



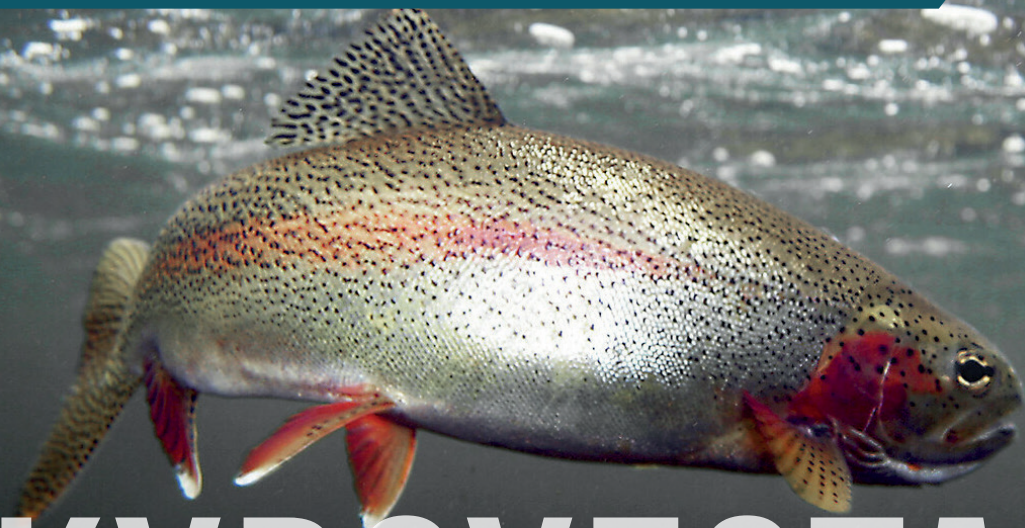
NATIONAL INVESTMENTS AUTHORITY  
UNDER THE PRESIDENT  
OF THE KYRGYZ REPUBLIC



Organization for Security and  
Co-operation in Europe  
Programme Office in Bishkek

# COLD- AND WARM-WATER FISH FARMING PROJECT

«ICHKE-BULUN BALIGY» AGRICULTURAL MARKETING  
COOPERATIVE



# KYRGYZSTAN



### **Project Initiator:**

«Ichke-Bulun Balygy» AMC

### **Brief Project Description:**

The project aims to construct a hatchery, pools, a dam, a weir, a feed mill, and fish processing facilities. The company is located 25 km from the Karakol regional center in Ichke-Bulun village of Jeti-Oguz district of Issyk-Kul region.

Within the first stage of the project a hatchery will be opened for breeding fry. The second stage involves pools construction with closed water supply system for commercial fish farming. In the long term, it is planned to breed fish using the cage method in Lipensky arm of Issyk-Kul Lake.

The following income generating activities are planned by the cooperative: sale of fry, fish, red caviar, processed fish.

### **Project Initiator Description:**

The project was initiated by the Ichke-Bulun Balygy Agricultural Marketing Cooperative operating since 2019. At the moment the Cooperative has 68 ha of ponds with ready breeding stock, 170 ha on Lipensky arm of Issyk-Kul Lake for cage fish farming and 7 members who co-finance the construction from their own funds

### **CEO: Atantai Kadyrbayev**

- Total experience in the fishing industry of 45 years
- Experience in local trout caviar incubation
- Experience in producing live feed, developing nutritional diets
- Scientific papers and two published books on fish farming

### **Project cost - \$1, 366, 420**

- Construction - \$92,593
- Equipment and machinery - \$809,568
- Refrigeration and freezer - \$61,728
- Construction of machine-shop- \$250,000
- Planting material and feed - \$402,530

