

Towards Sustainable Aquaculture and Fisheries Development in the Kyrgyz Republic

GCP/KYR/012/FIN

Mid-Term Review

November 2015

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List of Acronyms and Abbreviations

CDF	Comprehensive Development Framework
CTA	Chief Technical Adviser
DoF	Department of Fisheries
EOD	Entry on Duty
FAO	Food and Agriculture Organization of the United Nations
FAO-KG	Kyrgyzstan Office of FAO
FFRC	Freshwater Fisheries Research Centre, Wuxi, China
FI	Fisheries and Aquaculture Department
FIRA	Aquaculture Service (FAO)
FIRF	Fisheries Management and Conservation Service (FAO)
FIN	Finland
GCP	Government Cooperation Project
IoB	Institute of Biology and Pedology of the National Academy of Sciences
IUCN	World Conservation Union
KNAU	Kyrgyz National Agrarian University
LTO	Lead Technical Officer
LTU	Lead Technical Unit
MoAM	Ministry of Agriculture and Melioration
NARIC	Research Institute for Fisheries and Aquaculture, Hungary
NPC	National Project Coordinator
NPRS	National Poverty Reduction Strategy
NTE	Not to Exceed
OED	Office of Evaluation
PPER	Project Performance Evaluation Report
PSC	Project Steering Committee
RDFS	Result Demonstration Farmers
REU	FAO Regional Office for Europe and Central Asia
TCP	Technical Cooperation Project
TPA	Tri-Partite Agreement
UEF	University of Eastern Finland
UNDAF	United Nations Development Action Framework
VGGT	Voluntary Guidelines on the Responsible Governance of Tenure

Executive Summary

This Mid-Term Review report presents a review of efficiency and effectiveness of the GCP project implementation in terms of achieving the stated project objectives, outcomes and outputs. At the outset, it is understood that during the first half of the project, a combination of unforeseen changes to the project management structure and the depreciation in the value of the euro have significantly impacted both the rate of project delivery, and the available operational funding. In view of these changes, this review provides an opportunity to assess the projects' progress to date against the stated objectives and outcomes, and to provide strategic recommendations to improve implementation for the remaining project period.

The progress of the project activities with respect to the six stated project outputs were assessed, and it was established that of the 36 stated project activities, 3 activities (8 percent) have been completed, 4 activities (11 percent) are on-track, 14 activities (39 percent) are on-track but are behind schedule, 3 activities (8 percent) require corrective actions, and no progress has been reported for 12 activities (33 percent). Of principle concern to the delivery of the project has been the delays in the commissioning of the small-scale hatcheries and feed mills (Outputs 1 and 2). These delays are attributable to a number of factors including the unforeseen need to appoint a new CTA in February/March 2015, the concomitant delays in the general project delivery, and more specifically, the failure of the initial international tenders to procure the hatchery and feed milling equipment that were launched in December 2014. With the finalisation of the building works for the mini-hatcheries, the finalisation and renovations of the feed mill sites, and the successful procurement of the production equipment (feed mill and hatchery equipment) now in place, it is anticipated that the hatcheries and feed mills will be commissioned in April and May 2016 respectively. These delays in delivery have made it difficult to assess the full impacts of the project at this time - many of the tangible impacts will only become evident once the production facilities have been commissioned, the farmers trained and the farmer field schools developed. In particular, it will likely take some time for the capacity building activities to show impacts.

As a general comment, the project is highly relevant to the development and management of the aquaculture and fisheries sectors in the country. It is appropriately aligned to the Kyrgyz Governments' stated development goals for the sector. The focus to support the private sector (Fisher Associations) through the installation of feed and hatchery production capacity and the associated training will undoubtedly result in significant and measurable increases in national fish production.

While fish farming and fishing is often viewed as predominantly male activities, the project has made significant attempts to address gender issues, and encourage women to take up aquaculture as an income generating activity.

The technical and material support provided to government with respect to the improvements in the quality of fish available to farmers in the country and the development of a viable policy / strategy and associated restructuring of the department should result in an improved ability of government to promote sector development. Likewise, the development of viable aquaculture and fisheries training at the Agrarian University is likely to have a positive impact of the development of a

new cadre of trained personnel who will be in a position to meaningfully contribute to the development of the industry.

It was noted that during project conceptualisation (January 2014), the prevailing euro to US dollar exchange rate was used to estimate the budget available to the project. Over the project period the euro has devalued by 22 percent against the US dollar. This devaluation has resulted in a currency exchange loss of US\$323,005, equating to a 16% reduction in available funds. As of November 2015, and taking in to consideration the budget revision, monies spent and all hard financial commitments, the project reported an expenditure of USD 1,060,316, equating to 64% of the available budget. The expenditure leaves a positive balance of USD599,888 for the remaining 13 months of the project.

Clearly, 2016 represents a critical year for the project delivery, and in this regard, it is important to note that while no further delays in project delivery are envisaged, there remains a considerable body of work to complete during the remaining project period. A series of recommendations that are designed to ensure the smooth progression of the project, the completion of all project activities, and the realisation of the full potential of the donor's investment are provided. Principal amongst these is a nine month no-cost extension that would extend the lifetime of the project until September 2017.

1 Introduction

1.1 Background

In 2010, aquaculture production in the Kyrgyz Republic was recorded at just 319 tonnes, a mere 10% of the output recorded during the 1980s. Indeed, since independence from the Soviet Union in the early 1990s, aquaculture production across the Central Asian region has declined markedly, and by 2010 accounted for just 7,731 tonnes or 0.018% of global production. According to the data collected by the GCP/KYR/003/FIN¹ project, the Kyrgyz Republic is now a net importer of fish products with at least 7 500 tonnes of fish being imported into the country per annum (Statistical Committee of the Kyrgyz Republic Data, 2011). With nearly 95 percent of the national fish consumption being imported into a country that is naturally endowed with significant water resources and a climate that is conducive to aquaculture, there is demonstrably significant potential to promote aquaculture as a means of import substitution.

The reasons for the post-independence decline in aquaculture production in the Kyrgyz Republic are complex and comprise a range of political, institutional, economic, technical and social factors. Notably, the transition from a state lead to a market economy has seen a dramatic decrease in government financing and investment into the sector. Funding for research and development is no longer forthcoming and state subsidies to maintain existing infrastructure has been significantly impacted. After the transition to democracy, approximately 90 percent of the state owned farms in the country were privatised. Privatisation was accompanied by a general decline in state institutions and governance structures, which when combined with poor legislative frameworks to support investment has deterred private sector involvement in the sector. As a result, many of the once functioning fish farms currently lie abandoned. The lack of technical specialists and the limited number of trained aquaculture personnel in both the public and private sectors further constrain sector development. Furthermore, the decline or closure of support industries (e.g. feed manufacturers, fish hatcheries and seed suppliers) and poor access to cost-effective imported alternatives has negatively impacted all levels of the value chain.

The GCP/KYR/012/FIN project is designed to promote the rejuvenation of the aquaculture and fisheries sectors in the Kyrgyz Republic, and in this regard, build on 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 the 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.

¹ Support to Fishery and Aquaculture Management in the Kyrgyz Project

1.2 The Project

1.2.1 The agreement

The project is financially supported by the Finnish Government (the donor) through an agreement between FAO and MoAM that was signed on 20th January 2014.

1.2.2 The project document

a) Impacts and objectives

It is anticipated that the primary impact of the project will be:

“Strengthened right to food through sustainable aquaculture development and capacity to sustain ecosystem services of the main inland water resources”

The project document calls for this impact to be realized by: i) contributing to an increase in domestic aquaculture production from the current levels by at least four- to five-times, ii) building scientific and research capacity of at least 30 scientists of the DoF, the Institute of Biology, the Agrarian University and the State Agency for Environmental Protection and Forestry, the Biosphere Territory Issyk-Kul, and the Agency for Hydrometeorology to provide science based advice for the management of ecosystem services for the main lakes and reservoirs, and iii) influencing policy towards the development of sustainable aquaculture as an economic activity, while ensuring ecosystem services are sustained within water resources. It is anticipated that the Project’s special focus on the adoption of community participatory development and management strategies will add value to the impacts by providing benefits directly at the local level, and improving the nutritional status and livelihoods of the populace. It is proposed that these impacts will be delivered by addressing the following six outputs:

Output 1: Established decentralized fish seed production and supply networks to reach remote and potential areas.

Output 2: Functioning fish feed production and supply mechanism established.

Output 3: Scientific capacity built and fish yield predictive models developed for monitoring fish yields in Issyk-Kul Lake and Toktogul Reservoir.

Output 4: Trained and adequately oriented counterpart personnel who can catalyse the sustainable development of aquaculture and the management of ecosystem services of lakes and reservoirs according to the needs and aspirations of communities.

Output 5: Curriculum on aquaculture, fisheries and aquatic resource management improved at the Agrarian University to strengthen the human resource base.

Output 6: A network of extension services organized with the participation of government, farmer/fishers and entrepreneurs in the industry with its services reaching the rural areas.

b) Budget and duration

Concomitant with all FAO budgets, the original project budget was calculated in US dollars. The donor funds are provided in euros. During project conceptualisation (January 2014), the prevailing euro to US dollar was used to estimate the budget available to the project. Over the project period, the euro has devalued by 22 percent against the US dollar². This devaluation has resulted in a currency exchange loss of US\$323,005, and thus the need to revise the available budget.

Original Project budget

FAO Budget:	US\$ 1,983,209 (€1,480,000)
Government of Kyrgyzstan in-kind contribution:	US\$ 245,009
Total Budget:	<u>US\$ 2,228,218</u>

Revised Project Budget

Total FAO budget accounting for exchange losses	US\$1,660,204
Government of Kyrgyzstan in-kind contribution:	US\$ 245,009
Total Budget:	<u>US\$ 1,905,213</u>

Project Duration:

Expected EOD (Starting Date):	January 2014
Expected NTE (End Date):	December 2016

c) Project Implementation

According to the project document, the project is implemented under the overall responsibility of the MoAM, and the project implementation remains the responsibility of the DoF. The DoF has appointed a technically competent senior officer to act as the National Project Coordinator (NPC). The NPC is remunerated by the DoF, and functions as the official counterpart contact person for FAO during the implementation of the project. Additional technical and support staff is provided by the DoF and assigned as required.

d) Project Management

The FAO provides an international consultant who acts as the Chief Technical Advisor (CTA). The CTA is based in the Project area, and directly technically supervises the Project's execution and day to day management in close cooperation with the NPC. Additional technical backstopping, international and national consultants are provided by FAO whenever needed.

² January 2014: US\$ 1= €1.34; November 2015 US\$ 1= €1.05
<http://www.xe.com/currencytables/?from=USD&date=2015-11-30>

The project's work schedule requires an estimated four national support staff, and it is understood that use will be made wherever possible of the relevant local institutions such as the Academy of Science and the Universities. For specialized training in the fields of aquaculture, research in ecosystem management, curriculum development in aquaculture and fisheries, which are not available at a national level, contractual arrangements will be made with international consultants. Arrangements will be made with an international tertiary educational institution to hire consultants to improve the curriculum in aquaculture, fisheries, aquatic resources management and entrepreneurship development, and to train local teaching staff.

e) *Reporting, monitoring and evaluation*

The project document indicates that the following reporting structure will be adhered to:

Project Inception Report: Upon the initiation of project implementation, an inception report will be prepared by the CTA in collaboration with the FIRA Aquaculture Officer and the NPC. This report will include a detailed work plan and refined progress indicators as described in the Project's Logical Framework.

