⁷.

Project overview

GCP/SEC/001/TUR was a regional project funded by Turkey through the FAO-Turkey Partnership Programme (FTPP). It covered Turkey, Azerbaijan, Tajikistan and Kyrgyzstan, and in Kyrgyzstan it aimed at establishing a Cattle Breeders Association (CBA), a milk-collection center, feed and forage demonstration plots, as well as at building capacities of farmers on advanced animal husbandry and feeding practices. It was conceived at the workshop on *Livestock Production Issues and Opportunities in Central Asian Countries* held in Kusadasi, Turkey in 2010. A sister project on National Animal Genetic Resources Action Plans (GCP/SEC/003/TUR) was initiated simultaneously in all the target countries to ensure a comprehensive approach to improving livestock productivity in the region.

The project run from October 2011 to December 2014, and was aligned with the Ministry of Agriculture (MoA)'s National Livestock Development Strategy (2011-15). The selection of project target areas was informed by the project's appraisal study that recommended focusing

¹² Assessment and Country Project Appraisal Report. Kyrgyzstan, Bishkek/Almaty, Cattle Production Improvement Module In the Subregional Eastern Europe and Central Asian (SEC) Countries, March 2012, p.6

¹³ Livestock Development in the Kyrgyz Republic for 2011-2015, concept note («Концепция развития животноводства в Кыргызской Республике на 2011-2015 годы»), Ministry of Agriculture, Bishkek, 2011, p.11

¹⁴ Website of the Ministry of Agriculture (<http://www.agroprod.kg/modules.php?name=Pages&page=1>)

¹⁵ Agricultural Development Strategy of the Kyrgyz Republic, Ministry of Agriculture, Bishkek, 2012, p.26

¹⁶ National Livestock Development Strategy (2011-2015)

¹⁷ National Sustainable Development Strategy (2013-2017), p. 87

on Chui province based on the following criteria of: 1) availability of areas serviced by artificial insemination units, 2) availability of active veterinarians and extension services, 3) availability of formal dairy companies purchasing milk; 4) areas not too far from Bishkek. In addition, based on the official statistics, the three districts of Chui province are among the top producers of forage in the province, which facilitated project activities. Regional activities were implemented by the FAO Sub-regional Office for Central Asia (SEC) in Ankara, Turkey, and made extensive use of regional expertise from Turkey. The FAO Country Office in Kyrgyzstan implemented the national components of the project. It was not possible to obtain a breakdown of the budget spent in Kyrgyzstan from SEC. At regional level most of the budget was allocated to consultants.

Table 2. Project budget lines (in US\$)

Item	Amount
Consultants	165 000
Contracts	58 000
Travel and DSA	59 600
Expendable procurement	10 200
Non-expendable equipment	16 000
Technical Support Services	25 096
General Operating Expenses	20 086
Support costs	46 018
Total	400 000

Source: GCP/SEC/001/TUR project document

In 2013 the project budget was increased by US\$ 200 000, which allowed for the purchase of agricultural machinery and other expenditures in Kyrgyzstan worth US\$ 36 055 (see breakdown below).

Table 3. Additional project expenditures in Kyrgyzstan (in US\$)

Item	Amount
Tractor	21 950
Maize silage machine	3 468
Milk tanker	8 479
Milk mini-laboratory	2 158
Total	36 055

Source: project data

The FAO Country Office mobilized some Telefood funds (TFD-13/KYR/001) to support the participation of eight female-headed households in dairy production. The beneficiaries of this small project were members of the CBA established under GCP/SEC/001/TUR. They were selected based on economic and food security vulnerability criteria and given dairy cows to enable a fuller participation in the project.¹⁸ In addition, **a TCP project formulated by the Country Office on pasture management (TCP/KYR/3503) was implemented in the same geographic area**, which allowed FAO to provide additional technical support and follow-up on the activities implemented under GCP/SEC/001/TUR.

The project helped establishing a CBA which currently boasts about 200 members (47 more than at project end). It also provided training to 60 farmers, including 25 women, on logistics, pricing and seasonal impact of milk production; feeding of dairy cows; types of forages, and milk processing. 17 forage demo-plots were established to show farmers the improved forage growing techniques; and 60 tons of hay were harvested and distributed among CBA members¹⁹. A milk-cooling center with a tanker with capacity of up to 2 000 liters was set up in Iskra village of Chui district. The center was also provided with milk quality testing equipment. CBA members

¹⁸ TFD-13/KYR/001 project document, p. 5

¹⁹ GCP/SEC/001/TUR Project Progress Report, reporting period March-August, 2014, available in FPMIS, p.5

made in-kind contributions (i.e., they provided the land and participated in the construction of the center). In addition, one maize silage-cutting machine and one tractor were provided to the CBA to be used by the members of the association through a rental system. Currently the machinery is located in one of the farms of the Sokuluk district and is being used by some CBA members.

Objectives and methodology of the study

This study is part of the FAO Country Programme Evaluation (CPE) in the Kyrgyz Republic, undertaken by the FAO Evaluation Office (OED) in September-December 2015. The purpose of the CPE is to provide inputs to better orient the FAO's country priority framework (CPF) in Kyrgyzstan, while making it more relevant to the needs of the country.

The study assessed the results of the FAO field-level livestock interventions in Chui province undertaken through GCP/SEC/001/TUR project. The assessment was guided by the evaluation questions of the CPE, and sought to identify the extent to which FAO interventions were relevant, effective, coherent and synergetic as well as whether these were undertaken in respect of the UN normative values, and making optimum use of partnerships.

The project was selected for in-depth study due to the importance of the livestock sector in the country's economy and the interest expressed by the FAO and the Government in ascertaining the long-term results of the pilot.

The study was conducted in three districts of Chui province (Sokuluk, Moskovskiy and Chuyskiy) between August-October 2015, and involved the conduct of desk review (appendix 1), interviews with local authorities and key informants (appendix 2) as well as focus groups discussions and a survey of 100²⁰ CBA beneficiaries (see sampling strategy in the table below). Furthermore, a control group of farmers (26) were also interviewed to obtain comparable data. For more details on the study methodology see Appendix 3. The profile of the survey respondents is available in Appendix 4.

Table 4. Survey Sample size distribution by districts of Chui province

District	Total number of beneficiaries	% of total per district	Sample size per district	Control group members	Total per district
Sokuluk	65	43	32	10	42
Moskovskiy	11	7	5	3	8
Chuyskiy	77	50	37	13	50
Total	153	100	74	26	100

Source: Evaluation Team

The evaluation team would like to express its deep gratitude to Mrs. Maripa Kichinebatyrova, project manager, and the country office staff for generously allocating time, providing the team with all background materials and supporting with the field work. Field-work was conducted by Kyrgyz Agrarian University graduates with the support of the Veterinary Faculty Dean.

Assessment

Relevance

This section examines the adequacy and design of the FAO intervention to contribute to productivity growth of the livestock sector in Chui province, and presents the findings derived from the desk review, interviews with stakeholders and fieldwork. These are structured around three "relevance" issues: 1) relevance of project objectives and outcomes to the priorities stated in relevant policy documents; 2) to the FAO CPF stated outcomes; and 3) to the challenges faced by the community members in the target areas.

20 The surveyors interviewed 100 beneficiaries, instead of the 74 initially identified, in view of the increase in the number of CBA members (from 153 to 200).

Box 1. Relevance Evaluation Questions

1. To what extent the Project's objectives and achievements were consistent with the national priorities?
2. To what extent the Project was within FAO comparative advantage?
3. To what extent the Project's objectives and achievements responded to the needs of the beneficiaries?
4. To what extent the Project's outcomes addressed key issues, their underlying causes and challenges?

Finding: The relevance of the project to the needs of beneficiaries is assessed as satisfactory, but not addressing the challenge in full. The interventions helped to address the issue of low livestock productivity through improved animal feeding. The need to improve animal genetics quality remains to be addressed.

The evaluated project was aligned with national livestock development priorities. Improving livestock productivity levels is a core goal of the National Livestock Sector Development Strategy (2011-2015). Together with project GCP/SEC/003/TUR (on animal genetic resources) it was expected to improve livestock productivity levels by improving animal feeding practices and fodder base, as well as animal genetic resources quality.

The project was also in line with the stated outcome of FAO's CPF Priority Area 2, which aims at improving the contribution of the Fisheries and Livestock Sector to Food Security in the Kyrgyz Republic. It was also relevant for the FAO Regional Initiative on "Empowering Small Holder and Family Farms".

The design of the project was based on the findings of the country-level project appraisal study²¹, which identified the project target areas and highlighted the major livestock productivity challenges in the region. Unfortunately, no baseline data was collected at the end-beneficiary level during the appraisal study, which limited a more comprehensive assessment of the results achieved.

The project was relevant to the needs of the beneficiaries as it addressed some of the main causes of low livestock productivity rates, like: a) poor animal nutrition, both during summer when cows are feeding on overgrazed village or nearby pastures, and in winter when inadequate quantities and quality of winter feeds are available; b) lack of bulls or artificial insemination (AI) services, c) animal diseases and internal and external parasites, d) lack of knowledge and husbandry skills among farmers, e) poor quality shelter with bad ventilation, and f) lack of infrastructure for milk collection and preservation.²²

Furthermore, in the selected project areas livestock production contributes a significant part of the household income. All the surveyed CBA members are cattle breeders and small farm-holders. Over two thirds depend from livestock for over 40% of their income. Milk, meat and dairy products make a major part of the beneficiaries' livelihood strategies (see figure 1).

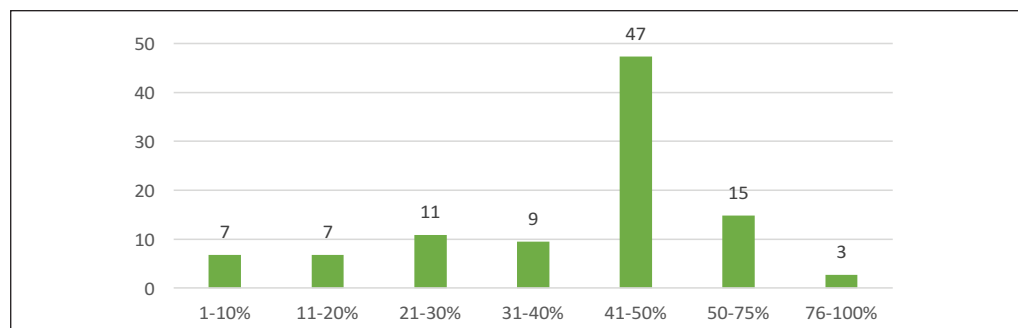


Figure 1: Percentage of income coming from livestock among CBA members

Source: Field study

²¹ Assessment and Country Project Appraisal Report. Kyrgyzstan", Bishkek/Almaty, Cattle Production Improvement Module In the Subregional Eastern Europe and Central Asian (SEC) Countries, March 2012

²² Assessment and Country Project Appraisal Report. Kyrgyzstan", Bishkek/Almaty, Cattle Production Improvement Module In the Sub-regional Eastern Europe and Central Asian (SEC) Countries, March 2012, p. 21

Partnerships and coordination

This section looks at the partnerships envisaged as a part of the project and the extent to which they were effective and long-lasting. Box 2 specifies the questions addressed in the section.

Box 2. Partnership and Coordination Evaluation Questions

- How did FAO engage in partnerships and to what extent were these partnerships complementary and synergetic?
- To what extent has FAO supported the coordination of actors working in the rural development and food security sector?

Finding: Coordination with national implementing partners was effective, however no close links or longer term partnerships were established with key regional partners (e.g. CBAT) or major donors working in this sector.

The Ministry of Agriculture (MoA) was the main partner in implementing project activities.

Close and trust-based relations were established with the representatives of MoA during the implementation of the project. The local NGO “Chui-Talas Rural Advisory Services (RAS)” was contracted under Letter of Agreement (LoA) modality to provide trainings to farmers and produce milk marketing assessment. This partnership was characterized as a positive experience.

The project was implemented in the framework of the FAO-Turkish Partnership Programmed (FTPP), and thus promoted cooperation among regional partners: the Cattle Breeders Association of Turkey (CBAT) and the Turkish International Development Agency (TIKA). FAO acted as a knowledge broker and mobilized the experiences of these two partners to set-up cattle breeders associations in Kyrgyzstan, Tajikistan, and Azerbaijan based on the CBAT model. Unfortunately, no further communication or collaboration with the CBAT or counterparts in Tajikistan and Azerbaijan seem to have taken place after the end of the project.

During the period under consideration, no major donor support was reportedly provided to the beneficiaries for livestock development in the project-selected areas. The Agency for Development and Investment in Communities (ARIS)²³ had implemented several infrastructure building (construction of bridges and roads) projects in 2012 and in the past assisted in setting up pasture committees. Other donors, chiefly IFAD and the World Bank, are quite active in the sector, but the evaluation team did not find evidence that this specific initiative had collaborations or informed investment projects implemented by these partner Agencies.

Normative values

This section presents findings on how project design and implementation managed to integrate the UN normative values, such as focusing on the poorest and marginalized, women and other disadvantaged groups. Box 3 provides a list of evaluation questions addressed through the study.

Box 3. Normative Values Evaluation Questions

- Have normative values of the United Nations, particularly supporting the poor, marginalized, disadvantaged and affected populations been embedded into FAO's programme and how?
- To what extent has FAO taken into account equity, gender and human rights in the design of its programme and during the implementation?

Finding: Although it did not have a specific pro-poor approach, the project provided support to marginalized groups.

23 For more information on ARIS, please see http://www.aris.kg/en/about_ev/

The project targeted small-holder farmers who largely depend on livestock and forages as their main livelihood strategies. The majority of these farmers (about 72%) have monthly incomes of 5 000-20 000 Som (approx. USD \$80-320), and depend on their livestock products as the main sources of household consumption.

Although not embedded in the project design, the CBA members included disadvantaged groups. The beneficiaries of the project included families that had moved to Chui province from conflict-affected Osh province²⁴, and representatives of Dunghan²⁵ minorities compactly residing in Kyrgyzstan's Chui province.

Women and children were considered as important stakeholders in the project. According to the CBA membership list, women make up 29% of the CBA members. **The project ensured that women benefit from capacity-building activities, e.g. theoretical and practical trainings** on animal husbandry practices, growing and preparing improved forages, basics of veterinary, veterinary-sanitary principals of milk processing, pasteurization and sterilization of milk in home conditions, as well as preparing cheese, curd and butter.

Women constituted almost a half of the trained farmers, but their distribution across target areas was unbalanced. 25 women out of 60 trainees were reported to participate in the trainings provided by the local NGO, but the biggest proportion of female participants was registered in Chui district of Chui province (21 out of 30 trainees), whereas in Moskovskiy district no women attended the trainings.²⁶

The field survey confirmed the important role of women in livestock management. However, no specific gender-sensitive approach was undertaken as part of the project, which resulted in moderate results in terms of improved capacities of women. For example, the training on production of dairy products was offered, but limited number of women have attended it and even fewer reported actually applying the learned practices.

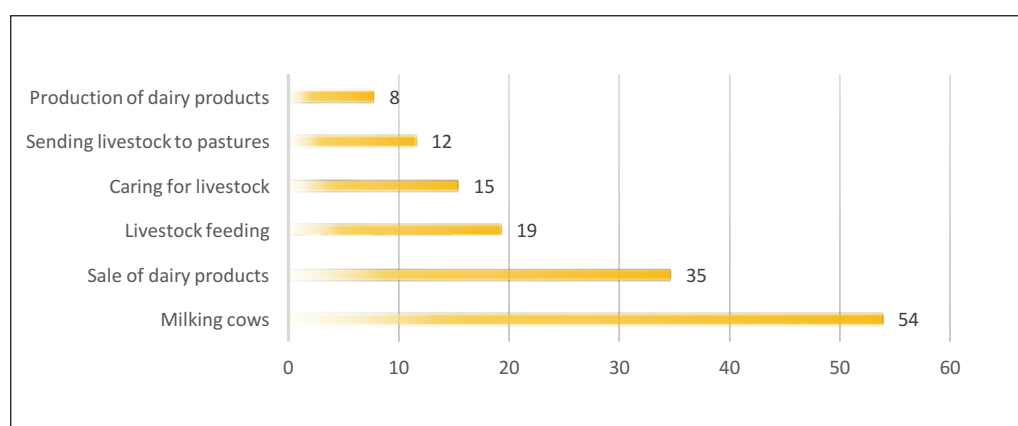


Figure 2: Women Engagement in Livestock Management: main activities (in percentage)

Source: field study

Impact and Effectiveness

This section focuses on the evaluation of the project's effectiveness by looking at the achievement of the planned outputs in a given timeframe and how they contributed towards CPF Priority area's objectives. The findings are based on the review of the project document, interviews with key stakeholders and beneficiaries. The questions in Box 4 provide details on the issues addressed.

²⁴ Ethnic clashes between Kyrgyz and Uzbeks in 2010

²⁵ Chinese-speaking Muslim minorities compactly living in some areas of Kyrgyzstan, southern Kazakhstan and Uzbekistan.

²⁶ Final Report, Public Foundation "Chui-Talas Rural Advisory Services", Bishkek, 2014

Box 4. Effectiveness and Impact Evaluation Questions

- What changes can be observed that are attributable to FAO's interventions (e.g. behavioral changes; institutional changes; policy changes; technical adaptations; tangible socio-economic benefit)?
- To what extent have these changes contributed to progress towards CPF outcomes?
- Are there any other notable positive or negative impacts of the project?

Finding: Project resulted in improved knowledge and practices in animal feeding and forage production. The project was effective, but its impact is not yet observed.

The project is credited with an improvement of the knowledge and skills in animal husbandry and forage production of the farmers that participated in the programme. Thanks to the project, 74% of the CBA members have changed their animal husbandry practices, and implemented new approaches such as: improvement of the cattle breed by preventing in-breeding and introducing new breeds (as reported by 66% of CBA members), improving air ventilation in barns (12%), and applying artificial insemination (4%). **CBA members learned how to grow improved forage from the demo-plots organized as a part of the project**, although only half (53%) of the surveyed have visited them. Similar changes were also observed among the control group members although at different intensity²⁷.

There are observable differences in the levels of knowledge about quality feeds for livestock among the members of CBA and control group, which allows attributing this finding to the direct project outcomes. For instance, 62% of the CBA members and 35% of the control group members reported knowing about silage. Nonetheless, the proportion of farmers who actively practice production of silage is not very high among the members of both groups. Only 20% of CBA members currently produce silage, and the rest explained that they have no machinery, material or skills needed to produce it. In the control group only 15% of the surveyed make silage and most of them make it based on their own experience in farming or information from friends or relatives.

Thanks to the project, farmers-members of CBA have changed their livestock feeding practices, an outcome directly attributable to project activities. 46% of the CBA members reported having changed livestock feeding practices over the last 3-4 years, introducing barley, maize, bran, silage and milled feed concentrate to the livestock rations. In the control group only 15% of the surveyed have introduced changes to the livestock rations, and the rations for their livestock were dominated by hay, barley and vegetable wastes.

Milled concentrate which is actively used by members of both groups (as reported by 80% of the CBA members and 62% of the control group members), is also **produced domestically by 31% of the CBA members – a technique farmers learned from the project's capacity building activities**, including the study tour to Turkey's CBAT. **This outcome is directly attributable to the project results.**²⁸

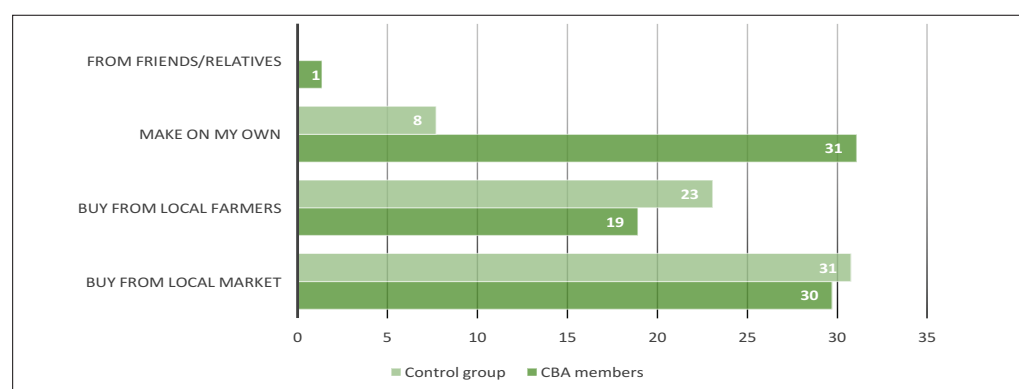


Figure 3: Sources of Milled Concentrate (in percentage)

Source: field study

²⁷ 42% of the control group members have also changed or introduced new cow breeds over the last few years, and 12% started doing artificial insemination

²⁸ The component of the project on establishing compound feed mills was not implemented in Kyrgyzstan, as it had a well-developed compound feed supply system.

The field study also found improved levels of meat quantity and quality among the project beneficiaries, however the results are not conclusive since the control group members reported similar or even higher improvements to meat quality. On the other hand, **the project helped improving milk quantity and quality.** Milk surplus is reportedly sold to the milk-cooling center, or transformed into dairy products for home consumption or sale.

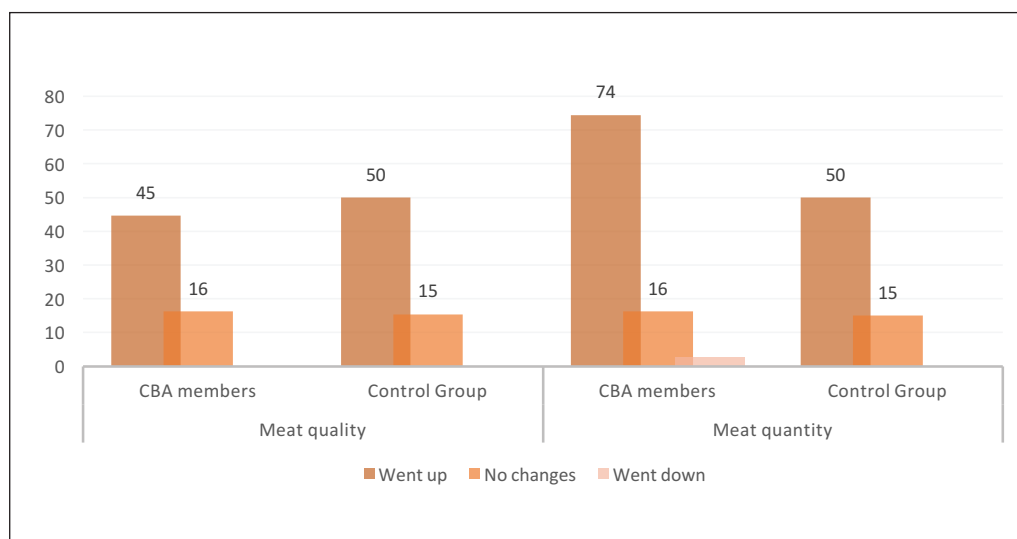


Figure 4: Changes in meat quantity and quality in the past 5 years (in percentage)

Source: field study

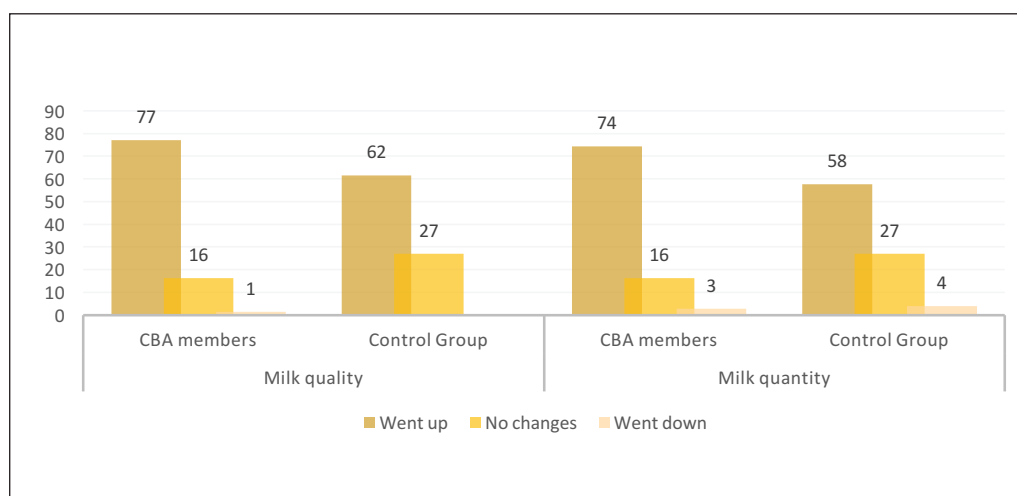


Figure 5: Changes in Milk quantity and quality over the last 5 years (in percentage)

Source: field study

There are no economic changes observed in the farmers' households directly attributable to the project outcomes. In general, the annual incomes of farmers in the project target areas have increased over the last 3-4 years, as reported by 86% of the CBA members. However, the same changes were reported by 81% of the control group members. **Likewise, it was not possible to establish if the newly learned practices in livestock feeding have translated into economic benefits for the farmers.** The majority of farmers in both groups (59% of the CBA members and 62% of the control group) spent the same proportion of their annual income on livestock feeding as before the project.

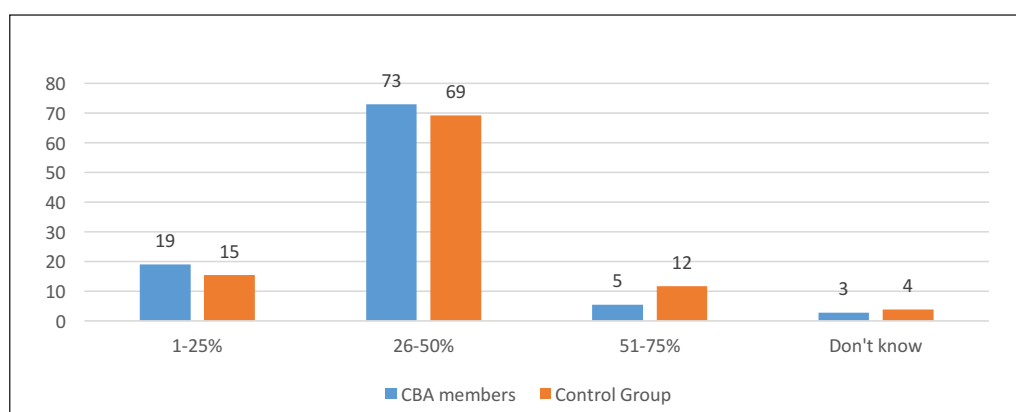


Figure 6. Percentage of household annual income spent on livestock feeding

Source: field study

The **project had spillover effects strengthening milk marketing at the local level**. Currently the milk collection center serves not only the CBA members, but also other farmers living in the nearby communities – some of the control group members reported selling their milk to the center. According to the farmers, it is convenient and profitable for them to sell their milk to this center – the manager of the center with several assistants comes directly to the households and collects milk from the farmers, so that they do not have to bear additional costs for transportation of the milk to the center or to the milk factory located in the nearby Tokmok city.²⁹ In addition to selling the milk to the center, 23 out of the 26 farmers surveyed have benefitted from the laboratory services.

Sustainability

This section presents findings related to sustainability of the project outcomes defined by the level of ownership of the project outputs and outcomes by beneficiaries and stakeholders. Box 5 provides detailed questions addressing this part of the report.

Box 5. Sustainability - Evaluation Questions

- Have FAO activities had proper exit strategies and have these been followed?
- To what extent have the changes that were generated been sustainable?
- To what extent are the results owned by beneficiaries?
- Have livelihoods been affected by results on the medium and long-term and how?

Finding: Sustainability of the project results is low because the project was too short to build institutionally and technically strong association of cattle breeders, and no links were established with regional partners or donors to provide further financial and technical support to the CBA and its members.

The project has produced four major results: 1) establishment of the Chui province Cattle Breeders Association, 2) establishment of the milk-cooling center, 3) capacity building of the CBA members; 4) development of the feed and forage demonstration plots. All these outputs have been delivered and continue functioning and benefitting the target community members.

In the project design the sustainability of the project outcomes was foreseen through continued collaboration with the Turkish CBAT through refresher trainings, hands-on experience transfer, study tours as well as CBAT's commercial components to form valuable trade links between newly established associations and Turkish organizations. Thus, the technical and financial support to the association was supposed to continue after the end of the project. This, in reality, was not in place, and cooperation with CBAT and CBAs in Tajikistan and Azerbaijan have not lasted beyond the scope of the project. Furthermore, no links with other major donor initiatives in the livestock sector of the country were established.

29 Information from Focus Group Discussions with CBA members in Kara-Doboo village, Chui district.

The project outcomes have been further strengthened through continued cooperation from FAO and participation of the CBA members in other short-term livestock-related projects implemented in Chui province (TCP/KYR/3503 and TFD-13/KYR/001).

At present, the effects of the project on the farmers' livelihoods has been important but moderate. Just a few farmers trained are able to prepare improved livestock feeds, like silage and milled concentrate, due to lack of machinery or resources. The trainings were very short – one day for theoretical and practical parts, and therefore have not ensured that the learned material is internalized. The sustainability of results is also constrained by the lack of work on improving animal genetic resources, which is integral for the animal productivity indicators.

With no continued external support sustainability of the CBA is uncertain. Although it has expanded its membership base (currently the CBA has 200 members) and the majority of the them (87%) are satisfied with the services offered by the association, the CBA and milk cooling center managers rely on technical support of FAO through participation in other projects implemented in this area. 66% of the surveyed association members reported paying visits to the association office or meeting with the association Chairman at least 1-2 times per month to get advice on livestock feeding, animal husbandry practices, veterinary issues, livestock production, sale and purchase of livestock, improving the animal genetics, artificial insemination, financial management, etc.

CBA has limited self-sustainability mechanisms. The association does not offer paid services to its members. The CBA and the milk collection centre are primarily managed by larger scale farmers, veterinary specialist, heads of villages, and etc. In view of their capacities, these people have benefitted the most from the study tours to Turkey and the capacity building activities e.g. thanks to the project support the CBA Chairman has drafted several project proposals, and some of them are on the final stages of being approved (among these: installation of electronic shepherd on pastures of Sokuluk district (project is to be financed through Russian Federation – Kyrgyz fund) and purchase of automatic milking machine.

On the other hand, the sustainability of the milk cooling center is ensured by selling milk to the local milk factory at a slightly higher price than the one offered to farmers. The Milk Collection Center in Iskra village is by far the most significant result of the project, as noted by district and sub-district authorities. The tanker may stow up to two tons of milk, and this means that the farmers of Iskra and several nearby villages are secured from losses in their milk production. The manager of the milk collection center plans to expand, and organize a small milk processing workshop on the basis of the center to be able to use the milk for making dairy products and selling them in the nearby Tokmok city. Furthermore, there are at least three persons currently employed by the center, and if it will further expand, there will be even more employment opportunities created for local people, which is a positive contribution towards socio-economic development of the rural areas in Chui province.

Some unforeseen developments in the sector may undermine sustainability of the project outcomes. About 5% of the surveyed households have stopped breeding cows during the last year, with some of them switching to horse-breeding and poultry (3% and 2% increase respectively). During the Focus Group Discussions with farmers in Kara-Dobo village in Chui district, it was revealed that many have opted for this decision due to unusually low prices for milk in 2015. The representative of the local Ayil Okmotu explained this situation by increased use by the local milk factory of the powdered milk from China this year, which distorted the demand and prices for local natural milk.³⁰ The issue was, in fact, addressed to the State Agency on Anti-Monopoly Regulation under the Government of Kyrgyzstan, which referred to lack of control over intermediaries (and prices they set) in the dairy market.³¹ Because of this situation several farmers decided to sell their cows and engage in a different agricultural activity, like vegetable growing or fodder growing for sale.

30 Interview with Almaz, Head of Iskra Ayil Okmotu (sub-district administration), Chuiskiy district on 25/08/2015

31 "There is a mass price drop on milk in Kyrgyzstan and increase in price of dairy products" ("В Кыргызстане идет массовое снижение закупочных цен молока и повышение стоимости готовой продукции"), 12/06/2015, available at <http://kyrtag.kg/economy/v-kyrgyzstane-idet-massovoe-snizhenie-zakupochnykh-tsen-moloka-i-povyshenie-stoimost-gotovoy-produkts>

Coherence and synergies

This section of the report reviews how well was the programme designed and how resources were allocated and used. It also looks at technical support rendered to the programme to advance its outputs to achieve results.

Box 6. Coherence and Synergy Evaluation Questions

- Has FAO focused on activities that will achieve best results vis-à-vis its resources?
- What kind of partnerships has FAO established and to what extent have these enhanced its capacity to achieve desired results?
- To what extent have FAO's global and regional initiatives provided coherent and/or complementary support in view of achieving the CPF results?
- To what extent has FAO HQ, REU and SEC represented an added value, particularly in terms of technical support?
- Has FAO's knowledge base (normative products, guidelines, publications, etc.) been used at country level?
- To what extent is FAO's programming coherent (in terms of the interventions).

Finding: The project was coherent with other FAO activities implemented in the livestock sector in this area. Stronger linkages with FAO support on animal genetics improvement (through GCP/SEC/003/TUR) would have been useful.

The project had realistic and measurable output indicators, which were designed to be attained at the national level of each country. The outcome of the project was having in place “a functioning cattle and milk producers associations (with no less than 50 members), livestock forage / concentrate feeding and modern husbandry management systems”, which looks more like a project output. In any case, by the end of the project the stated outcome was achieved, with the number of association members exceeding the required indicator in three times.

No baseline data on livestock and fodder productivity levels among project beneficiaries was collected before the project activities though. This significantly hampered identifying and measuring the level of change brought by the project. The field study measured it based on “recall” data collected from the CBA members. The medium term impact of the project, stated as *increased availability in markets of high quality animal protein, particularly milk and meat, through rising productivity from better cattle husbandry, feeding and marketing* is expected to be visible within 7-10 years after the project.

The project was managed from SEC office and had a Lead Technical Officer based in Ankara. **The arrangement was effective, especially in terms of technical support provided by SEC and enhanced links to the main stakeholders of the project (CBAT and TIKA).**

In spite of the tight timeframe for a regional project with significant field-level outputs, all the project activities were conducted on time. The results of the project were further enhanced by a budget increase that allowed for the procurement of agricultural machinery that was not foreseen initially.

Local NGO “Chui-Talas RAS” was contracted to provide 12 trainings to the farmers of three districts in Chui province on animal feeding and milk processing and marketing.³² The training materials was developed by the NGO, together with the handout materials and visual aids. All the materials were prepared in Kyrgyz and Russian language to ensure accessibility of the information for local farmers.

The component related to piloting animal identification among CBA members was cancelled due to the complexity of the system, and lack of resources among beneficiaries.

32 Final Report, Public Foundation “Chui-Talas Rural Advisory Services”, Bishkek, 2014

However, learning about the system and requirement for its setup were useful for farmers in understanding its concept.

The project could have generated more significant results, if it had sought to create synergies with FAO support on animal genetic resources (through GCP/SEC/003/TUR). Instead, the two projects ran simultaneously and mostly in parallel to each other. They were not, therefore, perceived as sister projects with a common goal, as was designed during the workshop in Turkey in 2010, and generated smaller scale results individually.

