FISHERIES AND AQUACULTURE IN THE REPUBLIC OF KAZAKHSTAN: A REVIEW
Copies of FAO publications can be requested from:
Sales and Marketing Group
Office of Knowledge Exchange, Research and Extension
Food and Agriculture Organization
of the United Nations
E-mail: publications-sales@fao.org
Fax: +39 06 57053360
Web site: www.fao.org/icatalog/inter-e.htm
FISHERIES AND AQUACULTURE IN THE REPUBLIC OF KAZAKHSTAN: A REVIEW

by
Serik Timirkhanov
Deputy Director
LLP Kazakh Fisheries Scientific Research Institute
Almaty, Kazakhstan

Boris Chaikin
Senior Fisheries Adviser, Kazakhstan Agency of Applied Ecology
Director, the Environment Consulting Centre

Zhannat Makhambetova
Microeconomist
NGO “Aral Tenizi” (the Aral Sea)
Aralsk, Kazakhstan

Andy Thorpe
University of Portsmouth
Portsmouth, United Kingdom of Great Britain and Northern Ireland

Raymon van Anrooy
Fishery and Aquaculture Officer
FAO Subregional Office for Central Asia
Ankara, Turkey

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Ankara, 2010
This circular contains a historical overview and a review of the current status of fisheries and aquaculture in Kazakhstan. The document was prepared by the Food and Agriculture Organization of the United Nations (FAO) in collaboration with the Fisheries Committee of the Ministry of Agriculture of the Republic of Kazakhstan and many stakeholders of the sector in Kazakhstan.

The authors of this circular are Mr Serik Timirkhanov (LLP Kazakh Fisheries Scientific Research Institute), Mr Boris Chaikin (LLP Kazakhstan Agency of Applied Ecology), Ms Zhannat Makhambetova (non-governmental organization “Aral Tenizi”), Mr Andy Thorpe (University of Portsmouth), and Mr Raymon van Anrooy (FAO). Former Chairman of the Fisheries Committee, Mr Suleimenov Kanat Bostanovich supervised the preparation of the review study. Mr Mirgaliy Baimukanov (Institute of Hydrobiology and Ecology) assisted with ensuring the consistency of data and information presented in this review study. Many other experts have provided their views and opinions on the various draft versions of this document.

This circular is the third document in a FAO Fisheries and Aquaculture Circular series concerning the fisheries sector in Central Asia. Other publications in the same series are the following: “Capture fisheries and aquaculture in the Kyrgyz Republic: Current status and planning” (Sarieva et al., 2008); and “Inland capture fisheries and aquaculture in the Republic of Uzbekistan: Current status and planning” (Karimov et al., 2009). In 2010, a sectoral review of the Republic of Tajikistan also will be published in this series.

This circular was prepared over the period 2007–2009 by FAO to increase general understanding and awareness of the current status of the fisheries and aquaculture sectors in Kazakhstan. Although changes in the sector occur rapidly, it is intended to provide an accurate picture of the situation in 2008/2009. The preparation of the document was hampered however by the limited availability of official statistical data and information. Over many years fishery information was hardly collected in Kazakhstan, which means that there are large gaps in historical information on basic sector indicators such as production volume and value of capture fisheries and aquaculture, employment, per capita fish consumption, fleet sizes, and imports and exports of fish. Aggregated information that is available is generally of limited use for policy-makers. Often the quality of the aggregated data is bad and the information does not reflect the current situation. In Kazakhstan, as in other Central Asian countries, major improvements in data and information collection and analysis are required, if the data collected are to be used by fisheries policy-makers and managers.

Moreover, FAO aims with this document to increase the awareness among small-scale fishers and aquaculturists in Kazakhstan and the Central Asian region in general, on the status, regulations, policies, plans, problems and opportunities of the sector. This information can be important to them to develop their businesses. Other aims of the circular are to inform decision-makers at national government levels, non-governmental organizations (NGOs), fishers’ organizations as well as international agencies about the role of fisheries and aquaculture in terms of their current contribution to employment, food security, poverty alleviation, and on the opportunities for increasing the contribution of the sector to sustainable growth and development of the country.
ABSTRACT