Semi-annual Progress Reports: The CTA will prepare progress reports every six months according to the established procedures with the Government of Finland. The reports will cover the period January-June and July-December. The NPC will review and will contribute to these reports.

Terminal Report: The CTA will be responsible for the preparation of a draft Terminal Project Report no later than four months before the end of the project. The FAO Representative in the Kyrgyz Republic will review the draft report and send it to FAO headquarters for clearance and processing before transmission to the Government of Finland and the beneficiary government.

Financial Reports: Financial reporting will be submitted in accordance with FAO reporting formats and scheduled in the overall project framework. All financial accounts and statements will be expressed in United States dollars and shall be subject only to normal internal and external auditing procedures laid down in the Financial Regulations and Rules of FAO.

Project monitoring, reporting and evaluation will be conducted in accordance with established procedures of FAO, the Government of Kyrgyz Republic and the donor. The Project management is responsible for tracking, monitoring and evaluating project implementation. Six monthly PSC meetings will review the progress of the project implementation. The PSC review process will include representation from the MoAM, the FAO Representation in the Kyrgyz Republic, project management, the donor, and other stakeholder representatives.

Tri-Partite Review Meetings involving the MoAM, the Government of Finland and FAO will be organized at the end of each project year to review the progress and resolve principal outstanding issues. The discussions during the TPR meeting will be based on a Project Performance Evaluation Report (PPER) prepared by the project CTA, in close consultation with the NPC and submitted to the Government and the

donor at least one month prior to the meeting. The TPR meetings will assess: (i) project achievements against targets; (ii) the efficiency, effectiveness of project management; and (iii) fine tuning of project activities and planning as required. Backstopping and technical support missions will be organized by FAO as planned.

2 Mid-term review – scope and objectives

The mid-term evaluation is designed to provide a review of the relevance, efficiency and effectiveness of the GCP project implementation in terms of achieving the stated project objectives, outcomes and outputs. It is understood that during the first half of the project, a combination of unforeseen changes to the project management structure and the depreciation in the value of the euro have significantly impacted both the rate of project delivery, and the available operational funding. In view of these changes, the mid-term review provides an opportunity to assess the projects' progress to date against the stated objectives and outcomes, and to provide strategic recommendations to improve implementation for the remaining period. In light of the reduction in the available project budget, a financial assessment of the current and future project activities was undertaken to ensure that the core project goals and objectives are achieved.

This Mid-Term Review has been conducted as an in-depth reflection of project progress and provides an indication of future priority actions. The evaluation has been undertaken as a self evaluation, and has liaised closely with the on-going FAO-OED Country Programme Evaluation that is currently assessing the efficacy of the FAO-KG Cooperation Programme, including the aquaculture and fisheries components. The GCP/KYR/012/FIN Chief Technical Advisor (Dr Tom Shipton) led the review process, assisted by the National Project Manager (Ms Mairam Sarieva). The team worked closely with the OED evaluation team, and where appropriate, incorporated the data generated by the OED fisher surveys and key stakeholder interviews into the review processes.

3 Project progress and implementation performance

3.1 Assessment of output and activities

3.1.1 Rating scale

Each Project Activity outlined in the six Project Outputs was assessed in terms of progress towards achieving the stated targets defined in the Project Results Matrix. For each Project Activity, a description of the progress to date and the budgetary allocation was reported. A comment describing the need for additional / remedial actions was provided. Applying an exception reporting approach, the overall status of each activity was summarized into one of the following five categories:

Completed	Activity completed
On-Track	Progress towards the achieving the project targets are not expected to significantly impact the outcome
On-Track – Behind Schedule	Progress towards the achieving the project targets has been delayed, but provided sufficient time is available, is not expected to significantly impact the outcome
Corrective Action	Some issues have been identified that could impede or put at risk the outcome and remedial action is required to resolve these issues
No Progress	No progress has been made

Where possible, the cost of each activity has been presented.

3.1.2 Outputs and activities

Output 1: Established decentralized fish seed production and supply networks to reach remote and potential areas

Summary: Output 1 comprises eleven activities. Of these, four are on-track and a further four are on-track but behind schedule. These activities relate to the development of the mini-hatcheries and the broodstock development programme. Two activities that relate to training and the provision of training prior to the development of the mini-hatcheries / broodstock programme require corrective actions. No progress / deficiency has been reported for the development of seed monitoring protocols and for evidence of fry production / sales.

Progress towards established Targets

Activity 1.1: Develop a broodstock programme to maintain genetic quality and train personnel.

1.1.1: Design brood stock development plans for carp at the Ton Fish Farm

Indicators	Baseline	Target
Availability of documented designs of broodstock development plans	No designed broodstock development plans	Documented broodstock development plans

Status: **On-Track**

Progress towards target: In October 2014, the International Consultant for Broodstock Management Planning and Implementation visited the country and developed a broodstock management plan for carps.

Budget: USD 4,247 (international consultant)

Comment: The broodstock plan has been presented in a report format. To become a useful planning document to the Department of Fisheries, it needs to be reviewed and formatted as a formal plan, translated into Russian, and adopted by the Department of Fisheries.

1.1.2: Improve the Ton Fish Farm / hatchery facilities to function as brood fish centres cum hatcheries based on a promising business plan

Indicators	Baseline	Target
Functional Ton hatchery with improved broodstock holding & rearing facilities	Poorly managed or no broodstock holding facilities	Functional broodstock holding facilities

Status: **On-Track**

Progress towards target: During July – December 2014, the FAO Investment Officer developed a business plan of the Ton State Hatchery. To demonstrate the economic viability of trout hatchery production at the site, the project supported the purchase of 100,000 trout ova for incubation, hatching and later sale to private sector farmers. The economic viability of the operation proved successful, demonstrates functionality at the site, and provides a blueprint for further income generating production at the site.

In order to improve the genetic quality of the broodstock, and in accordance with the broodstock plan developed under Activity 1.1.1, new strains of carp broodstock (common, grass and silver carp) are to be imported into the country. In April 2015, the Freshwater Fisheries Research Centre (FFRC) Wuxi, China, was contracted to supply high quality Chinese broodstock fry. Unfortunately the complexity and logistics of the operation made it unfeasible to import the fry during the 2015 breeding season. In Autumn 2015, a suitable source of common carp (scaled variety) broodstock was identified from Kazakhstan. 15,000 fingerlings (20g) were

successfully procured and distributed to the State Fish Farms of Ton and Uzgen and the Altyn Arashan Aquaculture Fishermen Association, Aksu. These fish now form the basis of the country's broodstock programme.

Budget: USD 2,525 (national consultant, broodstock costs)

Comment: In order to develop a meaningful broodstock programme, additional strains of carps (common, grass and sliver carps) need to be procured. During summer 2016, additional strains will be sought from the Research Institute for Fisheries and Aquaculture (NARIC), Hungary, the Freshwater Fisheries Research Centre (FFRC) Wuxi, China, and if suitable high quality stocks can be identified, from neighbouring countries (Kazakhstan and Uzbekistan).

1.1.3: Train Ton and Toktogul hatchery personnel, fisheries associations, fish breeders in project provinces and technical officers on broodstock management techniques to maintain the genetic quality of broodstock

Indicators	Baseline	Target
Names of trained staff working at Ton hatcheries and members of fisheries associations, trained persons involve in broodstock management activities	No trained staff and personnel	At least 50 trained staff, farmers and fish breeders in project provinces

Status: **Corrective Action**

Progress to date: In October 2014, the International Consultant on Broodstock Management Planning and Implementation trained 22 staff of the DoF, IoB, Agrarian University, fisheries associations / farmers in broodstock management and planning.

Budget: USD 6,316 (workshop costs)

Comment The training was undertaken prior to the arrival of the broodstock. Consideration should be given to repeating some aspects of the training once the broodstock plan has been adopted by the DoF, and in conjunction with the training required to complete Activity 1.2.2 (hatchery management).

1.1.4: Set up of functional mini-laboratories with basic disease diagnosis and water quality analysis facilities in the Ton hatchery

Indicators	Baseline	Target
Availability of mini laboratories at the Ton hatchery. Personnel competent in disease diagnosis and water quality monitoring	No laboratory facilities	Establish a mini-laboratory at the Ton fish farms

Status: **On-Track – Behind Schedule**

Progress to date: Appropriate laboratory equipment has been procured and delivered to FAO. The scope of the intervention was expanded to provide equipment to the mini-hatcheries.

Budget: USD 9,010 (equipment costs)

Comment: Mini-laboratories will be set up at the same time as the mini-hatcheries are commissioned (May 2016).

Activity 1.2: Establish three mini-hatcheries to produce carp fish seed in Issyk-Kul and Jalal-Abad provinces with fisheries associations and personnel trained as hatchery operators.

1.2.1: Selection of locations, design and equip to establish and operate mini-hatcheries to increase carp fish larvae/fry in Issyk-Kul and Jalal-Abad provinces

Indicators	Baseline	Target
Locations of functional mini hatcheries in Issyk-Kul and Jalal-Abad Provinces	No mini-hatcheries established	4 functional mini-hatcheries

Status: **On-Track – Behind Schedule**

Progress to date: During April 2014, the International Consultant for mini-hatchery design and management successfully undertook a mission to: a) develop a production plan of the proposed carp mini-hatcheries, b) establish the brood fish requirements, c) develop a production plan for small-scale rainbow trout, d) develop designs for the proposed carp mini-hatcheries, e) design the proposed small incubation system for trout, f) identify sites for the proposed mini-hatcheries. In September 2014, architectural plans for the mini-hatcheries were drawn up by Urban Zone Architects, Bishkek. At the Aksu and Tup sites, local planning permissions were granted in May 2015, and the building construction completed and signed off by the Projects' civil engineering consultant in September 2015. Building progress at the Ton and Toktogul sites was delayed due to a failure to obtain planning permission for the Ton site and the concomitant need to identify a new site, and the need to undertake a topographical survey at the Toktogul site to finalise the positioning of the facility. These issues were resolved at both sites, and planning permission for both sites obtained in August 2015. Construction is progressing well and will be completed by the end of December 2015.

In December 2014, an international tender was launched to procure the hatchery equipment – the tender was unsuccessful and no bids were received. A revised tender was launched in June 2015. In November 2015, Akuamaks Ltd. (Turkey) was awarded the contact to supply the incubation systems which will be delivered by the third week in January 2016. In October 2015, quotes for the reticulation systems (pipes and fittings) were solicited, and thus all necessary equipment required to operationalize the hatcheries have been identified, and is in the process of being procured.

Budget: Total: USD 127,698 (comprising: USD 7,178 - national and international consultants and architects; USD 120,520 building materials and equipment)

Comment: The hatchery incubation systems will be installed in March 2016 and the systems commissioned in May 2016. The facilities will be operational in time for the summer 2016 breeding season.