The project was able to create synergies with other projects implemented by FAO in the livestock sector in Chui province. The members of newly established CBA participated in the FAO's technical cooperation project on awareness raising about the use of pastures (TCP/KYR/3503) that focused on strengthening capacities of Pasture Committees and farmers in using the pastures effectively and efficiently. Furthermore, eight women – members of the CBA, were selected as beneficiaries of the small Telefood project (TFD-13/KYR/001), which further contributed to the development of the dairy sector in Chui province. The project beneficiaries received one cow per household to be able to support their livelihoods and produce milk.

Conclusions and lessons learnt

The study's main conclusion is that the initiative was by large very successful in piloting a promising approach for improving livelihoods of livestock-based communities. The establishment of a milk collection center and the incipient formation of a cattle breeder association, which could function as source of knowledge and business incubator, were the main successes of the project in the eyes of the beneficiaries. On the other hand, the short-duration and inherent complexity of some of the capacity building activities undertaken question the sustainability of some of the results especially in the absence of longer-term programmes/interventions that could provide such support. In this regard, the following lessons are drawn:

- a. When implementing pilot interventions, links with larger initiatives in the sector should be sought to ensure sustainability of project results;
- b. Given the high –but not always recognized- involvement of women in the livestock sector, the application of gender-differentiated approaches may ensure integration of the UN normative values and, more importantly enhance project outcomes;
- c. Projects working on improving capacities and skills of farmers should consider the extent to which the expected outcomes may depend on other factors, like availability of machinery, seeds, fertilizers, and other resources needed to apply the learned practices;
- d. A clearly-formulated project logic, with measurable indicators at the outcome level and a reliable baseline would significantly facilitate measuring the impact of the project. The later would also facilitate their evaluability, and understand their potential for replicability.

Appendix 1. Documents reviewed

- 1 GCP/SEC/001/TUR Project document, available in FPMIS
- 2 GCP/SEC/001/TUR Annual reports, March-August 2012, August 2012- February 2013, available in FPMIS
- 3 GCP/SEC/001/TUR ,End of Assignment Report of Regional Project Coordinator - October 2012, available in FPMIS
- 4 GCP/SEC/001/TUR mission reports, available in FPMIS
- 5 GCP/SEC/001/TUR Back to Office reports, available in FPMIS
- 6 GCP/SEC/001/TUR Project Progress Reports, reporting periods: February- August, 2013, September 2013-March 2014, March-August, 2014,available in FPMIS
- 7 GCP/SEC/003/TUR Project document, available in FPMIS
- 8 GCP/SEC/003/TUR project progress reports, available in FPMIS
- 9 GCP/SEC/003/TUR project annual reports, available in FPMIS
- 10 GCP/SEC/003/TUR Back to Office reports, available in FPMIS
- 11 GCP/SEC/003/TUR Activity Report July- December 2012 ANTON VAN ENGELEN
- 12 TCP/KYR/3302 Project document, available in FPMIS
- 13 TCP/KYR/3302 mission reports, available in FPMIS
- 14 TCP/KYR/3302 Back to Office report, available in FPMIS
- 15 FMD Strategy Plan, February 2013, Bishkek, TCP/KYR/3302 Project document, available in FPMIS
- 16 Guidelines on the identification of PPR in small ruminants, FAO, Bishkek 2011, TCP/ KYR/3302 project documents, available in FPMIS
- 17 TCP/KYR/3302 project terminal statement, available in FPMIS
- 18 TCP/KYR/3401, Baby 04: "Preparation of National Livestock Sector Development Policy and Strategy in the Kyrgyz Republic", TCP Facility component description, available in FPMIS
- 19 National Sustainable Development Strategy of the Kyrgyz Republic, 2013-2017
- 20 TCP/KYR/3501, Baby 04:" Formulation of Project Document for Implementation of the Animal Identification and Traceability System in the Kyrgyz Republic", TCP Facility component description, available in FPMIS
- 21 TCP/KYR/3404 Project document, available in FPMIS
- 22 TCP/KYR/3404 Interim report September 2015, available in FPMIS
- 23 TCP/KYR/3404 Back to Office Reports, available in FPMIS
- 24 TCP/KYR/3503 Project document, available in FPMIS
- 25 TCP/KYR/3503 Back to Office Report, Bolot Tashtanov, October 2014, available in FPMIS
- 26 TCP/KYR/3503 Monthly progress report, July 2015, available in FPMIS
- 27 TCP/KYR/3504, Project document, available in FPMIS
- 28 TCP/INT/3503 Project document, available in FPMIS
- 29 TFD-13/KYR/001 Project document, available in FPMIS
- 30 GCP /KYR/014/ SWI Project document, available in FPMIS
- 31 Assessment and Country Project Appraisal Report. Kyrgyzstan", Bishkek/Almaty, Cattle Production Improvement Module In the Subregional Eastern Europe ad Central Asian (SEC) Countries, March 2012
- 32 Anthony Fitzherbert, Country Pasture/Forage Resource Profiles, Kyrgyzstan, FAO, available at <http://www.fao.org/ag/agp/agpc/doc/counprof/kyrgi.htm#7.1>
- 33 FAO Kyrgyzstan Annual Report, January-December, 2014, FAO, Bishkek

- 34 FAO – Turkey Partnership Programme Evaluation report, FAO OED, Rome, November 2015
- 35 Agriculture of the Kyrgyz Republic, 2009-2013, National Statistics Committee of the Kyrgyz Republic, Bishkek, 2014,
- 36 Ministry of Agriculture of the Kyrgyz Republic, Livestock, Current situation in Livestock sector, 2013, available at <http://www.agroprod.kg/modules.php?name=Pages&page=1>
- 37 “The increase in livestock production is due to growth in the number of livestock”, National Statistics Committee of the Kyrgyz Republic, Publications, 13.11.2015, available at <http://stat.kg/ru/news/uvelichenie-proizvodstva-zhivotnovodcheskoj-produkcii-obuslovlennostom-pogolovya-skota/>
- 38 The law №91 on Animal Identification in the Kyrgyz Republic, 6 June 2013 http://agro.kg/ru/agro_legislation/4743/
- 39 Livestock Sector Development Policy Draft, Ministry of Agriculture, Bishkek, Kyrgyzstan, 2014
- 40 Kyrgyz Republic Livestock and Market Development Programme Design Completion Report, Volume I: Main Report and Annexes, IFAD, October 2012
- 41 Signing an agreement between the governments of Russia and Kyrgyzstan on the Russian-Kyrgyz Development Fund”, Government Decisions, 7 November 2014, available at <http://government.ru/en/docs/15563/>
- 42 World Bank Group – Kyrgyz Republic Partnership Programme Snapshot, October, 2014, available at <http://www.worldbank.org/content/dam/Worldbank/document/Kyrgyzrepublic-Snapshot.pdf>
- 43 Russian Government Approves Giving \$1 Billion to Kyrgyz Development Fund, The Moscow Times, 27.03.2015, available at <http://www.themoscowtimes.com/business/article/russian-government-approves-giving-1-billion-to-kyrgyz-development-fund/518150.html>
- 44 “В Кыргызстане идет массовое снижение закупочных цен молока и повышение стоимости готовой продукции”, 12/06/2015, available at <http://kyrtag.kg/economy/v-kyrgyzstane-idet-massovoe-snizhenie-zakupochnykh-tsen-moloka-i-povyshenie-stoimost-gotovoy-produkts>

Appendix 2. People consulted

- 1 Kerimaliev Zhanybek – Deputy Minister of Agriculture, 06/10/2015
- 2 Tashtemirov Almazbek Yrysbaevich – Deputy Head of the Sokuluk district, 24/08/2015
- 3 Kerimbek Abdrahmanov - Chairman of the Public Union of Pasture users of Novopavlovka, 24/08/2015
- 4 Deputy of Ayil Aymak Kenesh in Tortkul village, Sokuluk district, 24/08/2015
- 5 Mukambetov Beshimbek and Shermentov Mekonbek – Livestock department of the Agrarian Development administration under Chui district administration, 25/08/2015
- 6 Bakyt Karaev – Deputy Head of the Tokmok city and Chui district administration, 25/08/2015
- 7 Erkisarieva Raykul – Chief inspector, Chui district administration on Veterinary, 25/08/2015
- 8 Almaz – Head of Iskra Ayil Okmotu (sub-district administration), Chuiskiy district, 25/08/2015
- 9 Damira Bimarzaeva – Deputy Chair of the Agrarian Sector under Moskovskiy district administration, 26/08/2015
- 10 Alymkulov Zamir Esenovich – Head of the Pasture Committee in Ak-Suu Ayil Okmotu, Moskovskiy district, 26/08/2015
- 11 Kubanychbek - Head of Ak-Suu Ayil Okmotu, Moskovskiy district, 26/08/2015
- 12 Mr. Borombaev Kumarbek, Chairman of the Cattle Breeders Association of Chui province, 24/08/2015
- 13 Ms. Maripa Kichinebatyrova, National Project Coordinator, 15/10/2015
- 14 Focus Group Discussion with 9 CBA members (5 men, 4 women) from Ak-Jool village, Sokuluk district (beneficiaries of the TCP/KYR/3503 on "Capacity building and awareness raising for the sustainable use and tenure governance of pastures in Kyrgyzstan", 24/08/2015
- 15 Focus Group Discussion with 6 CBA members (5 women, 1 man) from Kara-Dobo village, Chui district, 25/08/2015

Appendix 3: Case study methodology

In order to collect evidence to respond to the study questions, a **sequential mixed methods** strategy was applied. Mixed methods, including qualitative research techniques such as key informant interviews and Focus Group Discussions (FGDs) and quantitative techniques such as individual interviews with project beneficiaries, will be used to gather evaluative information related to *programme relevance, effectiveness and impact, and sustainability*. In view of the limited information on pre- project situation (baseline), **recall method** will be applied in the interviews with beneficiaries, inquiring information on the situation before the project.

In order to identify and have evidence of the project outcomes **quasi-experimental** research design will be applied, when a **control group** of farmers, which were not covered by the project activities will be surveyed.

Two approaches will be used to identify the members of the control group: 1) judgmental matching, and 2) snowball technique. The former refers to the method when the members of the control group are identified through preliminary consultations with experts and key informants, e.g. representatives of the local authorities and Pasture Committees. These key informants, based on their knowledge and experience will help to identify and contact a group of community members living in the same/nearby area and possess all the characteristics of the beneficiaries except that of participation in the project.³³ The latter technique refers to the method when potential respondents are identified based on recommendations/recruitments of the targeted respondents (beneficiaries) from among their acquaintances, etc. In this study, if the judgmental matching technique will not help to define a relevant group of comparators, the potential control group member will be asked from among the randomly selected project beneficiaries.

The key informant interviews and FGDs will be conducted as a first stage of the study, and will aim to feed information necessary for the survey, especially the part related to identifying the control group members. The survey with beneficiaries and control group members will be implemented as a second stage of the study. The data collected during the two stages will be triangulated and analyzed together.

A comparison of knowledge, practices, level of cattle production and socio-economic conditions of the target group representatives and that of the control group will help to identify the differences and changes that have occurred in this area during the last 5 years. Interviews with the representatives of the control group will help to have a better understanding of the contributions of the FAO projects in the sector. Furthermore, this approach will be useful to identify the possible gaps and shortfalls of the current programmatic approach, allowing the programme in the country to make informed decision about future activities in the sector.

Programme coherence and synergies will be explored through process analysis, i.e. review of the project documents, monitoring data and budget management, as well as consultations with the key informants (relevant government agencies, donors, project team members, and others).

Key Informant Interviews will be conducted with:

- Representatives of local authorities
- Representatives of Pasture Committees;
- Village leaders (*aksakals*)
- Representatives of the private and/or state veterinary services
- Representatives of the private sector (e.g. milk and livestock traders, milk factory in Tokmok, etc)
- Representatives of the Implementing Partner (IP) – Rural Advisory Service (RAS)
- Representatives of other donor and international organizations working in the agricultural development/livestock sector in the country (e.g. IFAD, World Bank, NGOs, etc.)

33 Raghav Gaiha, Ganesh Thapa, "Knowledge for development effectiveness. A methodology for assessment of the impact of microfinance on empowerment and vulnerability", 2006, IFAD, p.15

In addition to household interviews in Iskra Ayil Aymak, where the Milk Collection Center was established, and where farmers are engaged in dairy production and milk marketing activities **Focus Group discussions** will be held with clients of the milk center (members of Cattle Breeding Association). This will allow having a better understanding of the transformations that have taken place as a result of the project and validate some of the findings emerging from the interviews.

Sampling strategy

The total number of project beneficiaries (the sampling frame) is 153 men and women. In order to ensure representativeness, a random sample of 74 beneficiaries³⁴ will be interviewed via survey questionnaire. The sample will be distributed across three districts proportionally to the number of beneficiaries in each district. Since the project had a strong focus on women, at least 50% of the randomly selected beneficiaries and control group members shall be female respondents.

Table 1. Survey sample size distribution by districts

District	Total number of beneficiaries	% of total per district	Sample size per district	Control group members	Total per district
Sokuluk	65	43	32	10	42
Moskovskiy	11	7	5	3	8
Chuyskiy	77	50	37	13	50
Total	153	100	74	26	100

In addition, **two focus group discussions** will be conducted with **men and women** benefitting from the services of the milk collection center in Iskra village of Tokmok. The focus group discussions will be held separately with men and women, comprising 12-15 participants each. When holding FGDs with women, specific questions relating to training on progressive forage growing techniques and production of dairy products will be made.

The table below summarizes the number of beneficiaries to be approached through different types of data collection methods.

Table 2. Summary of the study target groups

Type of participants	Number of participants covered by each method	Total
Survey respondents (random sample)		
Project beneficiaries	74	74
Control group members ³⁵	26	26
FGD participants		
FGD with men (milk collection center clients)	12	12
FGD with women (milk collection center clients)	12	12
Interviews		
Key informants (donors, international organizations, local authorities, village leaders, etc.)	10	10
Total		134

³⁴ <http://www.calculator.net/sample-size-calculator.html?type=1&cl=90&ci=7&ps=153&x=35&y=6>

³⁵ The number of control group members is subject to results of consultations with key informants, as well as availability and interest to participate in the survey of the potential candidates.

Data collection methods and tools

The following data will be collected through survey questionnaires and FGDs:

- Needs and challenges of the target communities in regards to livestock and milk marketing
- What has changed after the Project in regards to these challenges in target area, and what contributed to that;
- Socio-economic changes that have occurred in the target and comparator communities during the period under consideration (positive and negative);
- Causes or factors attributable to these changes;
- Assistance received and assessment of its effectiveness;
- Future needs and perspectives.

Interview and FGD guides will be designed to have a better understanding of the changes (pre- and post-project situation) that have taken place as a result of the project. The FGDs will in particular allow learning about milk marketing/processing practices applied before and after the project, mechanisms of cooperation with the center, positive and negative aspects of its operation. They will all be audio-recorded.

Key informant interviews will be done using semi-structured question guides, which will help to identify:

- Challenges and needs for development of the livestock sector in the target areas;
- Current programmes and initiatives for development of the livestock sector;
- Potential members of the control group (for local authorities and Pasture Committees);
- Views and assessment of the FAO activities in the sector (strong and weak aspects)
- Potential areas/types of interventions in future.

The interviewers will be trained on surveying principles and techniques during a two-day training to be held in Bishkek. A training module and relevant materials will be prepared in advance to the training. After completion of the training, the team members will **pilot** the data collection tools and study design in the target villages, which are the closest to Bishkek. Each Interviewer shall conduct at least 5 pilot interviews with beneficiaries and 5 interviews with representatives of the control group as a part of piloting.

In addition, to ensure relevance and clarity of the issues raised as a part of the survey, FGDs with 12-15 community members in each target village will be held in each target district. This FGD will aim to support the piloting phase and test the survey data collection tools.

Based on the outcomes of the piloting exercise, the design of the data collection tools will be revised and modifications, if necessary, adopted. Once the final version of the data collection tools will be adopted, the translation of the final version of the tools from English into Russian and Kyrgyz will be done.

Team composition

As part of FAO capacity development agenda, recent graduates of the Kyrgyz National Agrarian University (KNAU) will be contracted to collect and analyze the survey data in the period August-September 2015.

The qualitative part of the study will be performed by the Associate Evaluation Manager (AEM) and the Evaluation Team Coordinator (ETC). They will conduct the in-depth interviews with key informants (representatives of government and local authorities) and the FGDs with clients of the milk collection center.

All the interviewers (graduates of KNAU) will be provided a training and methodological support on the data collection techniques prior to the work in the field. Considering relative proximity of the target villages to Bishkek, the team members will travel to target villages and back every working day.

Appendix 4: Survey respondents' characteristics

Based on the field study methodology, 100 respondents participated in the survey. Amongst them 74 respondents were members of the Cattle Breeders Association of Chui province, which was established in the framework of the project, and 26 – members of the control group, who have been selected based on the criteria specified in the study methodology. The distribution of the respondents across target districts of Chui province is summarized in the table below:

Table 1. Field study sampling

District	Target group	Control group
At-Bashy	3	
Moskovskiy	5	3
Sokuluk	28	10
Chuiskiy	38	13
Total	74	26

Almost 2/3 of all the surveyed were over 40 years old. The rest represented the younger age groups starting from 14 years old. 41% of all the surveyed were women.³⁶ Among the surveyed CBA members women made up only 34%, as many were not available for an interview due to fall season agricultural works. 78% of the surveyed amongst association members were the heads of the households, while the rest were spouses, children or direct relatives of the household heads. In the control group 61% of the surveyed were heads of the households, while the rest also were the spouses or close relatives of the household heads.

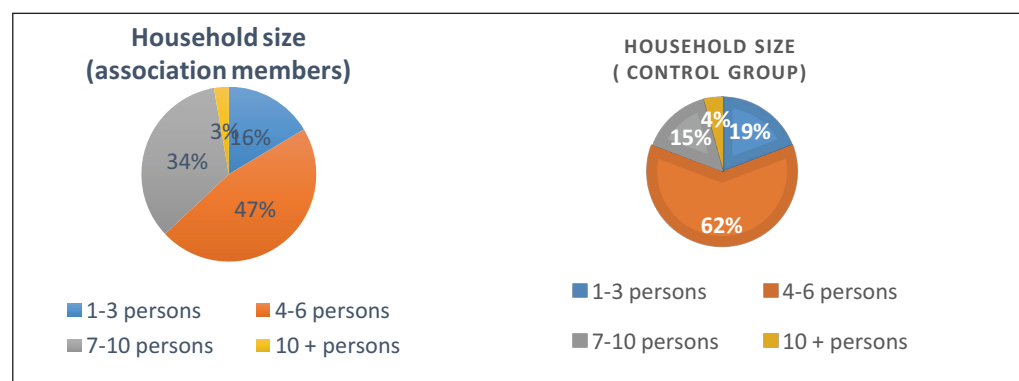


Figure 1

All the surveyed association members have reported participating in the FAO livestock-related project during the last several years. 9 members of the control group have also reported participating in livestock management projects in the last few years, but could not recall the implementing agency/organization. Based on the information from the representatives of local authorities ARIS³⁷, Mercy Corps and Camp-Alatoo have been implementing several infrastructure-related projects (construction of roads and bridges) in the area.

The types of activities, in which the surveyed CBA members have participated in the framework of the project, are summarized in the graph below. It should be noted that 65% of the surveyed women-members of the CBA have benefitted from trainings provided in the framework of the project on such topics as basics of veterinary, growing livestock, milk collection and processing.

³⁶ Even through the study design prescribed that at least 50% of the surveyed respondents should be women, it was not possible to reach this number due to unavailability of some female respondents.

³⁷ Agency for Development and Investment to Communities, for more information, please see http://www.aris.kg/en/about_ev/

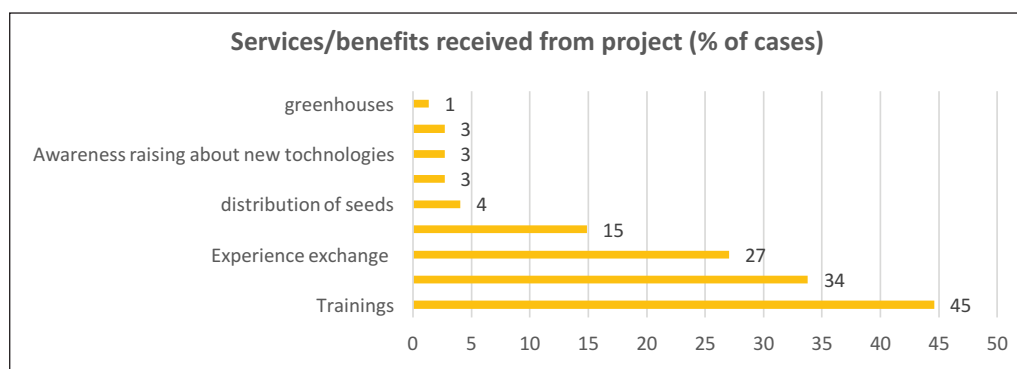


Figure 2

Socio-economic characteristics

Almost all of the surveyed association members are engaged in livestock breeding activities, except for two respondents, who reported being engaged in fodder growing and having no livestock at all. In the control group, all the members are also involved in livestock breeding or fodder growing.

The majority of the male CBA members and control group members are farmers, while most of the women in both groups identified themselves as housewives. Nonetheless, many of these women are engaged in selling milk and dairy products as well as growing vegetables or fruits. About 20% of the surveyed women amongst CBA members are also full-time or part-time employed, thus contributing to the household income.

The pie-charts below illustrate the occupations of the surveyed members of the CBA and control group. Based on the information from these charts, it can be seen that the socio-economic characteristics of the members of two groups are very common, and this allows to compare the knowledge and practices of the members of the two groups.

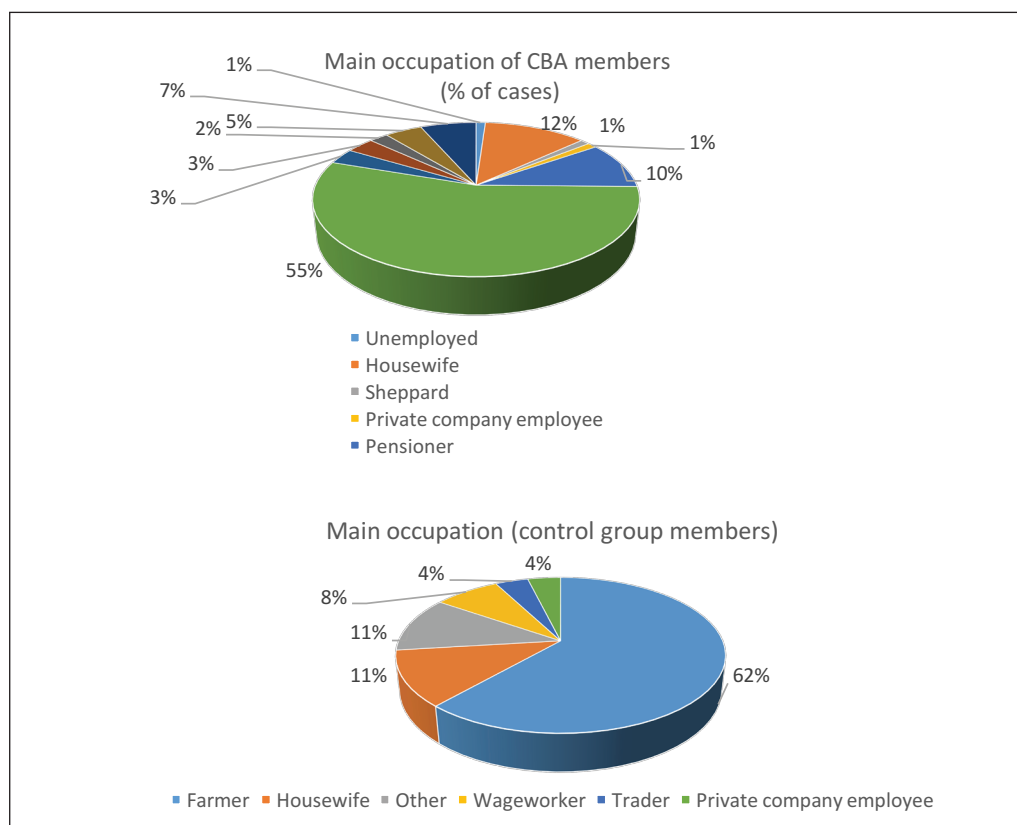


Figure 3

On average, the surveyed households have a monthly income of 5000-20000 Kyrgyz Soms³⁸ (USD \$73,5- \$ 294). As can be seen in the graph below, the economic conditions of the CBA members and control group members, based on the monthly household incomes, are very similar, and therefore allow for objective comparison of the two groups.

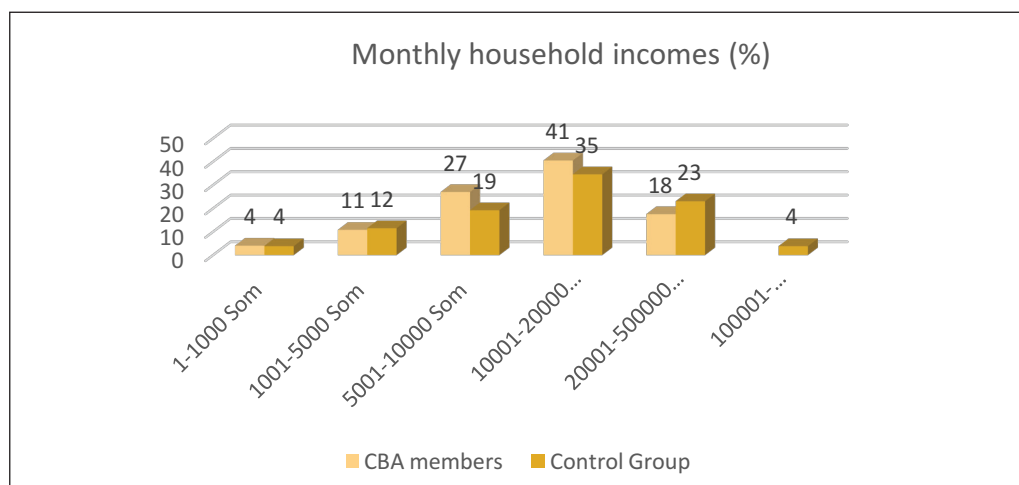


Figure 4

Based on the characteristics of the surveyed households, the livestock they own mainly includes cows, sheep and poultry.

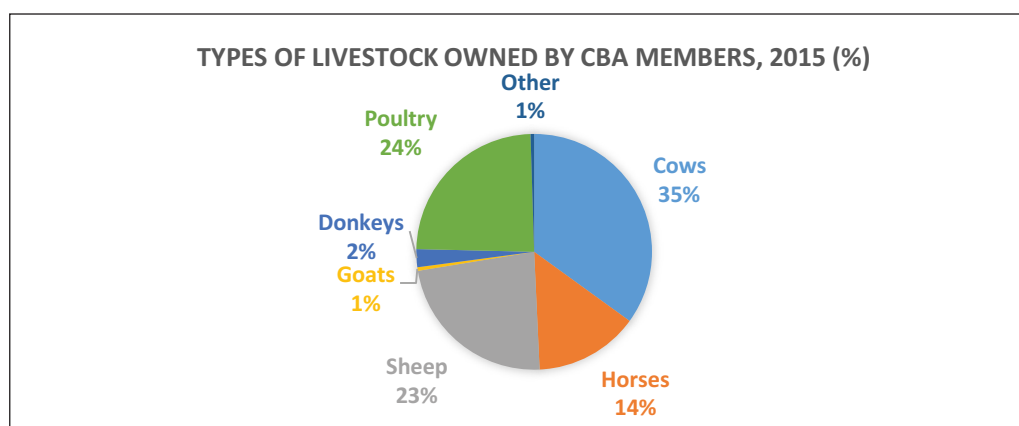


Figure 5: Types of Livestock

Currently, 64% of the surveyed association members have 1-5 cows, 26% have 6-10 cows and the rest - more than 10 cows.

The majority of the surveyed farmers do livestock breeding as a main source of their income. Dairy production is the second major source of income for CBA members, whereas the control group members are engaged in growing crops and fodder, and do not rely on dairy production as much as the CBA members.

³⁸ An official exchange rate is approximately 1USD=68 KGS

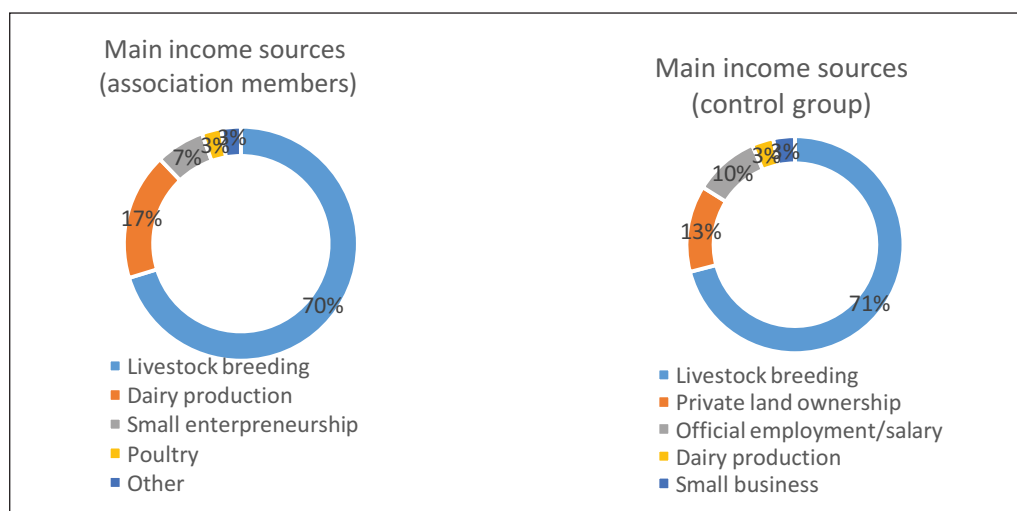


Figure 6

78% of CBA members and 81% of control group members have land in their private ownership. Some 38% of the CBA members and 31% of control group members also use rented land for cultivation. On average, the farmers cultivate 1-5 ha of private and/or rented land. 65% of the CBA members 77% of control group members use 50-100% of their cultivated land for growing forage.

Currently 92% of the CBA members and 77% of the control group members grow fodder crops on their land. Out of these, 71% of CBA members and 87% of the control group members use 50-100% of their cultivated land for growing fodder crops. Maize, sainfoin and clover are among the most popular types of fodder crops grown by members of both groups.

Annex 2.1: Impact Assessment of Irrigation Projects

UNJP/KYR/005/UNJ Small-scale community based agriculture to enhance and diversify agricultural production and rural livelihoods

and

GCP /RER/026/AUS Increasing resilience of small scale farmers to the impacts of soaring food prices by improving capacity and institutional environment for seed production and the use of irrigation technologies, **Baby 3:** Improvement of farm potential using irrigation technologies

Abbreviations

<i>Aiyl Aimak</i> (AA)	Rural Municipality Area
<i>Aiyl Kenesh</i> (AK)	Local Council of Aiyl Aimak
<i>Aiyl Okmotu</i> (AO)	Local Government of Aiyl Aimak
ATAC	Agricultural Training and Advisory Center
DWR	Department of Water Resources
CPE	Country Portfolio Evaluation
CPF	Country Programming Framework
FAO	Food and Agriculture Organization
FG	Focus Group
FGD	Focus-Group Discussion
FFS	Farmer Field Schools
LTO	Lead Technical Officer
I&D	Irrigation and Drainage
ISF	Irrigation Service Fee
M&E	Monitoring & Evaluation
MoAM	Ministry of Agriculture and Melioration
NDS -	National Development Strategy (2009-2011)
OSCE	Organization for Security and Co-operation in Europe
OEDD	FAO Evaluation Office
OIP	On-farm Irrigation Project
PV	Pravay Vetka
PT&E-FWM	Participatory Training and Extension in Farmers' Water Management
Raion	Sub-regional administrative territorial unit (district) in the Kyrgyz Republic
RAS	Rural Advisory Services
RDWR	Rayon Department of Water Resources
SAEPF	State Agency for Environment Protection and Forests
SCWRA KR	State Committee for Water Resources and Land Reclamation of the Government of the Kyrgyz Republic
WUA	Water Users' Associations
WB	World Bank
WFP	World Food Program

Background

Agriculture is a main source of livelihood and food security for rural population in Kyrgyzstan. The sector contributes only about 20 percent to country's GDP, but it is very important for 65 percent of rural population as a source of food security, and either major or additional source of income. Crop and livestock sales constitute over a third of income of the rural population.³⁹ More than 90 percent of agricultural products in Kyrgyzstan are produced by smallholder farms. They grow mostly cereals, which takes half of all land under crops, for own consumption and surplus trade. Country has 10.6 million ha of agricultural land, and only 1.2 million ha of arable land is suitable to cultivate crops.

Irrigation is crucial for Kyrgyzstan's agriculture. Cropping in Kyrgyzstan due to geographical, terrain, and agri-climatic conditions, heavily depends on irrigation water. The average annual precipitation is not sufficient, with the annual rainfall varying between 350-700 mm in the south and annual evapotranspiration (crop water demand) exceeding effective precipitation by a factor of four, particularly during the summer months.⁴⁰ Data from the World Bank funded On-farm Irrigation Project –I (OIP) indicated that crop yields of farms with access to rehabilitated irrigation systems are between 10 and 20 percent higher than those without improved irrigation.⁴¹ Due to climate warming, changing precipitation regimes, reduced runoff, increasing temperatures and extended periods of above-average temperatures, shortage of water effects plant productivity. According to the FAO study, climate change will adversely impact agricultural productivity in the Kyrgyz Republic and is likely to lead to decreased water supply, increase the frequency, magnitude, and intensity of extreme weather events, damage ecosystems, and jeopardize the health of the local populations.⁴²

Irrigation system in Kyrgyzstan requires rehabilitation and modernization. Kyrgyz Republic inherited an extensive and complex water irrigation and drainage infrastructure system, which during the Soviet time was heavily subsidized. The Kyrgyz Government, with financial support from donors, especially the WB and ADB, has been rehabilitating on-farm irrigation system since late 90s. Up to now about 223 651 ha (29 percent) of all on farm Irrigation and Drainage (I&D) systems have been rehabilitated. An additional 34,800 ha of I&D systems are being rehabilitated under the OIP -II funded by the WB. However, there are significant number of irrigation schemes that need physical renovation and replacement. Due to the poor condition, there are considerable seepage and leakage losses in the distribution systems, resulting in an estimated conveyance/ distribution efficiency of 55 percent.⁴³

On farm irrigation system is managed mostly by users' groups. With the collapse of the collective and state farms in early 90s, to fill the gap with management of on farm irrigation system, GoK decided to devolve management of these secondary irrigation systems to the users themselves with the establishment of the Water Users' Associations (WUA) and by introducing the principle of payment for use of water in 1995. Currently, about 80% of the country's on- farm irrigation system, serving about 767 000 ha, is managed by the 475 WUAs, which are responsible for the management of 22 700 km of on-farm irrigation schemes, 4 300 km of drainage networks, more than 250 water pools, and more than 20 000 hydro-technical facilities.⁴⁴ WUAs are charged to support functioning of these systems with repair, construction, modernization and other activities. The WUAs are also charged by law with knowledge transfer to farmers on technologies of irrigated agriculture.