The inland capture fisheries and aquaculture sectors in the Republic of Kazakhstan have gone through a dramatic decline in production, which lasted until 2001 for capture fisheries and continues until today for aquaculture production. While in 1989 some 89 000 tonnes of fish were produced within the Kazakh Soviet Socialist Republic (SSR), the production in 2007 was around 43 000 tonnes. The upward trend in capture fisheries production is remarkable, as in 2001 production amounted to just 21 000 tonnes. Aquaculture production is almost insignificant, with production accounting for less than 400 tonnes of marketable fish in 2007. In recent years, the contribution of the fisheries sector (including capture and culture) to the gross domestic product (GDP) was less than 0.8 percent. Imports of fishery products in 2006 were some 44 000 tonnes, while exports added up to 32 000 tonnes. Per capita consumption of fish is estimated at just over 3 kg, which makes fishery products a small contributor to the diet of the Kazakh people. The employment provided by the sector may be over 17 000 jobs. In recent years, the Ministry of Agriculture of Kazakhstan, with support from its Fisheries Committee, has made many improvements to the legal framework for the fisheries sector. It is however recognized that there are still many gaps in the policy and legal framework for the sector and that enforcement of rules and regulations needs more attention. International collaboration with the Kazakh fisheries sector has increased in recent years, particularly on sturgeon issues and at regional level. This FAO Fisheries and Aquaculture Circular aims to increase general understanding and awareness of the current status of the fisheries and aquaculture sectors in Kazakhstan. The document presented in this Fisheries and Aquaculture Circular was cleared for publication by the Fisheries Committee of Kazakhstan in February 2009.
## CONTENTS

Preparation of this document ................................................................. iii
Abstract ......................................................................................... iv
Acknowledgements ........................................................................... ix
List of acronyms ................................................................................ x

### FISHERIES AND AQUACULTURE IN THE REPUBLIC OF KAZAKHSTAN: A REVIEW

Executive summary ........................................................................... 1

Chapter 1  **Introduction** ........................................................................ 3

Chapter 2  **Historical background** ........................................................... 5
- Fisheries and aquaculture up to independence ........................................... 5
- Capture Fisheries .................................................................................. 5
- Fisheries management .......................................................................... 6
- Aquaculture .......................................................................................... 6
- Independent fish processing and trade organizations .................................. 6
- Fisheries and aquaculture 1991–2009 ......................................................... 7
- Institutional setting for fisheries .............................................................. 7
- Aquaculture and fisheries production ....................................................... 8
  - Capture fisheries ................................................................................ 8
  - Aquaculture ...................................................................................... 10

Chapter 3  **The current status of capture fisheries and aquaculture** .................. 11
- Natural resources and the potential of the fisheries sector ......................... 11
- Geography and climate ........................................................................ 11
- Rivers .................................................................................................. 12
- Lakes ................................................................................................... 13
- Seas ..................................................................................................... 14
- Reservoirs ........................................................................................... 14
- Fish fauna ............................................................................................ 17
- Inland capture fisheries ......................................................................... 18
  - Fleet .................................................................................................. 18
  - Current production of capture fisheries ................................................. 18
- Illegal, unreported and unregulated fishing ............................................... 19
- Recreational fisheries ........................................................................... 20
- Aquaculture .......................................................................................... 21
- Facilitating industries ............................................................................ 25
- Landing facilities .................................................................................. 26
- Ice supply ............................................................................................. 26
- Aquaculture supplies ............................................................................ 26

Chapter 4  **Processing, marketing and trading of fish and fish products** .............. 28
- Fish processing .................................................................................... 28
- Fish storage ........................................................................................ 29
- Distribution and marketing of fish and fish products .................................. 29
TABLES

1. Total catch in water basins of the Kazakh SSR (1965 and 1990)
2. Fisheries Committee of the Ministry of Agriculture
3. Water resources of Kazakhstan
4. Major reservoirs in Kazakhstan
5. Fishery waterbodies of importance in Kazakhstan
6. Main fishing areas in Kazakhstan
8. Large aquaculture production establishments in Kazakhstan
9. Stocking activities of (functioning) aquaculture hatcheries and nurseries in Kazakhstan, 2003–2006 (thousand pieces)
10. Number of berths at fishing ports and quays in 2006
11. Fish processing activities in Kazakhstan
12. Fish purchasers in Kazakhstan
13. Average seasonal market retail price (in US$) per kg of fish or fishery product in Kazakhstan, 2005–2006
14. Current customs regulations and charges (import and export of fish products)
15. Export and import of fish products, 2006
16. Consumption of fish and fishery products by oblast, 2005
17. Staff responsibilities (and number) in the Fisheries Committee in Kazakhstan
18. Rural sector gross product values (various categories) at current prices in million US$*
19. Share of the fish industry GDP compared with the agriculture and cattle breeding sectors in percentages