1.2.2: Train fisheries associations, fish farmers, and Ton and Toktogul fish farm personnel and technical officers on breeding techniques, hatchery management and good husbandry practices

Indicators	Baseline	Target
Names of trained personnel engaged in fish breeding and hatchery management	No training	No target set

Status: **Corrective Action**

Progress to date: In June 2014, the International Consultant for mini-hatchery design and management delivered a training course on the techniques for artificially propagating carp. The training was held at the Ton State Fish Farm. The training was attended by 13 fish farmers from the Fisher Associations that are being provided the mini-hatchery production facilities and technical officers from the Ton State Fish Farm. Five of the participants were women.

Budget: USD 6,099 (workshop costs)

Comment: Despite the success of the training course outlined in the consultants report, cognisance needs to be taken of the delay in the development and operationalization of the mini-hatcheries. The hatchery training was undertaken approximately 24 months prior to the anticipated operationalization of the hatchery facilities. In order to refresh peoples' memory and enable them to familiarise themselves with the new production facilities, it is advised that the training course is repeated. In addition, members from other Fisher Associations that are not currently being supported by the project have expressed their interest in being trained, and thus consideration should be given to increasing the scope of the training to include these individuals.

1.2.3: Develop fish seed quality monitoring indicators together with a fish seed assurance system to ensure farmers receive quality fish seed for stocking

Indicators	Baseline	Target
Fish seed quality assurance system in place, fish fry and fingerlings are graded according to quality	No criteria and procedures developed	Quality monitoring criteria and procedure.

Status: **No Progress**

Budget: Project running costs - no specific budgetary allocation made

Comment: This activity can best be undertaken by the International Consultant tasked with providing training to farmers in hatchery management techniques (Activity 1.2.2).

1.2.4: Prepare practical and effective technical guidance for hatchery and nursery management including trout culture, together with strong management tools in order to facilitate decision-making on brood fish and fish seed quality, and breeding and culture environment

Indicators	Baseline	Target
Development, adoption and implementation of technical information in manuals	No training materials	Published training materials

Status: **On-Track – Behind Schedule**

Progress to date: A draft English language training manual on the artificial propagation of carps has been prepared by the FAO Regional Office for Central and Eastern Europe and the Caucasus and Central Asia (REU). To avoid duplicating training manuals, the project has translated the training manual prepared by REU into Russian.

Budget: Project running costs - no specific budgetary allocation made, translation undertaken by project staff.

Comment: The training manual will be published and made available to farmers, fish breeders and technical officers. A request has been made by the DoF to have all training manuals translated into the Kyrgyz language - to make them more accessible to the farmers. It is recommended that this recommendation is followed.

Activity 1.3: Train twelve Result Demonstration Farmers (RDFs) as fry rearers in Issyk-Kul and Jalal-Abad provinces

1.3.1: Train fisheries associations and fish farmers and fish breeders including Ton and Toktogul fish farm personnel and technical officers in fish fry rearing techniques and identify and promote 12 fisheries association members / fish farmers in Issyk-Kul and Jalal-Abad Provinces to act as RDFs.

Indicators	Baseline	Target
Names and locations of 12 functional fry rearers in Issyk-Kul and Jalal-Abad Provinces,	No framers identified	12 farmers identified

Status: **On-Track**

Progress to date: Selection criteria for the Result Demonstration Farmers (RDF) have been developed and seven suitable farmers identified according to the criteria. Training to these farmers has been provided through Activities 1.1.3 and 1.2.2.

Budget: Project running costs - no specific budgetary allocation made

Comment: A further five demonstration farmers need to be identified and trained. The additional training that will be provided as components of Activities 1.1.3 and 2.2.2.

1.3.2: Promote farmers and potential entrepreneurs to become fry traders and fry transporters.

Indicators	Baseline	Target
Observed fry selling and transportation	No fry is sold by farmers supported by the project	No target set

Status: **No Progress**

Budget: Project running costs - no specific budgetary allocation made

Comment: This activity can best be undertaken by the International Consultant tasked with providing training to farmers in hatchery management techniques (Activity 1.2.2). A module on practical fish trading / live transport needs to be included in the training.

1.3.3: Prepare practical and effective technical guidance for fish fry nursery management together with strong management tools in order to facilitate decision-making on maintaining the culture environment to ensure the quality of fish fingerlings

Indicators	Baseline	Target
Development, adoption and implementation of technical information in manuals	No training materials	Published training materials

Status: **On-Track – Behind Schedule**

Progress to date: A draft English language training manual on carp fry and fingerling production in ponds has been prepared by the FAO Regional Office for Central and Eastern Europe and the Caucasus and Central Asia (REU). To avoid duplicating the preparation of another training manual, the project translated the training manual prepared by REU into Russian.

Budget: USD 356 (translation costs)

Comment: The training manual will be published and made available to farmers, fish breeders and technical officers.

Output 2: Functioning fish feed production and supply mechanism established

Summary: Output 2 comprises four activities. One activity has been completed, the remaining three activities are on-track but behind schedule. Of primary concern is the delay in the procurement and commissioning of mini-feed mills, and while this is now scheduled for May 2016, the remaining two activities that relate to training will, by necessity, be delayed until the facilities have been commissioned.

Activity 2.1: Design mini feed mills for carp feeds, including equipment requirement and capacities and establish three mini feed mills.

Indicators	Baseline	Target
Three functional mini feed mills in Issyk-Kul and Jala-Abad Provinces	No feed mills in operation	Three functional feed mill producing aquafeeds

Status: **On-Track – Behind Schedule**

Progress to date: During June 2014, the International Consultant for fish feed development undertook a mission to review the current status of aquafeed manufacturing in the country and provide the technical specifications for the three mini-feed mills. The locations of the mini-feed mills have been finalised and where necessary the buildings repaired / upgraded to ensure that they are in a suitable condition to receive the equipment.

In December 2014, an international tender was launched to procure the feed milling equipment – the tender was unsuccessful and no bids were received. A revised tender was launched in June 2015. In November 2015, Wuxi Huarui Fishing Machinery Works, China was awarded the contract to supply the production systems which will be delivered by March 2016.

Budget: USD 45,352 (comprising: USD 42,499 feed manufacturing equipment and upgrading buildings; USD 2,853 CTA visit to equipment manufacturers in China)

Comment: The mini-feed mills will be installed in March 2016 and the systems commissioned in April 2016. The feed mills will be operational in time for the summer 2016 production season.

Activity 2.2: Train fisheries associations, fish farmers and potential entrepreneurs and technical officers on the establishment of mini-feed mills and the manufacture of farm-made aquafeeds based on fish feed formulae employing locally available feed ingredients.

Indicators	Baseline	Target
Names of trained personnel engaged in fish feed formulation and production	No personnel trained	No target set

Status: **On-Track – Behind Schedule**

Progress to date: Training materials were developed as a component of GCP/KYR/003/FIN project. These are currently being updated as components of the TCP/BGD/3501 and TCP/SLR/3502 projects. A review of the available feed ingredients for use in aquafeeds is currently being undertaken as a component of TCP/KYR/3502. The information will be available by February 2016, and used to develop cost effective feed formulations suitable for use in the country.

Budget: Project running costs - no specific budgetary allocation made

Comment: Once the training materials have been revised, they will be translated into Russian and Kyrgyz and a training programme undertaken. The training requires the mini-feed mills to be operational (spring 2016).

Activity 2.3: Prepare practical and effective technical guidance to produce farm-made aquafeeds and feed management in order to facilitate decision-making on maintaining feed mills and the production of quality fish feeds

Indicators	Baseline	Target
Development, adoption and implementation of technical information in manuals	No technical manuals / business plans	Technical manuals available in local languages. Viable business plan for the feed mills developed

Status: **On-Track – Behind Schedule**

Progress to date: See Activity 2.2 above (re: training materials).

Budget: Project running costs - no specific budgetary allocation made.

Comment: In order to ensure the sustainability of the feed manufacturing operations, business plans for the operation of the feed mills also need to be developed, and the farmers appropriately trained to operationalize the business plans.

Activity 2.4: Provide technical information and advisory support to the existing trout fish feed mill to adopt FAO Guidelines on Good Aquaculture Feed Manufacturing Practice and improve quality of feed

Indicators	Baseline	Target
Feed mill accredited and quality certified, increased trout feed production	No baseline set	No targets set

Status: **Completed**

Progress to date: During June 2014 the International Consultant for fish feed development visited the sole aquafeed manufacturing company in Kyrgyzstan (Combifeeds Aquafeeds Ltd.) to assess their technical support needs. It was established that the company has access to good international consultants and does not need further technical assistance from the project.

Budget: Project running costs - no specific budgetary allocation made

Comment: Activity completed

Output 3: Scientific capacity built and fish yield predictive models developed for monitoring fish yields in Issyk-Kul Lake and Toktogul Reservoir.

Summary: Output 3 comprises 4 activities. Of these, one activity has been completed, one is on track, one is on-track but behind schedule, and one requires corrective action. While the development of a technical research support team and associated training has progressed well, of major concern is the corrective action that is required to re-focus the research programme, and the concomitant impact that this has had on the progress of the four researchers undertaking their Candidate of Science degrees.

Activity 3.1: Establish a technical support team comprising members from DoF, Institute of Biology, State Agency for Environmental Protection and Forestry, Agrarian University, Biosphere Territory Issyk-Kul and Agency for Meteorology to conduct scientific research

Indicators	Baseline	Target
Functional technical support team	No technical support team	Established functional technical support team

Status: **Completed**

Progress to date: The project has formed a research / technical support team comprising researchers from five relevant institutions.

Budget: no specific budget allocation

Comment: Activity completed

Activity 3.2: Build scientific and research capacity among the members of the technical support team and other scientific and research personnel from relevant institutions for the development of empirical models for fish yield prediction and biodiversity conservation in Issyk-Kul Lake and Toktogul Reservoir in the Kyrgyz Republic

Indicators	Baseline	Target
Capable staff in relevant institutions able to implement research on lake management	Few scientific and technical people available to implement research; baseline information will be collected at the start of the project	At least 30 trained scientific and technical people available in line agencies to implement research

Status: **On-Track**

Progress to date: In April 2014, the International Consultant for research methods for an ecosystems approach to lake management undertook a training course. The training focused on research methods used for water quality sampling / analysis and fisheries stock assessment (FiSAT, fish yield predictive modelling). Twenty two participants were trained. The participants were selected from the DoF, the Institute of Biology, the Biosphere Reserve Territory “Issyk-Kul”, the Kyrgyz National Agrarian University, the Agro Technical College, the Agency for Hydrometry and the Arabaev

State University. In June 2015, the International Consultant for research methods for an ecosystems approach to lake management provided additional training (data analysis and yield predictive modelling) to the four researchers registered for Candidate of Science degrees (Activity 3.3).

Budget: USD 24,739 (International consultant and training costs)

Comment: To ensure that the four Candidate of Science students (Activity 3.3) successfully complete their degree courses, additional technical training and academic mentorship will need to be provided.