### **Investment required - \$1 307 597**

### **Payback period - 1.53 years**

# PROJECT DESCRIPTION

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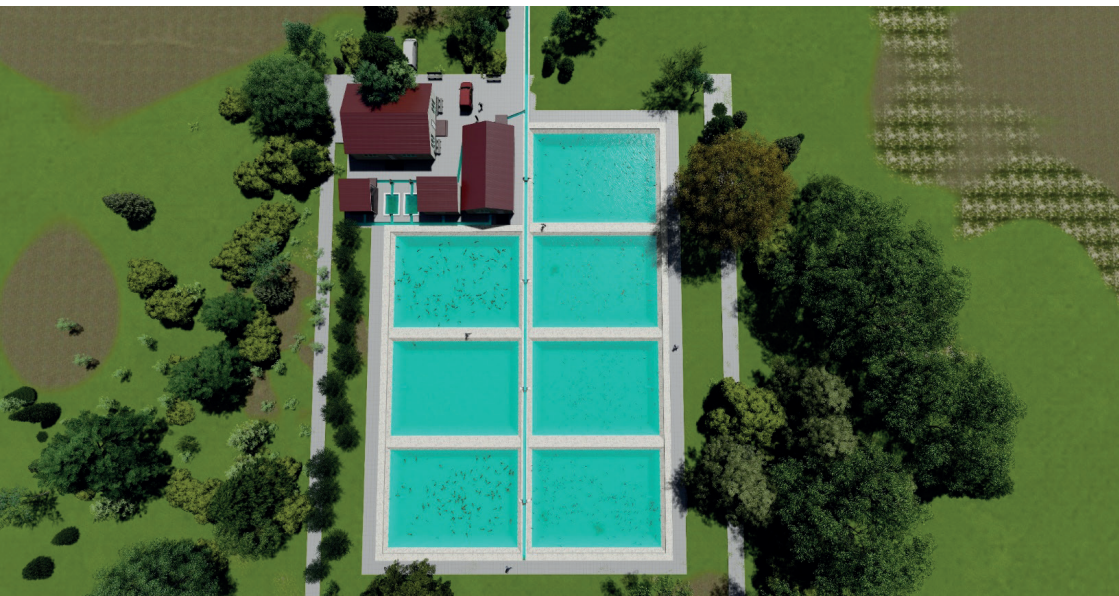
The following fish species will be used for farming:

- ✓ Trout
- ✓ Salmon
- ✓ Carp, common carp, silver carp
- ✓ Grass carp

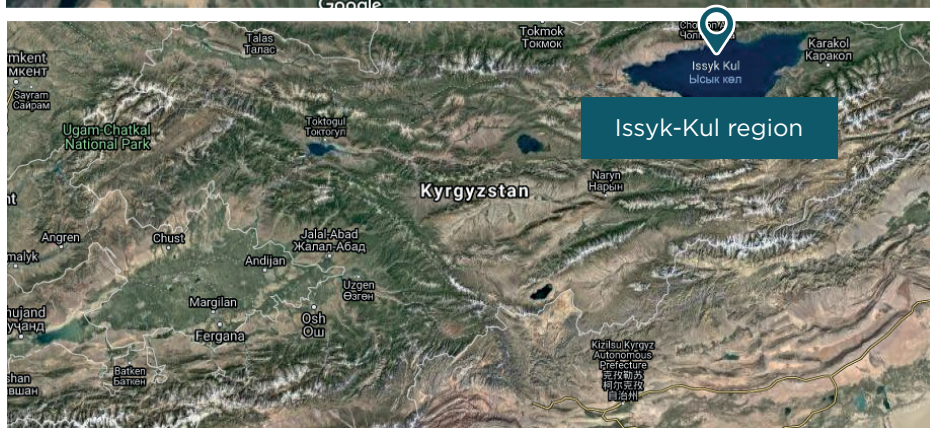
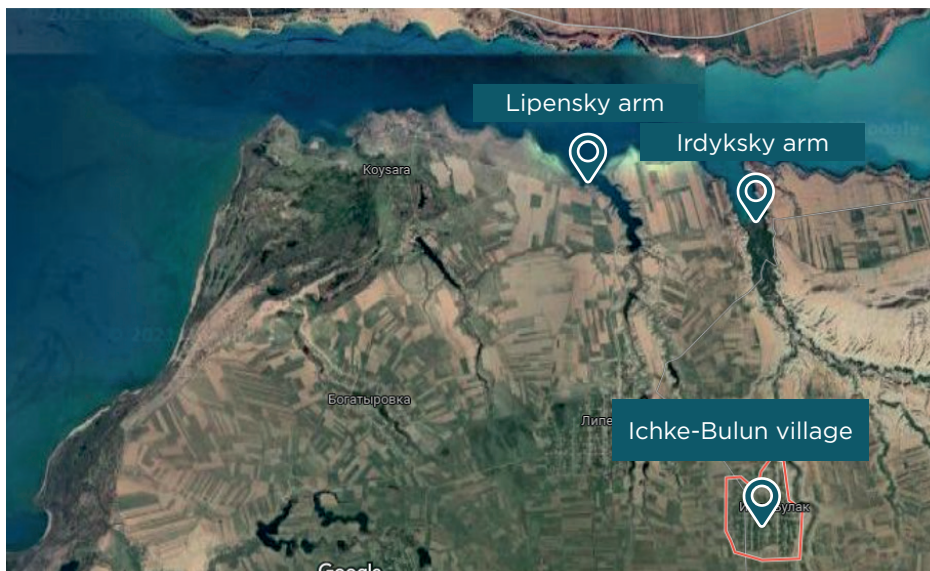
In the long term, it is planned to breed fish using the cage method in the Lipensky arm of Issyk-Kul Lake.