WUAs face many challenges related to shortage of funds, limited capacity and knowledge on management of complex irrigation schemes. The Irrigation Service Fee (ISF) established by the Kyrgyz Parliament is at the level KGS 6.65/1 000 m³, which does not cover all of the required finances to maintain the system and compensate for work of the WUA Directorate staff. Collection of ISF is still poor, with many users refusing to pay and WUAs lacking legal instruments to enforce payment. Many WUA Directorates have overdue liabilities with the Tax bodies and the

39 Poverty Assessment. World Bank, 2007

40 Project Paper for the Second on Farm Irrigation Project, WB. 2011

41 Project Paper for the Second on Farm Irrigation Project, WB. 2011

42 Zholdosheva, E. Review of the existing information, policies and proposed or implemented climate change measures in Kyrgyzstan. FAO

43 Irrigation in Figures. 2012

44 CAIC Consulting, 2010

Social Fund. The difficulties with finances effect high turnover of the WUA's directorate staff and many leave positions either to find other job or migrate out of rural areas or abroad.

There are numerous conflicts between users, WUAs for distribution of water, and better access to it. In addition to seasonal shortage of water and dilapidated infrastructure with high water losses in canals, many conflicts among users occur because of ineffective distribution of water. Since water supply is predominantly gravity-diverted and surface-applied, upstream users usually have more and better quality of water than downstream communities. Also, the water agencies charge WUAs tariffs for water based on these norms of supply rather than on actual delivery. Given infrastructure problems often actual receipt of water is significantly below of the volume reported. This happens due to the lack of measurement capability to capture the exact volume provided.

Overview of the project

The case study focused on interrelated irrigation improvement projects:

- 1 **UNJP/KYR/005/UNJ *Small-scale community based agriculture to enhance and diversify agricultural production and rural livelihoods*** (will be references to as UNJP005) was implemented during in a period of July 2010- December 2011, with the total cost of US\$ 411 008, funded by the UN Coherence Fund under the ONE UN Programme Framework. USD 205 997 (or about 50 percent) were used to design construction works and rehabilitate irrigation system.

Project's objective was to assist the efforts of the Government of the Kyrgyz Republic on goal 1 of the Millennium development: eradicating extreme poverty and hunger by improving the economic status of small farmers of the selected irrigation system "Pravay vetka" of the Nooken Rayon of Jalalabad Oblast of the Kyrgyz Republic.

Project aimed to generate the following outputs to reach two intended outcomes:

Outcome 1: Improved performance of selected irrigation schemes

- Output 1.1.** Twenty national staff trained in assessment of irrigation schemes and preparation of modernization plans.
- Output 1.2** Modernization plans prepared for selected irrigation schemes
- Output 1.3** Key structures improved and changes in management, including operational procedures, proposed in selected irrigation schemes

Outcome 2: Farmers organizations strengthened and with improved skills in irrigated agriculture

- Output 2.1** Farmers' field schools established focusing on diversified irrigated agriculture production.
- Output 2.2** Water users' associations created where not existing within the irrigation schemes selected.

Project had three major components:

- i training of 25 advanced farmers to set up Farmer Field Schools (FFS) to provide advice on irrigated cropping;
- ii training of 28 local engineers on modernization of irrigation systems;
- iii and the production of small construction works to improve the operation and management of selected irrigation systems.

- 2 **GCP/RER/026/AUS *Increasing resilience of small scale farmers to the impacts of soaring food prices by improving capacity and institutional environment for seed production and the use of irrigation technologies*** (will be referred to as AUS026). Project's total budget was US\$1,404,494. Baby 3: ***Improvement of farm potential using irrigation technologies*** had an allocated budget of US\$459 543. Around US\$126 506 (or 27 percent) was used for purchasing machinery.

It was implemented during 22 months in a period from July 2010 till April 2012. The Project was funded by the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management

Project's overall objective was to improve the livelihood for small-scale farmers in Armenia, Kyrgyzstan and Ukraine affected by the soaring food prices though improved policies in the area of seed production, diversification, irrigation management and livestock development. The aim of the AUS026 was to assist the efforts of the Government of the Kyrgyz Republic on Goal 1 of the Millennium Development "Eradicating extreme poverty and hunger". The project had a pilot character and aimed at putting in practice a set of technologies and procedures to improve performance of irrigated agriculture⁴⁵. The project aimed at applying FAO's participatory training and extension in farmers' water management to improve the capacities of the newly created WUAs. In addition, farmers and technical staff in WUAs were trained in the use of modern techniques for land levelling. The aim of the project was also to train water managers and engineers in charge of the irrigation scheme selected, on the FAO procedures to assess the performance and plan for the modernization of irrigation schemes.

The main outputs and outcomes are listed below:

Outcome 1: Improved performance of irrigated agriculture by increasing the capacity of farmers to manage water at field level and by improving the capacity of technical staff to assess the performance of irrigation schemes in Kyrgyzstan.

There were two outputs to reach this Outcome:

- Output 1.1** Capacity of farmers for on farm irrigation management of high value crops in a selected pilot area increased;
- Output 1.2** Capacity of farmers and technical staff of WUA in irrigation performance assessment increased and upgraded.

Project implemented the following activities:

- Training of engineers from the pilot area and from the WUA Federations from all Kyrgyzstan on the FAO methodology to assess irrigation schemes and develop modernization plans for improving their overall performance with a service-oriented approach (MASSCOTE methodology);
- Development of plan modernization of irrigation systems; implementation of small construction works and conduction of quality surveillance of work;
- Training of 25 local farmers on the skills of implementation of measures for education and agricultural consultation of other farmers; as well as creation of field farmer schools (FFS) for strengthening farmer organizations and improving farmers' skills in irrigated agriculture.
- Training of technicians of rayon department of water management of the southern region on improved irrigation scheduling using the FAO computer software "CROPWAT" and supported with automatic agro-meteorological stations;
- Training of trainers on 14 different topics of irrigated agriculture using the farmers' field school approach.
- Procurement of machinery and equipment for laser controlled land leveling of the selected irrigation system and training of farmers and technical staff WUA on their optimal use at the pilot sites;
- Dissemination of project results to other irrigation systems.

Projects' similarity. Both projects share a lot of similarities in terms of objectives, planned activities and outputs, as well as aimed outcomes. Projects targeted the same geographical area and irrigation system. Moreover, beneficiaries do not differentiate these two projects and see it as one. Therefore it was considered reasonable to evaluate two projects jointly as one intervention.

⁴⁵ Project Findings and Recommendations. "Enhancing the capacity of farmers for using irrigation technologies". Report prepared for the Government of Austria by the Food and Agriculture Organization of the United Nations. Budapest-Bishkek, 2012.

Case study objectives and methodology

This Case Study is a part of the FAO Country Programme Evaluation (CPE) in the Kyrgyz Republic, undertaken by OEDD in September-December 2015. The purpose of the CPE is to provide inputs to better orient FAO's programme in Kyrgyzstan, while making it more relevant to the needs of the country. It is aimed to **provide accountability** to the Government and non-government partners, communities and resource partners in the country, as well as all member countries. The CPE also aims to **draw lessons and make recommendations** that will be useful for FAO's future engagement in the country. CPE is used for improving the performance and advice on strategic direction of the FAO assistance. Besides providing lessons specifically on FAO's work in Kyrgyzstan, the evaluation will also enrich FAO's synthesis of findings and guidance for its country-level support.

The specific objectives of the CPE are the following:

- Assess the strategic relevance of FAO's interventions in responding to country needs;
- Assess FAO's contributions to results identified in the CPF under the four priority areas;
- Identify lessons learnt as well as causes of successes and failures;
- Identify gaps in FAO's country programming and potential areas of future work.

These projects were selected for case study for three main reasons: 1) relatively large size of funding with an accumulative budget of two projects at the amount of about US\$1 million, 2) around two years of implementation period - an average period of implementation for FAO run projects; 3) a mixture of different types of activities, such as capacity building, procurement of machinery and infrastructure rehabilitation.

The objective of the Case Study is to review in-depth some of the aspects of the FAO programme under PA3 to understand better links between inputs, outputs and changes they brought and extract lessons learned for future programme.

The case study methodology was based on the following methods:

- Review of available projects documents. Project documents were obtained in FPMIS and provided by the projects' consultants in Bishkek. Documents for the AUS026 were limited, except for the Terminal Report.
- Interviews and discussion with FAO CO management and projects' consultants in Kyrgyz Republic, and with the LTO by skype;
- Field study conducted by local consultants: i) semi structured interviews with projects' staff, experts, trainers, employees of the Rayon Department of Water Resources (RDWR) and engineers of the participating WUAs; ii) FGDs with management representatives of participating WUAs, farmers in upstream and downstream areas along the PV irrigation scheme; iii) structured interviews with the 25 beneficiaries (farmers); iv) observations on use of MASSCOTTE approach to modernization plans and CROPWAT technologies for crop management; v) Observation of projects' results on the ground.

Evaluation team has also considered findings of the previous evaluation work on effectiveness of the capacity building activities reflected in the Project's Capacity Building Evaluation Report, conducted in 2012.

Field researchers conducted separate FGDs with WUAs managers and engineers located at the upstream of the PV, and WUAs located at the downstream to gain separate feedback from these two groups. Farmers for structured interviews were selected by the WUAs, and were mostly those who participated in the trainings conducted by the FFS (80% of interviewed participated in the FFS).

Farmers, trainers of the FFS, experts, engineers and WUA management assessed projects in the course of the interviews and FGDs at the range from '1' to '5', where '5' equals to **highly satisfactory**, 4 to **satisfactory**, 3 to **moderately satisfactory**, 2 to **moderately unsatisfactory**, and 1 to **unsatisfactory**. The scores reflected in a diagram are average of the group scores.

This is subjective assessment based on perceptions, but gives some general idea on projects' aspects, including on impacts as seen by groups of beneficiaries. In a situation with lack of other quantitative data from projects' M&E, this approach gives proxy of the beneficiaries' assessment. The results of the assessment of various projects' aspects by different stakeholders' groups are reflected in radar diagrams (Figure 1 and Figure 2).

The Case Study was supported by the FAO CO with the advice on the methods and tools, as well as with providing procurement and financial support to the field work. Evaluation Team expresses deep gratitude to Mr. Kutchubai Zhaanbaev, ex Project Coordinator and Mr. Matraim Jusupov, ex Project Manager for generously allocating time, providing evaluation team with all background materials and supporting with the field work. Evaluation team is also thankful to Mr. Giovanni Munoz, FAO LTO for explaining issues faced by the projects, bottlenecks and advising on Case Study methods. Mr. Munoz also provided Evaluation Team with his feedback and comments on this report. Without support of these people, the Case Study would not have been possible to undertake. Field work was conducted by researchers Albina Rysmendiva and Mirgul Amanalieva.

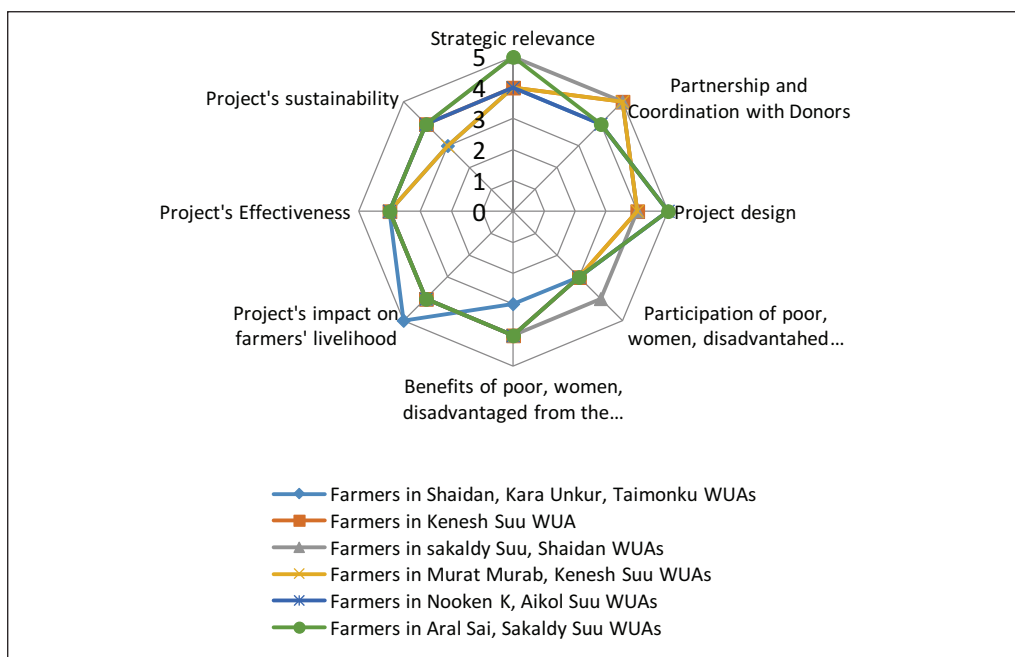


Figure 1. Assessment of major Project's aspects by farmers

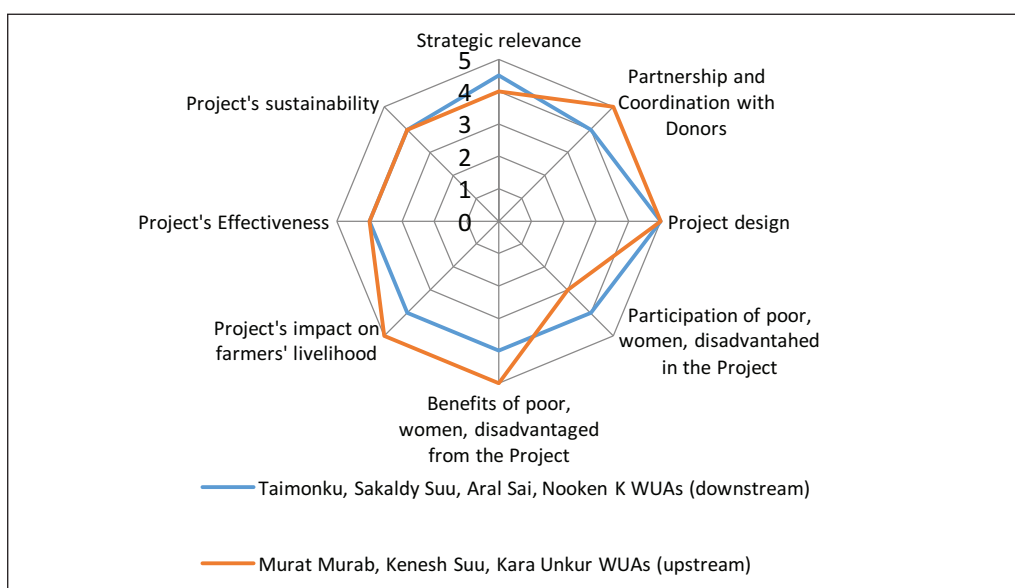


Figure 2. Assessment of major Project's aspects by WUAs

Source: Evaluation Team

Relevance

This section examines relevance and design of the projects' interventions to address the eradication of poverty and hunger by improving the economic livelihood of the target beneficiaries and presents the findings derived from the desk review and field work. Evaluation findings presented below are structured in a way to provide answers to the questions outlined for the given criterion in the Box 1 and Evaluation Framework. Relevance of FAO selected projects to national priorities was evaluated based on following two criteria: i) relevance of project-specific objectives to the priorities declared in the national policy documents; and ii) relevance of project-specific objectives to the priority agriculture problems of the population as evidenced by the field study.

Box 1. Relevance evaluation questions

- How does the Project fit the wider agricultural development context in the Kyrgyz Republic?
- To what extent the Project's objectives and achievements were consistent with the national priorities?
- To what extent the Project was within FAO comparative advantage?
- To what extent the Project's objectives and achievements responded to the needs of the services providers (WUAs) and beneficiaries?
- To what extent the Project's outcomes addressed key issues, their underlying causes and challenges?
- Was Project's design, targets and indicators relevant?
- Did FAO respond appropriately to the needs of the Project as they arose?

Finding: The Strategic Relevance of the projects was above satisfactory, though design was a bit too ambitious. The Strategic Relevance of the projects was assessed by all interviewed beneficiaries at the rate of **4.5**.

Partnership and coordination with the Government at the national and local levels was strong. Projects established a partnership with the State Committee for Water Resources and Land Reclamation of the Government of the Kyrgyz Republic (SCWRA KR), which participated actively in selection of irrigation system for inclusion in the Projects. The Regional Technical Council was formed under the Jalalabad Regional Water Basin Department of Water Resources (DWR), which discussed and approved all technical issues in the Projects' implementation. All Projects' activities were agreed with the leadership of SCWRLA KR, which in turn provided full support to the implementation. Projects were implemented in close partnership with the Rayon Department of Water Resources (RDWR), and relevant Water Users Associations (WUAs).

Projects were relevant and well supporting the national policies and responding to the priority needs of the target beneficiaries. Projects were fully in line with the "Strategic Programme on the development of rural economy sector, regulation of the agricultural products' markets, raw materials and food products in the Kyrgyz Republic during the years 2008-2011", which had an objective to ensure food security through effective development of agricultural sector and priority segments, as well as the preservation and rehabilitation of land resources and other natural resources. The Priority Segment 3 of this strategy aimed at establishing effective system of irrigation water management.

Projects supported implementation of the National Development Strategy 2009-2011 (NDS), where one out of five priorities is stated as improved irrigation system through modernization. One of the tasks to address this priority area was reforms of institutions in irrigation sector, further decentralization of water management to the basin level local institutions, and rehabilitation of the irrigation schemes. GoK expected that implementation of the NDS would increase average income of farms by 12%.

The projects' target area was identified as priority by the FAO as well as by local government officials and service providers. The PV basin was selected as target area jointly by FAO and regional and district water management authorities, because it delivers water to eight WUAs of two neighbouring districts. There have been conflicts between WUAs and Rayon DWR over water distribution and between users and WUAs over quality and quantity of water supplied, especially to downstream communities. Management of target WUAs and Nookan Rayon DWR

expressed high satisfaction with the Projects selecting area. They think that the selection of a PV irrigation scheme was comprehensive and effective, because it was not based on area of one WUA, but on a river basin, which ensured complex review of the problems, their causes and ways to address them.

The PV was built in 1958, it's length is 20.9 km, it irrigates 14,151 ha.

There are eight WUAs functioning along the PV: Kenesh Suu, Shaidan Kara Ungur, Aikol Suu, Murat Murap, Aral Sai, Nooken K, Taimonku, and Sakaldy Suu.

Major crops grown before projects: wheat (6,124 ha), cotton (2,227 ha), corn (1,564 ha), sunflower (222 ha), and vegetables (697 ha).

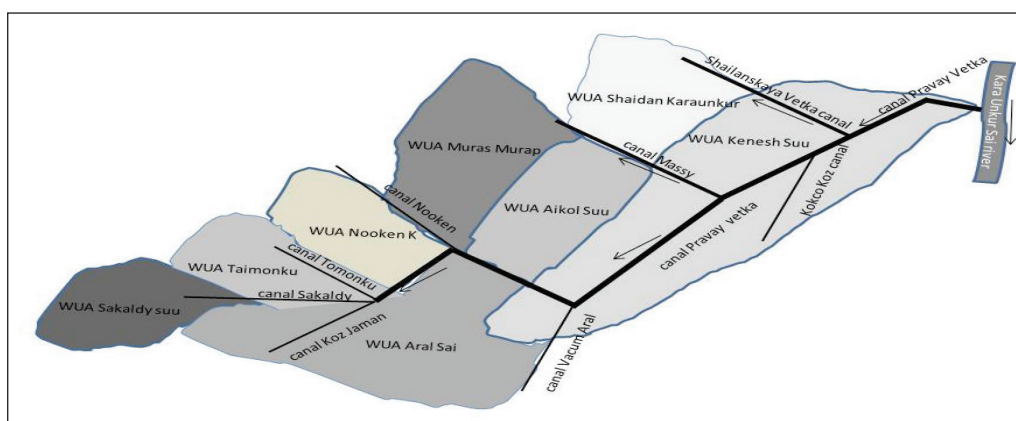


Figure 3. WUAs along the 'Pravaya Vetka' Irrigation Scheme

Source: projects' documents

Major problems of the PV irrigation scheme led to ineffective distribution of water. The MASSCOTE methodology of assessing irrigation scheme bottlenecks and developing plan to address them helped WUAs and RDWR to identify main factors hampering performance, as well as ways to overcome them.

- The PV built more than 60 years was in poor condition, water measuring and distribution systems not functioning.
- The ISF was very low and not sufficient to cover minimal maintenance cost. Many farmers paid ISF in-kind (e.g. agricultural products). The collected amount of funds did not cover 1/3 of the expenses of the WUAs.
- Downstream communities received less water, not in a timely manner, and of poor quality.
- Distribution of water between three WUAs was done manually without water measurement and distribution facilities, leading to continuous conflicts between users, WUAs, and between WUAs and Rayon DWR.
- Inefficient management with no control over water supply meant that actual supply was significantly less than declared, with high losses.

FAO was in a position to provide high quality technical support to modernization of the irrigation system. FAO has extensive experience in developing, testing and disseminating various irrigated agriculture tools, and strong capacity on a global level to contribute to the formulation of national and regional water management strategies and perspective studies. FAO has also rich experience in promoting and building capacities of users' associations in charge of water development and management. The FAO LTO provided technical back stopping to the projects and.

Partnership and coordination

This section reviews what partnerships were established at the programme level, and if they were supporting achievement of programme's outcomes, while strengthening synergies and avoiding duplication. Specific evaluation questions are in Box 2.

Box 2. Partnership and coordination evaluation questions

- How did FAO engage in partnerships and to what extent were these partnerships complementary and synergetic?
- To what extent has FAO supported the coordination of actors working in the rural development and food security sector?
- To what extent has FAO contributed to influence the position and decisions of partners in relation to food and nutrition security and has it had a role as convenor?

Finding: partnership and coordination in regards to the FAO and its program activities' was above satisfactory. All interviewed beneficiaries evaluated effectiveness of partnership arrangements as '4.5'.

The FAO Project closely cooperated with local NGOs, especially with the Jalalabad Rural Advisory Service (RAS) in training advanced farmers to set up FFS. Project also closely cooperated with the Agricultural Training and Advisory Center (ATAC) on preparation of training modules and manuals for the FFS. Projects coordinated activities with the Swiss NGO - Helvetas, especially on information dissemination and raising awareness among farmers on irrigated farming techniques.

The partnership with other donors was not noticed by interviewed. However, FAO project developed MASSCOTE and CROPWAT training modules, which are used now in a more simplified version by the WB funded OIP-II for training of the Rayon level water engineers, albeit not instituted in the design. The LTO of this project is now providing technical support to this WB Project, and Project Local Coordinator is now acting as WUA Capacity Building Coordinator in the WB funded OIP-II, and both continue to advance new approach to modernization of irrigation under the WB project.

Normative values

This section review how projects engaged poor, women led households, and other disadvantaged groups in its' activities and how projects' results affected these groups. For detailed questions used in the evaluation, see Box 3.

Box 3. Normative values evaluation questions

- Have normative values of the United Nations, particularly supporting the poor, marginalized, disadvantaged and affected populations been embedded into FAO's programme and how?
- To what extent has FAO taken into account equity, gender and human rights in the design of its programme and during the implementation?

Finding: Although projects' aimed outcomes are pro poor, consideration of the UN normative values was not sufficient, there were no special efforts made to engage poor, women led and other disadvantaged households in the target area. Interviewed farmers, WUA experts and management assessed engagement of these groups as rather weak and below satisfactory, scored 'normative values' at the level '3.5'. At the same time, many interviewed emphasized that even if poor and other vulnerable groups did not participate in projects' activities, they still benefited from results jointly with all other community members. In that regards, the assessment of normative values consideration was assessed in average as satisfactory or '4'.

Projects by design are pro poor oriented, aiming at increase of income of all targeted smallholder farms with improved access to water and better knowledge on its use. Projects intended that at least 2 500 vulnerable households are provided with reliable irrigation and drinking water, the risk of crop failure is significantly reduced through improved water management, increased capacity to exercise double cropping, advanced cropping practices and more diversified income generating activities.

Inclusion and benefits of poor, disadvantaged, and other vulnerable groups, such as women led households in and from the projects can not be measured. Although there is no explicit evidence in the projects documents that UN normative values has been considered in projects' design, planning, implementation and monitoring activities, interventions indirectly have been targeting poor and disadvantaged. The benefits of these groups were improved access to irrigation water, increased income from new crop varieties and new knowledge received.

Projects targeted poor communities. Although selection of target area was not explicitly driven by poverty criteria, these projects worked in one of the poorest region of the country. Jalalabad was second poorest region in Kyrgyzstan in 2009 after Osh region, with poverty level reaching 24 percent.

Gender considerations in the Project were weak. There was no built-in gender-differentiation in the projects' design, and since irrigation of crops is traditionally male occupation, men participated significantly more than women in all activities. Only 2 out of 24 trainers in FFS were women, and only 8 percent of all participants of the projects' training activities were female (13 out of 159 participants).⁴⁶

Participation of disadvantaged groups in projects' activities could be enhanced through special measures to assess and address their specific needs.

Effectiveness and impact

This section focuses on the evaluation of the projects' effectiveness by looking at achievement of the planned outputs in a given timeframe and how they contributed towards achievement of the projects' outcomes. In order to assess projects' performance in regards to effectiveness, the CPE carefully assessed effectiveness of each intervention implemented under the project; achievement of projects results; monitoring, evaluation and accountability systems; lessons learned and their incorporation in implementation process, as well as projects' contribution towards the policy and practice change in the country. See Box 4 for specific evaluation questions.

Box 4. Effectiveness and impact evaluation questions

- What changes can be observed that are attributable to FAO's interventions (e.g. behavioural changes; institutional changes; policy changes; technical adaptations; tangible socio-economic benefit)?
- To what extent have these changes contributed to progress towards outcomes?
- Are there any other notable positive or negative impacts of the project? Were there any innovations, contributions to poverty reduction or other development goals neglected in preparing completion reports? Were there any unintended negative impacts or report none?

Finding: Projects' effectiveness was adequate and impact has been satisfactory, especially on decrease of conflicts between users and WUA management over water distribution. Though Projects' effectiveness was assessed using score '4' by farmers and by WUAs management, all interviewed think that impact of project on farmers' livelihood has been high and evaluated at '**4.5**'.

The objective of both projects was to assist the efforts of the Government of the Kyrgyz Republic on eradicating extreme poverty and hunger by improving the economic status of small farmers of the selected irrigation system "Pravay vetka" of the Nookan Rayon of Jalalabad Oblast of the Kyrgyz Republic.

The expected **outcomes** of the UNJP005 were improved performance of the irrigated scheme and the farmers' organizations strengthened with skills.

The proposed indicators to measure the two outcome for UNJ005 were the following:

- Higher farmer satisfaction with irrigation service;
- Improved access in both quality and quantity of irrigation water;
- Improved quality and productivity of irrigated land;
- Increased land area with food crops;
- Improved cost recovery;
- Higher capacity to manage water at on-farm level.

These indicators are not specific enough, they not easy to track and measure, especially without a baseline data, they can not be attributed to the FAO intervention only.

The **outcome** of the AUS026 was to improve performance of irrigated agriculture by increasing the capacity of farmers to manage water at field level and by improving the capacity of technical staff to assess the performance of irrigation schemes in Kyrgyzstan.

The process and outcome indicators for the improved performance of the agriculture were developed in participatory manner in the course of the Rapid Appraisal Process (RAP) of the MASSCOTE. These indicators, though have baseline measurement, were not verified and measured at the completion of the AUS026. The projects' outcomes seem to be achieved, but there is no data to measure and verify them.

The UNJP005 expected to achieve five key **outputs**:

1 **Twenty national staff trained in assessment of irrigation schemes and preparation of modernization plans**

Project trained 25 engineers in Jalalabad -target area, and around 25 engineers in the North of the country on MASSCOTE – an approach to modernization of irrigation systems. The training in Jalalabad was used to plan the modernization actions financed by the project. In the course of the RAP interventions were identified with the use of the methodology and all funds from both projects used accordingly. The training in Issykul was conducted for engineers working for the World Bank-funded project and partly paid by that project.

However, the MASSCOTE approach still remains largely theoretical, since WUAs around the country lack financing for modernization of the system and continue to repair only urgent infrastructure with minimal funds.

The continues effort on adoption of the approach would also require adaptation of training module and materials to local conditions. For instance, it would be more effective if training is conducted in local language (Kyrgyz).⁴⁷

Some interviewed experts also suggested that for future adoption of this program and sustainability of the effort, it would be advisable to introduce it in educational programs of the Kyrgyz National Agrarian University, or in the Irrigation Institute to provide on-going training to young irrigation engineers on understanding of complexity of irrigation water schemes and to ensure institutionalization of knowledge for future efforts on outreach.

47 Junushev, N., Atakulova, G., Djakypova, K. Final Assessment Report of FAO Organizational Results, Irrigation Projects, FAO, 2012.

Box 5. Quotes from interviews

"The Project was much ahead of its time. Unfortunately, at that time neither engineers of WUAs, not of Department of WR understood and had capacity to apply MASSCOTE approach."

Engineer of WUA

2 Modernization plans prepared for selected irrigation schemes

As a result of the MASSCOTE training, the modernization plan for the PV was prepared.

3 Key structures improved and changes in management, including operational procedures, proposed in selected irrigation schemes

UNJP005 financed small construction works to improve the operation and management of selected irrigation systems. Project financed rehabilitation of water measurement and distribution structures for an amount of 223 886 USD (off farm system). This is seen as valuable contribution of Project to improvement of cropped irrigation in the target area. Although there is no quantitative data to confirm and attribute changes in increase of crop areas and crop yields due to better water supply, almost all interviewed farmers noted positive change from the Project on their livelihoods. They think that yields have increased (40%), area of cropping increased (32%), crops cultivated changed (16%). However, these are perceptions of limited number of farmers, and these changes they attribute to other factors as well.

4 Farmers' field schools established focusing on diversified irrigated agriculture production

Project trained 25 local advanced farmers to establish and run Farmer Field School (FFS).

The advanced farmers were selected by Project's beneficiaries and trained by the Jalalabad Rural Advisory Services (RAS) in 2011 on 20 topics related to agricultural production, including water management at the field and scheme level, preparation of an irrigation network for vegetative period; scheduling of water use and the contracts with water suppliers; operation and maintenance service of irrigational system; means and water account methods, including micro-crediting issues, crops, having watered, earths processing, fertilizers application, pesticides use, harvesting, sale of production or processing and storage. The themes were chosen by farmers on a priority basis.

The FFS approach was highly appreciated by farmers. All interviewed noted that the transfer of knowledge through para- advisors was very effective, because they could conduct sessions on various topics on the fields at convenient time for participants. Also, the method of demonstration of knowledge seemed to be highly relevant to the needs. About 90% of interviewed farmers who went through FFS trainings still use the knowledge gained in the FFS training program.

However, all FFS stopped functioning after the Project ended. Currently not one out of 24 established FFS is functioning. Many trainers migrated to Russia for job opportunities. At the same time, many interviewed noted that FFS stopped functioning due to lack of financing from the Project. There was also opinion expressed by the trainers that in order to sustain their services, they had to be constantly supported with a new knowledge and technologies.

5 Water users' associations created where not existing within the irrigation schemes selected.

Functioning of target WUAs was improved, as well as clients' satisfaction with their services. All 8 WUAs have been operational before the Project, but their functioning has improved due to modernization of some parts of canal and establishing water measurement and distribution system. Farmers are now more satisfied with the WUAs services and the level of collection of ISF has increased. In some of the target WUAs farmers now even prepay 60 percent of ISF. However, in opinion of the interviewed WUA managers, these changes can not be attributed solely to the FAO Project. Nevertheless, according to the data from the FGD and interviews, all farmers know about

WUA and its work, and almost all of them participated in at least one meeting of the WUA during last year. Even if only 65% of interviewed farmers are satisfied with the WUA's services, all of them trust WUAs. And almost all interviewed think that WUA functioning has improved after the FAO Project.

The AUS026 aimed to produce two outputs:

1 Capacity of farmers for on farm irrigation management of high value crops in a selected pilot area increased

The CROPWAT computer program was used to set the irrigation regimes of crops on the pilot farm fields of Nookan and Bazar-Korgon Rayons in Jalalabad Oblast. WUAs were trained on use of CROPWAT approach and software for estimation of water demand for different crops. However, majority of WUA representatives do not possess basic computer skills and could not use the program afterwards. Interviewed engineers and WUA management expressed opinion that the CROPWAT could be a good tool if it is simplified for use by basic computer users, and some elements are adapted for use without computer. Another problem faced in use of the software was that meteorological data necessary for its functioning was not available.

2 Capacity of farmers and technical staff of WUA in irrigation performance assessment increased and upgraded

FAO procured two tractors, two pieces of land levelling equipment with laser systems, which use laser devices to level fields. This equipment is currently placed with the Aral Sai WUA, whose Chairman is at the same time the Chairman of local Federation of WUAs. Equipment is still in a good shape and functioning, though other WUAs complained during the field work that they do not have access to it. Apparently, there was agreement at the implementation stage between all WUAs to ensure access to the machinery, but it was probably not elaborated on access and use procedures, and not properly formalized in written. Since equipment was delivered at the end of the Project's life, the training on its use was not delivered. Farmers during FGDs noted that it is not efficient for them to use land planning equipment, because size of individual land plots in this area is usually very small, and cost for fuel and labour of driver of levelling and planning equipment is high. Interviewed during the evaluation field work farmers expressed opinion, that only rich and large land holders can benefit from using this machinery. While there are such cases, the reality of land tenure and land use is not homogeneous. Many of the small farmers have their piece of land as part of a larger field, with no internal boundaries precisely to be able to use machinery in an effective manner. Most fields within the irrigation scheme are still the same shape as they were during the Soviet days when there were state or collective farms.

General knowledge of farmers on irrigated cropping increased and led to higher yields. All interviewed said that they can not attribute change in crop patterns, crop selections to improved water supply and solely to the FAO project, but more to combination of impacts from different assistance programs, including of the WB, and to changes in market demand. Interviewed noted that the most important change in crop pattern was a shift from cultivating cotton to growing corn and vegetables. Many interviewed noted that they learned new techniques of crops planting, understood water demand level and irrigation timing of different crops. At the same time, people think that it is impossible to expect such an ambitious change in cropping patterns from a short term Project. There is no data how many persons participated in the training, but FAO Evaluation of the Project conducted in 2012 mentioned 151 persons.

FAO procured three automatic agro weather stations, which were able to automatically transfer nine types of climate data over any distance. These stations were procured and installed, so Rayon DWR and WUAs can obtain very accurate climatic data and set the parameters for the irrigation of individual fields of 14 500 hectares across the region. However, training was not sufficient for them to operate the stations and process received data. In addition, there was a problem with financing data transmission cost and stations stopped at some point receiving and transferring data. Currently, the stations are in place and well guarded, but nobody interviewed knows how to access the accumulated data. According to the Project's LTO at the time of project implementation, the Hydromet Service had been approached and they had agreed to maintain the meteorological stations after project completion and add them to their network. However, that does not seem to be the case. Currently, FAO CO pays for data transmission cost.