Activity 3.3: Design and implement research on selected aspects of hydrobiology, nutrient dynamics, and biodiversity conservation and the development of empirical models for fish yield prediction in Issyk-Kul lake and Toktogul reservoir to provide scientific advice on conservation and management action planning

Indicators	Baseline	Target
Implemented research work in Issyk-Kul lake and recommendations to develop strategies for lake management	No on-going systematic research in Issyk-Kul lake and Toktogul reservoir	Completed assigned research in Issyk-Kul lake and Toktogul reservoir

Status: **Corrective Action**

Progress to date: In April 2014, the International Consultant for research methods for an ecosystems approach to lake management developed four research projects to be undertaken by the four Candidate of Science students (Activity 3.4):

Project 1: Investigation of the fishery and population dynamics of commercially important fish species in Toktogul reservoir, Kyrgyz Republic, and the development of co-management strategies.

Project 2: Development of empirical fish yield predictive models for the fisheries of lakes and reservoirs of the Kyrgyz Republic.

Project 3: Conservation and management of native fish species in Lake Issyk-kul, Kyrgyz Republic.

Project 4: Population dynamics of commercially important fish species in Lake Son-Kul, Kyrgyz Republic.

Data collection was initiated in June 2014, and completed by September 2015.

Budget: USD 28,357 (Research equipment and research running costs)

Comment: In June 2015, the International Consultant for research methods for an ecosystems approach to lake management and an Inland Fisheries Officer from FAO-FIRF, Rome, visited the country to review the progress of the research programme and its applicability to fisheries management. It was established that some of the research results / quality of the data collected was insufficient to adequately complete the 4 research projects. It has therefore proved necessary to revise the research projects. In consultation with the CTA, the Director (IoB), and the students, the research projects have been revised as:

Project 1: Fisheries dynamics of the white fish (*Coregonus lavaretus*) in Lake Son-Kul.

Project 2: The efficacy of capture based fisheries in Issyk-Kul Province and options for management.

Project 3: Fisheries and population dynamics of commercially important fish species in Toktogul Reservoir and strategies for aquaculture development and fisheries co-management.

Project 4: Options for fisheries co-management and aquaculture development in Issyk-Kul Province.

Activity 3.4: *Upgrade the qualifications of at least four scientists from participating research institutions to post-graduate levels.*

Indicators	Baseline	Target
Qualified staff with skills in implementing research in lake management	Baseline information will be collected at the inception of the project	At least an additional four qualified staff in line agencies

Status: **On-Track – Behind Schedule**

Progress to date: The four students registered with the National Academy of Science to read for Candidate in Science degrees. One candidate has been selected from the GCP project (former DoF staff), one from the DoF, and two from the IoB.

Budget: no specific budget allocation

Comment: The degree programmes are delayed as a result of the need to modify the research programme and thesis titles (see Activity 3.3).

Output 4: *Trained and adequately oriented counterpart personnel who can catalyse the sustainable development of aquaculture and the management of ecosystem services of lakes and reservoirs according to the needs and aspirations of communities*

Summary: Output 4 comprises nine activities. No progress has been made with respect to four activities. The remaining five activities are on track but behind schedule. A detailed re-assessment of the activities outlined in this Output is provided in Section 5.

Activity 4.1: Develop capacity of DoF staff, provincial/district counterparts and fisheries associations, other relevant state and academic institutions in participatory planning, resource constraint assessment, and appropriate technical methods for aquaculture development and integrated water resource management.

Indicators	Baseline	Target
Trained personnel actively participating in the development of master plans and action plans for aquaculture and inland fishery development and institute farmer partnership research agenda and action plans	No skilled persons to develop action plans	At least 30 persons trained in the development of action plans in participating institutions

Status: **No Progress**

Budget: no specific budget allocation

Comment: Empirical methods to establish aquaculture carrying capacities on water bodies in the country are being developed as components of two of the student research programmes. This training comprises members of the DoF / IoB.

Activity 4.2: Development of action plans for sustainable aquaculture, their relevance in addressing the right to food, livelihoods and poverty alleviation by the provincial / district administration and DoF.

Indicators	Baseline	Target
Development plans and action plans for aquaculture and inland fishery development prepared and available in project provinces and integrated into work plans of relevant institutions	No action plans for sustainable aquaculture with relevance to addressing the right to food, livelihoods and poverty alleviation	Action plan for each project province for sustainable aquaculture with relevance in addressing the right to food, livelihoods and poverty alleviation

Status: **On-Track – Behind Schedule**

Budget: USD 7,696 (national consultants)

Comment: Two national consultants (Aquaculture and Fisheries Policy; Institutional Structure and Governance) are in the process of reviewing the Draft Aquaculture Strategy and Policy for adoption by government. The assignment includes providing guidance to the DoF for restructuring the department, and developing short (2016-17) and medium-term (2017-2025) action plans.

Activity 4.3: Preparation of plans for fisheries associations, farmer and institute based research actions to improve aquaculture and culture based fisheries productivity and lake and reservoir management initiatives by involving academic and research institutions, extension, development personnel and fisheries associations / farmers.

Indicators	Baseline	Target
Institute-farmer partnership research agenda / action plans prepared and available at relevant institutions integrated into work plans	No institute-farmer partnership research agenda and action plans prepared and available	Institute-farmer partnership research agenda and action plans for each project province

Status: **No Progress**

Budget: no specified budget

Comment: Activity under review (Section 7)

Activity 4.4: Strengthen organizational capacity of fisheries associations, including the preparation of business plans, and raise awareness among other stakeholders of the importance of, and participating in, the implementation of management and conservation action plans to sustain ecosystem services in the main water resources.

Indicators	Baseline	Target
Development plans and action plans for aquaculture and inland fishery development prepared and available in project provinces and integrated into the development planning of relevant institutions	Non-existence of aquaculture business plans and inland fishery development plans at a local level	Developed aquaculture business plans and inland fishery development plans at a local level

Status: **On-Track – Behind Schedule**

Progress to date: Based on farmer interviews and current financial indicators / costs, business plans for the Tup Fisheries Association (26 farms) have been developed. Production scenarios (extensive vs semi-intensive production) have been developed and integrated into the business cases. The models are applicable to carp farmers in other regions.

Budget: Costs subsumed into other consultant activities

Comment: Business cases for trout culture, and the operation of the feed mill and the hatcheries remain to be developed. The information required to develop these models will be collected once the mini-hatcheries and feed mills are operational and all input / production costs are established. The combined business cases will be used to formulate plans for the Fisher Associations to operate as small Agribusinesses.

Activity 4.5: Preparation of information material on relevant policies, projects, rules and regulations for the fisheries sector, in a format and language that is accessible and comprehensible to the target beneficiaries.

Indicators	Baseline	Target
Availability of information materials in appropriate formats and languages	No information material	Prepared information material

Status: **On-Track – Behind Schedule**

Progress to date: In collaboration with the technical staff at the DoF, guidelines for fish farm developments, and the classification of regions / districts according to climatic conditions are being developed.

Budget: no specific budget allocation

Comment: These guidelines need to be developed further and consideration given to including / formalising the EIA guidelines that were developed as a component of GCP/KRY/003/FIN project.

Activity 4.6: Guidance to the fisheries associations on human rights principles to avoid discriminatory practices (e.g. exclusion of certain population groups) and promote a participatory approach.

Indicators	Baseline	Target
Availability of documented guidelines	No documented guidelines	Documented guidelines

Status: **No Progress**

Budget: no specific budget

Comment: Activity under review (Section 7)

Activity 4.7: Pilot a simple grievance and complaint mechanism in the aquaculture and inland fisheries development plans to allow fishers to report on misconduct and government to adequately respond to it.

Indicators	Baseline	Target
Simple grievance and complaint mechanism is identified and developed	No grievance and complaint mechanism is identified	Developed grievance and complaint mechanism

Status: **No Progress**

Budget: no specific budget

Comment: Activity under review (Section 7)

Activity 4.8: Inform fishermen and local government on the rights and duties in relation to the tenure of fisheries making reference to international agreed standards and practices (e.g. like those recommended by the VGGT).

Indicators	Baseline	Target
Tenure of fisheries with reference to international agreed standards and practices available in appropriate formats and languages	No tenure of fisheries with reference to international agreed standards and practices	Appropriately developed tenure of fisheries with reference to international agreed standards and practices

Status: **No Progress**

Budget: no specific budget

Comment: Activity under review (Section 7)

Activity 4.9: Assess whether fisheries resources used by the fisheries association are well governed so as to ensure sustainable use, and detect potential conflicts with competitive uses at an early stage.

Indicators	Baseline	Target
Identified potential conflicts with competitive users and recommendations to as to how fisheries resource use by the fisheries associations can be well governed to ensure sustainable use	Identified potential conflicts with competitive users available, but no recommendations to as to how fisheries resources should be used by the fisheries associations	Developed recommendations as to how fisheries resources can be used by the fisheries associations

Status: **On-Track – Behind Schedule**

Progress to date: With the adoption of the modified research projects for the four research students, fisheries co-management issues and conflict resolution in Toktogul reservoir and lake Issyk-kul are now being addressed and recommendations for resource use developed.

Budget: Funding for this activity is accounted for under Activity 3.3

Comment: Activity under review (Section 7)

Output 5: Curriculum on aquaculture, fisheries and aquatic resources management improved in the Agrarian University to strengthen the human resource base

Summary: Output 5 comprises just one activity. The activity has been classified as on-track but behind schedule. The activity is approximately three months behind schedule.

Progress towards established Targets

Activity 5.1: Update and improve the existing curriculum in the Agrarian University on aquaculture, fisheries and aquatic resource management.

Indicators	Baseline	Target
Updated and improved course modules on fisheries, aquaculture and aquatic resources management available in the curriculum used by the Agrarian University. Students taking the course modules, and the availability of trained staff to teach the modules	Course modules on fisheries available at Agrarian University, but not accredited	Functional updated accredited curriculum on fisheries, aquaculture and aquatic resources management

Status: **On-Track – Behind Schedule**

Progress to date: In December 2014, the University of Eastern Finland was commissioned to develop the aquaculture and fisheries curricula for the Agrarian University. The inception and mid-term progress reports have been submitted and the curricula will be completed by June 2016 – in time for accreditation and adoption by the University for the academic year starting in September 2016. In June 2015, teaching materials for six modules of the Interim Aquaculture and Fisheries Curriculum that was developed under the GCP/KRY/003/FIN project were compiled for use during the 2015-16 academic year. During 2015, a short fisheries management course was taught by a guest lecturer from UEF, and in October 2015, the project CTA started to teach the aquaculture components of the interim curriculum. This teaching will continue throughout the 2016 academic year. These courses are being taught to both 2nd and 3rd year students. Russian fisheries and aquaculture academic texts (17 books) have been procured from Russia, and will be delivered to the University in January 2016. These will be complemented by selected English language academic texts.

Budget: US\$ 128,098

Comment: The teaching and curriculum development project will be completed by the end of the project cycle, no additional interventions are required.

Output 6: A network of extension services organized with the participation of government, farmer/fishers and entrepreneurs in the industry with the services reaching the rural areas

Summary: Output 6 comprises seven activities. One activity has been initiated and is on-track but behind schedule. No progress has been made with respect to the remaining six activities. The lack of progress is directly attributable to the delay in the commissioning of the mini-hatcheries and feed mills.