The following income generating activities are planned by the cooperative:

- ✓ Farming and sale of fry in the first 2 years after the launch
- ✓ Farming and sale of fish from the 2nd year after the launch
- ✓ Sale of red caviar from the 3rd year after the launch
- ✓ Fish processing (smoking, fillet) from the 3rd year after the launch



# GEOGRAPHIC LOCATION



# PROJECT INITIATOR

The project was initiated by the Ichke-Bulun Balygy Agricultural Marketing Cooperative operating since 2019. At the moment the Cooperative has 7 members who co-finance the construction from their own funds.

## **Currently, the Cooperative has in lease:**

- ✓ Land plot of 2.4 hectares for the fish farm construction. Two hatcheries have already been built and equipment purchased.
- ✓ Eight ponds of 68 ha.
- ✓ Tegirmen - 20, 7 ha
- ✓ Saz - 5 ha
- ✓ Samat-Kol - 1.6 ha
- ✓ Kaynar - 1,2 ha
- ✓ Uzun - 25 ha
- ✓ Orto - 1,3 ha
- ✓ Gryaznoye - 4.8 ha
- ✓ HPP - 4.9 ha

Members of the cooperative have meticulously worked on providing fry food, preventive treatment, and disinfection measures in the ponds.

- ✓ 170 hectares in Lipensky arm, which makes it possible to start cage fishing and reach industrial volumes for export.



# MANAGEMENT TEAM



## ATANTAY KADYRBAYEV

Chairman of the Board

- ✓ Graduate of the Dmitrov Fishery Technological Institute, Moscow region, with major in Ichthyology and fish farming. Kyrgyz State University, Industrial planning major.
- ✓ Total experience in the fishing industry of 45 years
- ✓ Experience in local trout caviar incubation
- ✓ Experience in producing live feed, developing nutritional diets
- ✓ National expert and consultant for UN FAO in 2015-2016

### **Scientific papers and two published books on fish farming**

- ✓ Trout farming in Issyk-Kul Lake and salmonids farming in ponds, pools, cages and caviar incubation
- ✓ Methodology, biotechniques of endemic fish farming in Issyk-Kul Lake (Scaleless osman, Chebak, Issyk-Kul marinka)
- ✓ Director of PF Fish Farmers and Fishermen Association of Jeti-Oguz district