Box 6. Quotes from interviews

"The Project was unique that it brought us very interesting approach to developing a modernization plan. It was especially valuable that implementation of the plan was funded by the Project, results of which showed us rightness of the decisions we made to address identified problems."

Chairman of WUA

Conflicts between different users, between users and WUA management, as well as between WUA management and Rayon DWR almost fully ceased. All interviewed noticed that number of conflicts after FAO Project due to timely water supply has significantly decreased. For instance, before the FAO Project, it took 2-3 hours for water to reach downstream communities, and now it reaches these communities within 20-30 minutes. The water not only comes faster, but the losses are lower, and it takes less time to irrigate land.

In order to ensure normal and high-quality connection between structural subdivisions and 8 WUAs, radio communication equipment was procured for the local staff of water management and 8 WUAs engineers.

Project's impact is seen as significant but not measurable. It is not possible to confirm that 2 500 vulnerable households are provided with reliable irrigation and drinking water, but all interviewed think that the volume of water did not increase, but losses decreased and its timely deliver was improved due to newly built distribution structures and renovation of a part of the PV canal.

The importance of this Project was that FAO introduced and tested several innovative approaches to irrigation management. All interviewed noted that the projects brought in three new innovative approaches. First, selecting target area not by WUAs territory, but as the complex watershed system allowed WUAs and farmers to see problems within watershed area and address them in a complex way. Second, use of MASSCOTE⁴⁸ for modernization of irrigation scheme in the target areas expanded understanding of participating WUAs of complexity of the irrigation problems, including managerial, institutional and infrastructural aspects. The approach allowed to scope technical problems in the canals' infrastructure, lack of effective communication means and other. However, projects' funds were not sufficient to address all of them. Third, the application of the CROPWAT software for supporting irrigated cropping provided an example of how engagement of farmers in understanding of water use patterns for different crops can impact yields, and their incomes. The Project is an example, when FAO acted as a knowledge organization and was instrumental in bringing this knowledge to a country.

Sustainability

The most important factors of sustainability are if there is elaborated and implemented Exit Strategy, ownership of the Projects by the Government and other local stakeholders. For specific evaluation questions see Box 7.

Box 7. Sustainability act evaluation questions

- Have FAO activities had proper exit strategies and have these been followed?
- To what extent have the changes that were generated been sustainable?
- To what extent are the results owned by beneficiaries?
- Have livelihoods been affected by results on the medium and long-term and how?

48 MASSCOTE is a step-wise procedure for auditing performance of irrigation management, analyzing and evaluating the different elements of an irrigation system in order to develop modernization plan. The modernization plan consists of physical, institutional, and managerial innovations to improve water delivery services to all users and cost effectiveness of operation and management. MASSCOTE is founded on a rigorous on site approach of the physical water infrastructure (canals and networks) and introduces service oriented management as a normal practice.

Finding: the sustainability of projects has been weak. The level of sustainability of projects' results has been evaluated at the level of '2.5' in average by interviewed beneficiaries. Projects' results have not been sustained due to an insufficient exit strategy and institutionalization of the knowledge at the national level.

Projects lacked a comprehensive exit strategy, and that affected sustainability of some of the results. Thus, the FFS stopped providing training and advice to farmers with the projects' completion due to lack of financial and technical support. It would be unrealistic to expect that the FFS was ready to sustain itself after a less than a year of functioning. In addition to the lack of financial means, FFS trainers told that they experienced lack of access to technical knowledge and support to outreach to farmers.

The levelling machinery transferred to the Federation of the WUAs is in practice grabbed by one WUA, despite the transfer documents developed to the Federation of all 8 WUAs. This is happened due to **de facto** non-existence of the Federation, which has not become more operative as it refuses to take responsibility to manage the main canal until substantial investment is done by the government.

The meteorological stations, are not being used due to lack of funding for maintenance, insufficient knowledge on data processing and analysing.

Targeted capacity building program was not relevant to be sustained. Capacity of WUAs at that time was very low and many could not fully apprehend MASSCOTE approach and use it independently. Since this knowledge was also not supported by practical experience, it was almost fully lost. The same concerns use of the CROPWAT software. "The timing of project was very short to ensure that such highly specialized knowledge gained through trainings would be applied in real life." (WUA Director).

The main sustained result of the Project is the renovated water measurement and distribution system on the PV, and increased understanding of 8 WUAs and Rayon DWR on general approaches to irrigated cropping and holistic approach to modernization of irrigation schemes.

Coherence and synergies

This last section of report reviews how well programme was designed and how resources were allocated and used. It also looks at technical support rendered to the programme to advance outputs to achieve results. Detailed evaluation questions are given in Box 8.

Box 8. Coherence and Synergy Evaluation Questions

- Has FAO focused on activities that will achieve best results vis-à-vis its resources?
- What kind of partnerships has FAO established and to what extent have these enhanced its capacity to achieve desired results?
- To what extent have FAO's global and regional initiatives provided coherent and/or complementary support in view of achieving the CPF results?
- To what extent has FAO HQ, REU and SEC represented an added value, particularly in terms of technical support?
- Has FAO's knowledge base (normative products, guidelines, publications, etc.) been used at country level?
- To what extent is FAO's programming coherent (in terms of the interventions). Is the CPF an appropriate framework? How were the CPF priorities identified?

Finding: Coherence and synergies of the Project were quite strong.

The accumulative budget of two projects - **UNJP/KYR/005/UNJ** and **GCP /RER/026/AUS** was slightly less than US\$ 1 mln.

There was no Project's budget data available for evaluation purposes, but from some data in the reports, it is evident, that major part of the resources was used for civil works for renovation of the irrigation system and equipment purchasing.

There have been many different donors and organizations working in irrigation area in Kyrgyzstan and apparently the synergy between them is weak. According to the interviews with some experts, many use different approaches, often contradicting to each other, and without continuing coordination. These two projects followed WB funded OIP-I implemented in that area earlier, and was complimentary to what had been already done in improvement of irrigation infrastructure. According to interviews with the experts, FAO project made efforts to transfer the knowledge on the innovative approaches to modernization of irrigation scheme and to irrigated agriculture to the WB OIP-II project for upscaling through engagement of the WB project's engineers in the MASSCOTE training.

Despite substantial technical support from the FAO Sub Regional Office, it seems that global FAO products, such as MASSCOTE and CROPWAT were not yet adopted in Kyrgyzstan. Interviewed experts said that while these approaches are attractive and useful, they can not be introduced currently in Kyrgyzstan due to lack of conducive environment, when WUAs and Rayon DWR have no sufficient resources to allocate for modernization of irrigation skills; major service providers lack computer skills, and general level of capacity of WUAs engineers and managers is low.

Project contributed to Output 3.3 under PA3, i.e. to promotion of climate smart agriculture through rehabilitation of irrigation scheme to minimize water losses, and through capacity building of farmers on various cropping and irrigation techniques applicable in dry lands.

Project was implemented by small, technically strong and committed team. All interviewed commented on the high quality and dedication of two Project's staff who were working hard to achieve results. This was a very small implementation team, but highly appreciated by partners and beneficiaries.

Operational problems – delays with financing, procurement of equipment negatively affected Project's implementation and the achievement of all planned results. Project experienced significant delays with advancement of funds and it affected pace of implementation of activities. Procurement conducted by the FAO was not linked to planned activities and delayed, which seriously hampered activities that are very seasonal in nature. For instance, UNJP/KYR/005/UN lasted only seven months, with all delays in procurement, the actual implementation period was less than 4-5 months. Procurement of equipment happened after the Project's completion date and there was no training on its proper use.

Project experienced delays due to complex approval process at the FAO (Rome, Ankara, Budapest), which led to delays in procurement and finances. These delays negatively affected Project's results.

Key lessons learned

- 1 These two irrigation projects are an example of well designed and implemented FAO projects in Kyrgyzstan. They have been quite relevant to country's needs and priorities, focusing on eradication of poverty and hunger in country, in line with the FAO global priorities and strategies. These projects also made an effort in terms of transfer of FAO produced innovative agricultural knowledge. However, the short duration of the Project, its committed but limited technical team on the ground, as well as overall weak context for application of these innovations, undermined their adoption and replicability.
- 2 **Transfer of innovative and complex approaches and technologies requires demand for them in country and need to be adopted where capacity exists.** Lack of demand and ownership would undermine chances for their applicability and sustainability. MASSCOTE and CROPWAT were interesting and useful approaches, but the context in Kyrgyzstan on the ground according to the interviews with Project's experts and stakeholders is not yet conducive to their adoption: lack of capacity at the WUA level to operate computer programs, lack of funding to apply to implementation of modernization of schemes,

and no climate data accumulating stations around the country to have enough capacity to maintain and process data. It is probably would be more effective to focus training on CROPWAT at the Agrarian Academy for further re training of irrigation engineers, and at the Department of Water Resources to use it to produce better irrigation advice for WUAs. The MASLOTTE use was successful, as it served to identify what to invest with the money the project had. However, the further use of the approach is under doubt due to its complexity.

- 3 **Transfer of innovative approaches and technologies is more appropriate at the national level through the existing public educational and research institutions, NGOs.** It would be probably more effective, if Project focused transfer of such complex innovative approaches at the national level research and educational institutions, with mandate to roll this knowledge further down to water specialists in the regions and to WUAs to provide re training and technical back up. Currently Irrigation Institute is interested to adopt these technologies for training of water engineers at the regional and district levels.
- 4 **It is not realistic to expect functioning of newly set institutions after the end of the Project which lasted about a year.** Project activities related to establishment of the FFS were unsustainable due to unrealistic expectations to set up new institutions to extend knowledge within such a short period of time. For advanced farmers to be able to train other farmers through FFS on a continuous basis, in addition to external funding support, they need to be connected to existing and functioning knowledge points, such as Rural Advisory Services, research institutions.
- 5 **Tested approaches and technologies require existence of clear exit strategy.** If project had exit strategy aiming at sustaining and replication of tested technologies and approaches, the impact of the Project would be much greater.

Appendix 1. People interviewed and participants of the focus groups

Date: 23/10/15; WUA: "Murat-Murab", "Kenesh-Suu", "Kara-Unkur"

Nº	Name	Position
1	Shermatov M.	Technical Specialist
2	Abdyrachmanov Ch.	Director of "Kara-Unkur" WUA
3	Ergeshov Toichubek	Director of WUA "Kenesh-Suu"
4	Manapov Almazbek	Director of WUA "Murat-Murab"
5	Normatov Abduhamid	Engineer
6	Ablasnov Toktobek	Engineer

Date: 23/10/15; WUA: "Aral-Sai", "Sakaldy-Suu", "Nookan K", "Tai-Monku"

Nº	Name	Position
1	Isakov Akim Kimsanovich	Director WUA "Tai-Monku"
2	Ergeshov Urmat Aitbaevich	Director WUA "Sakaldy-Suu"
3	Arapov Mirlan	Director WUA "Nookan K"
4	Mamutov Kochkorbek	Controller WUA "Nookan K"
5	Mashrapov Maksatbek	Director WUA "Aral-Sai"
6	Ablasnov Toktobek	Director WUA "Aikol-Suu"

Date: 24/10/15; WUA: "Kenesh-Suu, Bazarkorgon rayon"

Nº	Name	Position
1	Mamyt uulu Kutmanbek	Farmer
2	Chorginov Maratbek	Farmer
3	Dodoev Abdulla	Farmer
4	Tashieva Gulzada	Farmer

Date: 24/10/15; WUA: "Murat-Murab", "Kenesh-Suu", "Kara-Unkur"

Nº	Name	Position
1	Saitdinov A.K.	Farmer
2	Alibaev A.B.	Farmer
3	Satybaldieva I.I.	Farmer
4	Shermatov M.	Technical Specialist
5	Manapov A.	Director of WUA "Murat-Murab"

Date: 26/10/15; WUA: "Nookan K", "Aikol-Suu"

Nº	Name	Position
1	Tajibaev Abdyjapar	Farmer
2	Turgunbaev Akbarali	Farmer
3	Mamutov Kochkorbek	Farmer
4	Kapashov Muhamed	Farmer
5	Aralbaev Mirlan	Farmer

Date: 26/10/15; WUA: "Tai-Monku", "Shaidan -Kara-Unkur"

Nº	Name	Position
1	Osmonkulov Taalaibek	Farmer
2	Erglsmailov Turalu	Farmer
3	Tashiev Tolkun	Farmer
4	Moldobaev Dooronbek	Farmer
5	Bodoshev Tairash	Farmer
6	Kerimberdiev Ilyas	Farmer
7	Turdaliev Altynbek	Farmer

Date: 27/10/15; WUA: "Sakaldy-Suu", "Shaidan"

Nº	Name	Position
1	Jalalov G.A.	Farmer
2	Satymkulov T.T.	Farmer
3	Aikarov M.A.	Farmer
4	Arstanbekov N.A.	Farmer
5	Makmanov A.A.	Farmer

Date: 27/10/15; WUA: "Aral-Sai", "Sakaldy-Suu"

Nº	Name	Position
1	Shyrgyzmedov Kazimjan	Farmer
2	Abdulaev Nadyrbek	Farmer
3	Buamatov Ravshan	Farmer
4	Ergeshov Urmat	Director of Aral-Sai WUA
5	Mashrapov Maksat	Controller
6	Djalalov Rahim	Farmer
7	Kadyrbekov Maratbek	Specialist of WUA

Interviews

Nº	Name	Position
1	Egemberdiev Alimbek	Specialist of the Department of Agrarian Development
2	Turdumatov Abjapar	Specialist of Bazarkorgon Rayon Water Management Department
3	Ozgonov Tynychbek	The deputy chief on educating of RWMD
4	Ergeshov Toichubek	Director of the WUA
5	Kapashev Uson	Engineer at WUA "Nookan K"
6	Mashrapov Maksatbek	Engineer
7	Bakirov Sharabidin	Specialist of the Rayon Water Management Department
8	Djalalov Pazylyan	Director of "Aral Sai" WUA
9	Ryskulov Beksultan	Engineer at RWMD
10	Ergeshov Urmat	Director of WUA "Sakaldy-Suu"
11	Jalalov Ganyjan	Farmer, trainer, WUA "Aral-Sai"

Appendix 2. Case study methodology

Guide for Semi-Structured Questionnaire for FAO staff and FAO experts

It is necessary to conduct interviews with FAO experts involved in preparation and implementation of relevant projects (2 persons in Bishkek and 2 persons in Jalalabad province in the project coverage area.)

The interviews in the project area will be conducted by local researchers. It is essential to keep a detailed record of interviews on a voice recorder with their subsequent transcription. It is important to fill in the data about the interviewed experts with their names and contact details. Duration of the interview shall not exceed one hour.

The researchers will have to submit the transcribed interviews.

Interview number_____

Interviewee's name_____

Position in the project_____

Present position and place of work_____

Contact details_____

Date of interview_____

Interviewer's remarks_____

1. Strategic Rationale

- How relevant was the topic of improving capacity of irrigated agriculture in the region to FAO's sphere of competence? What other organizations or donors implement or fund activities in this area in Kyrgyzstan? Were there any problems in technical support of the project by FAO? If so, what kind of problems? Were there delays in project implementation due to the fact that FAO did not have enough technical capacity for realization of the project?
- Were the objectives of the project a priority for the government of the country and the farmers? Why was particularly Nookan district of Jalalabad province selected as a project site?
- Was the execution of the project flexible? The project was too short (7 months), while the procurements were delayed. How did this affect the project?
- What do you think how strong was the strategic rationale of the project on the scale of up to 5 (5 is the highest)?

2. Partnership and coordination

- Was this project designed and implemented in partnership with other donors? If not, why so? If so, with whom and how? What partners have complemented the project and how were the decisions made? Was it possible to do something better for coordination of projects? What was the cooperation with the World Bank?
- What do you think how well-established was partnership and coordination with other donors in this area on a scale of up to 5 (5 is the highest)?

3. Normative values

- How were the poor and other vulnerable groups involved in the project? Was it a special window or were there taken measures to involve women?
- Please assess rate of participation of the poor and vulnerable groups in the project on a scale up to 5 (5 is the highest)?
- Please assess the level of involvement of the poor and women to benefit from the project on a scale up to 5 (5 is the highest)?

4. Comparative advantage

- Who could have better implement this project and why? Why NGOs or other organizations are not involved (e.g. Association of WUAs)? And would it be more appropriate or not, why? To what extent is involvement of individual experts and consultants more effective than involvement of citizen sector organizations in implementation of the project?

5. Project relevance

1 Needs Assessment

- Was there conducted a needs assessment in the project area for designing the project? What methodology was used to assess the needs for knowledge and capacity building? Have the results of the needs assessment differed from that that the project gave? If so, in what way?
- What are the main training topics selected by the beneficiaries? Were these topics included in the capacity building training program? If not, why so? The program involved training on water management, sustainable land management, agronomy, micro-crediting, processing and marketing of agricultural products. Was this training program determined prior or after the needs assessment? Were there topics that were interesting to beneficiaries, but were not included in the training program? What topics and why?
- How would you assess the preparation of the project on the scale of up to 5 (5 is the highest)?

2 Training of farmers and Farmer Field Schools (FFS)

- How were farmers selected for training in FFS? What kind of difficulties did the farmers themselves face while training in the field school? Was the method of FFS relevant to use or would another method of training be more effective? Why?
- What new knowledge did farmers gain about irrigated agriculture? How is this knowledge used by them?

3 Plans for modernization of irrigation system

- How many plans for modernization of irrigation system were developed in MASCOTT system? What is the difference of these plans from conventional plans and schemes of WUAs? To what extent was a method of integrated farming analysis adopted? What were the challenges in applying the method and how were they resolved?

6. Impact and effectiveness

1 Impact

- Do you think that the project impacted increase of crop yields? If so, how and why? If not, why so?
- Were there changes in crop composition after the training? For example, a farmer began to plant other crops? What particular changes took place? If there were no changes, why so?
- Did farmers change planting techniques? For example, double planting, other new methods of planting and cultivation? Did it affect diversification and increased revenue?
- Please assess the impact of the project on improving the lives of farmers in the project area on a scale of up to 5.

2 Effectiveness and impact on farming-driven poverty

- Has the number of water conflicts between farmers reduced?
- Are they getting more water? How much and why?
- Have they become more satisfied with the WUA services and why?
- Has the irrigation area increased and under what crops?
- Have WUAs improved the fee collection for irrigation after the project?
- Please assess the effectiveness of the project on the scale of up to 5.

7. Sustainability

- Is the irrigation planning system and MASCOTT modernization system used by irrigators in the project area? If so, how, and if not, why not?
- Do farmers use CROPWAT? How has it changed agriculture and farmers' income, if changed? Why?
- Do FFSs still function? Please describe what they are doing? If they don't exist, explain why? What would assist them to continue their activity?
- Is the approach to new modernization planning used? If so, by whom and how? If not, why not?

8. Recommendations

- What useful things from this project can be replicated in other parts of the country, and why?
- What is better not replicate from the project and why?
- What could have been done differently?
- What are the main lessons learned of the project?

Guide for focus group discussions with water user association representatives

It is necessary to conduct two FGDs with representatives of WUAs in the project coverage area. Each FGD should involve 6-8 participants, including WUA managers, and engineers. It is important to have a mix of WUAs from the "Right branch" upstream villages and downstream villages at each FGD.

Two researchers must take part in conducting the FGDs – one facilitates the discussion and the other takes the detailed records.

In the course of FGD, facilitator should use a "radar method" for evaluation the program implementation.

In order to apply the "radar method" the evaluators/facilitators need to prepare in advance the templates with images of radar and drawn centrelines (indicators), and rating scales (1 to 5) for each FGD.

Facilitators invite FGD participants to discuss in detail every indicator by answering the facilitators' questions and providing a general assessment of each indicator with justification why the group gives such a score and what is needed to improve similar programs in the future. Evaluators should facilitate the groups' evaluation process in the course of discussion, keep the records and assist each group to complete a summary table. The summary table shall contain the following columns: "Indicators", "Group assessment" and "Comments on the assessment and recommendations to improve performance of similar projects regarding this indicator."

It is recommended to take a few photos of FGD process and fill in participant lists with names of participants, contact information and their signatures.

Duration of FGD shall not exceed 2 hours.

Researchers must submit the completed summary tables with detailed comments of participants, as well as all FGD's protocols and photos.

Assessment of projects “Improvement of farm potential using irrigation technologies” (GCP/RER/026/AUS) and “Community land management to enhance and diversify agriculture and improve rural livelihoods” (UNJP/KYR/005/UNJ, Baby 3)

No.	Indicator	Discussion area	Group's assessment	Comments on the assessment and recommendations on improvements pertaining this indicator
1	Strategic rationale	• How relevant was the area of irrigation infrastructure improvement to FAO's sphere of competence? What other donor organizations are involved or fund activities in this area in Kyrgyzstan and your region? Who applies the best approach to irrigation system modernization: FAO or other donors? Explain why? • Were there any problems in technical support of the project by FAO? If so, what problems? Were there delays in project implementation and due to what? • To what extent was this facility - irrigation system “Right branch” - a priority in your region? Explain why? • Was the execution of the project flexible? The project was too short (7 months), while the procurements were delayed. How did this affect implementation of the project? • Has there been an assessment of knowledge needs of WUA engineers while developing the project component on knowledge development? If so, were the results of the assessment taken into account in the training program? • How was the «MASSCOTE» program training process arranged? How easy-to-understand was the training? • What do you think, how strong was the strategic rationale of the project on the scale of up to 5 (5 is the highest)?		
2	Partnership and coordination	• Was this project designed and implemented in partnership with other donors? If not, then why? If so, with whom and how? What partners have complemented the project and how were the decisions made? Was it possible to do something better for coordination of projects? What was the cooperation with the WB? • What do you think, how well-established was partnership and coordination with other donors in this area on a scale of up to 5 (5 is the highest)?		
3	Rationale and competence	• Who and how carried out selection of irrigation system and diagnostics for the project? Who carried out data collection and analysis of the irrigation system? In your opinion, has the analysis and selection been made correctly? How MASCOTT system suits your our conditions, and why? • How would you assess the preparation of the project on the scale of up to 5 (5 is the highest)?		

No.	Indicator	Discussion area	Group's assessment	Comments on the assessment and recommendations on improvements pertaining this indicator
4	Normative values of FAO	• How many women participated in the project and in the training? • How were the poor and other vulnerable groups involved in the project? Were there taken special measures to involve women? • Please assess the rate of participation of women, the poor and other vulnerable groups in the project on a scale up to 5 (5 is the highest)? • Please assess the level of benefit from the project gained by women, the poor and other vulnerable groups on a scale up to 5 (5 is the highest)		
5	Comparative advantage of FAO's approach	• Who could have better implement this project and why: NGOs or other organizations, for example, the Association of WUAs? And would it be more appropriate or not, why? • How many plans for modernization of irrigation systems were developed using MASCOTT? What is the difference of these plans from conventional plans and schemes of WUAs? How was a method of integrated farming analysis CROPWAT mastered? What were the difficulties and how were they resolved? • Please assess a comparative advantage of MASCOTT and CROPWAT systems on a scale of up to 5?		
6	Project impact	• Do you think that the project has impacted increase of the supplied water volume? Please explain. • In your opinion, has the project impacted the increase of crop yields? If so, then how and why? If not, then why not? Were there changes in crop composition after the training (farmers started to plant some crops less and some– more)? What particular changes took place? Why? • If there were no changes, then why so? Did farmers change planting techniques? For example, double planting, other new methods of planting and cultivation? Did it affect diversification and increased revenue? Please assess the impact of the project on improving the lives of farmers in the project area on a scale of up to 5.		
7	Project effectiveness	• Has the number of water conflicts among farmers reduced? • Are they getting more water? How much and why? • Have they become more satisfied with the services of the WUA and why? • Has the irrigation area increased and under what crops? • Has WUAs improved the fee collection for irrigation after the project? • Please assess the effectiveness of the project in improving the farmers' lives in the project area on the scale of up to 5.		

No.	Indicator	Discussion area	Group's assessment	Comments on the assessment and recommendations on improvements pertaining this indicator
8	Sustainability	• Do you use MASCOTTE system in developing new modernization plans? How and why? Do other engineers use this system? Has it gained ground and why? In what way? • What change has been caused by using this new modernization planning system? • Do you use CROPWATT program? How does it change the supply of water in your area? Why? • Do FFSs still work? What they do? If they don't exist, why so? What would assist them to continue their activity? • Is the new modernization approach used? If so, by whom and how? If no, why not? • Assess the sustainability of the project		

Focus group discussions for farmers

It is necessary to conduct six FGDs with farmers in the project coverage area. Each FGD should involve 6-8 participants. Two FGDs must be conducted in upper area and include farmers from two WUAs; two FGDs – in mid irrigation system zone and include farmers from other two WUAs; and two FGDs – in lower zone and include farmers from lower villages based on the "right branch" system. At least 30% of FGD participants must be women. It is advisable to invite a WUA representative to provide farmers with information and clarifications about the FAO project.

Two researchers must take part in conducting the FGDs – one facilitates the discussion and the other takes the detailed records.

In the course of FGD, facilitator should use a "radar method" for evaluation the program implementation.

In order to apply the "radar method" the evaluators/facilitators need to prepare in advance the templates with images of radar and drawn centrelines (indicators), and rating scales (1 to 5) for each FGD.

Facilitators invite FGD participants to discuss in detail every indicator by answering the facilitator's questions and providing a general assessment of each indicator with justification why the group put such a score and what is needed to improve similar programs in the future. Evaluators should facilitate the groups' evaluation process in the course of discussion, keep the records and assist each group to complete a summary table. The summary table shall contain the following columns: "Indicators", "Group assessment" and "Comments on the assessment and recommendations to improve performance of similar projects regarding this indicator."

It is recommended to take a few photos of FGD process and fill in participant lists with names of participants, contact information and their signatures.

Duration of FGD shall not exceed 2 hours.

Researchers must submit the completed summary tables with detailed comments of participants, as well as all FGD's protocols and photos.

Rating of every indicator shall be done based on scores from 1 to 5, where 5 is the highest mark.

No.	Indicator	Discussion area	Group's assessment	Comments on the assessment and recommendations on improvements pertaining this indicator
1	Strategic rationale	• What problems with irrigation did you experience before 2010 (start of FAO project)? The causes of these problems? How did these problems affect farmers? • How well, do you think, has modernization of irrigation system implemented in the frame of the FAO project? What other organizations or donors were involved or funded at that time the activities in this sphere in your region? Who uses a better approach to modernization of irrigation system: FAO or other donors? Explain why? • Were there delays or problems in technical execution of the project, modernization of a canal or conducting the training? If so, why? • How adequately were selected spots for repairs and upgrading based on MASCOTT method? Why? • Has there been conducted the needs assessment of local residents and farmers to select the parts of the canal for upgrading? If so, whether the results of the assessment were taken into account in the modernization program? • How was the training process within the frame of Farmer Field School arranged? How easy-to-understand and useful was it? • What do you think how strong was the strategic rationale of the project on the scale of up to 5 (5 is the highest)? That is, has it met your needs and the demand of the situation?		
2	Partnership and coordination	• Who was involved in canal upgrading, that is, who were the partners? Did the rural government, the district water department, the WUA and WUA members take part, and in what way? What was the partnership between all these parties? • In your opinion, how well-established was partnership and coordination within the framework of the FAO project on a scale of up to 5 (5 is the highest)?		
3	Rationale and competence	• Who and how developed the design of the project? Did local residents take part in designing the project? Were the irrigation system operating problems correctly identified, an adequate analysis made and parts of canal for upgrading selected? If not, what top-priority problems were not embraced by the FAO irrigation project, and why? • How would you assess the preparation of the project on the scale of up to 5 (5 is the highest)		

No.	Indicator	Discussion area	Group's assessment	Comments on the assessment and recommendations on improvements pertaining this indicator
4	Normative values of FAO	• How many women participated in the FAO project and the training? • How were the poor and other vulnerable groups involved in the project? Were there taken special measures to involve women? • Please assess the rate of participation of women, the poor and other vulnerable groups in the project on a scale up to 5 (5 is the highest)? • Please assess the level of benefit from the project gained by women, the poor and other vulnerable groups on a scale up to 5		
5	Comparative advantage of FAO's approach	• This project was implemented by FAO. Who could have better implement the project and why: NGOs or other organizations such as the Association of WUAs? And would it be more appropriate or not, and why? • Assess a comparative advantages of FAO based on scale up to 5.		
6	Project impact	• Do you think that the project has impacted the increase in supplied water volume? Please explain. • In your opinion, has the project impacted the increase of crop yields? If so, then how and why? If not, then why not? • Were there changes in crop composition after the training (farmers started to plant some crops less than others and some crops more than others)? What particular changes took place? Why? • If there were no changes, then why so? • Did farmers change planting techniques? For example, double planting, other new methods of planting and cultivation? Did it affect diversification and increased revenue? • Please assess the impact of the project on improving the lives of farmers in the project area on a scale of up to 5.		
7	Project effectiveness	• Has the number of water conflicts among farmers or between farmers and the WUAs reduced? • Are they getting more water? How much and why? • Have they become more satisfied with the WUA's services and why? • Has the irrigation area increased and under what crops? • Has the WUA improved the irrigation fee collection after the project? • Please assess the effectiveness of the project in improving the farmers' lives in the project area on the scale of up to 5.		
8	Sustainability	• What has changed after the FAO project? • Has the water delivery changed compared to 2010? In what way and why? • Do FFSs still work? Please describe what they do? If they don't exist, why it happened so? What would assist them to continue their activity? • Assess the sustainability of the project		

Rating of every indicator shall be done based on scores from 1 to 5, where 5 is the highest mark.

Structured Questionnaire for Farmers

Section 1: TRAINING within FAO PROJECT

- 1 Have you had training in the framework of the FAO irrigation project in 2011, as part of the Farmer Field School?

1=Yes

2=No

3=I'm not certain

- 2 If Yes, then on what topics?

TYPE of TRAINING or CONSULTATION	2010-2011	Who trained?	Are you satisfied with the benefit provided to your HH by the training/consultation?	Which of your relatives participated?	Participant's gender
Management of Land Resources					
Training on Integrated Irrigation					
Training on Farm Production Technique					
Training on Development of Crop Farming					
Study visits (specify_____)					
Field days on farming techniques					
Wheat (cultivation and seed production)					
Potatoes (cultivation or seed production)					
Horticulture (cultivation technology or prevention)					
Business coaching					
(other)_____					

Code A	Code B	Code C	Code D
1 =RAS 2 =CDIA 3 =friends/neighbors/relatives 4 =Local government (AO) 5 =FAO trainers 6 =other (specify) _____	1 =very satisfied 2 =partially satisfied 3 =neither one thing nor the other 4 =not really satisfied 5 =completely unsatisfied 98 =don't know	1 =spouse 2 =parent 3 =child 4 =grandchild 5 =daughter-in-law 6 =brother, sister 7 =relative 8 =other	1 = woman 2 = man

- 3 Do you use the knowledge gained at these FFS?