Activity 6.1: Develop capability of DoF staff and provincial/district counterparts, fisheries associations/farmers private entrepreneurs in participatory extension approaches

Indicators	Baseline	Target
Trained staff, fishers associations, farmers and fishers capable of extension delivery	No personnel trained in aquaculture extension	At least 50 personnel trained in extension methods (from participating institutions and fisheries associations)

Status: **No Progress**

Budget: no specific budget

Comment: Activity under review (Section 7)

Activity 6.2: Establish and implement farmer field schools in project districts to promote fisheries associations as extensionists and research counterparts

Indicators	Baseline	Target
Functional farmer field schools in the project locations. Farmers/fishers engaged in farmer field school approaches and discussing and sharing technical information. Field trials with support from DoF & local administrations	No farmer field schools in project provinces involved in aquaculture extension	Functional farmer field schools in project provinces involved in aquaculture extension

Status: **No Progress**

Budget: no funds spent to date

Comment: Activity under review (Section 7)

Activity 6.3: Include sessions on a human rights based approaches to development in the farmer field school curriculum (tailored to the needs of the Kyrgyz Republic)

Indicators	Baseline	Target
Farmers discuss and understand human rights based approaches to development and they promote these among their fellow farmers	No farmer field schools in the project provinces	Functional farmer field schools in the project provinces which include sessions on human rights based approaches to development

Status: **No Progress**

Budget: no funds spent to date

Comment: Activity under review (Section 7)

Activity 6.4: Train RDFs / aquaculture extension volunteers in innovative approaches and advanced aspects of aquaculture including fish seed rearing and basic extension techniques

Indicators	Baseline	Target
RDFs engage in extension delivery & function as integral components of extension networks	No farmers deliver extension	At least 12 RDFs engaging in extension delivery

Status: **No Progress**

Budget: no funds spent to date

Comment: Activity under review (Section 7)

Activity 6.5: On-farm demonstrations at RDF farms on appropriate aquaculture technologies and train other farmers

Indicators	Baseline	Target
Functional RDFs, farmers capable of effectively disseminating aquaculture management methods to other farmers and motivating them to adopt such methods	No on-farm demonstrations undertaken	On-farm demonstrations available at RDFs in the project provinces

Status: **No Progress**

Budget: no funds spent to date

Comment: Activity under review (Section 7)

Activity 6.6: Develop appropriate aquaculture extension materials, manuals and management tools including the development of input and services suppliers guides for farmers and potential farmers

Indicators	Baseline	Target
Development, adoption and implementation of technical information in manuals, farmers/fishers use input & services supplies guides to improve their practices	Four aquaculture and fisheries technical manuals available	At least four technical and training manuals are available for extension delivery

Status: **On-Track – Behind Schedule**

Progress to date: The project has draft manuals on hatchery management and feed formulation and manufacturing that need to be finalised. The CTA is also working

with DoF specialists to develop a manual mapping the environmental regions in the country and their suitability for aquaculture.

Budget: no specific budgetary allocation

Comment: All manuals should be published in both Russian and Kyrgyz.

Activity 6.7: Documented experiences and results of successful practices for further dissemination and transfer to other areas

Indicators	Baseline	Target
Improved aquaculture techniques and management have been disseminated to fellow farmers in project provinces and beyond	Few documented experiences and results of GCP/KYR/003/FIN project available	Documented experiences and results of successful practices

Status: **No Progress**

Budget: no funds spent to date

Comment: Activity under review (Section 7)

3.2 Review of standard evaluation elements

3.2.1 Project relevance

Relevance is a measure of whether the original rationale behind the Project and the objectives still are in keeping with the priorities and requirements of the national and local policy, priorities and needs, and the usefulness of the Project in this respect. The aspect covers the direction of the Project and its objectives as compared to possible social and political changes that have materialised since the Project start-up.

The review concludes that the project addresses key components outlined in the Kyrgyz Republic's National Strategy on Fisheries and Aquaculture (2008-2012), and specifically, the social, economic, ecological and institutional policy goals which are defined as:

- **Social:** To develop, improve, sustain and practice livelihood options based on the sustainable use of aquatic resources. Aquatic resources of Kyrgyzstan shall be developed and utilized to contribute to social development, poverty alleviation and food and nutrition security.
- **Economic:** To increase the contribution of fisheries and aquaculture to rural incomes, the economic development of communities and the nation, without damaging the aquatic ecosystems.
- **Ecological:** To manage the aquatic resources – lakes, reservoirs and rivers and the important fauna and flora in these aquatic bodies - so that they shall be healthy and resilient.
- **Institutional:** To provide adequate and wise policy, regulatory, research and technical support for inland fishery and aquaculture through strengthened national and community institutions.

The project is also appropriately aligned to the FAO-Kyrgyzstan Country Programme Framework (FAO-CPF) for 2015-2017. The priority results for the FAO-CPF are closely aligned to those agreed by the UN System (UNDAF 2012-2016) as well as to the priorities stated in the Sustainable Development Strategy of the Kyrgyz Republic (2013-2017). The FAO-CPF Priority Results are also consistent with FAO's respective sub-regional and regional priorities.

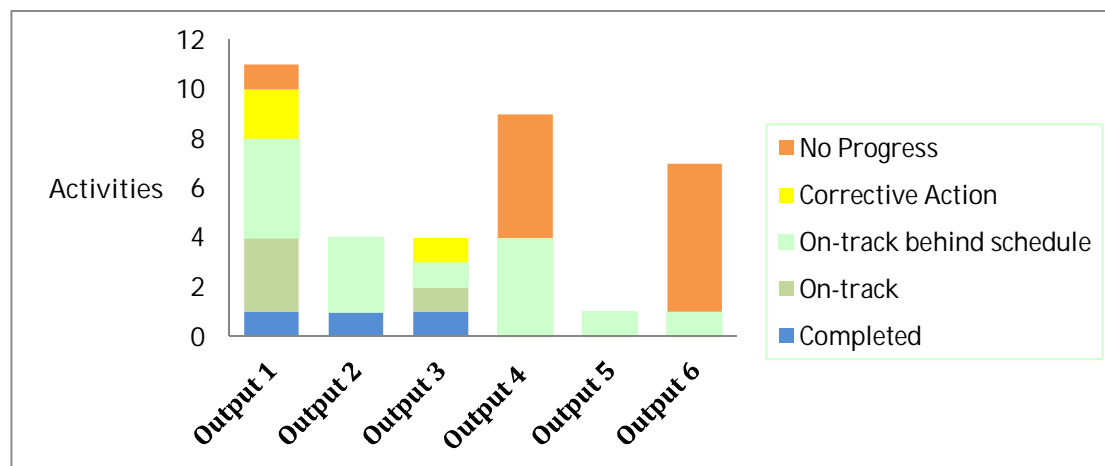
Finally, the project addresses two of FAO's new Strategic Objectives, notably SO2: increase and improve the provision of goods and services from agriculture, forestry and fisheries in a sustainable manner, and SO4: enable more inclusive and efficient agricultural and food systems at local, national and international levels.

3.2.2 Project effectiveness

The effectiveness largely describes the Project progress as compared to the work plans and budgets, and the extent to which the targets (outputs) and objectives have been achieved so far. The prospect of achievement within the remaining project period is also relevant in this case. Effectiveness is also used as an aggregate measure of (or judgment about) the merit or worth of an activity, i.e. the extent to which an intervention/project has attained, or is expected to attain, its major relevant objectives effectively in a sustainable fashion and with a positive institutional development impact.

The progress of the project activities with respect to the six outputs are presented in Figure 1. Of the 36 project activities, 3 activities (8 percent) have been completed, 4 activities (11 percent) are on-track, 14 activities (39 percent) are on-track but are behind schedule, 3 activities (8 percent) require corrective actions, and no progress has been reported for 12 activities (33 percent).

Of those activities that have reported no progress, the majority (11 of the 12 activities) accrue to Outputs 4 and 6. The program document calls for a total of 15 activities to be undertaken to complete Outputs 4 and 6. According to the original timeframe outlined in the project document, three activities (20 percent) were scheduled to start in the first year of the project, a further three (20 percent) in the 1st quarter of Year 2 (Jan – March 2015) and the remaining nine activities (60 percent) in the 2nd quarter of Year 2 (April – June 2015). As the implementation of the majority of these activities were scheduled for the first half of Year 2, it is reasonable to conclude that while delayed, the majority of the activities in Outputs 4 and 6 are generally delayed by only six months or less. Furthermore, it should be noted that the majority of the activities required to deliver Output 6 - the development of the farmer field schools and extension networks - require the commissioning of the small-scale hatcheries and feed mills.

Figure 1. Status of activities across the six project outputs

Of principle concern is therefore the delay in the commissioning of the small-scale hatcheries and feed mills (Outputs 1 and 2). The significant delays to the completion of Outputs 1 and 2 are attributable to a number of factors including the unforeseen need to appoint a new CTA in February / March 2015, the concomitant delays in the general project delivery, and more specifically, the failure of the initial international tenders to procure the hatchery and feed milling equipment that were launched in December 2014. With the finalisation of the building works for the mini-hatcheries, the completion of the renovations to the feed mill buildings, and the successful procurement of the production equipment (feed mill and hatchery equipment) now in place, it is anticipated that the hatcheries and feed mills will be commissioned in April and May 2016 respectively. Once this has been completed, it will be possible to move forward with Objective 6. Likewise, the commissioning of the mini-hatcheries and feed mills will ensure that the final activities to complete Objectives 1 and 2 will largely be completed by the 3rd quarter 2016, approximately one year later than originally anticipated.

While completion of Output 5 - the development of an academic curriculum for the Agrarian University – is slightly behind schedule, and is now scheduled for completion in the 2nd quarter 2016 as opposed to the 1st quarter 2016. It should be noted that it will still be ready in time for the new academic year starting September 2016, and thus, no significant negative impact is anticipated by the short delay in the delivery.

3.2.3 Project efficiency

Efficiency is a measure of productivity, meaning comparing inputs against outputs. The term involves the assessment of achievements/results as compared to the input of resources, meaning how economically resources/inputs (funds, expertise, time, etc.) are converted into results.

Efficiency is a difficult element to assess in any project. The project management framework has been set up according to FAO systems and procedures, and while the NPC at the Department of Fisheries provides a coordination role with respect to project implementation, monitoring and reporting, the day to day operations of the project and responsibility for all financial matters remain the remit of FAO project staff.

Efficiency in project delivery has to some extent been compromised by the need to replace the CTA in February / March 2015. Not only did this delay project activities during the 1st quarter 2015, but it has also taken some time for the new CTA to familiarise himself with the project and issues impacting project delivery. Between March – December 2015, the new CTA has been employed on a part-time basis, spending approximately 5.5 months in the country. To ensure the continuation of project management and activities during periods in which the CTA was absent from the country, the National Aquaculture Development and Research Coordinator position was upgraded to a National Project Manager post. Evidently while this arrangement has proven successful, there is some concern that the technical nature of many of the project activities requires daily input from the CTA. Taking this into consideration and in light of the high level of technical inputs required during 2016, it has been decided to employ the CTA on a more permanent basis. Thus during 2016, the CTA will be in the country on a near permanent basis (10 month contract). It is anticipated that the presence of the CTA on a near full-time basis will improve the efficiency of project delivery.