# SUSTAINABLE COMPETITIVE ADVANTAGES

- ✓ **Extensive experience in fish farming.** The Chairman of the Cooperative Board is a qualified ichthyologist with more than 45 years of experience in fish farming. He also published two books on trout farming and endemic fish farming methods in Issyk-Kul Lake.
- ✓ **Own resources.** The Cooperative took seven ponds with a total area of 68 hectares for a 30 year-lease. At the moment, the ponds are used to get the breeding stock, from which the caviar will be extracted for further incubation.
- ✓ **Export opportunities.** The cooperative has also taken 170 hectares of Lipensky arm for a 30 year-lease, where cage fish farming will potentially be launched. This area allows for industrial-scale fish farming, opening opportunities for exports to the EEU, Europe, and the Persian Gulf.
- ✓ **Construction of hatcheries in progress.** The Cooperative has already built two hatcheries and purchased the necessary fry incubation equipment. The land plot, which is leased for 10 years, has an area of 2.4 hectares, including a spring to be used as a source of clean running water. All permits for construction have been received.
- ✓ **Organic production.** Only spring water will be used for fish farming. Fish farming will be done in natural environment of Lipensky arm. All feed for fish farming will be produced by the Cooperative and exclusively of organic ingredients.



# HISTORICAL PROJECT PRODUCTION AND FINANCIAL INDICATORS PERFORMANCE INDICATORS

Established in 2019 the Cooperative has not yet engaged in commercial activities. Due to limited access to financial resources, the Cooperative relies on its own available funds. In 2020, due to the COVID-19 pandemic, construction was suspended, with no available funds left to complete construction works.

A total of 5 million KGS was invested in the construction of three buildings, a dam and incubation facilities for cold- and warm-water fish eggs.

## Unit

Three buildings

Dam

Atkins hatchery machine икры холодноводных рыб

Weiss hatchery machine for warm-water fish eggs



# FORECAST PROJECT PRODUCTION AND FINANCIAL INDICATORS

Sales plan in kind	1 year	2 year	3 year	4 year	5 year	6 year	7 year
Caviar fry, thousand pcs.	240	280	320	360	400	440	480
Marketable fish, tons	0	50	100	150	200	250	300
Red caviar, tons	0	0	13	20	31	50	81
Processing, tons	0	0	180	216	270	338	425

Key financial indicators, USD.	1 year	2 year	3 year	4 year	5 year	6 year	7 year
Sales	14 118	134 118	1 294 118	1 684 706	2 236 471	3 142 118	4 503 529
EBITDA	-71 629	-26 129	637 529	836 494	1 083 976	1 546 518	2 248 329

- ✓ IRR 32.03%
- ✓ Payback period 1.53 years, Discounted payback period 2.36 years

## FUNDING SOURCES AND USE OF FUNDS

Funding sources	Amount, USD
Financial investor	1 307 597
Project initiator	58 823
<b>Total:</b>	<b>1 366 420</b>

Use of funds	Amount, USD
Construction	92 593
Cage culture equipment	175 000
Fish processing equipment	617 284
Freezer rooms	61 728
Machinery	17 284
Seeding	39 259
Feed	349 691
Other	13 580
<b>Total:</b>	<b>1 366 420</b>

# BRIEF OVERVIEW OF THE FISH MARKET IN KYRGYZSTAN

The total area of lakes, reservoirs, ponds available and suitable for fishing and aquaculture activities in Kyrgyz republic exceeds 701,100 hectares. There are more than 70 fish species in country's water bodies, but only a limited number of species have commercial value. To the moment there are no science-based assessments of the available fish resources in large fishery reservoirs. According to experts, the possible natural fish farming capacity of large lakes and reservoirs for commercial fishery could be estimated from 0.5 to 7.5 kg/ha, depending on the natural food base.

Previous measures on acclimation of valuable fish species in large fishery reservoirs of the Kyrgyz Republic have significantly improved the capacity of water bodies. However, fish farming capacity of large lakes and reservoirs has decreased in recent years. Unsustainable fishing, mass poaching, failure to take sufficient measures for the artificial fish reproduction had a negative impact. The moratorium on fishing in Issyk-Kul and Son-Kul lakes, introduced in 2008 in order to restore fish resources, did not yield the expected results.