1=Yes

2=No

3=I'm not certain

4 Do these FFSs presently exist?

1=Yes

2=No

3=I'm not certain

5 If No, then why did it happen?

Section 3: HH Crop Farming

6 Please specify the category of land and its area: owned, leased or used by the HH

Land category	Total land area, ha	Irrigated land area, ha	cultivated/ used as	Dryland area, ha	cultivated/ used as
1. Crop farming			1=arable land 2=orchard 3=natural hayfield 4=grazing land 5=garden 0=none		1=arable land 2=orchard 3=natural hayfield 4=grazing land 5=garden 0=none
2. Leased land or used land owned by other natural and legal entities			1=arable land 2=orchard 3=natural hayfield 4=grazing land 5=garden 0=none		1=arable land 2=orchard 3=natural hayfield 4=grazing land 5=garden 0=none
3. Household plot B			1=arable land 2=orchard 3=natural hayfield 4=grazing land 5=other 0=none		1=arable land 2=orchard 3=natural hayfield 0=none

7 LAND PARCELS AND LEASE of LAND (if HH obtained a land parcel or DOES NOT lease land, skip the question)

Code A or Not Applicable=99	Code B or Not Applicable=99	Code B
If you don't use all or part of owned or leased land, then what is the reason?	If you lease land, then from whom?	
	Source 1:	Source 2:
Code A 1=it is too far from home 2=barren soil 3=no water 4=lack of farm equipment 5=can't afford farming machinery 6=no means for purchasing fertilizers, etc. 7=lack of farm labor 8= no need 9= unprofitable 10=other (specify): _____	Code B 1=relatives 2=other farm 3=local government (AO) 4=other local government (AO) 5=other district 6=other (specify) _____	

- 8 What is grown on your land, and what is the yield of food and feed crops from irrigated and rain-fed lands, leased and privately owned, and the income from these crops in the last 12 months:

	kg	ha	Yes=1 No=2	Yes=1 No=2	kg	ha	Yes=1 No=2	Yes=1 No=2	Kg or N/A=99	Code A	Som	Som	kg/l	Specify name	kg/l	kg/l	
CROP	Irrigated lands				Rain-fed lands				Sales volume	Where sold	Price per 1 kg/l	Sales proceeds Amount	Sales proceeds Type	Profit/ INCOME		Own consumption	Other
	Total yield	Area	Mineral fertilizer	Organic fertilizer	Total yield	Area	Mineral fertilizer	Organic fertilizer						In kind			
Potato																	
Wheat																	
Barley																	
Corn																	
Beans/ Lentil																	
Buckwheat																	
Flax (oil)																	
Sunflower																	
Oats																	
Melons																	
Sainfoin																	
Hay																	
Forage legume																	
Cotton																	
Other																	

- 9 Yields and income from vegetables grown on leased/private land or garden plots in the last 12 months:

	kg	kg	Yes=1 No=2	Yes=1 No=2	Kg or N/A=99	Code A	Som	Som	kg/l	Specify name	kg/l	kg/l
VEGETABLE TYPE	Irrigated land yield volume	Rain-fed land yield volume	Were mineral fertilizers used?	Were organic fertilizers used?	Sales volume	Where sold	Price per 1 kg/l	Sales proceeds	Profit/ INCOME		Own consumption	Other
									In kind			
									Amount	Type		
Carrot												
Onion												
Cabbage												
Tomato												
Cucumber												
Pumpkin												
Beetroot												
Radish												
Egg plant												
Sweet pepper												
Turnip												
Garlic												
Other												
Canned vegetables	99	99	99	99								

10 What are the main obstacles preventing to increase the crop farming yield? (Please list them in order of relevance)

1. _____

2. _____

3. _____

11 NET CROP FARMING INCOME a year

1=up to 5000 som

2=5000-10000 som

3=10000-20000 som

4=20000-40000 som

5=40000-60000 som

6= over 60000 som

12 How much did you earn from crop farming prior to 2010?

1=just as much

2=less than now

3=far less

4=more than now

5=far more than now

13 Causes for change of the crop farming profitability compared to 2010 (can be more than one answer):

1=more land under cultivation

2=more water for irrigation

3=change of type of crops

4=more knowledge

5=more money for investments

6=other (please specify) _____

14 Does your material well-being depend on crop farming?

		Answer
Yes, very much	1	
Yes	2	
Apparently	3	
Not really	4	
Not at all	5	
Don't know/No answer	6	

15 Does your crop farming depend on irrigation?

		Ответ
Yes, very much	1	
Yes	2	
Apparently	3	
Not really	4	
Does not depend at all	5	
Don't know/No answer	6	

16 Were your lands irrigated before 2011?

1=yes

2=no

3=partially

4=other (please explain)

17 Are your lands irrigated at present?

1=yes

2=no

3=partially

4=other (please explain)

18 How did FAO irrigation project impact your crop farming?

1=did not impact

2= impacted a little

3 =impacted strongly

4 =impacted very strongly

19 Due to the FAO project the following changes have taken place (you can mark several answers):

1=amount of arable land has increased

2=crop yields have increased

3=crop composition has changed

4=conflicts over water have reduced

Section 4: Irrigation**20 IRRIGATION categories and quality of different land categories prior and after the FAO project, 2010**

	Yes=1, No=2, non- applicable=99	Code A	Code B	1=Yes, 2=No 98=Don't know	
Land category	Was your land irrigated in 2010? <i>If No or N/A proceed to the next land category</i>	What kind of irrigation did you have?	Quality of irrigation	Did you pay for irrigation water?	If you pay, how much did you pay a year? (Som)
Land parcel					
Household plot					
Lease land					
Code A		Code B			
1=Gravity canal 2=Water sprinkler 3=Drop irrigation 4=Container 5=Pipeline 6=Other (specify) _____		1=less of half of the required quantity (<50%) 2=about half of quantity (≈ 50%) 3=sufficient quantity (100%)			

21 IRRIGATION categories and quality of different land categories, prior and after the FAO project, 2015

	Yes=1, No=2, non- applicable=99				
Land category	Was your land irrigated in 2015? <i>If No or N/A proceed to the next land category</i>	What kind of irrigation did you have?	Quality of irrigation	Did you pay for irrigation water?	If you pay, how much did you pay a year? (Som)
Land parcel					
Household plot					
Lease land					
Code A		Code B			
1=Gravity canal 2=Water sprinkler 3=Drop irrigation 4=Container 5=Pipeline 6=Other (specify) _____		1=less of half of the required quantity (<50%) 2=about half of quantity (≈ 50%) 3=sufficient quantity (100%)			

22 Is there WUA in your village?

Codes	Answer
YES=1, NO=2 (<i>if No, proceed to Question 35</i>)	

23 Is your HH a member of WUA?

Yes	
No	

24 **How many members of your HH participated in WUA's meetings during last year?**

Gender	
Male	
Female	

25 **Have you heard about WUA's activities?**

		Answer
Yes	1	
No	2	
Don't know/No answer	99	

26 **Are you satisfied with WUA's activities?**

		Answer
Very satisfied	1	
Satisfied	2	
More or less satisfied	3	
Unsatisfied	4	
Strongly unsatisfied	5	
Don't know	99	

27 **Do you trust the WUA's efforts?**

		Answer
Yes	1	
No	2	
Don't know	3	

28 **Has the WUA's performance improved after the FAO project in 2011?**

		Answer
Yes	1	
No	2	
Don't know	3	

29 **Please highlight three problems in WUA's activities?**

1_____

2_____

3_____

Section 5. ACCESS TO WATER AND CONFLICTS

- 30 **In your opinion, are there any disputes and conflicts over water in your municipality?**
(If yes, proceed to Question 39)

		Answer
Yes	1	
No	2	
Don't know	99	

- 31 **What kind of conflicts are there in your village/municipality?**
1= Yes, 2=No

3.1.	Interpersonal conflicts within the village	__	3.6.	Between rural municipalities	__
3.2.	Group conflicts within the village	__	3.7.	Between WUA and rural municipality	__
3.3.	Interethnic conflicts within the village	__	3.8.	Between WUA and local residents	__
3.4.	Between villages	__	3.9.	Transboundary conflicts	__

- 32 **What kind of conflicts prevails?**
Rate using 5-score scale from 1 to 5, with 1 as the lowest and 5 – the highest mark

4.1.	Interpersonal conflicts within the village	__	4.6.	Between rural municipalities	__
4.2.	Group conflicts within the village	__	4.7.	Between WUA and rural municipality	__
4.3.	Interethnic conflicts within the village	__	4.8.	Between WUA and local residents	__
4.4.	Between villages	__	4.9.	Transboundary conflicts	__
4.5.	Other (specify)_____		4.10.	Other (specify)_____	

- 33 **In your opinion, can conflicts over irrigation water affect preservation of consent in the community?**
1= Yes / 2= No / 3= Don't know

4.1	__
-----	----

- 34 **What do know about irrigation water use rules in your village? Please mark several options.**
1= Yes / 2= No / 3= Don't know

5.1	There is an irrigation water use schedule	__	5.5	Transparent budget spending of WUA	__
5.2	<i>Mirabs</i> distribute water	__	5.6	Common water users participate in taking decisions concerning the activities of the WUA	__
5.3	Rates for use of water are fixed and they are transparent		5.7	Other (specify)_____	
5.4	A mechanism of payment for water is established (who, when, pays whom)		5.8	Other (specify)_____	

35 **In your opinion, what is the cause of conflict? Several options can be marked**
1= YES / 2= NO / 3= DON'T KNOW

6.1	Lack of water	__	6.11	Lack of transparency and unawareness of local residents about WUA's activities	__
6.2	Village location	__	6.12	Violation of irrigation water use schedule	__
6.3	Rural municipality area location	__	6.13	Lack of clear schedule for use of irrigation water	__
6.4	Location at border territory	__	6.14	Lack of water masters, etc.	__
6.5	Lack of coordination between WUA and rural government (AO)		6.15	Deterioration of irrigation system	__
6.6	Presence of corruption schemes in water allocation		6.16	Size difference of irrigated land plots owned by farmers	
6.7	WUA staff work poorly		6.17	Delayed payments for irrigation water	
6.8	Local government staff work poorly		6.18	Late delivery of irrigation water	
6.9	<i>Mirabs</i> (water masters) work poorly		6.19	Other_____	
6.10	Mechanisms of distribution and management of irrigation water do not meet the requirements of water users		6.20	Other_____	

36 **Has the number of conflicts over irrigation water decreased after 2011?**

1=Yes

2=No

3=Not certain

Notes and comments: _____

Annex 2.2: Impact assessment of fisheries projects

GCP/KYR/003/FIN & GCP/KYR/012/FIN "Support to Fishery and aquaculture management in the Kyrgyz Republic"

Abbreviations

CACFish	Central Asia Committee for Fisheries
CPF	Country Programming Framework
CPE	Country Programme Evaluation
CFD	Concept of Fishery Development
DoF	Department of Fisheries
FISHDEV	FAO-Turkey Regional Fisheries Development Programme
MAWRPI	Ministry of Agriculture, Water Resources and Processing Industry
OED	FAO Office of Evaluation

Background

Project context

- 1 Fisheries was one of the most developed and profitable sectors in agriculture of the Kyrgyz Republic during the Soviet times, annually producing more than one thousand tons of fish, and primarily based on pond culture.** The fisheries and aquaculture sector comprise fisheries reservoirs, which include lakes - Issyk-Kul, Son-Kul, Kara-Suu, large reservoirs - Toktogul, Bazar-Korgon, Ortho-Tokoy and Kirov, as well as more than a thousand hectares of ponds.
- 2 Annual fish production (inland and aquaculture) in the Kyrgyz Republic has fallen significantly since 1991, when it was estimated at more than 1 361 tons per annum.**⁴⁹ By 2006, more than 90 percent of state fish farms were privatized as part of the economic changes that followed the breakup of the former Union of the Soviet Socialist Republics, and the production levels dropped to 71 tons per annum.⁵⁰
- 3 The collapse in the production levels of the sector was caused by a combination of unsustainable fishing practices, competition within the food chain from introduced species, and unfavorable water resource management.** The 2013 review of the FAO-Finland fisheries project noted that "[the sector] occupied a very low priority in governments' development plans, enjoying little or no [political] support, having a weak manpower and technology base for development or productivity improvement...and therefore an extremely low productivity."⁵¹

49 Mairam Sarieva, Mukhtar Alpiev, Raymon van Anrooy, John Jorgensen, Ande Thorpe, Andrés Mena Millar, "Capture Fisheries and Aquaculture in the Kyrgyz Republic: Current Status and Planning", FAO Fisheries Circular No. 1030 SEC/FIMF/FIEP/C1030, FAO, Rome, 2008, p.iv

50 Ibidem

51 Pedro B. Bueno, Narynbeck Djunoshev "Support to Fishery and Aquaculture Management in the Kyrgyz Republic GCP/KYR/003/FIN", Evaluation Report, 14 Feb 2013 Bishkek, Kyrgyz Republic, p. 2

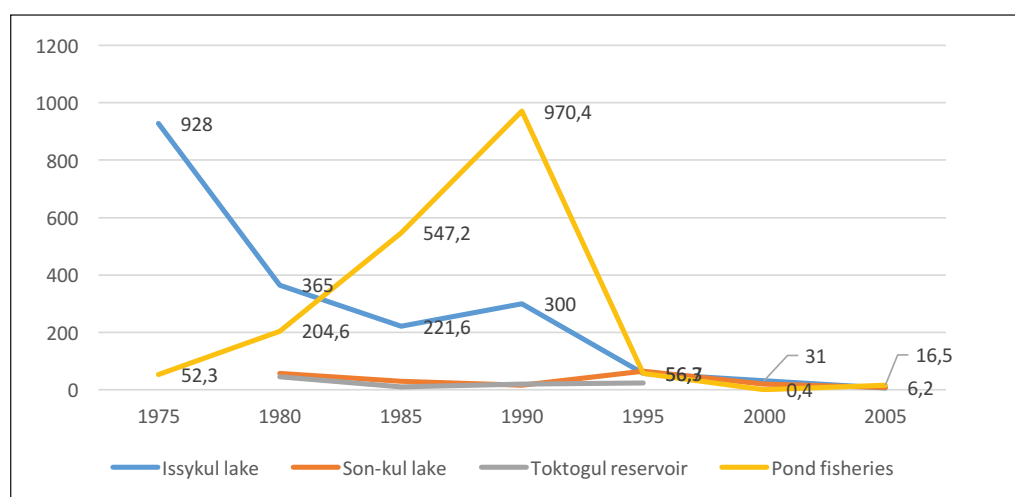


Figure 1: Dynamics of Fish Captures in Kyrgyzstan (metric tons), 1975-2005

Source: Website of the Department of Fisheries under the MoAM⁵²

- 4 **Fish production levels were also affected by changes to the governance of the fisheries and aquaculture sector in the country.** The Department of Fisheries (DoF), which was set up in 1997 by a governmental resolution, was abolished in 2000 by a presidential decree handing over its functions to the Sector of Fishery Industry under MAWRPI, which was tasked to improve fisheries management. In 2001, the Sector of Fishery Industry was abolished, and its functions were turned over to the Fisheries Inspection Service. This inspectorate introduced various measures to improve the situation of the fisheries, including banning whitefish and trout fishing in 2003. However, weak enforcement of management measures resulted in an increase in poaching and therefore the collapse of the resources.⁵³
- 5 **Pond aquaculture has been in place in the Kyrgyz Republic since 1950, with most of the ponds located in the Chui Valley.** This area, owing to the prevailing climate conditions (length of vegetative season and temperatures), is considered to be the most promising area with potential production of an average of 2 500–3 000 kg/ha in intensive and semi-intensive aquaculture.⁵⁴ In the past few years, the number of fish farms in some areas of the country, such as the Chim-Kemin region in Chui province, have seen an increase in the number of fishponds and farmers' interest in the sector⁵⁵. Most aquaculture producers fall within one of the following categories: 1) small-scale fish farmers who own or rent ponds and sometimes engage in small-scale processing of fish for sale, mainly in the local market; 2) large-scale fish farmers that own ponds and process fish for export; and 3) fish farmers with non-operational ponds who engage in fish processing.⁵⁶
- 6 The sector is regulated by the Fishery Law (Government of the Kyrgyz Republic, 1997), the Fauna Law (1999) and the Nature Preservation Law (1999), which were passed in the 1990s. Fishery and biological norms and the rules for fish breeding in reservoirs have been prepared and ratified. The 2008-2012 Strategy for Fisheries and Aquaculture sector development provided a framework for sectoral support. The 2015-2015 Concept of Fishery Development (CFD), which was developed with FAO support, is currently the main document outlining national priorities for the development of the sector⁵⁷.

⁵² Official web-site of the Ministry of Agriculture of the Kyrgyz Republic, Fisheries, "Current Fisheries Sector Situation and Ways to Develop It" (Современное состояние рыбной отрасли и пути ее развития), available at <http://www.agroprod.kg/modules.php?name=Pages&page=3>, accessed on 10.11.2015

⁵³ Mairam Sarieva, Mukhtar Alpiev, Raymon van Anrooy, John Jorgensen, Ande Thorpe, Andrés Mena Millar, "Capture Fisheries and Aquaculture in the Kyrgyz Republic: Current Status and Planning", FAO Fisheries Circular No. 1030 SEC/FIMF/FIEP/C1030, FAO, Rome, 2008, p.8

⁵⁴ Ibid, p. 21

⁵⁵ Bakyt Ibraimov, "Kyrgyzstan's Booming Fish Farms", 25/07/2015, Silk Road Reporters, available at <http://www.silkroadreporters.com/2015/06/25/kyrgyzstans-booming-fish-farms/>

⁵⁶ Elvira Ilibezova, Madina Sharafutdinova, Aslan Kerimbekov, Yan Invei, Jyldyz Tenizbaeva, Larissa Ilibezova, Sunil N. Siriwardena, "Fish Marketing and Consumption Survey in the Kyrgyz Republic", FAO Fisheries and Aquaculture Circular No. 1087 SEC/FIRA/C1087, FAO, 2014, p. xi

⁵⁷ Adopted by Order of the Minister of Agriculture and Melioration of the Kyrgyz Republic on 16 June 2015. It superseded the 2008-12 Strategy for Fisheries and Aquaculture sector development.

- 7 The Kyrgyz government presently support the development of fish farms by offering loans at discounted rates through the government's Agriculture Finance 3 Programme, which is designed for developing the livestock and fishery sectors of agriculture. It offers loans with interest rates of 9% for up to 24 months, which is better than the average market rates.⁵⁸ FAO and Finland have been supporting the recovery and further development of the fisheries and aquaculture sector since 2008 through the implementation of projects GCP/KYR/003/FIN and GCP/KYR/012/FIN, with a special focus on improving the livelihoods of fish farmers and their communities.

Project Overview

- 8 Project GCP /KYR/003/FIN was designed to support the implementation of the 2008-12 Strategy for Fisheries and Aquaculture sector development, which had the following development objectives:
- review and update the relevant fisheries legislation to introduce reforms to enable modern fishery and aquaculture management and development;
 - ensure the protection and responsible management of fisheries resources in the country;
 - ensure the implementation and further development of restocking programmes in all major lakes in the country;
 - develop diversified and multipurpose fisheries and aquaculture enterprises; and,
 - improve the market supply chain and processing of fishery products, and ensure the safety and quality of these products.
- 9 The expected project outcomes included:
- improved fish processing and marketing;
 - a strengthened fisheries and aquaculture research system;
 - improved capacities of the DoF to lead the management and development of the capture fisheries and aquaculture sector at national level;
 - a functional capture fisheries management system in place at national and local levels;
 - regional awareness in central Asia increased with respect to the opportunities provided by modern fisheries management to enhance sustainable production, generate alternative rural employment and increase rural food security⁵⁹.
- 10 The project targeted fishers, fish-farmers, fish processors and fishery sector policy-makers, which were identified based on a study conducted in 2008 to review the status of the fisheries and aquaculture sectors in the country. According to the project's final review, by the end of 2013 the project had reached 10 major achievements, namely: " 1) strengthened capacity for sector governance; 2) built a stronger Science and Technology foundation for sector development; 3) established a science-producer (fishers and aquaculturists) linkage; 4) supported a stronger productivity base with technology and training and information dissemination; 5) Improved stakeholders' awareness and understanding of strategic and scientific approaches to restoring, enhancing and sustaining ecosystems services; 6) infused a market chain perspective in the management and development of the sector; 7) contributed to the regional capacity building programme for fisheries; 8) demonstrated the value and a methodology for science-based risk assessment, analysis and management of fisheries; 9) improved knowledge dissemination and utilization that inspired farmer-led innovations and private investments and a resumption of fish farming; and 10) contributed to the renewed access to a valuable livelihood asset and its sustainable management"⁶⁰.
- 11 The GCP/KRY/012/FIN project (2013-17) was designed to promote the rejuvenation of the aquaculture and fisheries sectors in the Kyrgyz Republic, and in this regard, build on

58 Bakyt Ibraimov, "Kyrgyzstan's Booming Fish Farms", 25/07/2015, Silk Road Reporters, available at <http://www.silkroadreporters.com/2015/06/25/kyrgyzstans-booming-fish-farms/>

59 GCP/KYR/003/FIN, Terminal Report, Support to Fishery and Aquaculture Management, Kyrgyz Republic, Rome, 2014, p.4

60 Pedro B. Bueno, Narynbeck Djunushev "Support to Fishery and Aquaculture Management in the Kyrgyz Republic GCP/KYR/003/FIN", Evaluation Report, 14 Feb 2013 Bishkek, Kyrgyz Republic, p.2

the achievements of the previous Finnish Government supported GCP/KYR/003/FIN project. The principal focus of the project is to strengthen the institutional capacity to develop aquaculture sustainably and contribute towards the sustainable management of ecosystem services of the main lakes and reservoirs in selected areas in northern (Issyk-Kul) and southern (Jalal-Abad) provinces of the Kyrgyz Republic; to increase local fish supplies to contribute to the realization of the right to food; and to enhance food and nutritional security and reduce rural poverty through offering opportunities for livelihood enhancement and generating employment. By mid-2015, the FAO/Finland programme had supported the establishment of nine fish farm associations in six provinces, and provided farmers and their communities with training and inputs for improving their livelihoods.

Table 1. Fish farm associations formed in the framework of the Finnish-funded projects

Name	District	Members	Type of activities
Issyk-Kul province		112	
1) "Koldun Toru"	Tup district, Tup village	19	Carp culture in ponds
2) "Eldos +"	Ton district, Don-Talaa village	22	Rainbow trout culture breeding and growing fish
3) "Issyk-Kol Balygy"	Ton district, Kadji-Say village	29	Rainbow trout culture
4) "Altyn Arashash"	Aksu district, Baru-bash village	18	Rainbow trout and carp breeding
5) "Issyk-Kul prudoviki (pond breeders)" ⁶¹	Jety Oguz district, Lipenka village	27	Rainbow trout and carp breeding
Jalal-Abad province		32	
6) "Ketmen Tobo Balyk Charbasy"	Toktogul district, Uch-Terek village	12	Fishing at Toktogul reservoir
7) "Toktogul Balygy"	Toktogul district, Torkent village	19	Fishing at Toktogul reservoir
Chui province		12	
8) "Amur"	Jayil district, Kara-Balta village	12	Carp breeding
Naryn province		15	
9) "Jumgal Balygy"	Jumgal district, Jany-Aryk village	15	Rainbow trout breeding
Total		173	

- 12 Project GCP/KYR/012/FIN is currently providing technical assistance to the above fish farmers associations, and, among other things, it is working towards the establishment of decentralized fish seed production and supply networks (output 1) and functioning fish feed production and supply mechanisms (output 2). More information on progress to date on the above activities is available in the mid-term review of the project (December 2015).

Objectives and methodology of the study

- 13 This study is part of the FAO Country Programme Evaluation (CPE) in the Kyrgyz Republic, undertaken by the FAO Evaluation Office (OED) in September-December 2015. The purpose of the CPE is to provide inputs to better orient the FAO's country priority framework (CPF) in Kyrgyzstan, while making it more relevant to the needs of the country.
- 14 This study assessed the results of the FAO field-level fisheries and aquaculture interventions undertaken through GCP/KYR/003/FIN and the follow-up GCP/KYR/012/FIN project. **It did not review the results of the projects' interventions relating to research, institutional and policy-related aspects.** The assessment was guided by the evaluation questions of the CPE, and sought to identify the extent to which FAO field interventions were/are relevant, effective, coherent and synergetic from the point of view of the final beneficiaries (fish farmers) as well as whether these were/are undertaken in respect of the UN normative values (gender and human rights), and making optimum use of partnerships.

⁶¹ This association has officially terminated its cooperation with the FAO project, and is no longer benefitting from any of the project activities. Nevertheless, the data of this association's members was collected and is used in the study.

- 15 The projects were selected for field study for three main reasons: 1) relatively large size of funding with a total budget of more than US\$ 3 million and several field-level activities, 2) relatively long period of implementation – more than 4 years; 3) strong interest from FAO, the Government and the resource partner for an assessment of the changes brought up by the programme at the field level.
- 16 The study was conducted in four provinces– Chui, Naryn, Issykul and Jalalabad where fish farm associations have been established between August-October 2015. It involved the conduct of desk review (appendix 1), interviews with local authorities and key informants (appendix 2) as well as focus groups discussions and a survey of 82 members of seven (out of nine) associations. Furthermore, a control group of farmers (36) were also interviewed to obtain comparable data. For more details on the study methodology see Appendix 3. The profile of the survey respondents is available in Appendix 4.
- 17 The team would like to express its deep gratitude to Mr. Thomas Shipton, GCP/KYR/012/FIN project Chief Technical Advisor, Ms. Mairam Sariyeva, National Project Coordinator of both GCP/KYR/003/FIN and GCP/KYR/012/FIN, and the country office staff for generously allocating time, providing the team with all background materials and supporting it throughout the study. Field work was conducted by the national fisheries consultant Mr. Atantai Kadyrbaev with the support of evaluation assistant Ms. Anna Vishniakova.

Assessment

- 18 This part of the report contains the field study findings, and is organized in accordance with the CPE questions on programme contributions, i.e. relevance, partnerships and coordination, impact and effectiveness, sustainability and coherence.

Relevance

- 19 This section looks at the relevance of the FAO field-level interventions vis-a-vis the: 1) the priorities stated in the national policy documents; 2) the FAO CPF stated outcomes; 3) the needs and challenges faced by the community members in the target areas. Box 1 provides details on the questions addressed.

Box 1. Relevance Evaluation Questions

- To what extent the Project's objectives and achievements were consistent with the national priorities?
- To what extent the Project falls within FAO comparative advantage?
- To what extent the Project's objectives and achievements responded to the needs of the beneficiaries?
- To what extent the Project's outcomes addressed key issues, their underlying causes and challenges?

- 20 Finding: The relevance of the field interventions is very high, especially in regards to building knowledge and capacities in trout and carp culture breeding, improving the availability, quality and quantity of fish feed and fish fry. Other factors affecting small-scale fisheries development, such as access to finance, could be better addressed.
- 21 FAO field interventions are aligned to the main policy and programming documents of both the Government and FAO. GCP/KYR/003/FIN project was reportedly aligned with national development plans such as the Comprehensive Development Framework for 2000-2010, and the National Poverty Reduction Strategy for 2007-2010, whose ultimate goals are to alleviate rural poverty and reduce food insecurity.⁶² GCP/KYR/012/FIN supported the update of the plan, which eventually became the 2015-2025 CFD, and have continued providing support both at upstream (ie, policy, institutions) and downstream (ie, community) levels. The projects also worked towards realization of the outcome of Priority Area 2 of the FAO Kyrgyzstan CPF, namely "improved contribution of the Fisheries and Livestock Sector to Food Security in the Kyrgyz Republic". In particular, they have supported policy formulation, national capacity building and improvement of the capacities of fish

62 GCP/KYR/003/FIN project document, available in the FPMIS, p. 18

farmers. By supporting the latter, these also contributed to the realization of the FAO Regional Initiative on "Empowering Small Holder and Family Farms".

- 22 **The assistance provided by the projects is highly relevant to the needs of fish farmers.** As most of the association members are farmers that have traditionally relied on agricultural activities, like crop growing or livestock breeding, the projects offered them an alternative source of economic opportunities and family nutrition. Furthermore, as for most of the farmers fish farming is a new activity, the assistance like fish fry and trainings on growing trout and carp cultures, was essential for being able to have first production levels.
- 23 Farmers also highly value assistance provided in establishing the fishery associations, which helped to address the problem of weak organization of fisherfolk and aquaculturalists. Although the co-management mechanisms that were the main purpose of organizing farmers into associations are not very well conceived by the farmers yet, they see the value of the associations in the voice they give in promoting local initiatives.
- 24 According to the fish farmers surveyed, assistance in terms of support to produce fish feed and improve the availability of fish fry is still needed by 87% and 76% of them, respectively. Farmers that took part in the FGDs complained that the high input cost (fish feeds and fry) are major limitations to their business especially due to the cost of commercial feeds for trout. A further 71% of the interviewees noted that **access to finance** was a major constraint for which assistance was required. Less demanded, but still needed are the support in ensuring the sustainability of the fishery associations and technical trainings (45% of cases for each), and access to production resources and technical consultations (39% and 32% of cases respectively). **The technical trainings are requested to be drawn on innovative and advanced examples and practices, which would be locally relevant.**

Partnerships and Coordination

"Now we have power as an Association. We can write an official letter with our stamp to the government authorities. And they take into account our opinion. As a single farmers we cannot do anything. It's difficult to be alone". (Focus Group Discussion, "Amur" association members, Kara-Balta, Chui province)

- 25 This section focuses on partnerships established as a part of the project and the extent to which they were effective and provided for increased benefits for the small-scale farmers. Box 2 specifies the questions addressed in the section.

Box 2. Partnership and Coordination Evaluation Questions

- How did FAO engage in partnerships and to what extent were these partnerships complementary and synergetic?
 - To what extent has FAO supported the coordination of actors working in the rural development and food security sector?
 - To what extent has FAO contributed to influence the position and decisions of partners in relation to food and nutrition security and has it had a role as convenor?
- 26 Finding: FAO field interventions are undertaken in close coordination with Government authorities at central and local levels. The close engagement at local levels could be used to expand linkages with relevant Government and donor-funded programmes.
 - 27 **GCP/KYR/003/FIN established partnerships with a range of national level institutions in Kyrgyzstan and Finland**, including Department of Fisheries (DoF), the Institute of Biology and Pedology under Kyrgyz Academy of Science (IBP), the Kyrgyz National Agrarian University (KNAU), Agro-Technical College, University of Eastern Finland (UEF), local authorities, NGOs and the private sector. Collaboration with some of them continued in the second phase of the Finnish programme. Most relevant for farmers are the partnerships with the DoF and local authorities.

- 28 **The DoF is the main national counterpart of the project.** The links developed between the project team and the department staff were characterized as very close and trust-based. The Director of the Department is the National Project Coordinator, and thus responsible for the implementation of project activities. The cooperation continues in the framework of the second phase of the Finnish programme and other national and regional projects implemented by FAO in the fisheries sector.
- 29 At field level, the FAO projects have sought to establish closer linkages with local administrations through engaging representatives of local authorities in the Project Steering Committee, and decentralized dependencies of DoF, including research centers and Government-owned farms and hatcheries. The local authorities met by the team were very much aware of the project activities, satisfied with its design and intervention logic, and expressed interest in continuous engagement especially with the view of expanding job creation opportunities and linking the field interventions with other initiatives undertaken by the Government in their areas of influence.
- 30 The associations have good cooperation levels between themselves, learning and exchanging each other's experiences and skills. The farmers of the Jalalabad associations reported establishing links with associations in Issykul province, and regularly exchanging information and experiences with them. This type of collaboration would be unlikely, if not participation in the project.

Normative Values

- 31 The section presents findings on how FAO managed to integrate UN normative values, like benefitting the poor and marginalized, women and other disadvantaged groups in project design and implementation. Box 3 provides a list of evaluation questions addressed through the study.

Box 3. Normative Values Evaluation Questions

- Have normative values of the United Nations, particularly supporting the poor, marginalized, disadvantaged and affected populations been embedded into FAO's programme and how?
- To what extent has the project (and programme) taken into account equity, gender and human rights in the design of its activities and during the implementation?

- 32 ***Finding: The interventions largely benefitted poor households while involving local experts and champions. Gender-differentiated approaches and an expanded role for the local champions/experts could be explored.***
- 33 The activities at field level have benefitted low-income households with monthly incomes of no more than 6 000 Soms (approx. USD \$92)⁶³ as reported by 61% of those surveyed). Among project beneficiaries there were also fish farmers with more than 8-10 years of experience in the sector, which represent a potential asset for the sustainability of the project.⁶⁴ Their experience and knowledge, together with the support provided by the project, could be used to maximize outreach and lasting effects.
- 34 The level of women's participation in the associations and the recognition of their role in fish farming varies from one province to another. In total women made up 24% of the membership base (55 women out of 229 associations' members).⁶⁵ The majority of these women are from Issykul and Naryn provinces, and in Jalalabad only one of the two associations has women in their membership.

63 For official exchange rates please visit the web-site of the National Bank of Kyrgyzstan, at <http://www.nbkr.kg/>

64 The total number of such fish farmers is not significant (9% of the total number of surveyed association members and 14% of control group members). To ensure that the findings are not skewed, the information of these fish farmers for specific indicators was considered separately.

65 Data provided by Associations Chairmen based on the record books.

"In our association women are always ahead. Usually they work with the fertilized eggs, clean them, incubate, and feed the fish. For most of the families fishery is secondary income that is why all family members engage in it". (Focus Group Discussion, "Altyn Arashan" association members, Issykul)

- 35 In Chui province there are no women association members, but all the wives of the association members help with the fish farming activities, and specifically with selling the fish. The fish farmers interviewed in Jalalabad explained that women are generally very busy with other household chores and currently do not have time for activities related to fish farming. Some of them referred to local culture, which does not permit women to be a part of any public meetings or decision-making processes – something considered to be a man's privilege in this part of the country. On the other hand, in Issykul and Naryn provinces women enjoy equal rights as association members, and many male fish farmers acknowledge that women are better than men in such activities as selling and cleaning the fish.

"According to our culture women should be at home, they should not participate in any Association together with men. I will not give permission to my wife to be engaged in any business. May be when we will finish incubation unit we could provide a job for women." (Focus Group Discussion, "Toktogul Balygy" association members, Jalalabad)

- 36 Based on anecdotal evidence from Focus Group Discussions, in almost all fish farms the wives of the association members are engaged in fish farming activities in one way or another. Most noted that women are much better than men at selling fish, cleaning and feeding. **Overall, women display genuine interest in fish farming.** In Issykul province, women initiated their own association "Jaz" in 2014.⁶⁶ The association members grow fish from eggs to fingerlings, and have also constructed 3-4 ponds for growing fish. According to the women, aquaculture diversifies their farming activities, which includes livestock breeding and growing crops. In the future, they would also like to grow fodder crops that could be used for feeding both the livestock and the fish fry.

Impact and Effectiveness

- 37 The analysis provided in this section are based on the changes observed in different aspects of the fish farmers activities/livelihoods, as well as on the socio-economic aspects that have been affected by these changes. Box 4 provides details on the questions addressed through the section.

Box 4. Effectiveness and Impact Evaluation Questions

- What changes can be observed that are attributable to FAO's interventions (e.g. behavioural changes; institutional changes; policy changes; technical adaptations; tangible socio-economic benefit)?
- To what extent have these changes contributed to progress towards outcomes?
- Are there any other notable positive or negative impacts of the project? Describe any innovations, contributions to poverty reduction or other country-wide development goals

- 38 ***Finding: Fish farmers and their communities have become more interested in fisheries and aquaculture as a business/employment opportunity, and a source of healthy and nutritious food. Some have improved their management skills, especially for fish feed production, and started to benefit economically and socially from the support provided. Areas such as promotion of fish consumption, fish processing and marketing require further attention.***

⁶⁶ The association and its members were not included in the study design, as it was not formed as a part of the first phase of the project and has no official registration yet. The association was visited as a part of the evaluation main mission's trip to Issykul province on 10/10/2015

- 39 **The projects have contributed to an increase in farmers' interest on aquaculture in the areas of influence.** According to project documentation, the number of carp and rainbow trout aquaculture farms in the project areas have grown from 53 to 104 between 2010 and 2013.⁶⁷ This has been confirmed as a part of the field study, as the majority of the surveyed (61% of association members and 42% of the control group members) have started their fish farming activities only 2-7 years ago. Almost all surveyed farmers (91% of association members and 89% of control group members) were not engaged in fish farming before the project. At present 43% of the surveyed association members (mainly from Issykul, Jalalabad and Naryn provinces) still do not have any fish production, either due to lack of resources (fish fry, feed) or their recent membership in the FAO supported associations.
- 40 **Fish farmers appreciate the knowledge gained and the support for the establishment of associations.** The figure below indicates the types of trainings considered the most effective and useful.

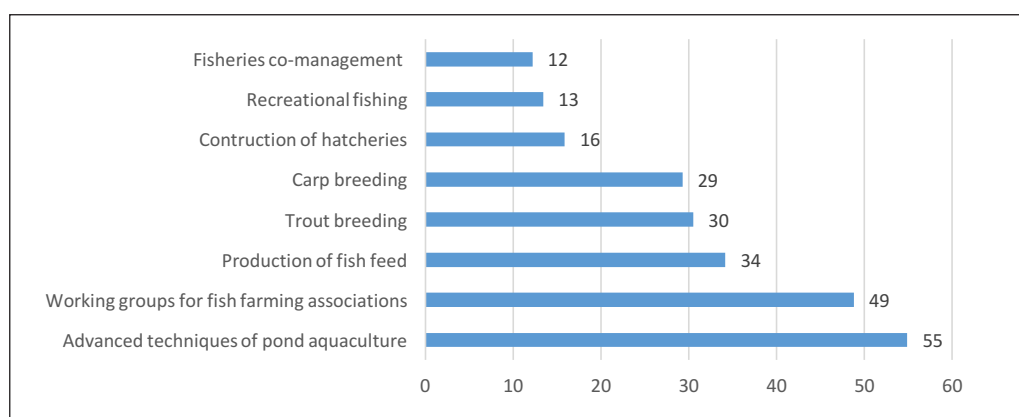


Figure 1. Most useful FAO trainings for fish farmers (percentage)

Source: field study

- 41 As most of the farmers are engaged in very basic fish farming activities, their primary interest in terms of building knowledge and capacities is on topics related to improving productivity growth and reducing losses. The project appeared to have been particularly successful in building/revamping farmers' capacities for the production of on-farm aqua-feeds for carps. 80% of the surveyed association members (against 58% of the control group) reported using farm-made feeds produced with locally manufactured commercial feeds, which were not in place before the project started⁶⁸.