Over the project period, the FAO management team have made efforts to improve the collaborative relationship between the project team and the DoF. The National Project Coordinator (NPC - Director of Fisheries) and the CTA have regular meetings (where possible, weekly meetings) to discuss the progress and upcoming activities. The NPC is increasingly involved in attending site visits, and where appropriate, staff within the DoF are being appointed as short term National Consultants to assist in project activities. Project activities are now incorporated and integrated into the DoFs national working plan that is submitted to MoAM. The increased level of cooperation is without doubt improving the efficiency of project delivery. Examples include the procurement and delivery of brood stock material to the State Fish Farms of Ton and Uzgen, where DoF specialists were intimately involved in both the planning and physical movement of the broodstock. Another relevant example would be the revision of the country's aquaculture and fisheries policy / strategy which to a large extent is being driven by the DoF with technical input from the FAO team.

3.3.3 Project impact

Impact is a measure of all positive and negative consequences/effects of the Project, whether planned for and expected, foreseen or not foreseen, direct or indirect. Such effects could be economic, political, social, technical or environmental, both on local and national level.

At the time of the Mid-term Review, it is difficult to assess the full impacts of the project. In this case it is particularly difficult as many of the tangible impacts will only become evident once the mini-hatcheries and feed mills have been commissioned, the farmers trained and the farmer field schools developed. In particular, it will likely take some time for the capacity building activities to show impacts.

Evidently the construction of the hatchery buildings has galvanised local interest in the project and now that the populace is seeing construction progress on the ground the Fisher Associations are reporting that individuals are increasingly becoming interested in aquaculture and asking to join the Fisher Associations. While the impact

may be small, it demonstrates that the project is increasing awareness and interest in aquaculture, and bodes well for future development and investment into the sector.

With respect to institutional impacts, the major impact accruing to the project has been an increase in the profile of aquaculture and fisheries within the MoAM. In this regard the Director of Fisheries reported that during the restructuring the MoAM in 2015, it was proposed that the DoF be abolished and their function be subsumed into a new Department of Fish Breeding and Beekeeping. The continued support provided by the project was seen as instrumental to retaining the DoF as an independent entity within the MoAM.

3.2.4 *Project sustainability*

Sustainability is a measure of whether the positive effects (or assumed measurable effects) of the Project is likely to continue after the external support is concluded, meaning: will the Project process lead to long-term benefits. This is indeed for most projects may be the most important element to be assessed, so also in this case. The sustainability of a project is a measure of how the partner country will continue to pursue the objectives following termination of the project assistance, and the *probability* of continued long-term benefits.

a) Technical sustainability

Technical sustainability primarily relates to the purchase, installation and use of the mini-hatcheries and feed mills.

The mini-hatcheries have been designed as flow to waste systems in which the water gravity feeds through the production systems. There is no requirement for motorised pumps to operate the systems, and as a general comment, the tank systems are robust and easy to operate. All plumbing materials are locally sourced, inexpensive, and easily replaceable. Thus from a technical perspective, if properly maintained, the systems should remain operational for many years to come. The laboratory equipment supplied to the hatcheries is locally procured and should replacement parts be required, they should be easily available.

The design of the feed mills comprises a simple ring-dye technology that, at a global level, is commonly used for the production of aquafeeds. During the 2nd Quarter 2015, the CTA and LTO visited the Chinese equipment manufacturer that has been commissioned to supply the feed manufacturing equipment. In terms of durability, the general quality of the feed manufacturing equipment produced by the manufacturer was found to be robust and of a high quality, and while the machines require electric motors, these are easily replaceable with motors that can be sourced within Kyrgyzstan. The only concern related to the technical sustainability of the machines are the mesh screens / pellet dyes that are used. While multiple dyes have been ordered for each machine, it is likely that should they fail, they will need to be ordered from the manufacturing company, and while not expensive (US\$220 per ring dye), it may prove logistically difficult for the Fisher Associations to order and have these delivered. During the development of the business plans for managing the feed mills, it is advised that consideration be made to ensure that sufficient funds are generated and put aside to fund the acquisition of the spare parts which over time will inevitably be required.

The successful development of the brood stock programme requires long-term technical and financial commitments from the government or a donor. In this regard, while a broodstock management programme was foreseen in the project document, no budgetary allocation was made for the equipment required to develop such a programme. While the project has successfully developed a broodstock development plan and provided training and initial seed (genetic material) to initiate the programme, the time-frames required to attain coherent results from an intervention of this nature is measured in years, and are well beyond the timeframe of the GCP programme. To ensure the long term sustainability of the intervention, it is likely that further technical and possibly financial assistance will need to be provided.

b) Environmental sustainability

Environmental sustainability is addressed as a component of the research projects that focus on the development of empirical fish yield predictive models to monitor fish stocks in water bodies in the country, and use these models as a means to inform the DoF how best to manage the country's aquatic resources in a sustainable way. While considerable progress has been made with the research projects, the quality of some of the data precludes the development these empirical predictive models for some water bodies. While this is unfortunate, the data does allow for the calculation of aquaculture carrying capacities to be established, thus promoting environmental sustainability in aquaculture development.

While the environmental impact accruing to the increase in aquaculture production in the project area is not specifically addressed in the project document, the project has developed an MOU with the Finnish Environment Institute (SYKE) Project³. During the 4th Quarter of 2015, one of the FAO team joined a SYKE project sampling expedition to Lake Issyk-kul. A simple water sampling project has been developed to monitor the quality of effluent streams arising from the Ton Sate Fish Farm. While current production at the site is very low, the data can be used as a baseline to monitor future ecological impacts at the site. While the data collected to date is limited, further collaboration with the SYKE project provides an opportunity to collect data from the other project sites, and develop additional baseline datasets that can be used to monitor future ecological impacts accruing to aquaculture development in the project areas.

c) Institutional sustainability

Institutional sustainability primarily relates to the success of capacity building, training and awareness raising activities with the project partners and the communities / Fisher Associations that participate in the project. The impact of the project to enhance the institutional sustainability of the DoF was found to be positive and has been addressed in Section 3.3.3.

With respect to other institutions that the project is working with, at the Agrarian University the development of the aquaculture and fisheries teaching curricula was found to be progressing well. However, a major concern is the lack of qualified

³ The Environmental Institute of Finland (SYKE) Project within the FinWater WEI II program "Formation of a Decision-Making System Aimed at the Eco-economic Development of Issyk-Kul Lake Territory, Based on Results of Ecological Monitoring"

lecturers at the University to teach the course over the coming years. While staff from the UEF team that is developing the curriculum and the CTA is activity working to support academic teaching (mentoring lecturers) at the University, it is likely that to realise the full benefits from the development of the curriculum, the academics would need from further assistance / training after the end of the project cycle (December 2016).

To date, the five Fisher Associations and two womens' groups that are being supported by the project have demonstrated considerable commitment to the project. Notably, in terms of their labour and time inputs, and to a lesser extent, financial commitments (e.g. earth moving equipment hire, labour hire) for the construction of the hatchery facilities and pond systems. Manifestly, these groups are investing in the project, and with this comes a degree of sustainability once the project ends. However, it was noted that to date, the project has primarily been working with the chairman / leaders of the associations, with few interactions with other association members. Moving forward, there is a clear need to focus efforts to ensure that the members of the fisheries associations are provided sufficient training and mentorship such that in addition to the technical skills required to produce feed and seed, and the economic skills to ensure financial sustainability, their institutional / organisational structures are capacitated such that they are able to work as viable Associations. While these issues will primarily be addressed in Output 6, no training has as yet been provided, and as such at this stage it is not possible to determine the long-term sustainability of the Associations. Likewise, it needs to be recognised that significant buy-in from both the DoF and the demonstration farmers, and crucially the allocation of sufficient financial resources by the MoAM / DoF (or a donor), will be required to ensure that the extension networks and farmer field schools developed as a component of Output 6 become sustainable beyond the project cycle.

d) Economic / Financial sustainability

The financial sustainability of the interventions relate to the financial viability of operating the four mini-hatcheries, the three feed mills, and the Ton State Fish Farm. It was noted that in the original project document, the need to develop business plans for the operation of these facilities was not provided for, and only following the Appraisal Mission were these needs identified. While the business plan for the operation of the Ton Sate Fish Farm has been completed and the economic viability of trout hatchery production at the site demonstrated through the purchase of 100,000 trout ova for incubation, hatching and later sale to the private sector, it is evident that to fully realise that production potential at the site, further financial assistance to recapitalise the site will need to be secured by the DoF. While the provision of such funding remains beyond the remit of the current project, the demonstration of income generating activities at the site proved successful, and provides an excellent blueprint for future development activities.

Progress has been made to establish business plans for the Association farmers from the Tup Association. While these demonstrate the economic viability of carp farming, and highlight the need to intensify production technologies to increase revenues and profits there remains a need to develop specific business cases trout farming, and in addition, for the operation of the mini-hatcheries and the feed mills. Thus at the time

of the Mid-term Review, it is not possible to assess the financial sustainability of these interventions.

3.3 Interaction with other projects and projects

The project has collaborated with various other projects in the country, the most important of these are listed below:

SYKE Project: “Formation of Decision-Making System Aimed at Eco-economic Development of Issyk-Kul Lake Territory, based on Results of Ecological Monitoring”. A MOU between the two projects has been signed with the GCP providing the water quality fisheries data that was collected as a component of the research project. In 2015, baseline water quality data at one farm site was collected to monitor fish farm effluents. Consideration should be given to expanding this activity.

TCP/SEC/3402 - Strengthening Adaptation of Aquaculture and Culture Based Fisheries to Climate Change. A MOU between the two projects has been signed with the GCP providing limited material assistance and data collection services to the regional TCP programme. While there have been some problems with the data collection processes, the research data is now being used by one of the research students as the basis for their Candidate of Science degree (Objective 3).

TCP/KYR/3502 - Enhancing aquaculture production for food security and rural development through improved feed value chain, production and use. The TCP project compliments the GCP project with respect to the development of feed manufacturing capacity in the country, the formulation of aquafeeds based on locally available ingredient sources, and in the preparation of a technical manual on farm-made feed production and management. Both the CTA and LTO of the GCP project are involved in the technical delivery of the TCP programme, thus ensuring the development of effective synergies between the two.

3.4 Gender issues

While fish farming and fishing is often viewed as predominantly male activities, the project has made significant attempts to address gender issues, and encourage women to take up aquaculture as an income generating activity. In 2010, the GCP/KYR/003/FIN project assisted in the development of two women’s farmer groups in Issyk-Kul province. The current project has continued working with these groups and provided the following assistance:

1. The “Jaamat Jaz” women’s Association in Tup District comprises 13 individuals. In 2014, the project provided US\$2,500 for the construction of four fry / fingerling production ponds (2.4 ha total). It is anticipated that the ponds will be supplied with fry from the mini-hatchery in Tup (“Kolden Toru” Fisher Association), and the fish sold onto grow-out framers in Tup district. As a result of the delay in the commissioning of the mini-hatchery and the concomitant lack of fry for stocking, during summer 2015, the project purchased 400,000 grass carp fry to initiate production by the Association. These fingerlings will be ready for sale in spring 2016.
2. The “Shahrezada” women group was formed under the “Issyk-Kul Balygy” Fisheries Association, Ton. The group comprises 8 women and has 4.35 ha of ponds

for fry / fingerling production. To date, the members have developed a business plan and participated in the broodstock management training. It is anticipated that in summer 2016, and with the support of the project, they will use fry sourced from the mini-hatchery at the “Issyk-Kul Balygy” Fisheries Association to initiate production.