In the commercial fish farming structure, fish farming in ponds and reservoirs has significantly increased in recent years due to increased use of water bodies for fishery purposes. At the same time, due to legislative restrictions, cage fish farming has sharply decreased. Total fish production in all sectors of the fishery complex reached a maximum of 2,577 tons in 2018.

Commercial fish farming dynamics	2013	2014	2015	2016	2017	2018	2019
Fish crop, tons	654,0	805,3	1100,3	2020,0	2138,4	2577,0	3028,4

In volume terms, commercial fish farming in the Kyrgyz Republic increased from 1,100 tons to 3,028 tons between 2016-2019, an increase of 50%.

**Production.** Gross output of «fisheries» in 2019 reached KGS 402.0 million or 0.2 percent of the total output in agriculture sector in the Kyrgyz Republic. Fish farming has undergone significant changes in the last few years. After a period of relatively stable production during 2010-2015 not exceeding KGS 45-65 million, a period of gradual growth started since 2016, reaching KGS 402 million by the end of 2019.

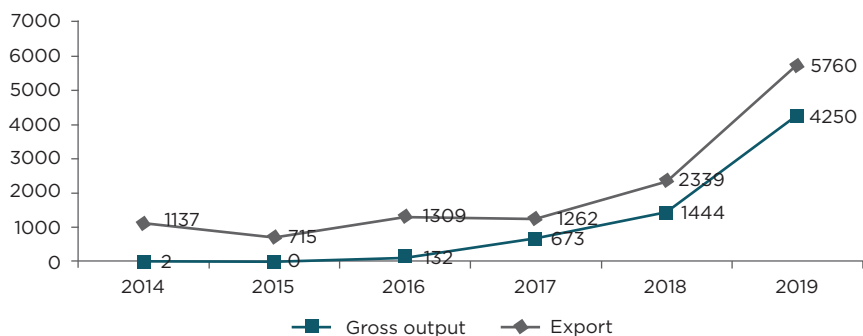
An important feature of this growth is the proportional increase in exports. The diagram shows growing output of fishery products almost going in line with exports.

**Consumption.** According to the average physiological norms of staple foods consumption for the population of the Kyrgyz Republic, at least 9.1 kg of fish should be consumed per year. According to subsistence minimum, for the main socio-demographic groups in the Kyrgyz Republic, the minimum set of essential foods includes fish (pike-perch) - 0.35 kg per month (4.2 kg per year).

Currently, per capita consumption of Fish and fish products in Kyrgyzstan is 0.1 kg per month (1.2 kg per year).

**Exports.** Most fish in 2019 was exported to Lithuania - 69.6% of all exports by weight. Exported products - fish fillet and other fish products (HS code 0304898000). There were no exports in this direction yet in 2018. During the first half of 2020, 635 tons of these products were exported to Lithuania for USD 491 thousand.

Export to Russia accounted for 24% of total fish exports in 2019. Exported products included «Frozen fish» (93% of fish exports to Russia) and 24% of «Fresh, chilled fish». Export to Kazakhstan accounted for 6.3% in 2019 with «Fish fresh, chilled» - 51% and «Fish frozen» - 46%. Export to other countries (UAE, Tajikistan) is insignificant.



*Increase in gross output and exports of fishery products, thousand USD*

# INVESTMENT PROPOSAL

**LEGAL MECHANISM**

✓ Agricultural cooperative

**FUNDING TYPE**

✓ Direct investment in capital

**AMOUNT**

✓ USD 1,366,420

**TERM**

✓ 5-7 years

**NUMBER OF TRANCHES**

- ✓ Tranche No.1 - advance payment for equipment and machinery, construction
- ✓ Tranche No. 2 -purchase of seeding and feed
- ✓ Tranche No. 3 - remaining payment for equipment

**COLLATERAL**

✓ Fixed assets