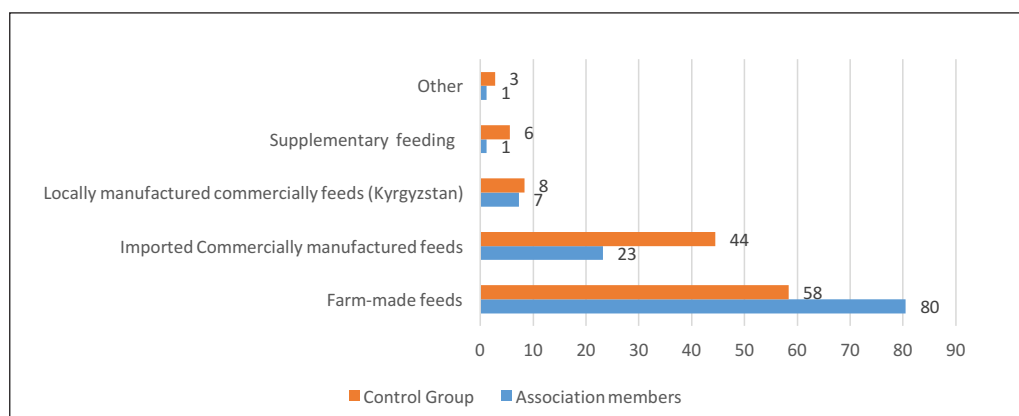


Figure 2. Types of fish feed used by farmers

Source: field study

⁶⁷ GCP/KYR/003/FIN, Terminal Report, Support to Fishery and Aquaculture Management, Kyrgyz Republic, Rome, 2014, p.4

⁶⁸ Mairam Sariyeva, Mukhtar Alpiev, Raymon van Anrooy, John Jorgensen, Ande Thorpe, Andrés Mena Millar, "Capture Fisheries and Aquaculture in the Kyrgyz Republic: Current Status and Planning", FAO Fisheries Circular No. 1030 SEC/FIMF/FIEP/C1030, FAO, Rome, 2008, p. 25

- 42 **Fish farming is recognized as a potential source of household income.** 63% of the farmers interviewed stated that the contribution of fish farming-related income to their overall income has in the past five years increased by up to 20%, whereas 22% noted an increase of up to 40%. As expected, the level of increase among the control group were lower.

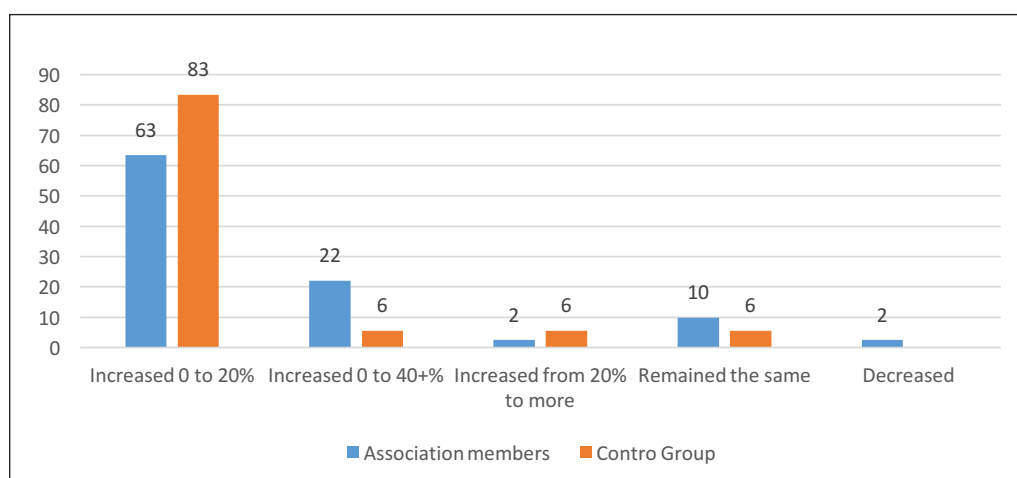


Figure 3. Changes of the proportion of farmers' income coming from fish farming over the last 5 years (percentage)

Source: field study

- 43 Among the farmers who reported an increased contribution of fish farming to their incomes, over 85% reported using the income for everyday needs – highlighting the fact that most of them are resource-poor households, while 57% said that it is also used for expanding the fish farm.

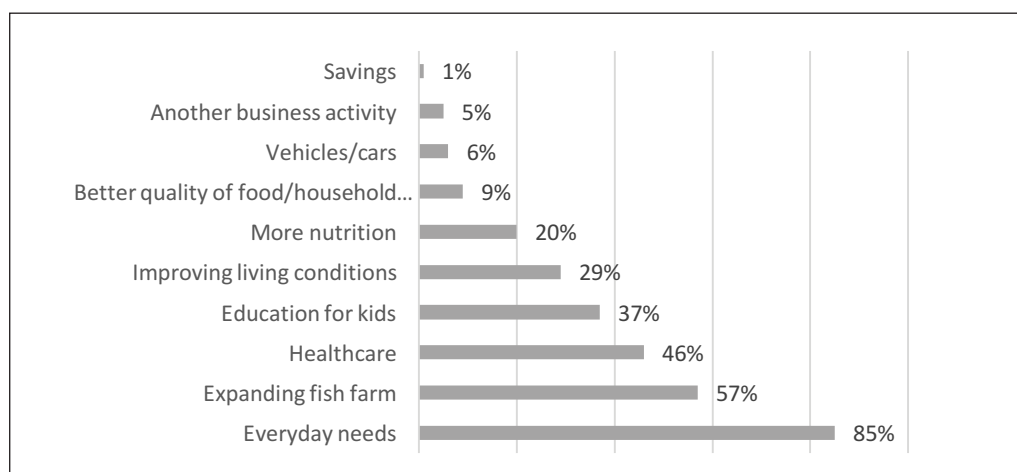


Figure 4. Use of income coming from fish farming (percentage)

Source: field study

- 44 **Fish farming is already contributing to creating employment opportunities for the rural population.** Currently 24% of the surveyed associations' members (and 19% of the control group) reported having officially employed workers on their farms. These include men and women. On average, the fish farm workers are employed 6-8 months/year with an average salary of 4 000 Som/month (approx. USD \$61.5).

"We consume fish very often, almost every second day. Previously fish was not so popular among us because we did not produce it at that time". (Focus Group Discussion, "Eldos +" association members, Issykul)

- 45 **Some fish farmers reported to have problems selling their produce, but the situation varies from one association to another.** For instance, the “Eldos +” association from Issykul province, has a signed contract with super-market “Narodnyi” and several cafes, restaurants and processing companies in Bishkek to supply them fish. The “Narodnyi” super-market receives 100 kilos every second day. Fish is also supplied to hotels along Issyk-Kul lake. This association also has a contract with the Kum-Tor gold mining company. Every month they provide one ton of frozen fish to the company. Similarly, in Chui province farmers sell fish to local Kara-Balta market, Bishkek and Kara-Kol. They have a specialized shop in Kara-Balta that sells only fresh fish. The association would like to open even more shops, but currently has financial constraints. On the contrary, the members of “Issykol Balygy” association reported only seasonal sales and limited options for preserving fish when the demand is low.

“Usually we sell fish in summer, during the holiday season. When there is no demand, we have no place to store our fish. When it is not possible to sell fish, we also consume it by ourselves, it is a healthy food. No need to spent money for food, we can eat our fish”. (Focus Group Discussion, “Issykol Balygy” association, Issykul)

- 46 **On-farm and cold chain fish processing is practiced by few farmers.** Currently 22% of the association members process their fish by freezing,⁶⁹ smoking, salting or drying it on the sun. For half of these farmers this on-farm processing makes up to 35% of their annual income. For just a few farmers, mostly the members of “Eldos +” association which has fish-freezing technical capacities, fish processing makes more than 50% of their annual farm income. This association is clearly different from all the others - it has technical capacity (refrigerators and specially equipped vehicles) to transport live fish up to Bishkek, and farmers of this association also produce smoked fish. The association chairman received a certificate on primary processing in 2014 from Agricultural Academy and specialists from Finland.

“People now understand that fish is very good for health. Pregnant women from local villages are our major clients. Now we eat fish more frequently, maybe twice a week. It is also affordable now. If we produce fish – not to eat it would be a crime”. (Focus Group Discussion, “Jumgal Balygy” association members, Naryn).

“...we cook fish for ourselves not very frequently, twice in a month maximum. It’s difficult to change our culture; people are not accustomed to eating fish. I prefer to sell fish and buy meat with the money”. (Focus Group Discussion, “Toktogul balygy” association members, Tor-Ken village, Jalalabad).

- 47 **Farmers’ fish consumption levels have increased.** This may be attributed to the project outcomes related to production growth and an awareness raising campaign held in collaboration with the Health Promotion Centre of the Ministry of Health.⁷⁰ **72% of the association members surveyed consume about 10%-20% of their produce, while 16% (members of “Koldun-Toru” and “Issykul prudoviki” associations) consume all (100%) of the fish they produce.**

69 Only “Eldos +” association has equipment for freezing fish.

70 Sunil Siriwardena, “Contract End Report on the Progress of Implementation of Project Activities”, FAO Project Support to Fishery and Aquaculture Management in the Kyrgyz Republic GCP/KYR/003/FIN, p. 10

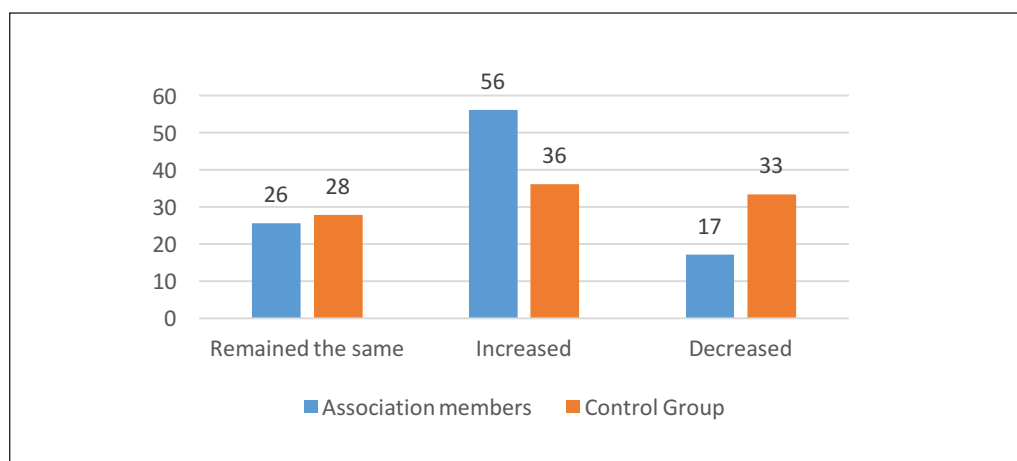


Figure 5. Changes in fish consumption over five years (percentage)

Source: field study

- 48 **In some parts of the country fish is a new dietary component**, as historically nomad Kyrgyz people traditionally relied on animal meat. For example, in Naryn, fish farmers noted that fish is a new product for local people. In the south of the country, in Jalalabad province, fishermen also noted that they were not used to eating fish before.
- 49 **Increased fish consumption is possible due to increases in production.** In Issykul, where fish consumption was quite popular, and mainly constrained by low production levels, people benefit from new/additional sources of this healthy product. The members of “Eldos+” association in Issykul plan to provide free fish meals to children from local school (about 150 children) every Thursday, reviving the tradition of a “fish day” on Thursdays, which was popular during the Soviet times.

Sustainability

- 50 The section presents findings related to sustainability of the project outcomes defined by the level of ownership by beneficiaries and stakeholders. Box 5 provides detailed questions addressing this part of the report.

Box 5. Sustainability Evaluation Questions

- Have FAO activities had proper exit strategies and have these been followed?
- To what extent have the changes that were generated been sustainable?
- To what extent are the results owned by beneficiaries?
- Have livelihoods been affected by results on the medium and long-term and how?

- 51 **Finding: Assuring sustainability of the results require further investments in infrastructure, institutions and individual technical capacities. Greater emphasis on public-private sector collaboration, and in expanding the role of the associations would be helpful.**
- 52 As noted in the GCP/KYR/003/FIN review, most of the investments and capacity building efforts made at that stage were initial and have continued through the second phase of the Finnish programme (GCP/KYR/012/FIN). The “exit strategy” of the field interventions rely on the strengthening of the Government capacity so that it can become a provider of technical assistance and resource inputs for associated fish farmers, and the establishment of public-private initiatives for activities such as restocking and production of fish fry. It is also planned as that a network of extension services will be organized with the participation of government, fish farmers and entrepreneurs in the industry, offering its services in the rural areas. To this end, farmer field schools will be organized to promote fisheries associations as extensionists and research counterparts.

- 53 The links between associations and DoF have been further strengthened through concluding tripartite agreements (DoF, associations, FAO) on responsible use of the equipment of the mini-hatcheries that will be set up as a part of GCP/KYR/012/FIN project. In addition, some associations already have official contracts with the DoF for the provision of services. For example, members of "Altyn Arashan" association informed the evaluation team that their engagement with DoF in incubating Issyk-Kul fish and growing fish fry helps to fulfill 90% of the DoF restocking plan.
- 54 Access to good-quality fish fry is one of the major challenges for reaching higher production levels for many farmers.⁷¹ Currently the majority of the fish farmers buy fish fry from local hatcheries and private companies. A major thrust of project GCP/KYR/012/FIN and a related project (TCP/KYR/3502) is to address this limitation.

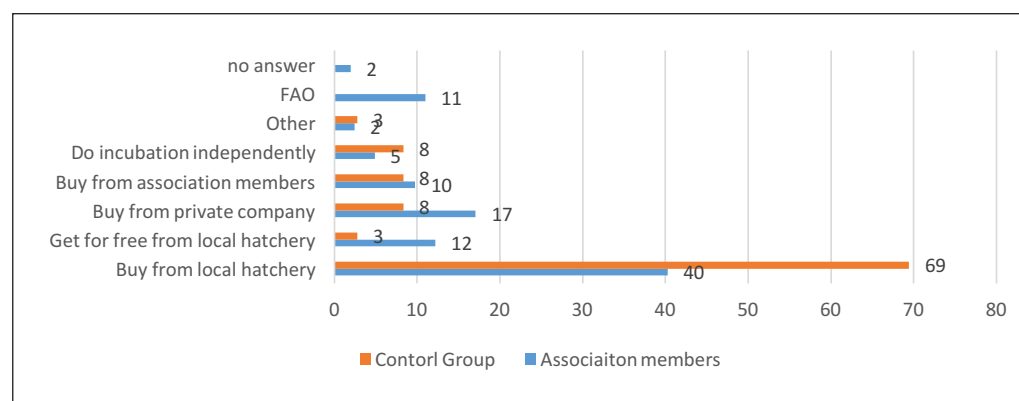


Figure 6. Sources of fish fry (percentage)

Source: field study

- 55 **For fish farmers the added value of the associations is the support they receive as part of the project, but also the power it gives them for the promotion of local initiatives.** The latter represents the sustainability potential of the created associations, and is especially evident on the example of the associations in Chui and Naryn provinces that were not covered by the second phase of the project. The associations "Amur" and "Jumgal Balygy" continue their operation and build on the acquired capacities. However, the majority of the associations lack internal accountability mechanisms and transparency. Most of the associations were not able to immediately provide the lists of their members, appeared to lack business plans and largely rely on FAO technical assistance in the foreseeable future. Farmers value the project because of its quasi holistic approach and long-term commitment to the development of the sector. Such approaches are most welcomed and preferred over short-term projects that have limited impact on farmers' livelihoods.
- 56 **Collaboration with the private sector, developed within the framework of the project, contributes to further sustainability of the fishery associations.** For example, Kumtor Gold Mining Company was said to have recognized the quality of the associations' produce and was willing to make interest-free loans to establish fish farms.⁷² Although no reports of Kumtor-funded loans were provided, in fact, another type of cooperation with the abovementioned gold-mining company was identified. The association "Eldos +" from Issykul province with support of DoF and FAO project have signed a contract with Kumtor, and every month provides one ton of frozen fish to the company.⁷³ The associations in Issykul and Jalalabad provinces also have far-reaching plans and ideas for further development. They have regular meetings and discuss their plans for the future. Many of them are awaiting the setup of the hatcheries and feed mills to increase productivity and cut their input costs. This would allow them to expand, and even offer more products or services, such as offering recreational fishing in ponds, and developing other types of fish culture (e.g. sturgeon) or even producing caviar (!).

71 Mairam Sarieva, Mukhtar Alpiev, Raymon van Anrooy, John Jorgensen, Ande Thorpe, Andrés Mena Millar, "Capture Fisheries and Aquaculture in the Kyrgyz Republic: Current Status and Planning", FAO Fisheries Circular No. 1030 SEC/FIMF/FIEP/C1030, FAO, Rome, 2008, p.10

72 GCP/KYR/003/FIN, Terminal Report, Support to Fishery and Aquaculture Management, Kyrgyz Republic, Rome, 2014

73 Focus Group Discussion with "Eldos +" association members in Kara-Koo village on 24/09/2015

Box 6. Coherence and Synergy Evaluation Questions

- Has FAO focused on activities that will achieve best results vis-à-vis its resources?
- What kind of partnerships has FAO established and to what extent have these enhanced its capacity to achieve desired results?
- To what extent have FAO's global and regional initiatives provided coherent and/or complementary support in view of achieving the CPF results?
- To what extent has FAO HQ, REU and SEC represented an added value, particularly in terms of technical support?
- Has FAO's knowledge base (normative products, guidelines, publications, etc.) been used at country level?

57 As noted in the mid-term review, and highlighted by some key informants, the successful development of the brood stock programme and the maintenance of the technical capacities built would also require long-term financial commitments from Government (or donor), since it is at least in the foreseeable future beyond the capacity of the fish farmers to sustain such programmes.

Coherence and Synergies

58 This section looks at how well was the fisheries programme of intervention is designed and how resources were allocated and used. It also looks at how well the other projects implemented in the sector complement and follow-up on the project outcomes.

59 Findings: FAO capacity development interventions were delivered in an efficient fashion, and benefited from technical inputs from FAO (HQ and SEC) and local partners. Delays in procurement and the establishment of physical infrastructure need to be urgently addressed by the country managers.

60 The implementation of capacity building activities were largely considered effective and relevant by project beneficiaries. Key informants and several beneficiaries met by the team were unsatisfied with the problems faced to timely procure feed mill and hatchery equipment. The mid-term review of the GCP/KYR/012/FIN project documents the progress made and provide detailed information on the delays and the actions being taken to speed up the procurement and development of fisheries infrastructure.

61 The project was technically supported by FAO's Fisheries and Aquaculture Department (FIRA), and received inputs from the Lead Technical Officer based in Rome and specialists in marketing and policy issues. The project in-country activities were coordinated by the international Chief Technical Advisor who has also provided significant technical inputs and channeled expert advice from FAO experts at HQ to the field.

62 Cooperation with regional fisheries structures (CACFish), which were established as part of the Central Asia Regional Programme for Fisheries and Aquaculture Development (FISHDEV) under project GCP/RER/031/TUR contributed to enhance project outcomes. The FISHDEV programme benefited from the manuals and guidelines on Environment Impact Assessment, the Code of Conduct for Responsible Fisheries as well as the poster of fish species in Central Asia developed by the project.⁷⁴ In turn, the GCP/KYR/003/FIN project benefitted from FISHDEV and CACFish organized trainings and study tours in Turkey, and from the participation of Kyrgyz national counterparts in their workshops. Local partnership in the research area was also setup with UNDP-GEF project, which led to the lifting of fishing moratorium in Issykul lake.

63 Collaboration between the second phase of the Finnish programme (GCP/KYR/012/FIN) and a regional TCP project (TCP/SEC/3402) was characterized as somewhat limited. Lack of effective collaboration mainly affects the regional project, which could have benefitted

74 bid, p.18

from synergies with ongoing national projects, strengthen its outcomes and influence decision-making by improving adaptive capacities to the core problem of climate change related to water use and conservation.⁷⁵

Conclusions and Recommendations

- 64 From the beneficiaries' perspective, the field-level interventions have, rightly so, focused on addressing structural and production-related issues affecting the development of the fisheries and aquaculture sector in the Kyrgyz Republic. As noted earlier, most of the training/technical assistance provided has been timely and useful, and the planned investments in infrastructure/production equipment/knowledge transfer will eventually pay off. Nevertheless, as people and activities progress, new demands and gaps (re)emerge, especially related to other aspects that need to be in place (such as access to extension services, finance, markets) for the associations to prosper in the long-term.
- 65 The evaluation team is aware that project GCP/KYR/012/FIN will address some of these new/re-emerging challenges in the remaining period of implementation. For instance, it is already envisaged that together with local partners (such as DOF, local authorities, private sector and some of the Associations), fish farmers will be trained (through farmer field schools) and technically supported in the operation of the production facilities being established (including through the development of business plans). Building on the attempts already made to target women beneficiaries, additional efforts could be made to involve a broader range of disadvantaged groups (i.e., women, youth, ethnic minorities) to enhance the socio-economic impact of the project. At a more strategic level, issues related to access to rural finance, fish processing, marketing and consumption might need to be addressed in the medium term to create a more conducive environment for the development of the sector.

75 Interview with the project manager Mr. Andras Woynarovich, on 26/10/2015

Appendix 1: Literature Consulted

- 1 GCP /KYR/003/FIN project document, FAO Field Programme Management Information System
- 2 GCP /KYR/003/FIN project Six Months Progress Reports, FAO Field Programme Management Information System
- 3 GCP /KYR/003/FIN project Annual Reports, FAO Field Programme Management Information System
- 4 GCP /RER/031/TUR Technical Reports, FAO Field Programme Management Information System
- 5 GCP /KYR/003/FIN project Mission Reports, FAO Field Programme Management Information System
- 6 GCP /KYR/003/FIN project Back to Office Reports, FAO Field Programme Management Information System
- 7 GCP /KYR/003/FIN project terminal report, FAO Field Programme Management Information System
- 8 TCP/KYR/3502 project document, FAO Field Programme Management Information System
- 9 GCP /KYR/012/FIN project document, FAO Field Programme Management Information System
- 10 TCP/SEC/3402 project document, FAO Field Programme Management Information System,
- 11 GCP/KYR/012/FIN progress report for January-June, 2015
- 12 Pedro B. Bueno, Narynbeck Djunushev "Support to Fishery and Aquaculture Management in the Kyrgyz Republic GCP/KYR/003/FIN", Evaluation Report, 14 Feb 2013 Bishkek, Kyrgyz Republic
- 13 Web-site of the Ministry of Agriculture of the Kyrgyz Republic , Fisheries, "Current Fisheries Sector Situation and Ways to Develop It" (**Современное состояние рыбной отрасли и пути ее развития**), available at <http://www.agroprod.kg/modules.php?name=Pages&page=3>, accessed on 10.11.2015
- 14 Mairam Sarieva, Mukhtar Alpiev, Raymon van Anrooy, John Jorgensen, Ande Thorpe, Andrés Mena Millar, "Capture Fisheries and Aquaculture in the Kyrgyz Republic: Current Status and Planning", FAO Fisheries Circular No. 1030 SEC/FIMF/FIEP/C1030, FAO, Rome, 2008
- 15 Elvira Ilibezova, Madina Sharafutdinova, Aslan Kerimbekov, Yan Invei, Jyldyz Tenizbaeva, Larissa Ilibezova, Sunil N. Siriwardena, "Fish Marketing and Consumption Survey in the Kyrgyz Republic", FAO Fisheries and Aquaculture Circular No. 1087 SEC/FIRA/C1087, FAO, 2014
- 16 Bakyt Ibraimov, "Kyrgyzstan's Booming Fish Farms", 25/07/2015, Silk Road Reporters, available at <http://www.silkroadreporters.com/2015/06/25/kyrgyzstans-booming-fish-farms/>
- 17 " Cooperation of Climate Change and Finnish Projects in Kyrgyzstan in 2014 and 2015"
- 18 FI:GCP/KYR/003/FIN, Terminal Report, Support to Fishery and Aquaculture Management, Kyrgyz Republic, Rome, 2014
- 19 Memorandum of Understanding for the cooperation on demonstration of culture based fisheries in Kyrgyzstan
- 20 Sunil Siriwardena, "Contract End Report on the Progress of Implementation of Project Activities", FAO Project Support to Fishery and Aquaculture Management in the Kyrgyz Republic GCP/KYR/003/FIN, p.3
- 21 FAO Kyrgyz Republic Country Programming Framework, 2015-2017
- 22 Roseanna Avento, "Guide to Establishing a Fish processing plant", University of Eastern Finland, Faculty of Science and Forestry, 31/7/2012
- 23 Silvija Nora Kalnins, Lira Joldubaeva, UNDP/GEF project on "Strengthening policy and regulatory framework for mainstreaming biodiversity into fishery sector", Final Evaluation

- Report, 2012, p.16, available at <http://erc.undp.org/evaluationadmin/manageevaluation/viewevaluationdetail.html?evalid=5658>
- 24 Richard Anthony Corner, Sunil N. Siriwardena, Haydar Fersoyim "Guidelines on the application of the environmental impact assessment procedure in aquaculture in the Central Asia and Caucasus region", FAO 2013
 - 25 Draft National Policy on Fisheries and Aquaculture Development of the Kyrgyz Republic, FAO Project Support to Fishery and Aquaculture Management in the Kyrgyz Republic (GCP/KYR/003/FIN)
And Central Asia Regional Programme for Fisheries and Aquaculture Development (GCP/RER/031/TUR)
 - 26 The Regional Principles for Responsible Aquaculture in the Central Asia and Caucasus Region, FAO, Bishkek, 2013
 - 27 Law of the Kyrgyz Republic № 39 "On Fisheries", adopted 25/06/1997
 - 28 Khondker Murshed-E-Jahan¹, Charles Crissman², John Antle, Economic and social impacts of integrated aquaculture-agriculture technologies in Bangladesh, Working Paper: AAS-2013-02, CGIAR, 2013
 - 29 Andy Thorpe, David Whitmarsh, Ben Drakeford, Chris Reid, Bakhtiyor Karimov, , Serik Timirkhanov, Kuanych Satybekov, Raymon van Anrooy, FAO Aquaculture and Fisheries Technical Paper 565, Ankara, 2011
 - 30 Roseanna Avento, Vijakainen, J., Tazhibaeva, B and Shipton, T., " Developing Fisheries and Aquaculture in the Kyrgyz Republic through improved training and education", presentation for Life in Kyrgyzstan Conference, Bishkek, 2.10.2015
 - 31 Bermet Tazhibaeva, R.Avento, "Enhancing the Fish Supply Chain in the Kyrgyz Republic"Kyrgyz National Agrarian University and University of Eastern Finland, presentation for Life in Kyrgyzstan Conference, Bishkek, 2.10.2015

Appendix 2: Key Informants

- 1 Thomas Shipton – GCP/KYR/012/FIN Chief Technical Advisor, FAO staff
- 2 Mairam Sarieva - GCP/KYR/012/FIN Project National Coordinator
- 3 Thomas MothPoulsen - TCP/SEC/3402 project Lead Technical Officer
- 4 Andras Woynarovich - TCP/SEC/3402 International Consultant in Fishery
- 5 Mohammed Hasan - GCP/KYR//FIN Lead Technical Officer
- 6 Samarbek Kuchukov – Director of the Department of Fisheries under the Ministry of Agriculture
- 7 B. Jenbaev – Director of the Institute of Biology under Academy of Sciences
- 8 Kojaliev Eshen – Head of the Tup district administration, Issykul province
- 9 Timur Alymbekov – Deputy of the Head of the State Administration of Ton district, Issykul province
- 10 M. Satynkulov – Head of the state administration of Toktogul district, Jalalabad province
- 11 Focus Group Discussion with women association “Jaz”, Tup district, Issykul province
- 12 Vadim Dosaev – Executive director of LLC “Aquafond”, Bishkek, Kyrgyzstan
- 13 Emil Ibraimov – Director of LLC “Caviar”
- 14 Esekeyeva Azima Asylbekovna – Director of the part-time division in Agro-Technical College, Bishkek, Kyrgyzstan
- 15 Derkenbaev Sovet Musaevich – Dean of the zootechnical department in Kyrgyz National Agrarian University
- 16 Asel Otorova – Head of External Relations office of Kyrgyz National Agrarian University, Bishkek, Kyrgyzstan
- 17 Irgashev Almazbek – the 1st vice-rector on education of Kyrgyz National Agrarian University, Doctor of Veterinary Sciences, professor

Appendix 3: Methodology and Data collection tools

The field study made use of the following data collection techniques and analyses:

Context analysis comprising national reports, statistics and other international organizations reports will be reviewed to better understand the dynamics of the fisheries and aquaculture sectors in the country. This part of the study will help to answer the evaluation question relating to *programme relevance*. In order to identify the outcomes of the programme interventions pertinent to *programme relevance, effectiveness and impact, coherence, synergies and sustainability* the theory of change (ToC) of the project will be constructed on the basis of the CPF, project documentation and interviews with key informants. In addition, information on the following project indicators will be collected:

- Volume and value of the capture fisheries and aquaculture production;
- Availability of fish processing mechanisms (value chains)
- Availability of fish marketing mechanisms
- Number of employment opportunities created by fish farms
- Associations' internal accountability mechanisms
- Perception of the support/assistance received and future assistance needs
- Other

Qualitative research methods will be used to validate the results of the interventions and gather information on success factors, gaps, challenges and unexpected outcomes from the projects. Nine (9) Focus Group Discussions with fish farmers members of the 9 associations established as a result of the GCP /KYR/003/FIN project, which continued to be supported by GCP/KYR/012/FIN, will be conducted. The field study will use **a quasi-experimental design**, with two groups being modelled. One of the groups will include the fish farms, which have benefitted from the technical support and trainings provided by FAO, the other group will be the counterfactual (control group), and will include a group of fishermen from four provinces where the associations were established, but did not benefit from the FAO interventions.

Members of the control group will be identified using a combination of two methods: **judgmental matching**⁷⁶ and the **snowball technique**. The first one refers to the identification relevant control group members based on consultations with experts, e.g. the project team, Evaluation Fisheries Consultant, representatives of local authorities and other relevant key informants. Alternatively, the study will identify beneficiaries making use of the **snowball technique**, in which the existing study subjects recruit future subjects from among their acquaintances. In addition, some of the applicants for membership in the abovementioned associations, who were rejected or did not join for other reasons, will be considered as potential members of the control group.

Some of the characteristics that will guide the identification of comparable control group members include:

- Socio-economic status (age, employment status, household size, etc.)
- Types of income sources
- Types of economic activities
- Number and type of aquaculture activities performed

All Focus Groups will have both male and female participants to ensure a gender sensitive approach in the data collection process. In case there are no women among association members, women members of the fish farming households will be invited to participate in an FGD.

Comparing changes in knowledge, practices and needs as well as the socio-economic status of the project beneficiaries (members of the fish farming associations) and those of the control group

⁷⁶ For more information on judgmental matching technique, please see "Alternatives to the Conventional Counterfactual", American Evaluation Association, Orlando 2009, available at http://realworldevaluation.org/uploads/Alternative_approaches_to_the_counterfactual_AEA_09.doc

will be used to identify qualitative changes that have taken place in the fisheries and aquaculture sector during the last 5 years.

In addition to FGDs, the association members will be asked to fill in a self-administered questionnaire, which focuses on the collection of data related to quantitative changes in the fish farming sector during the past 5 years, e.g. levels of production, levels of income, number of jobs created, fish species bred, costs of fingerlings and feed, etc. Members of each association will be asked to fill in these questionnaires, and the data collected through this method will complement the findings of the FGDs.

Triangulation of data from the interviews, Focus Groups, self-administered questionnaires, statistics and project documentation will be applied for identifying whether these observed changes are attributable to the FAO interventions.

Programme coherence and synergies will be explored through **process analysis**, i.e. review of the project documents, monitoring data and budget management, as well as consultations with the key informants (relevant government agencies, donors, project team members, and others). Specifically these will include:

- Department of Fisheries under MoAM,
- Institute of Biology,
- State Agency for Environmental Protection and Forestry,
- local authorities (at province, district, Ayil Okmotu and village levels),
- civil society,
- private sector,
- partner and donor agencies.

These stakeholders will be consulted to better understand the context of the fisheries and aquaculture sectors in the country, their major needs and challenges. Furthermore, this opportunity will be used to validate and obtain the most up-to-date official data/statistics pertinent to the fisheries and aquaculture sectors in the Kyrgyz Republic.

Target and Control Group Members

Currently there are no official statistics on the number of fish farms in the Kyrgyz Republic. Based on estimates provided by the Head of the Department of Fisheries, there are 700 fish farms in the Kyrgyz Republic, however many of them are not officially registered.⁷⁷ Thus, based on the official data of the DoF only 43 fish farms were registered across the country in 2011 (Table 1).⁷⁸ Back then the largest number of fish farms were located in Issyk-Kul province, followed by Chui and Talas provinces. These figures should remain similar to the present, based on the estimates of the experts in the field.

Table 1: Number of registered fish ponds and fish farms in 2011

Province	Number of fish ponds	Number of fish farms
Chui	73	16
Issyk-kul	79	20
Talas	7	5
Naryn	6	1
Osh	6	
Jalal-Abad	14	1
Batken	1	
Total	186	43

Source: Fish Marketing and Consumption Survey in the Kyrgyz Republic, FAO, 2013, p.4

77 Madina Sheralieva, "Department of Fisheries will develop an inventory of farms, to reveal illegal fish farms that are not formally registered" ("Департамент рыбного хозяйства проведет инвентаризацию, чтобы вывести на чистую воду нелегальные рыбные фермы"), K-News, 10.06.2015, available at <http://www.knews.kg/society/65256/>

78 Fish Marketing and Consumption Survey in the Kyrgyz Republic, FAO, 2013, p.9-1

The study will include 9 FGDs with associations' members and 4 FGDs with fish farmers, who are not members of the associations (control group). Each FGD will include 10-15 participants. The tentative number of fish farmers participating in the qualitative part of the field study is summarized in the table below:

Table 3. FGD participants: association members and control group

Name	District	Number of association members	Number of FGD participants/ association members	Number of Control Group FGD participants
Issyk-Kul province				
1) "Koldun Toru"	Tup district, Tup village	19	10	15
2) "Eldos +"	Ton district, Don-Talaa village	22	12	
3) "Issyk-Kol Balygy"	Ton district, Kadji-Say village	29	15	
4) "Altyn Arashash"	Aksu district, Baru-bash village	18	10	
5) "Issyk-Kul prudoviki (pond-breeders)"	Jety Oguz district, Lipenka village	27	12	
Jalal-Abad province				
6) "Ketmen Tobo Balyk Charbasy"	Toktogul district, Uch-Terek village	12	7	10
7) "Toktogul Balygy"	Toktogul district, Torkent village	19	10	
Chui province				
8) "Amur"	Jayil district, Kara-Balta village	12	8	8
Naryn province				
9) "Jumgal Balygy"	Jumgal district, Jany-Aryk village	15	8	8
Total		173	82	41

The quantitative data using self-administered questionnaires will be held with all the FGD participants, both amongst association members and the control group, amounting in total to 123 questionnaires (82+41).

Data collection methods and tools

Separate data collection tools will be developed for key informant interviews, FGDs with the fish farms – members of associations and the control group, and self-administered surveys. For the key informant interviews semi-structured question guides will be developed, focusing on the following types of information:

- Overview of the fisheries sector in the country, highlighting the major changes during the past five years;
- Roles of different household members in fisheries and aquaculture activities;
- Volumes of fish production;
- Number and types of employment opportunities created;
- Availability and effectiveness of the value chain;
- Identification of the major needs/challenges/opportunities of the sector;
- Assessment of the appropriateness, effectiveness, efficiency and impact of the FAO activities in the sector;
- Recommendations for future directions of work.