The project has actively sought the inclusion of women in the training projects. In October 2014, carp brood stock management training was provided. Of the 22 personnel trained, 11 (50 percent) were women. Likewise in April 2014, carp hatchery training was provided at the Ton State Fish Farm. Of the 13 participants, five (38.5 percent) were women.

3.5 Financial Management, expenditures and auditing

The responsibility for financial management and procurement is the remit of FAO and follows the standard FAO financial rules, regulations and reporting requirements.

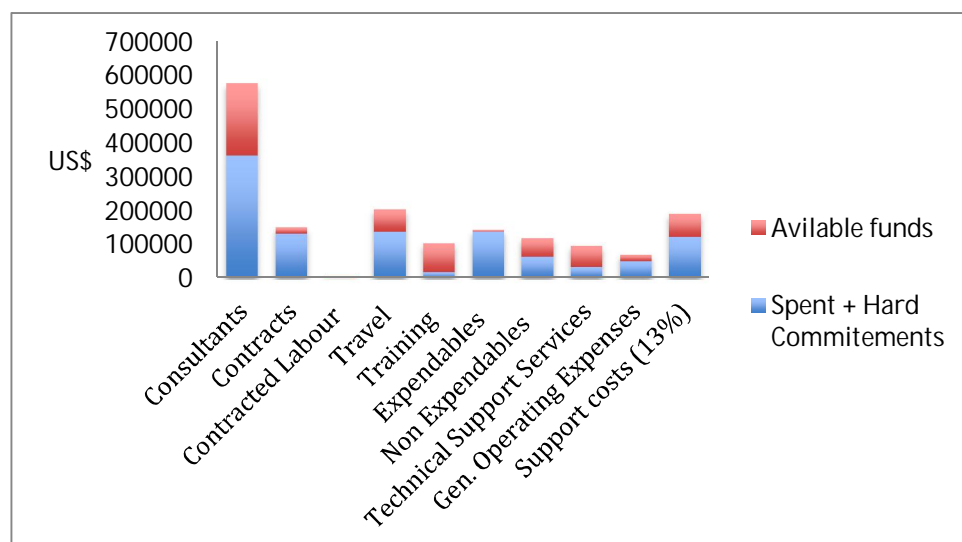
As outlined in Section 1.2.2, during project conceptualisation (January 2014), the prevailing Euro to US Dollar exchange rate was used to estimate the budget available to the project. Over the project period the euro has devalued by 22 percent against the US Dollar⁴. This devaluation has resulted in a currency exchange loss of US\$323,005, equating to a 16% reduction in available funds. The original and revised budgets are presented in Table 1. The major budget revisions and cost savings that had to be made to account for the shortfall in available funds accrued to the travel budget that was cut by USD122,800 (37 percent), the expendable / non expendable items that were cut by USD 66,545 (32 percent), the training that was cut by USD 32,500 (24 percent), and the consultants budget that was cut by USD 64,000 (12 percent). With respect to the expendable / non expendable budget allocations, the cost of the equipment has proven significantly lower than estimated in the original project document (Appendix 2), and as a result, it has been possible to reallocate USD120,000 from these accounts to the consultancy budget, thus ensuring that no significant changes need to be made to the financial resources allocated to consultants. The reduction in the training budget by US\$32,500 (24 percent) is of concern as this impacts the resources available for training. As there is no further funds required for contracts (available funds: USD17,933), and all major procurements are now accounted for (expendable and non-expendable available funds: USD 61,275), consideration could be given to reallocating US\$32,400 from these budget lines to ensure that the original training budget remains at USD 136,000.

⁴ January 2014: US\$ 1= €1.34; November 2015 US\$ 1= €1.05
<http://www.xe.com/currencytables/?from=USD&date=2015-11-30>

Table 1. Project budget, original budget, revised following currency depreciation and available funds (November 2015).

Budget line	Original Budget (USD)	Revised Budget (USD)	Spent + hard commitments (USD)	Available funds (USD)
Consultants	522,453	578,453	364,328	214,125
Contracts	150,000	150,000	132,067	17,933
Contracted Labour	5,000	5,000	573	4,427
Travel	327,594	204,794	138,492	66,302
Training	136,000	103,500	18,504	84,996
Expendables	192,488	142,488	137,754	4,734
Non Expendables	256,012	119,467	62,926	56,541
Technical Support Services	96,250	96,250	33,401	62,849
GOE	67,753	67,753	49,646	18,107
GOE External	1,503	1,503	642	861
Support costs (13%)	228,157	190,997	121,983	69,014
Total (USD)	1,983,209	1,660,204	1,060,316	599,888

As of November 2015, and taking in to consideration the budget revision, monies spent and all hard financial commitments, the project reported an expenditure of USD 1,060,316, equating to 64% of the available budget. The expenditure leaves a positive balance of USD 599,888 for the remaining 13 months of the project. The available and spent funds are presented numerically in Table 2 and graphically in Figure 2. Of the major budget lines, consultant costs accounted for USD 364,328 (34.4 percent of budget), contracts (primarily the contract with UEF to develop the teaching curriculum) accounted for USD 132,067 (12.5 percent of budget), travel USD 138,492 (13 percent of budget), and expendable and no-expandable costs (primarily procurement Appendix 2) accounted for USD 200,680 (18.9 percent of budget). Technical support costs (backstopping from FAO Rome) accounted for USD 33,401 (3.2 percent of budget), and general operating costs USD 49,646 (4.7 percent of budget). Support costs were recoded at 11.5 percent of the budget, lower than the 13 percent originally envisaged. It should be noted that only USD 18,504 (1.7 percent of budget) has been spent on training which is testament to the delays in the training programmes, precipitated by the delays in the installation of the mini feed mills and hatchery facilities. It is anticipated that once all the training has been completed, a minimum of USD103,050 (8.9 percent) will be spent on training. Assuming that a budget revision described above is authorised, this will be increased to USD136,000 (11.4 percent of the budget).

Figure 1. Available and spent funds (USD)

4 Conclusions

In summary, the project is found to be highly relevant to the development and management of the aquaculture and fisheries sectors in the country. It is appropriately aligned to the Kyrgyz Governments' stated development goals for the sector, and notably, the focus to support the private sector (Fisher Associations) through the installation of feed and hatchery production capacity and the associated training will undoubtedly result in significant and measurable increases in national fish production. The technical and material support provided to government with respect to the improvements in the quality of fish available to farmers in the country and the development of a viable policy / strategy and the associated restructuring of the department should result in an improved ability of government to promote sector development. Likewise, the development of a viable aquaculture and fisheries training course at the Agrarian University is likely to have a positive impact on the development of a new cadre of trained personnel who can meaningfully contribute to the development of the industry.

Notwithstanding the positive impact, there is concern that many of the project activities are behind schedule. The delays in project delivery are principally attributed to the following:

1. Replacement of the CTA in March 2015.
2. The failure of the initial international tenders to procure the hatchery and feed manufacturing equipment, and the concomitant 1 year delay in the installation.
3. Between January 2014 and October 2015, the depreciation in the euro against the US dollar resulted in a reduction in available funds of US\$323,005.

Clearly, 2016 represents a critical year for project delivery, and in this regard, it is important to note that while no further delays in project delivery are envisaged, there

remains a considerable body of work to complete during the remaining project period. Consideration should therefore be given to authorising a nine month no-cost extension to allow time to complete all project activities, and realise the full potential of the donor's investment (Section 5).

5 Recommendations

Following the review analysis, the following recommendations should be considered:

1. Implement a nine month no-cost extension to the project. A nine month no-cost extension would extend project delivery until September 2017. The rationale for the extension is as follows:

a) Strengthen the Fisher Associations: under the original project framework, the Fisher Associations would have benefitted from two production years (2015, 2016) within which they could work with the project specialists to familiarise themselves with, and optimise their use of the introduced production technologies. The delay in the commissioning of the feed mills and hatchery systems has resulted in the Fisher Associations effectively losing the 2015 production season. This loss significantly reduces the amount of time that the project staff can provide on-going training activities / technical support to ensure the uptake of the technologies – in itself this may significantly impact the efficacy and long term sustainability of Outputs 1 and 2. A no-cost extension until September 2017 would effectively mean that the project specialists could assist the Fisheries Associations over two production seasons, and by doing so, significantly improve the prognosis for the long-term sustainability of these interventions. The additional production year would also provide an opportunity to strengthen the farmer field schools and extension networks, thus improving the prognosis for their long term sustainability. Furthermore, the extended period would provide an additional opportunity for the farmers to show that they can operate financially sustainable production facilities, and possibly provide an opportunity for them to explore additional financing to grow their operations through funding sourced from local banks or Government funded financing programmes.

b) Research students (Candidate of Science Degrees): the mid-term review identified the research project (Output 3, Activities 3.3, 3.4) as requiring Corrective Action. The need to refocus the research project and make substantive changes to two of the student research projects and completely redesign a third, has inevitably resulted in significant delays to the students' progress. Evidently the capacity within the IoB, KNAU or the DoF to provide academic mentorship is low, and thus it is essential that continued support is provided by the project staff and the associated international consultants. Extending the project period by 9 months will provide the students with a further 21 months access to project specialists and mentorship support. Clearly, such a proposal will significantly increase the likelihood that they will complete their studies and attain their degrees.

c) Strengthen teacher training at the Agrarian University: the review identified the lack of trained teachers to deliver the new aquaculture and fisheries curriculum as a significant obstacle to delivery and the long-term sustainability of the intervention. The new curriculum will be available to the University for the academic year starting in September 2016. Should the project close in December 2016, project staff will only

be available to assist with the deployment / teaching of the curriculum for the first three months of the academic year. An extension to September 2017 would enable project staff to assist with the teaching of the curriculum throughout its first year of use.

2. It is recommended that all training materials are published in both Russian and Kyrgyz languages. Kyrgyz represents the mother tongue for many of the Fisher Association members / farmers, and presenting the training materials in Kyrgyz will likely improve learning outcomes.

3. To date much of the assistance / guidance provided to the Fisher Associations has focused on just a few individuals within each association, and in some cases, there has been minimal interaction between the project and other association members. Where possible, training needs to be expanded to ensure the wider participation of Association members. In addition, there is a need to ensure that Fisher Associations are operating according to their mandates / charters, and that all members have access to the project resources and benefit from the interventions.

4. During the CGP/KYR/003/FIN project, nine Fisher Associations were developed. Of these, five are being supported by the current project. A number of members from the associations that are not being supported by the current project have expressed a desire for technical assistance / training. It is recommended that the scope of the technical training be expanded to include these groups / individuals, and in addition, to formally include the two women's groups that the project is supporting.

5. Marketing of fish products / market access appears to be absent from the planned assistance provided to the Fisher Associations. Marketing issues should be investigated and included as an integral part of the business plans being developed. Based on geographical locations and nearby markets, the market opportunities for the individual Fisher Associations / farmers should be identified by the project.

6. Consideration should be given to the reallocation of funds from the contracts and the expendable / non-expendable budgets to shore up the training budget such that all the training that was outlined in the original project document remains appropriately funded.