The information collected through FGDs will mainly focus on changes in the levels of knowledge, practices and the persisting needs of the fish farmers, and recorded for both members of the established associations and the control groups.

The data collected from the control group members will target similar types of information, except for the types of support received from FAO. In addition, **members of the control group will be asked, if they have indirectly benefitted from FAO's support or any other types of support**, including the projects of other organizations or donors working in the area.

The information to be collected as a part of the self-administered survey will be based on the project indicators and include the following:

- Socio-demographic characteristics (age, number of household members, etc.)
- Socio-economic characteristics (household income, per capital income, etc.)
- Types of income sources and economic activities
- Types of agricultural activities
- Number of jobs created
- Types of support received from FAO and/or other development actors

The data collection tools will be translated from English into Kyrgyz (and Russian).

Team composition

The data collection process will be led by the Fisheries and Aquaculture Consultant with the support of the Associate Evaluation manager. The project team will assist the field study in terms of logistical support and arranging the necessary meetings. An evaluation assistant will be recruited for helping Fisheries Consultant to conduct FGDs, and to assist in the completion of self-administered questionnaires.

The data collection tools (FGD guides and questionnaires) will be tested by the Fisheries Consultant, and the outcomes of the piloting will be reflected in the final version of the tools. After finalization of the data collection tools will be developed and tested, the field survey will be implemented with support from the FAO country office.

Key informant interviews will be completed by the Associate Evaluation Manager and the local fisheries consultant during the main mission of the evaluation team.

Data analysis and triangulation will be undertaken by the Associate Evaluation Manager with the support of the local fisheries specialist.

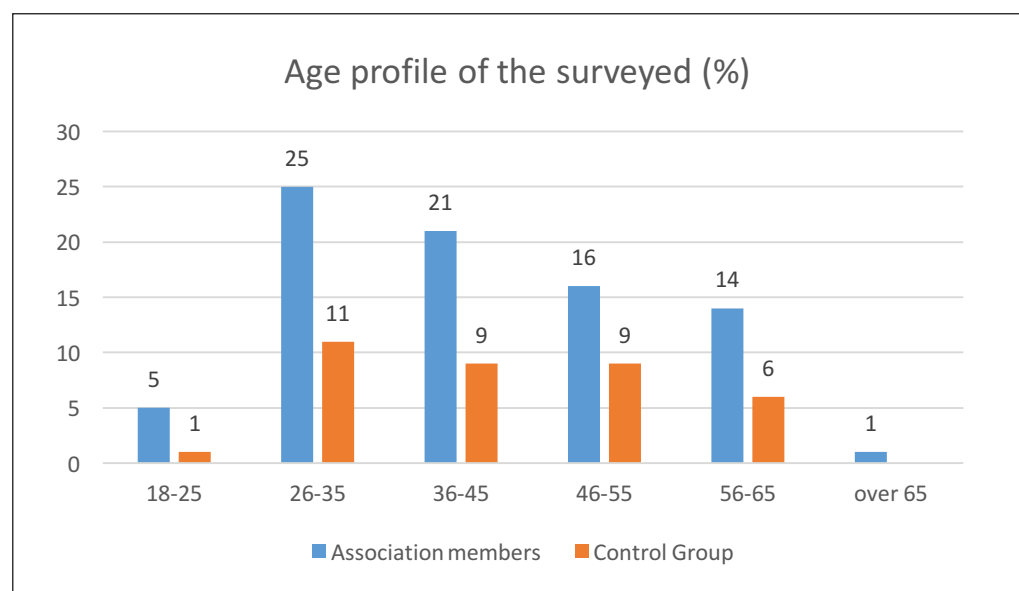
Work Schedule

The field study will start in last week of August and last till the beginning of October 2015.

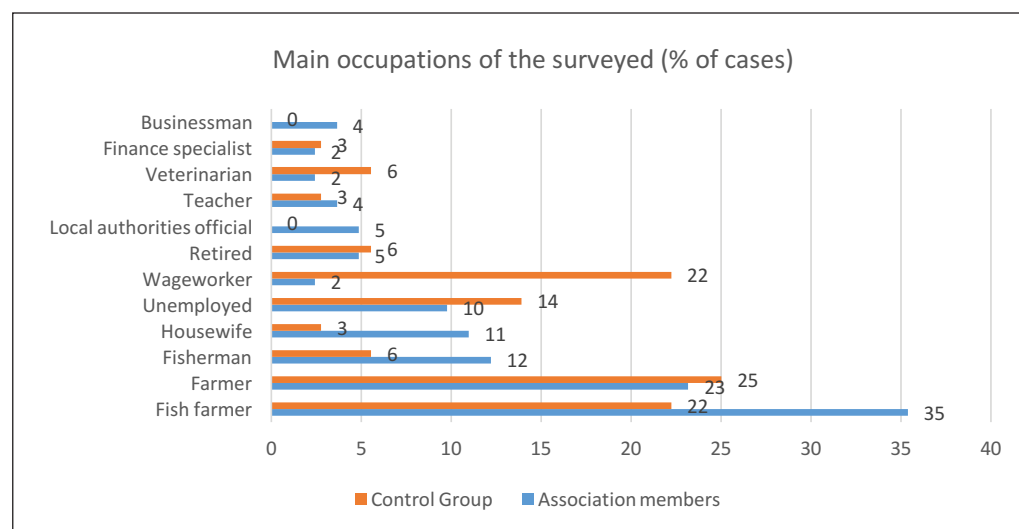
Nº	Item	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week7
11	Finalization of methodology							
22	Design questionnaires and question guides and translate							
33	Piloting and finalization of data collection tools							
44	Data collection							
65	Data entry							
76	Data analysis and report drafting							
87	Preliminary findings workshop and finalization of the report							

Appendix 4: Survey Respondents Profile

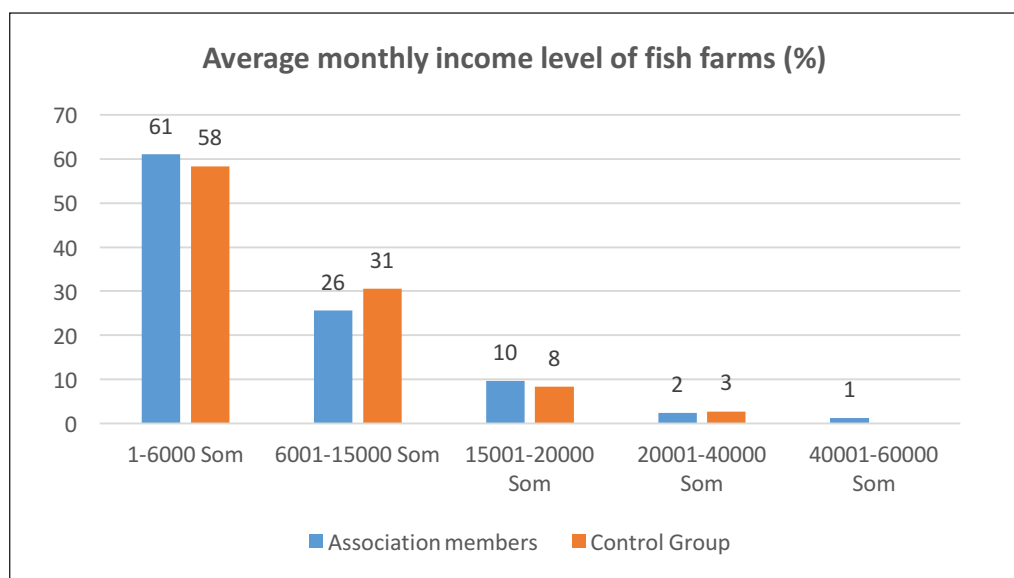
The data from the survey was based on self-administered questionnaires from 82 members of seven associations established within the framework of the GCP/KYR/003/FIN project, and 36 members of a control group from the four provinces where the associations were setup. Women made up 20% of the surveyed associations' members and only 8% of the control group. The majority of those surveyed were between 26-35 years old.



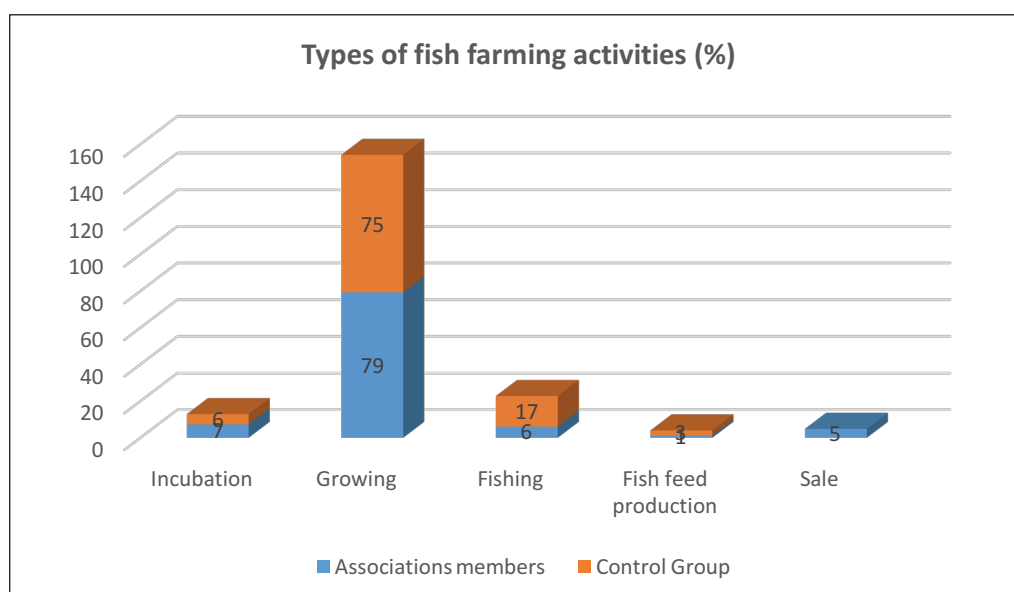
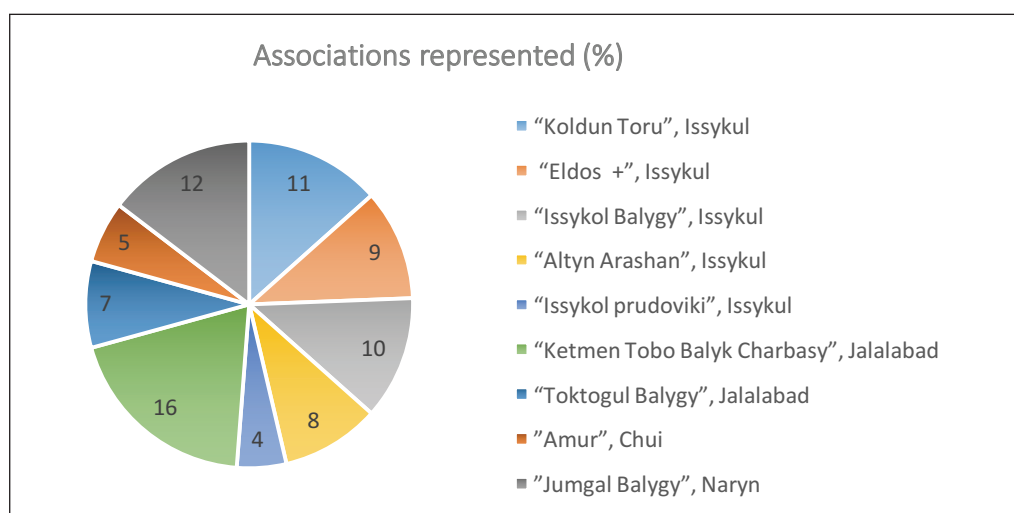
The majority of the surveyed association members (35% and 23% respectively) identified fish farming and farming as their main occupations/professions. In the control group these are also among the top occupations, together with wagers, which was identified by 22% of those surveyed.



On average, the monthly incomes of the association members and control group members are on the same level. The majority of the surveyed association and control group members have an average monthly household income of no more than 6000 Som (approx. USD \$97).



As a part of the study, the members of the nine associations setup within the framework of the GCP/KYR/003/FIN project, participated in the Focus Group Discussions and self-administered surveys. 72% of the surveyed control group members also reported as being a part of the associations. However, they either have joined the associations just recently, or have not yet benefitted from any of the project interventions.



95% of the surveyed association members grow fish in ponds, and 5% of the farmers in Naryn province grow trout in what farmers described as “pools” (i.e. ponds). Similarly, 94% of the control group members also grow fish in ponds, and the remaining 6% (from Jalalabad) - in cages.

The data in the table shows that the majority of the fish farms in Issykul province on average produce below or just over over 1 tonne of fish per year, whereas in other provinces, the farms are larger and their volumes of production are substantially higher.

Table 3: Fish Production Volumes across provinces in metric tons (Target and Control Group members)

	0,1-0,5 mt		1-1,5 mt		2-3 mt		4-5mt		5-10 mt		Over 10 mt	
Province	Target	Control	Target	Control	Target	Control	Target	Control	Target	Control	Target	Control
Chui							2	1	2*	1*	2*	2*
Jalalabad			2	4	7	1		3		1*		
Naryn			2	5	1							
Issykul	5		15	3	5	2	5					
Total	5	0	19	12	13	3	7	4	2	2	2	2

*These fish farmers have been engaged in the sector for more than 8 years

Annex 3: Assessment by Priority Area

Priority Area 1: Enhance capacity to assess, plan and implement action for achieving sustainable food and nutrition security

- 1 The intended results under PA1 corresponds to the NSDS priority on strengthening efficiency and effectiveness of regulations through development of strategic policies and programmes. It is also closely linked to the SO1 of the Organization.

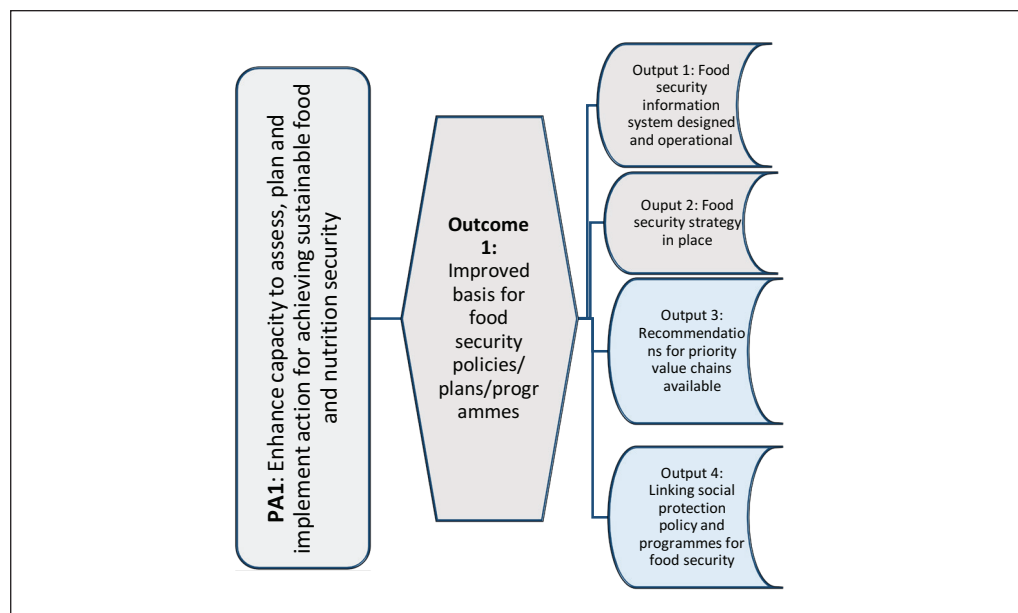


Figure 1. PA1 outcomes and outputs

- 2 CPF identified uncertain quality and safety of agricultural food products, and lack of an international food commodity and inputs trade regime as bottlenecks in area of legal environment for food and nutritional security. To address this shortcoming and establish a favourable regulatory environment, CPF has intended to support institution building and strengthening with professional human resources development. It is understood that CPF while facilitating elaboration of policies in area of food and nutritional security strengthen capacities of key stakeholders and decision making in that area.
- 3 Two outputs of the PA1 are linked to the largest policy development project funded by the EC- Food Security Information Systems project (GCP/KYR/006/EC), which aimed to increase the use of food security information in the formulation and implementation of food security policies and programs in accordance with the intentions of the Food Law. This programme has been successfully implemented and completed with reaching its development objectives in terms of adopting food security information system. Food Security Strategy was approved and adopted by the GoK.
- 4 The Value Chain (VC) recommendations for increase of agricultural products export have not been produced yet, and if dairy and sheep VC still can be delivered, there are no inputs in place to enable development of crop VCs (potato and bean). With Kyrgyzstan joining Eurasian Economic Union (EAEU) and Customary Union (CU), these strategies might be even higher demand. The output related to linking social protection policy and programmes with food security has been not been achieved yet.
- 5 At the same time, FAO has facilitated drafting a large number of policy documents, sectoral concepts and laws in the period under evaluation. The most notable are the following:

- 1 Programme of Food Security and Nutrition in the Kyrgyz Republic for 2015-2017 (PFSN), APPROVED in 2015;
 - 2 Strategy for Agriculture Development 2012-2017, DRAFT in 2014;
 - 3 Concept of the Livestock Sector Development in the Kyrgyz Republic (2014-2023) (CLSD), DRAFT in 2014;
 - 4 Concept of the Seed Sector Development (CSSD), DRAFT in 2014;
 - 5 National Concept and Action Plan on Introduction of the Animal Identification and Traceability System (NCAP AITS), DRAFT in 2014;
 - 6 National Strategy and Action Plan in the Area of Animal Genetic Resources of the Kyrgyz Republic (2015-2026) (NSAP AGR), DRAFT in 2015;
 - 7 Kyrgyz Republic National Strategy Plan for the Control of the FMD;
 - 8 National Strategy for the Prevention and Control of PPR in KR 2013-2018;
 - 9 Concept of Fishery Development in the Kyrgyz Republic for 2015-2025, APPROVED in 2015;
 - 10 Programme on Development of Walnuts, Pistachio and Almonds in the Kyrgyz Republic until 2025 (PDWPA), APPROVED in 2014
 - 11 National Forest Assessment and Monitoring Policy and Plan, APPROVED in 2014;
 - 12 National Strategy on adoption and promotion of CA and IPM;
 - 13 Country Plan on Lifecycle Management of Pesticides (Concept Note);
 - 14 Draft law on organic farming in the Kyrgyz Republic.
- 6 These policy documents strive to be comprehensive considering external environment and interactions and synergies between different sub-sectors in rural economy. The policy documents have also departed from the technological focus, contain institutional arrangements, sector's human resources, environmental and social aspects, process management, monitoring and evaluation arrangements are now integral parts of all policy documents supported by the FAO. However, the effectiveness of the FAO policy work has slightly decreased due to a large number of policy directions and documents tackled but not enforced, lack of consistency among and within them, and more general nature. Significant number of policies and strategy documents remained in draft forms and with time would require revising or updating. Partially it's due to a weak ownership of the counterparts to policy/strategic documents with frequent turnover of management, as well as a low support to the draft policies from other agencies, which are required by the Kyrgyz law to approve the drafts before they go to the President or the Prime Minister level for a final approval. In most cases these drafts get stuck at the MoF level due to shortage of public funding to support the implementation.
- 7 Financing is one of the most challenging areas. The successful examples of the PFSN and National Forest Assessment and Monitoring Plan, which were approved by the Government and come with state budget allocation for the implementation. MoF always tries to prevent any attempts of line agencies to increase budget allocations for their respective sector purposes. To overcome this, a line agency needs a strong support from the top country leadership – Prime Minister or President. Without such a support, a line agency typically either indicates only regular level of budgetary commitments and show all other required resources as financing gap to be covered by unconfirmed donor support (the cases of the PFSN and SDA⁷⁹), or provides no quantitative financial estimates in their policy documents (e.g. the CSSD or CFD). Both methods have been used in the policy documents under consideration. While this approach allows some policies to be approved (e.g. CFD), their implementation becomes dependent on the success in fundraising from donors which may or may not produce necessary results, especially in the policy document's timeframe.
- 8 The large quantity of policy documents elaborated within five years fragment attention of the state counterparts as well as of the FAO. It would probably be more effective if less policies and strategies were developed, but with more resources focused on achieving desired results of a few. For example, a plan to establish an Animal Identification and Traceability System (AITS) should ultimately result in improvement of animal health and productivity. This means

79 In SDA, the financing gap for 2015-2017 is estimated at the level of 8.7 billion Kyrgyz soms or more than US\$110 million at exchange rate as of 1 November 2015.

that similarly ambitious and coherent plans need to be developed for veterinary and livestock breeding services to support implementation of the AITS to achieve the expected results. The GoK's Plan on Export Development is aimed at increase in exports of these products as an immediate task, and the government's interest to AITS is largely motivated by the expectations of removing barriers for exports. However, there are no efforts seen to address these strategic objectives at the policy level to make practical steps towards improving veterinary situation and capability to meet export requirements for dairy and beef.

- 9 Majority of the policy documents are based on empirical analysis of the current situation in the sector/sub-sector and try to link the policy objectives and policy tools with the development issues identified. Of all seven policy documents under consideration, only the CSSD does not contain an analytical part. At the same time, the quality of some policy documents can be also improved at least to ensure their mutual consistency. Some policy documents have been elaborated without referencing or linking to relevant existing policies. For example, the CLSD has no linkage to the Programme of Pasture Development in the Kyrgyz Republic for 2012-2015, neither to the Livestock Breeding Development Policy (for 2011-2015), nor to the newly developed draft of this policy (for 2015-2026).
- 10 An unclear (and potentially contradictory) policy area in which FAO has provided support is the relationship between domestic agricultural production, food availability in the country and agrifood trade. On one side, the FAO facilitated policy documents (PFSN, SDA) aimed at self-sufficiency in key food products (including wheat). This may mean limitations for exports (to keep products at home) and imports (to protect domestic producers from competition with cheap imported products). On the other side, the same documents explicitly formulate an objective to increase exports. This may require shifts in production from subsistence crops (wheat) to cash crops (beans or fodder crops) and replacing consumption of domestically produced subsistence crops with imports. Achieving both self-sufficiency and increase in exports may not be feasible. The very fact that the measures to support domestic producers are discussed in the policy documents mean that the existing policy tools (regular SPS controls, origin rules, subsidized credit for farmers) have not been seen as satisfactory/sufficient to the documents' authors. However, these documents do not provide clear direction for development of additional regulation of exports and imports of agricultural and food products in the conditions of Kyrgyzstan's participation in the EAEU providing for free trade exchange inside it. Key trade partners of the country in agrifood trade are Russia and Kazakhstan, which are also members of the EAEU; any intervention into trade with these partners beyond the rules set in this union is now hardly technically possible.
- 11 The policy documents reviewed in the CPE are quite different in the level of detail. This may be a partial explanation for the fact that some policy documents have been approved and entered into force and others have not. Some policies are detailed and clear, like the PFSN, others tend to state generalities when it comes to the policy tools to be used to achieve the policy objectives. Often, they prefer discussing what needs to be done (e.g. establish "cold value chains" in dairy and meat production, develop regional clusters, see the SDA) without giving information on how to do this. Some policies miss important details, e.g. even priority value chains in the livestock sector are left to be identified at a later stage. The CFD states that "it is necessary to develop a government regulation mechanism for fishery;" however, ideally the CFD itself should provide a detailed outline of this mechanism.
- 12 **Policy making capacity building.** FAO policy development projects have also played a role of policy-making capacity building in the government agencies. Many government agencies in the country (and MoAM, in particular) face acute shortage of the skills of collecting and assessing sector-related evidence, goal setting, ensuring consistency of the sector/sub-sector development agenda with the national/sector-wide one, prioritizing, identification of appropriate policy tools and activities, costing. FAO's support in developing these skills and creating institutional capacity for policy assessment and formulation has been of great value. FAO's projects provided a wide spectrum of different capacity building activities to its key partner agencies: MoAM, National Statistical Committee of the Kyrgyz Republic (NSC), Agency on Hydrometeorology under the Ministry of Emergency Situations of the Kyrgyz Republic (Hydromet). Main types of activities included: formal and in-job training, consultancy provided to the government agencies by international and local experts, different types of workshops, other activities (software development/introduction). The training programs and activities seem to be directly relevant to either current, or anticipated future needs of the affected agencies.

- 13 Some of the policy documents supported by the FAO (e.g. CFD, CLSD, CSSD) have been developed, according to the opinion of interviewed MoAM officials, for internal use to systematize and frame thinking on policy options. Thus, the process of development of these documents can also be seen as a policy formulation capacity building – arguably, one of the most effective potentially. However, the effectiveness of the capacity building efforts as it was mentioned above, is substantially undermined by the high turnover of staff in the ministry and its departments resulting in uninterrupted leakage of skills from the system. Although FAO or any other development organization could hardly influence that problem, this should be taken into account at the stage of capacity building interventions design e.g. by inclusion into the number of trainees not only ministry employees, but also local experts/academics or by providing free online access to training materials if applicable. In addition, some external review of/independent feedback on these documents⁸⁰ would be desirable. This would provide some additional discipline for the policy developers in terms of the level of details in these policy documents and the extent of their editing.⁸¹
- 14 CPF 2010-2017 PA1 is on a way to reach intended objective, despite the underperformance in terms of two outputs. FAO has been successful in implementation of the food security information and strategy and facilitating key stakeholders to join efforts around this task. All interviewed agreed, that the design of this programme was flexible and comprehensive to enable to reach the results. The delivery of two other outputs is under question due to lack of funding and changes in the GoK's priorities with country joining EAEU. Although FAO reacted to changes in Kyrgyz Government's priorities with a shift to address bottlenecks in export of livestock products bringing additional financial and technical resources, the logical framework of the CPF PA1 would need to be revised in order to capture that.

Priority Areas 2: Strengthening conditions for sustainable resource use for agricultural productivity growth, inclusive value chains and increased income

- 15 PA2 is strongly aligned with the NDSS priority on services provision and modernization in the agriculture, creating prerequisites for the technical and technological modernization of agricultural production. It has attempted to address bottlenecks in increase of agricultural productivity through modernization of the sector and improvement of service provision in area of livestock, crop production (including plant protection, IMP, rehabilitation of irrigation systems). It is also linked to SO2 and SO4 of the Organization.

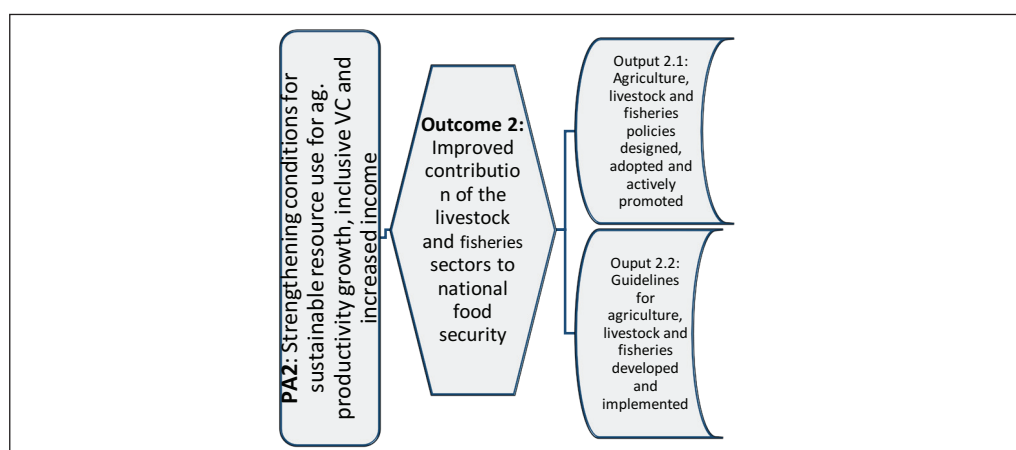


Figure 2. PA2 outcome and outputs

- 16 This PA was intended to be achieved through 'supporting the preparation and implementation of sustainable agricultural investment programmes and projects to boost water efficiency, high value crop and livestock production, supply chain development (value adding / processing, retailing, supported by organizational development involving

⁸⁰ This feedback may need to go beyond simple discussion of the policies on workshops with the sector stakeholders, e.g. it can be in the form of written comments from independent international and/or local sector experts/partners.

⁸¹ E.g. NSAP AGR seems to require further contents and language editing.

preferably local stakeholders/investors), improved animal health and genetic livestock and aquaculture broodstock improvement, aquaculture and other sustainable long term income generation options' (CPF 2015-2017).

- 17 Public-private partnerships were selected in the CPF 2015-2017 as 'important tools for strengthening agriculture along commodity value chains; i.a. for input supply to farmers, post-harvest value addition (processing/marketing), management of technical knowledge and market information' (CPF 2015-2017). The two outputs of this PA are linked to several projects in the field of livestock, fisheries and agriculture.
- 18 **Livestock development.** Livestock farming is concentrated on breeding of dairy and meat cattle, sheep and goats, horses, and poultry. In 2010-2014, the average annual growth rate of gross agricultural output was only 0.5 %; for livestock farming it was 1.9 %; and for crop production it appeared to be negative: -0.6 %. Meat and dairy production make up to 60% of the gross livestock production.⁸² Climatic conditions of the republic are suitable for effective livestock breeding activities, where 83% of agricultural land, or 9.6 million ha are under natural mountain pastures, which are rich in herbage. At one time, pasture feed covered 60-89% of the needs of livestock feed.
- 19 Post-1991 years marked increase in the number of livestock in Kyrgyzstan, but declining levels of its productivity. Small-scale production, weak technical and fodder base of the farming households, and lack of systematic brood genetics work led to worsening of the livestock qualities and loss of valuable genetic material. This, consequently, brought to reduced livestock productivity levels. According to the official national statistics, the number of livestock has grown over the last four years, from 1278,1 thousands in 2010 to 1404, 2 thousands in 2014.⁸³

Table 1. Selected livestock sector indicators (1990, 2010)

1990			2010			Average quantity of milk produced by one cow, kg	
Total number of livestock, thousands	Of which, brood cows, thousands	Proportion of brood cows, %	Total number of livestock, thousands	Of which, brood cows, thousands	Proportion of brood cows, %	1990	2010
1 205.2	55.0	4.6	1 278.0	13.5	1.1	3 070	2 037

Source: National Statistics Committee of the Kyrgyz Republic, 2014

- 20 During the period under consideration, FAO has implemented eleven projects on the national and regional levels related to the development and strengthening of the livestock sector (Table 6). The total budget of these projects is about US\$3 mln, but national projects' budget makes less than US\$1 mln. Only eight projects that have already been completed or are ongoing have been covered by the evaluation.

Table 2. CPF 2010-2015: Livestock Project

2010-2013	Transboundary animal diseases	\$300 714
2011-2014	Cattle Production Improvement in CA	\$564 908
2011-2015	Animal Genetic Resources in SEC countries	\$682 342
2013	Livestock Sector Development Policy and Strategy	\$92 801
2013-2015	Development of an Animal Identification and Traceability System	\$417 000
2015	Formulation of Project for Implementation of the Animal Identification and Traceability System	\$56 700
2015-2017	Kyrgyz Veterinary Association	\$360 000
2015	TA for formulation of strategies for the control of 'Peste des petits ruminants' (PPR) at global and regional levels	\$500 000
2015-2016	Support to increase the dairy production	\$10 000

Source: Evaluation Team, 2015

82 Project of the "Concept of the Livestock Development in the Kyrgyz Republic for 2011-2015" («Концепция развития животноводства в Кыргызской Республике на 2011-2015 годы»), Ministry of Agriculture, Bishkek, 2011, p.11

83 Agriculture of the Kyrgyz Republic, 2009-2013, National Statistics Committee of the Kyrgyz Republic, Bishkek, 2014, p.15, 51

- 21 The range of livestock development areas targeted by the FAO programmes is very wide, starting from policy formulation and capacity building, and including fodder production, pasture management, animal identification, animal diseases and veterinary services, genetic resources and productivity, processing, and marketing. Some of the projects reviewed for this CPE (e.g. GCP /SEC/001/TUR⁸⁴) have achieved some local success especially among vulnerable groups. Nevertheless, with the limited funds available, it might be more effective and sustainable to focus on only few selected areas in the livestock sector. This seems to be a case and more recent project tend to focus on establishment of Animal Identification and Traceability System. If this is the case, FAO efforts in synergy with other donors can make important contribution to the overall sub sector development. The current CPF indicator “*contribution of the livestock sector to national food security and nutrition*” measuring the result is very broad and cannot be attributed only to the FAO programme⁸⁵, though livestock output has increased to 51 percent (baseline figure was 50%).
- 22 It is expected that FAO in Kyrgyzstan will continue its involvement in livestock sector, since it plays a crucial role for agriculture sector development and income increase. Livestock production is slowly growing, as well as the export of live animals and livestock products (Table 3). The livestock sector is indeed very important for Kyrgyzstan and FAO has strong prerequisites to remain active in the sector, but with a more focused agenda.

Table 3. Livestock Production and export 2009-2013

Production	2009	2010	2011	2012	2013	Trend
Produced meat (tn)						
	188,500	187,800	191,600	192,300	195,200	
including beef and veal (ton)	96,500	97,800	99,700	97,100	96,900	
including goat meat and lamb (ton)	48,700	50,500	48,100	51,100	51,800	
Produced milk (tn)						
	1,314,700	1,359,900	1,358,100	1,382,400	1,408,200	

Export	2009	2010	2011	2012	2013	Trend
in live weight and livestock products (\$)	28,582,300	43,488,100	38,493,600	33,915,100	30,707,300	
in live weight (\$)	4,606,900	3,546,400	7,704,000	8,164,600	10,767,700	
meat and livestock products (\$)	360,500	5,356,300	652,700	174,400	166,800	
dairy, eggs, honey, other livestock products (\$)	22,456,800	33,357,400	28,703,900	24,603,500	18,418,600	
other livestock products (\$)	1,004,800	1,115,200	1,430,900	945,600	1,354,200	

Source: National Statistics Committee

- 23 **Fisheries and aquaculture.** Fisheries was one of the most developed and profitable sub sectors in the Kyrgyz Republic during the Soviet times, annually producing more than one thousand tons of fish. Annual fish production (inland and aquaculture) has fallen significantly since 1991, when it was estimated at more than 1 361 tons.⁸⁶ By 2006, more than 90% of state fish farms were privatized as part of the economic changes that followed the breakup of the Soviet Union, and the production levels dropped to 71 tons.⁸⁷

84 See case study and results of the FTTP evaluation.

85 As noted earlier the World Bank and IFAD are implementing large livestock projects in the country.

86 Mairam Sariyeva, Mukhtar Alpiev, Raymon van Anrooy, John Jorgensen, Ande Thorpe, Andrés Mena Millar, “*Capture Fisheries and Aquaculture in the Kyrgyz Republic: Current Status and Planning*”, FAO Fisheries Circular No. 1030 SEC/ FIMF/FIEP/C1030, FAO, Rome, 2008, p.iv

87 Ibid

- 24 Pond aquaculture had been in place since 1950, with most of the ponds (up to 1000 ha) located in the Chui Valley. This area, owing to the prevailing climate conditions (length of vegetative season and temperatures), is considered to be the most productive zone with potential production of an average of 2 500–3 000 kg/ha in intensive and semi-intensive aquaculture.⁸⁸ In the past few years the number of fish farms in some areas of the country, such as the Chim-Kemin region in Chui province, have seen an increase in the number of fishponds and farmers' interest in the sector.⁸⁹

Box 1. Quote from the Focus group

"Now we have power as an Association. We can write an official letter with our stamp to the government authorities and they take into account our opinion. As a single farmers we could not do anything. It's difficult to be alone".

"Amur" association members, Kara-Balta, Chui province.

- 25 Projects in fisheries and aquaculture sector, although not explicitly identified as priority spheres in the national development documents, have been high on the FAO agenda, and were mainly perceived as contributing to food security and diversifying economic opportunities of the rural population. FAO has implemented/is implementing five projects in the fisheries and aquaculture sector on the national, regional and sub-regional levels, with three of them still ongoing with a total budget of more than US\$6.5 mln. The two large GCP projects implemented as part of the Finnish-FAO programme of cooperation seem to be highly effective contributing to diversification of agriculture and improvement of rural livelihoods. Since FAO is almost the only actor in that area, it would be reasonable to continue investment in it to sustain achieved results and maximize growth of the sub sector through support to the established associations and strengthening fisheries value chains.
- 26 **Contribution of other FAO inputs (projects and programmes) has not been accounted in the CPF results, though they have reflected country's priorities and needs.** Although the outcome of the PA2 is fully focused on livestock and fishery sub sectors, FAO has been supporting other sub sectors, especially crop production with seed development and irrigation rehabilitation, and development of walnut and pistachio orchards.
- 27 **Seed development.** Seed sector remains undeveloped and not responsive to demand. There are about 188 seed breeding farms in country, with majority of them being private. All together these farms produce about 41 thousand tons of certified seeds, with the demand being more than 3 times higher or about 141 100 tons. The bottlenecks in the seed sector are reportedly linked to outdated policies and legislations, ineffective enforcement of existing legislation, and lack of financial resources for seed farms to modernize their facilities.⁹⁰
- 28 FAO has implemented an ambitious regional project (GCP/RER/026/AUS), which had as major targeted outcome: "Increased income of smallholder farmers through improved access to the quality seeds and application of good farming practices". The Project focused on state and private seed breeding farms and was implemented through the Seed Association of Kyrgyz Republic (SAK). It experienced problems with procurement of small amounts of high yield and performance seeds and resorted to buying high quality seeds in the North of the country and distributing them to the seed breeding farms in the South. Revolving funds were not established, because only two (2) seed breeding farms out of eight returned seeds of C1 to the SAK motivating it by low yields. Thus, the targeted outcome for this Project was too ambitious for such short period of time (12 months) and small funding (US\$0.5 mln), and was not achieved in full.

88 Ibid, p. 21

89 Bakyt Ibraimov, "Kyrgyzstan's Booming Fish Farms", 25/07/2015, Silk Road Reporters, available at <http://www.silkroadreporters.com/2015/06/25/kyrgyzstans-booming-fish-farms/>

90 Islamov, H. The Seed Sector in Kyrgyzstan. <http://www.slideshare.net/resakssasia/hakim-islamov-seed-sector-kyrgyzstan-26949256>

- 29 Another FAO project (TCP/KYR/3405) aimed at introduction of quinoa in Kyrgyzstan. These directions are fully in line with GoK's priorities, and reflected needs of beneficiaries and FAO's capacity to mobilize innovative solutions from around the world. However, again, lack of focus and implementation delays undermined the effectiveness of the programme. Some programmes failed to achieve their results, due to either weak design and unrealistic expectations.
- 30 FAO CO intends to gradually phase out of seed development sector due to various reasons, including lack of political commitment on the GoK's side to the reforming of policy and regulatory environment for this sub sector, lack of capacity in the Ministry and overall, as well as shortage of FAO expertise available to support such highly technical operations. At the same time, plant protection focus would remain with heavy emphasis on transferring knowledge at the ground level through FFS and other outreach channels.
- 31 **Walnut and pistachio production.** The development of the pistachio and walnut sector has a high potential due the high international demand, in particular for pistachio (*Pistacia vera* L.) and walnut (*Juglans regia* L.). The Kyrgyz Republic understands that the potential of niche products with the high value added, in particular for export markets, could be revalued. In this context, the walnut and pistachio are the most promising products to focus on. There are about 57 000 ha of pistachio area in the Kyrgyz Republic. Most of it is considered to be natural pistachio as part of the forestry areas, while some 12 000 ha are considered as man-planted areas. The walnut fruit forests are found in the south of the country at 1 000-2 200 m above sea level on the western slopes Fergana and Chatkal ranges of the Western Tien-Shan Mountains. The plants are not maintained, fertilized or pruned. Being the result of direct seed planting, the forestry pistachio plantations consist of around 55% unproductive male trees that are also irregularly spread. Plant density per hectare is also an issue as this is out of standard. The female trees produce small and heterogeneous nuts, which are not well accepted in the market and are sold half prize compared to that of imported pistachios. Yields are low and range from 15-20 kg/ha.
- 32 There are 255 816 households with 1 279 081 people living within or near walnut-fruit forests in the south, which occupy the lower mountain slopes at an altitude of roughly 1 300 to 1 800 meters a.s.l. Forests constitute a main source of income for the livelihoods of the people living nearby. Due to the socio-economic recession following independence of the country, there have been enormous increased pressures on forest resources. Due to illegal and unsustainable use of forests characterized by illegal logging and unplanned and unregulated harvesting of the trees, the Kyrgyz parliament enacted Law N. 15 in 2007 inflicting a moratorium whereas, cutting, transportation, acquisition and selling, harvesting and use, manufacturing of goods, export and import of the especially valuable species (walnut and juniper) shall be forbidden for 5 years. Also included was sanitation cutting (cutting of old and sick trees) except for cleaning up of the forests without cutting trees.⁹¹
- 33 The two projects (TCP/KYR/3203 & TCP/KYR/3306) in the nut fruit sector with the total budget of US\$ 464 421 contributed to improvement of agricultural productivity and quality and introducing innovative techniques for improving the productivity of walnut and pistachio trees. Given that pistachio and walnut fruit areas in the Kyrgyz Republic are all within the forestry areas of the country, the reference was made to the Forest Code (1999), the Concept of Forestry Development until 2025 in the Kyrgyz Republic, the National Forest Programme (2005-2015), and the National Action Plan for Development of Forestry (2006-2010), aiming at the conservation of biological diversity and the sustainable development of forests. It also pursued the improvement of forest management systems, involvement of local population and local communities in the joint forestry management, the need to determine the correct norms for sustainable management and the multi-purpose use of forests, the financing of the sector; improvement of related science and education; and forestry development awareness enhancement. The projects were well aligned with the outcomes of the UNDAF (2005-2010) on "Increased employment and income generation" and the FAO global priorities as well as regional priorities such as the Reduction of Rural Poverty and Enabling Inclusive and Efficient Agricultural and Food Systems. Both projects were implemented before 2012, and have, therefore, contributed to the achievement of outcomes in the framework

91 FAO (2009): Pistachio and Walnut Development Project (TCP/KYR/3203), p.2-5.

of the FAO CPF for 2011-2015, and contributed to “improvement of rural incomes through diversification of crops and farming systems and forest resources management”.

- 34 FAO currently has no on-going activities in the area of walnut and pistachio production in the Kyrgyz Republic. With several large donors active in that area, such as the World Bank, FAO could explore ways to support policy development and capacity building at the national level. One of the perspective area of support is establishment of regulatory environment and governance mechanisms for development of the walnut and pistachio value chains at the smallholder farmers' production level.
- 35 **Rehabilitation of irrigation systems.** The average annual precipitation is not sufficient for cropping. Data indicates that crop yields of farms with access to rehabilitated irrigation systems are between 10 and 20 percent higher than those without improved irrigation.⁹² Kyrgyz Republic inherited an extensive and complex water irrigation and drainage infrastructure system, which during the Soviet time was heavily subsidized. Due to the poor condition, there are considerable seepage and leakage losses in the distribution systems. The Kyrgyz Government, with financial support from donors, especially the WB and ADB, has been rehabilitating irrigation system and about 30 percent of all on farm Irrigation and Drainage systems have been rehabilitated. However, there are still significant number of irrigation schemes which need physical renovation and replacement.
- 36 Management of the secondary irrigation systems was devolved to the users themselves with the establishment of the Water Users' Associations (WUA) and by introducing the principle of payment for use of water in 1995. Currently, about 80% of the country's on-farm irrigation system, serving about 767 000 ha, is managed by the 475 WUAs, which are charged to support functioning of these systems with repair, construction, modernization and other activities. The Irrigation Service Fee (ISF) established by the Kyrgyz Parliament (at the level KGS 6.65/1 000 m³) does not cover all of the required finances to maintain the system. In addition to seasonal shortage of water and dilapidated infrastructure with high water losses in canals, many conflicts among users occur because of ineffective distribution of water. Since water supply is predominately gravity-diverted and surface-applied, upstream users usually have more and better quality of water than downstream communities.
- 37 To maintain and increase agricultural productivity in light of climate change effects, country needs to take adaptation measures in irrigation. The major measures related to mitigation of climate change in regards to decreased water supply should be aimed to reduce water losses with rehabilitation and modernization of infrastructure systems and schemes, reduce area of crop and pasture irrigated by inefficient flooding methods; and increase the area of cash crops irrigated by efficient drip and below ground irrigation systems.⁹³ There were two major CPF projects in that area, funded by various FAO Trust Funds: *Modernization of small-scale irrigated agriculture to enhance and diversify rural livelihoods* was a joint UN Project (UNJP/KYR/005/UNJ); and *Enhancing the capacity of farmers for using irrigation technologies* was funded by the Austrian Trust Fund (GCP /RER/026/AUS) with a total budget of about US\$ 0.8mln. These projects were highly relevant to country's needs and priorities and sufficiently effective in achieving majority of planned results. These projects were in line with the FAO strategic directions and aligned with the FAO SO F and OR F02 in particular.
- 38 These irrigation rehabilitation projects demonstrated high degree of ownership at the local and national level, when design of the activities was conducted jointly with beneficiaries in a participatory manner. The MASSCOTE methodology of assessing irrigation scheme bottlenecks and developing plan to address them helped WUAs and RDWR to identify main factors hampering performance, as well as ways to overcome them which were reflected in the project design. Two projects related to the tasks of modernization of agriculture also contributed to improvement of pasture and watershed management, and to the development of approaches on sustainable land management and on arresting degradation.

92 Project Paper for the Second on Farm Irrigation Project, World Bank. 2011.

93 Perelet, Renat, 2007. Human Development Report 2007/2008. Fighting climate change: Human solidarity in a divided world Human Development Report Office OCCASIONAL PAPER: Central Asia: Background Paper on Climate Change. UNDP.

Box 2. Quotes from interviews

"The Project was unique that it brought us very interesting approach to developing a modernization plan. It was especially valuable that implementation of the plan was funded by the Project, results of which showed us rightness of the decisions we made to address identified problems."

Chairman of the Water Users' Association

- 39 **CPF PA2 is on a way to reach its results, with both planned outputs have been already delivered.** At the same time, it would be recommended to account contribution of other inputs, which were planned within the previous versions of the CPF to reflect the tremendous work undertaken and significant results achieved to have a complete picture of the FAO support.

Priority Area 3: Improved resilience in responding to climate change, crisis, and disasters and enhanced overall disaster preparedness for food and nutrition security

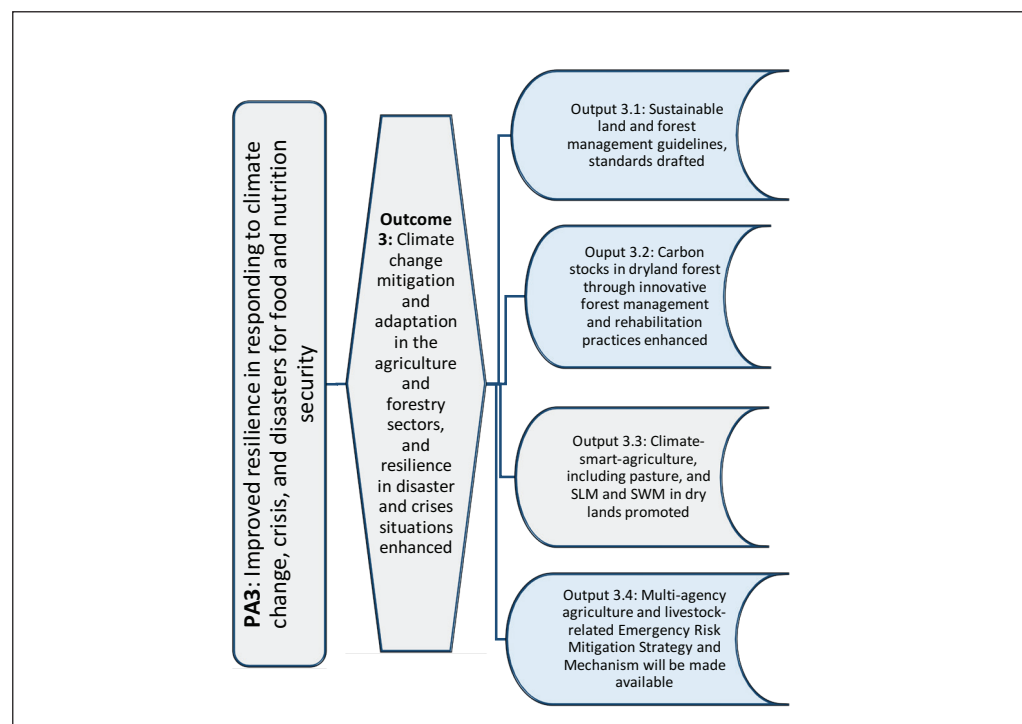


Figure 3. PA3 Outcome and outputs

- 40 The PA3 result is well aligned with the NSDS priorities in regards to the environmental protection/natural resources management. It is intended to be achieved through 'targeted disaster risk reduction and emergency response strategies, including support to vulnerable rural populations to adapt to fragile ecosystems, climate change, and man-made and natural disasters in collaboration with international, national and provincial partners to improve their capacity to monitor and assess national emergencies and transboundary pest and disease outbreaks; and to design and implement programmes for assisting vulnerable rural populations impacted by such events' (CPF 2015-2017). It is also linked to SO2 and SO5 of the Organization.
- 41 Two outputs (3.1 and 3.2) are fully linked to a GEF Project (GCP /KYR/010/GFF), which is underway and scheduled to be completed only in 2017. Output 3.3 is also partially to be contributed to by the GEF project, especially in regards to pasture and land management

using SLM principles. In addition, pest management and plant protection programme is on a way facilitating climate smart agriculture technologies on the ground. Output 3.4 is not likely to be delivered by the end of the CPF 2015-2017 due to lack of resources to support the component.

- 42 **Climate change, natural disasters and social crises.** According to the First and Second National Communications to the UN Framework Convention on Climate Change, and the National Capacity Self-Assessment for the GEF project, agriculture is one of the most vulnerable sectors to the impacts of climate change. Climate change related threats could cause further degradation of land, forests and other natural resources and loss of biodiversity, outbreaks of crop and livestock diseases, and overall decrease of agricultural productivity and yields. Over half of Kyrgyz Republic's GDP is derived from climate and weather-sensitive activities. According to the FAO study, climate change will adversely impact agricultural productivity in the Kyrgyz Republic and is likely to lead to decreased water supply, increase the frequency, magnitude, and intensity of extreme weather events, damage ecosystems, and jeopardize the health of the local populations.⁹⁴ The Kyrgyzstan Climate Risk Profile indicated that floods and flash floods has been the most significant climate related disaster in Kyrgyzstan, with an estimated US\$ 66 million in damage from 2000 to 2011.⁹⁵ The Kyrgyz Republic's climate induced disasters are estimated to reach up to 1–1.5% of GDP.⁹⁶ Climate models predict a 64-95% reduction in Kyrgyzstan's total glacial area by 2100⁹⁷, and an increase in river flow by 10% in summer in certain parts of the country over the next 20 years.
- 43 Drought is a common occurrence in the country as are land and mudslides, avalanches, squalls, downpours, icing, frosts, breakthrough of glacial lakes, floods, rise of sub-soil waters, epidemics, pests, crop diseases, and river erosion, and earthquakes. ⁹⁸ There are more than 14 000 disaster-prone areas throughout the country; more than 200 emergency situations are being reported each year, displacing 1 000 people in average.
- 44 Besides natural disasters, Kyrgyzstan is also vulnerable to social conflicts. According to the Kyrgyz Republic Poverty Reduction Strategy Report (PRSR), during the period 2008 through 2012, some 254 conflicts of socioeconomic nature were registered in Kyrgyzstan including more than 30 interethnic conflicts with 1 012 instances of violence. Priority areas identified and reflected in the PRSR in conflict prevention in the country included the following: (i) development of an effective mechanism for conflict prevention both at national and local levels; (ii) reducing conflicts in interethnic relationships; (iii) broadening the participation of conflict vulnerable groups in administration and decision making processes.
- 45 The Flash Appeal of 2010 was in response to inter-ethnic conflict in the South of the country. The country has a population of about 5.8 million (2015), of which majority are ethnic Kyrgyz (71%); with Uzbeks (14%) and Russians (8%) making the largest minorities. The political turmoil in May 2010 was followed by violent clashes between Kyrgyz and Uzbek ethnic groups in the South of the country, resulting in hundreds dead, thousands injured, thousands of properties burnt to the ground and the displacement of 400 000 people, including 100 000 refugees.⁹⁹ The conflict had acute and pressing humanitarian consequences for over one million people, especially for an estimated 375 000 people who fled the conflict areas in Osh and Jalal-Abad. Of these, approximately 75 000 sought refuge in neighbouring Uzbekistan. An estimated 40 000 IDPs needed acute help with their shelter, food, water and protection needs. A further estimated 260 000 IDPs living with host families required support to facilitate their stay.

94 Zholdosheva, E. Review of the existing information, policies and proposed or implemented climate change measures in Kyrgyzstan. FAO

95 Enabling Integrated Climate Risk Assessment for CCD planning in Central Asia, CAMP Ala Too, 2013

96 Global Facility for Disaster Reduction and Recovery. 2011. GFDRR Disaster Risk Management Programs for Priority Countries. http://www.unisdr.org/files/14757_6thCGDRMProgramsforPriorityCountryes.pdf

97 Second National Communication to the UN Framework Convention on Climate Change (2009) Republic of Kyrgyzstan.

98 GFDRR Disaster Risk Management Programs for Priority Countries. Kyrgyz Republic Case Study.

99 World Report 2011: Kyrgyzstan. Human Rights Watch.

- 46 FAO provided targeted relief support to the IDPs through a project funded by OCHA (OSRO/KYR/001/CHA) and by Sweden (OSRO/KYR/901/SWE). According to a separate evaluation of the Swedish-funded intervention¹⁰⁰, the project had lower than expected synergy and coherence, especially in regards to technical support to the Program from the global, regional and sub regional level. "Some choices of technology, crop varieties, drugs for certain animal species and areas to grow those crops were not the most appropriate. A more thorough discussion with the technical departments of the FAO could have avoided this and the question remains what the technical clearance by Rome's technical departments meant in practice. Part of the problem was the non - availability of better alternatives than the ones chosen. In such a case, it is probably advisable to reconsider that project component and change for another activity that would contribute in another way towards achieving the project goal and objectives than to continue with less appropriate choices." The strategic relevance of several UN Joint Programme activities that focused on mitigating social unrest are discussed under PA4.
- 47 **Forest and land management.** This sector is one of the major donor focus areas in Central Asia, with generous funding provided by the governments of Switzerland, Germany, Austria, Japan and Korea. In case of FAO activities in Kyrgyzstan, there have been six projects implemented in forest management area with a total budget of about US\$6.5 mln, with GEF funding more than US\$5.5 mln on going project in that area. In addition, two walnut and pistachio development projects also targeted forest management related issues (see under PA2). Forestry related projects have been designed in line with the Forestry Sector Development Concept of the Kyrgyz Republic 2004 – 2025. The Concept, and the related National Forest Program 2005 – 2015, aim at sustainable and multi-functional use of forest resources with the participation of stakeholders, including the local population by improving forest policy and legislation in accordance with the changing need of the forest community, conducting appropriate rehabilitation and afforestation of degraded areas, and improving coordination of stakeholders at national and local levels. These projects have been highly relevant and designed in a participatory manner to enable them to effectively achieve their objectives.
- 48 Degradation of agricultural land is considered not only as an environmental threat, but a threat to sustainable national development. The country lacks its own production of mineral fertilizers, every year the amount of fertilizers applied to the soil decreases.¹⁰¹ The GEF projects is expected to make major contributions to improve land management in the Country.
- 49 **Plant protection and pest management.** With imported products and contaminated materials, hazardous pests are penetrating into the country due to the weak phytosanitary capacities. More than 67 species of pests and diseases are listed as quarantine species.¹⁰² According to the National Plant Protection Agency (2011), the number of pests has tripled during 1991-2011.¹⁰³ Furthermore, over the past 20-25 years, natural or semi-natural populations of at least 50 alien species of pest and diseases have been formed. Such high rates of invasive fauna and flora are dangerous for agriculture and for natural ecosystems of the country.¹⁰⁴
- 50 The Kyrgyz Republic joined the World Trade Organization (WTO) Agreement on the application of Sanitary and Phytosanitary Measures (WTO-SPS) and the International Plant Protection Convention (IPPC).¹⁰⁵ In 2009, the government signed an agreement with the Eurasian Customs Union (ECU) on "Plant Quarantine". The Kyrgyz Republic finally acceded to the Eurasian Economic Union on 6 August 2015.¹⁰⁶ However, the lack

100 http://www.fao.org/fileadmin/user_upload/oed/docs/OSROKYR901SWE_2010_ER.pdf

101 National Sustainable Development Strategy of the Kyrgyz Republic, 2015-2017, p.86

102 MoA (2014): National Programme on phytosanitary security in the territory of the Kyrgyz Republic in transition to a model of sustainable development 2014-2016.

103 National Plant Protection Organization of Kyrgyzstan (2011b): Annual report. National Plant Protection Organization of Kyrgyzstan

104 State Program on phytosanitary security in the Kyrgyz Republic in transition to a sustainable development model 2014-2016 (MoA),p.8

105 https://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm

106 MoA (2014):Analytical Review: Regulatory Impact Analysis in the in the draft resolution of the Government of the Kyrgyz Republic: Draft Law On Plant Quarantine in the Kyrgyz Republic"
https://en.wikipedia.org/wiki/Eurasian_Customs_Union

of knowledge on modern plant protection methods and phytosanitary measures is a very serious constraint that includes both lack of experienced and trained personnel as well as shortage of modern equipment and communication means. As a response, the MoAM prepared the «National Program on phytosanitary security in the Kyrgyz Republic in transition to a model of sustainable development for the 2014-2016 ». Furthermore, at present, 583 different pesticides and agrochemicals are permitted for use in the territory of the Kyrgyz Republic; most of these are imported and a significant amount is smuggled in from neighboring countries.¹⁰⁷ The usage of pesticides in the country declined up to 3.25 times after 1991. Due to a lack of experience in dealing with banned and obsolete pesticides (from the Soviet period) and the absence of appropriate technologies for environmentally sound disposal this situation poses a serious health risk to the country.

- 51 Kyrgyzstan was plagued by the Moroccan Locust and the Italian Locust, and though there have been no major outbreaks of gregarious locusts for decades, one form of them is always present in the region. The Moroccan Locust outbreaks often originate along borders between Afghanistan, Turkmenistan, Tajikistan and Uzbekistan, while traditional Italian Locust breeding areas are located on both sides of the border between Kazakhstan and Russia, and, to a minor extent, towards China. Permanent Migratory Locust habitats are situated near borders between Kazakhstan and its neighbouring countries, i.e. Uzbekistan, Russian Federation and, to a lesser extent, Turkmenistan (Caspian Sea), as well as in some places close to borders with China.¹⁰⁸ Due to the high anthropogenic pressure and the changes in different ecosystems, the number and frequency of outbreaks has increased.¹⁰⁹ The population density exceeded the economic threshold in 2008, where 163 185 hectares (ha) were infested and 157 000 ha treated, which corresponded to the largest treated area in this country. In the following period, in 2011-2013, there was a slight decline in numbers of locust and thus decreased damage. Nevertheless, in the Central Asian region locusts present a permanent threat to crops and pastures.¹¹⁰
- 52 FAO has implemented eight projects addressing issues in plant protection issues with the total budget slightly higher than US\$1 mln, with national level projects making roughly a half of this funding. These projects targeted pesticide management and agrochemicals, locust control at regional and national levels, development of farmers' field schools to promote IPM technologies, and capacity building on phytosanitary control in Central Asia. Several IPM focused projects aimed at bringing new technologies and strengthening resistance to locust, which are fully in line with the NSDS.
- 53 This is very important direction for FAO Kyrgyz Republic to continue considering that no major donors are active in that area and importance of the policy development and technologies transfer. It is especially important in a newly changed conditions with Kyrgyzstan joining EAEU and CU, which would require improvement in phytosanitary conditions of the agriculture sector to promote export of local fruits, vegetables to Kazakhstan and Russia.
- 54 The fourth PA is aimed at reducing rural poverty, especially of rural women, through capacity building and small enterprise development, including the review of key agricultural institutions to better deliver goods and services to the rural sector. This priority area is well aligned with the NSDS priorities in regards to the gender disparity improvement and poverty reduction. 'The Result is in support of FAO's Regional Initiative on Empowering Small Holders and Family Farms through Sustainable Development of Rural Areas, which is linked to the SO3 of the Organization.

107 Pak V. (2014): Pesticide control in the Kyrgyz Republic. Report. DCP, MoA, p.6

108 Locust issues in Caucasus and Central Asia (CCA), available at <http://www.fao.org/ag/locusts-CCA/en/1010/>

109 <http://my.kg/animals/195-sverchki-i-saranchovye-v-stepyah-kyrgyzstana.html>

110 Ministry for Agriculture and Melioration of the Kyrgyz Republic (2014): Review of emergence and spread of major pests and diseases of agricultural crops in the Kyrgyz Republic in 2013 and the forecast of their appearance in 2014, p.5

Priority Area 4: Enhanced capacity for strengthening a socially sensitive market economy to reduce rural poverty, especially among women headed households

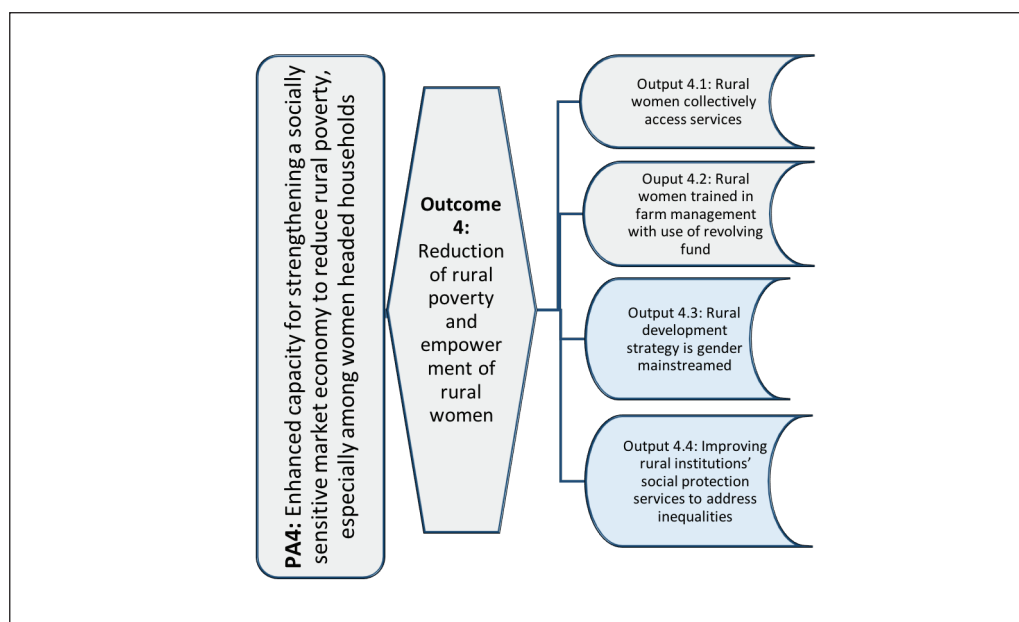


Figure 4. PA 4 Outcome and outputs

- 55 FAO has implemented, in partnership with other UN agencies, several initiatives in support of Output 4.1 and 4.2. No work was yet reported against output 4.3 and output 4.4.
- 56 Poverty in Kyrgyzstan has many dimensions, but location is a significant contributing factor. The largest part of poor population lives in rural areas, with poverty there measured at 41.1 percent compared to 28.5 percent in urban areas in 2013. The level of poverty in mountainous areas was measured at 51% in comparison to 38% for the country overall in 2015. At the same time, Kyrgyzstan's population continues to grow (average rural population growth of 1.39% from 2009 to 2013 in comparison to urban growth of 1.56% for the same period).¹¹¹
- 57 Increasing poverty level is reflected also in balanced nutrition. The analysis of staple food consumption per capita in years 1990 through 2011 showed the fall in quality of nutrition. Thus, while meat and meat products monthly consumption was 3.5 kg per capita in 1990, this figure decreased to 1.7 kg per month by 2012. Consumption of milk and milk products also significantly decreased from 20.1 kg per month in 1990 to 6.1 kg by 2012.¹¹²
- 58 **Women in Kyrgyzstan are experiencing gender disparity.** Kyrgyzstan's economy heavily relies on mineral extractions, remittances from labour migrants, mostly working in Russia, and agriculture, which contributed 20.8 percent to the country's overall GDP in 2014, while industry contributed 34.4 percent, and services 44.8 percent. However, two thirds of the country's population lives in rural areas in 1 800 villages grouped in 472 *aiyl aimaks* (rural municipality) and depends on agriculture as a source of income, food and general livelihood. Non-existent industries and services in rural area, poor infrastructure and shortage of off farm employment, push people in agriculture and food production. Unemployment is very high, especially among women. The country's economically active population is 2.5 million people with 91.6 % employed. The number of unemployed has reached 210.4 thousand where 46.5 % are women.¹¹³

111 CIA World Factbook (<https://www.cia.gov/library/publications/the-world-factbook/geos/kg.html>)

112 The Kyrgyz Republic Poverty Reduction Strategy Paper, 2014

113 The Kyrgyz Republic Poverty Reduction Strategy Paper, 2014

- 59 Women's sharply narrowed access to economic opportunities implementation is the most urgent and obvious issue related to gender inequality. Independent women's economic activity has decreased almost two times or even more in certain regions (to 30.6 % in Naryn oblast) within the two decades of the country's independence. Women are prevailing in informal labour market and certain service and trade sectors where there are high risks and lack of social guarantees.
- 60 According to the NSC, women spend three times more time on housework than men (17.4 and 5.7 hours, respectively). In rural areas women have to perform an additional 2 hours of housework¹¹⁴. At the same time, according to the assessment of demographic and health survey conducted in Kyrgyzstan in 2012 (DHSK), women are heads of only 27 percent of households.¹¹⁵ Also notable are indicators on the number of women managers of economic entities operating in agriculture. Women make up only 18 percent of leaders in this category.
- 61 PA4 supports implementation of the GOK's priority on gender sensitive policies and on extending women's economic opportunities. PA4 Programme is fully in line with the NSDP 2013- 2017, which is aiming at a democracy with stable growth of domestic economy and household incomes. The NSDS's main pillars are (i) achieving stable governance, (ii) alleviating poverty and minimizing socioeconomic regional disparity, and (iii) creating attractive environments for private sector investment.
- 62 The PA 4 programme is also supporting implementation of the National Strategy for Gender Equality by 2020 and National Action Plan for Achieving Gender Equality for 2012-2014, which were adopted by the Government Resolution in June 2012 (Resolution #443). These documents serve as foundation for state sectoral policy in regards to gender improvements.
- 63 **FAO PA4 is in line with the UNDAF priorities.** Under the guiding principle 'peace and stability toward sustainable development', the current UNDAF was established around three distinct although interlinked areas of cooperation, further organized by outcomes. PA4 programme 'focuses rural poverty alleviation with special reference to rural women; this will entail support to Government in the relevant reform of policy, legal and regulatory frameworks to ensure adequate integration of smallholder farmers / fisher folk, improved rural employment and gender equality, in addition to income generating programmes targeted at rural women in disadvantaged communities. Continued inter-agency collaboration, i.a. with UN Women and WFP, is envisaged for successful achievement of this Priority Result' (CPF 2015-2017).
- 64 There are two interlinked projects contributing to the PA4 outcome: i) UNJP/KYR/004/UNJ ONE UN Fund Initiative for Kyrgyzstan - Agricultural assistance to vulnerable, food insecure female-headed households, and UNJP/KYR/013/UNJ Accelerating Progress towards the Economic Empowerment of Rural Women (RWEE). Evaluation of the two women empowerment projects was based on the results of two evaluation reports¹¹⁶ kindly provided by the UN Women and FAO CO and on interviews with the key stakeholders and partners.
- 65 **Two initial women empowerment projects were designed by the UN at the global level.** The United Nations Country Team (UNCT) in Kyrgyzstan was selected by the UN Regional Directors Team (RDT) as one of two new countries eligible to develop a One UN Programme for 2010 funding under the Expanded Delivering as One Window (DaO). The concept is to form selected poor and women led households into SHGs, provide them with high yield cash crops' seeds and agricultural knowledge, and form revolving funds so groups return 30 percent of cost of inputs received into these funds to buy seeds and other inputs for a next year. Some SHG were reportedly successful and took good advantage

114 NSC Data Collection "Women and Men in the Kyrgyz Republic", 2013

115 Demographic and Health Survey of the Kyrgyz Republic, 2012. Bishkek

116 Myrzabekova, A. Country Case Study of the joint programme implemented by the four UN Agencies: UN FAO, UN Women, UN WFP, and IFAD "Accelerating Rural Women's Economic Empowerment", 2015 and Ibraeva, G., Myrzabekova, A. Evaluation of Effectiveness of External Aid for Improvement of Gender Inequality, 2014.

of the programme¹¹⁷. However, underdeveloped operational arrangements (such as for selection of beneficiaries and on formation of groups) and difficulties in social mobilization caused delays in first year of implementation (i.e., the project was originally supposed to last 18 months, but instead it lasted more than 40 months).

- 66 Furthermore, the 2014 evaluation found that the project design lacked clear strategy on agricultural production and marketing. In the course of implementation, several activities were developed on an ad-hoc basis, such as technical support on preservation of vegetables, organizing local fairs of produces, etc. Some self-help groups apparently expressed concerns that if they increase production, they would not be able to market produces. Many groups struggled with repayment to the CF and then with running the CF, while some beneficiaries joined groups either not realizing the requirements of the Project or in expectation of receiving free oil and flour packages.
- 67 Finally, it was noted that the work on empowerment was not designed to be linked to the work under outputs 4.3 and 4.4. In order to be successful small-scale programmes such as the RWEE should have strong connections to national rural development policies and social protection programmes. Without such linkages the indicators for Outcome of PA4 will be difficult to achieve (namely, an increase in incomes by 5% and a decrease in rural poverty by 5% by 2017).

117 <http://www.fao.org/gender/gender-home/gender-insight/gender-insightdet/en/c/385998/>



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