7. Revision to the scope of Output 4. In light of the financial constraints resulting from the depreciation of the euro against the US dollar over the project period, there is evidently a rationale to reduce the scope of some of the project activities. The review established that due to the delays in the project, minimal or no progress been reported for some of the activities outlined in Outputs 4⁵ and 6⁶. Output 6 primarily relates to the development of extension networks, materials and farmer field schools and should be viewed as critical to training and the dissemination of the project results / findings. It is advised that this Output is retained in its current format. In contrast, Output 4 addresses a wide number of disparate issues, many of which are

⁵ Output 4: Trained and adequately oriented counterpart personnel who can catalyze the sustainable development of aquaculture and management of ecosystem services of lakes and reservoirs according to the needs and aspiration of communities

⁶ Output 6: A network of extension services system organized with the participation of government, fisheries associations/farmers and entrepreneurs in the industry with its services reaching the rural areas

also addressed as components of other project outputs. Table 2 provides a recommendation and rationale for revising Output 4. The revision calls for the reduction in number of activities from nine activities to four, and the concomitant incorporation of some activities into existing activities being addressed by other Project Outputs.

Table 2. Recommended revisions to Activities in Output 4.

Activity	Rational for Review	Revised Activity
<i>Activity 4.1:</i> Develop capability of DoF staff, provincial/district counterparts and fisheries associations, other relevant state and academic institutions in participatory planning, resource constraint assessment, and appropriate technical methods for aquaculture and integrated water resource management	Fisheries resource constraints issues on Sonkul, Issyk-kul and Toktogul lakes are being addressed as components of the research project. Technical approaches to determining aquaculture carrying capacities are also being addressed under the research project. The activity calls for the training of 30 personnel which is unrealistic given that no formal training project has been developed. It is recommended that the activity is curtailed on the understanding that much of it is already being assessed by the research project.	No scheduled activity
<i>Activity 4.2:</i> Development plans / plans of actions for sustainable aquaculture, their relevance in addressing the right to food, livelihood and poverty alleviation by the provincial/district administration and DoF	A review of the draft aquaculture strategy / policy and a plan for the restructuring of the DoF is currently being undertaken. Short (2016-17) and medium-term (2017-2025) action plans for the DoF are being developed. The plans can address the provision of guidance to provincial and district administrations, but the project should no longer develop specific administrative plans for local level administrators.	<i>Activity 4.2:</i> Review and update the draft aquaculture strategy and policy for adoption by government. Provide guidance to the DoF for restructuring the department, and develop short-term (2016-17) and medium-term (2017-2025) action plans.
<i>Activity 4.3:</i> Preparation of plans for fisheries associations, farmer and institute based research actions to improve aquaculture and culture based fisheries productivity and lake and reservoir management initiatives by involving academic and research institutions, extension, development personnel and fisheries associations/farmers.	Components of the existing research project focus on improving aquaculture and culture based fisheries. The technologies that are being promoted by the project are well established and are thus essentially technology transfers. The need to develop fisheries association / farmer based research plans is therefore tenuous, and as there is minimal technical capacity at research institutions to undertake the work. It is advised that the activity is removed from the project	No scheduled activity
<i>Activity 4.4:</i> Strengthen organizational capacity of fisheries associations, including the preparation of business plans, and raise awareness among other stakeholders of the importance of and participating in the implementation of management and conservation action plans to sustain ecosystem services in the main water resources.	Business plans are being developed for the mini-hatcheries, feed mills and the farmer associations. The management and conservation action plans to sustain ecosystem services in main water resources are being addressed for Lake Issy-kul, Sonkul and Toktogul as components of the existing research project. The researchers on Issyk-kul and Toktogul are liaising with the fishing communities to develop fisheries co-management systems. Thus, this component of the action plans for ecosystems services is already being addressed in other project components and thus it is recommended that these components are removed from the activity.	<i>Activity 4.4:</i> Strengthen organizational capacity of fisheries associations, to include the preparation of business plans.

<i>Activity 4.5:</i> Preparation of information material on relevant policies, projects, rules and regulations for the fisheries sector, in a format and language that is accessible and comprehensible to the target beneficiaries.	It is advised that this component of the project remains in its current format.	<i>Activity 4.5:</i> Preparation of information material on relevant policies, projects, rules and regulations for the fisheries sector, in a format and language that is accessible and comprehensible to the target beneficiaries.
<i>Activity 4.6:</i> Guidance to the fisheries associations on human rights principles to avoid discriminatory practices (e.g. exclusion of certain population groups) and promote a participatory approach.	Based on Fisher Association charters, the fisheries Associations have been formalised as legal entities, but minimal focus has been given to their function. With the introduction of significant resources (feed mills and hatcheries), it is necessary to ensure that the associations are functioning according to their charters, and where necessary, provide remedial training.	<i>Activity 4.6:</i> Guidance to Fisheries Association to operate in a democratic, transparent and economically sustainable manner.
<i>Activity 4.7:</i> Pilot a simple grievance and complaint mechanism in the aquaculture and inland fisheries development plan to allow fishers to report on misconduct and government to adequately respond to it.	Grievance and complaint mechanisms should be included as a component of Activity 4.6	No scheduled activity
<i>Activity 4.8:</i> Inform fishers and local government on the rights and duties in relation to tenure of fisheries making reference to international agreed standards and practices (e.g. like those recommended by the VGGT)	Fisheries tenure issues / VGGT will be addressed as components of the development fisheries co-management systems that are being developed as components of the research projects (for Lake Issyk-kul and Toktogul reservoir).	No scheduled activity
<i>Activity 4.4:</i> Assess whether fisheries resources used by the Fisheries Association are well governed as to ensure sustainable use of it and detect potential conflicts with competitive uses at an early stage	Fisheries resource use is being addressed as components of the development of fisheries co-management systems that are being designed as components of the research project (for Lake Issyk-kul and Toktogul reservoir).	No scheduled activity

Appendix 1 Terms of Reference for the mid-term review

Terms of Reference

Mid-Term Review

Towards Sustainable Aquaculture and Fisheries Development in the Kyrgyz Republic GCP/KYR/012/FIN

1. Objective and Scope of the Review

The mid-term evaluation is designed to provide a review of efficiency and effectiveness of the GCP project implementation in terms of achieving the stated project objectives, outcomes and outputs. It is understood that during the first phase of the project, a combination of unforeseen changes to the project management structure and the depreciation in the value of the euro have significantly impacted both the rate of project delivery, and the available operational funding. In view of these changes, the mid-term review provides an opportunity to assess the projects' progress to date against the stated objectives and outcomes, and to provide strategic recommendations to improve implementation for the remaining period. In light of the reduction in the available project budget, a financial assessment of the current and future project activities needs to be undertaken, and to ensure that the core project goals and objectives are achieved, necessary changes to project outputs and activities may be recommended.

Specifically the review will assess:

1. The relevance, efficiency, effectiveness and results of the project to date;
2. The technical quality of the outputs produced thus far;
3. The likely sustainability of the results / outcomes thus far, with particular reference to the long terms viability and sustainability of the Fisher Associations, the broodstock project, and the mini-hatchery and feed mill production systems;
4. The need to revise the project work plan and budget for the remainder of the project period (31st December 2016);
5. The technical desirability and financial feasibility for proposing a no-cost extension to December 2017;
6. Gender issues and the impact on women.

2. Methods

Mid-Term Review will be conducted as an in-depth reflection of project progress and be used to provide an indication of future priority actions. The evaluation will be undertaken as a self evaluation, and will liaise closely with the on-going FAO-OED Country Project Evaluation that is currently assessing the efficacy of all the FAO-KG aquaculture and fisheries interventions for the period 2010-2015. The GCP/KYR/012/FIN Chief Technical Advisor (Dr Tom Shipton) will lead the evaluation process, assisted by the National Project Coordinator (Ms Mairam

Sarieva). A national consultant (monitoring and evaluation) will be employed to review the project documentation and progress to date. The consultant will also work closely with the OED assessment team, and where appropriate, incorporate the data generated by the OED fisher surveys and key stakeholder interviews into the review processes. The development of remedial recommendations will be undertaken in consultation with the Lead Technical Officer (Dr Mohammad Hasan).

The findings of the review will be based on the following:

1. A desktop review of project documents including, but not limited to:
 - a) The project document and monitoring reports (including the six monthly progress reports, Steering Committee meeting minutes and budget reports)
 - b) A technical review of all consultancy reports, and procurement.
 - c) A review of the project design, indicators and targets (see Appendix 1)
 - d) A review of project budgets and analysis of the cost effectiveness of interventions to date.
2. A review will be undertaken of the independent key informant interviews undertaken by the OED evaluation team to establish progress to date and to establish future stakeholder needs. To include:
 - Department of Fisheries under MoAM.
 - Institute of Biology.
 - National Agrarian University.
 - Local authorities (at district level, Asku, Tup, Ton and Toktogul)
 - Fisher Associations (Asku, Tup, Ton and Toktogul)
3. A review of the findings of the OED survey of the Fisher Associations (including gender issues).

3. Mid Term Review report format

The Mid-term Review report will outline what was evaluated and the methods used. The report will highlight any methodological limitations, identify key concerns and present evidence-based findings, consequent conclusions, recommendations and lessons. Evidence, findings, conclusions and recommendations will be presented in a complete and balanced manner. The review report shall be written in English, and be of no more than 40 pages (excluding annexes). It will comprise:

- i) An **executive summary** providing a brief overview of the main conclusions and recommendations of the review;
- ii) **Introduction and background** giving a brief overview of the project;
- iii) **Scope, objective and methods** presenting the purpose of the review, the assessment criteria used and issues to be addressed;
- iv) **Project Performance and Impact** providing factual evidence relevant to the review and the interpretations of such evidence. This section represents the main substantive section of the report;

v) **Conclusions** of project implementation success providing the concluding assessments. This section will present a concise synthesis of main findings in the preceding sections of the report and will draw conclusions regarding the relevance and adequacy of the project objectives and design, the efficiency in project execution and effectiveness in reaching the intended objectives (the production of outputs, the probable effects and impact, the sustainability and replicability), strengths and weaknesses of the design and implementation of the project. The findings will provide a clear basis for the recommendations which follow.

vi) **Recommendations** suggesting actionable proposals regarding improvements that can benefit the project in its remaining lifespan. Clear recommendations that primarily aim to enhance the likelihood that project impacts will be successful. This section will include a revised workplan and budget, and should summarise major changes required to the planned inputs and outputs, and budgets, and if applicable, the outcomes required to meet the objectives.

viii) **Annexes** The revised workplan and budget. The budget will include a breakdown of actual expenditures against activities, and the current status and expenditure relating to the project.

4. Timeframe

The review will be undertaken over a six week period to coincide with the on-going FAO-OED Country Project Evaluation in the Kyrgyz Republic. The review will commence on 21st September and be completed by 31st October.

Appendix 2 Expendable and non-expendable expenses

Item	Cost (USD)
Laboratory equipment / chemicals	32,728
Feed manufacturing equipment	33,783
Hatchery equipment	54,400
Building materials (hatcheries and feed mills)	60,069
Broodstock / fry for stocking	1,731
Fish feed	4,766
Office supplies (equipment / stationary)	7,658
Publications / books	4,225
Miscellaneous	1,320
Total	200,680