Table A1.1 Fishing and fish processing associations of the fish industry
Table A1.2 Trade enterprises, fish and fishery product trade centers
Table A2.1 Kazakhstan aquaculture areas
Table A2.2 Pond capacity while projecting and fish farm management in 1975–1980 upon two year production cycle in metric centner/ha
Table A2.3 Data on commercial fish production in Kazakhstan in 1970, 1990, 2004 and 2006 (tonnes)
Table A2.4 Sturgeon fingerling production in Kazakhstan in the period 1998–2009 in thousand pieces

FIGURES

1. Fisheries production in Kazakhstan, 1989–2007 (in tonnes)
3. Fish catch, by geographic area (2003)
4. Fish market supply chain
Photos and captions

Cover page picture 1: Aral net ice fishing
Caption: Ice fishing on the Northern Aral Sea in the winter season (picture courtesy of Mr S. Timirkhanov)

Page 17 under Seas: DSCF 0609.JPG (picture needs some cropping)
Caption: Remainder of the Soviet era Aral Sea fishing fleet (picture courtesy of Mr A. Thorpe)

Page 17 under seas: Aral net fishing
Caption: Ice fishing on the Northern Aral Sea in the winter season (picture courtesy of Mr S. Timirkhanov)

Page 23 under inland capture fisheries: Aral catch 1.jpg
Caption: Examples of fishing vessels used in the Northern Aral Sea (picture courtesy of Mr S. Timirkhanov)

Page 25 under recreational fisheries: DSCN1700. Jpg
Caption: Recreational fishing at trout farm near Almaty (picture courtesy of Mr R. Van Anrooy)

Page 29 under aquaculture: DSCN 1687. Jpg
Caption: Fingerling production tanks at a trout farm near Almaty (picture courtesy of Mr R. Van Anrooy)

Page 29 under aquaculture: DSCN 2667. Jpg
Caption: Sturgeon broodstock tanks at Erkin Kala hatchery near Atyrau (picture courtesy of Mr R. Van Anrooy)

Page 31 under aquaculture supplies: DSCN 2674. Jpg
Caption: Sturgeon feed production at Erkin Kala hatchery near Atyrau (picture courtesy of Mr R. Van Anrooy)

Page 34: Fish market in Sary-Arka, Almaty, 2007(picture courtesy of Mr S. Timirkhanov)
ACKNOWLEDGEMENTS

First of all, the authors would like to thank the representatives of the Ministry of Agriculture and the Fisheries Committee, in particular, Mr D. Aytzhanov, acting Minister of Agriculture, as well as Mr Kanat Suleymenov, the former Chairman of the Fisheries Committee, for their cooperation. The authors also express their gratitude to Ms Akmaral Rakhymzhanova who ensured contacts with the Fisheries Committee. Special thanks go also to Ms Anara E. Menshimbayeva, the Chairman of the Agency of the Republic of Kazakhstan on Statistics for the information the agency provided in support of the study.

In addition, the authors thank the representatives of fisheries, entrepreneurs, NGOs, other ministries and international organizations for their assistance and readiness to share their vast knowledge and valuable information on fisheries and aquaculture in Kazakhstan. Particular thanks are also due to the experts who participated in the two stakeholder workshops, to carry out a sectoral diagnosis, held in Almaty and Aralsk in 2008.

The authors hereby also express their gratitude to Mr Mirgaliy Baimukanov (Institute of Hydrobiology and Ecology) for his assistance in ensuring the consistency of data and information presented in this review study; the Turkish experts at the Regional Workshop on Inland Fisheries and Aquaculture in Central Asia: Status and Development Prospects, Beymelek, Turkey, 11–14 December 2007 (FAO, 2008b), for their comments on the first draft of the review; Ms Deniz Ozkan, Ms Elif Erkal, Ms Anara Forrester, Ms Cana Salur and Mr Mustapha Sinaceur (FAO Subregional Office for Central Asia); and Mr Jean-François Pulvenis de Séligny (FAO Fisheries and Aquaculture Policy and Economics Division) for their technical, administrative, operational and supervisory support of this review study. The editorial assistance on this document by Ms Maria Giannini (FAO consultant) and publication support from Ms Françoise Schatto and Ms Tina Farmer (FAO Fisheries and Aquaculture Department) are also much appreciated.
### LIST OF ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAB</td>
<td>Commission on Aquatic Bioresources</td>
</tr>
<tr>
<td>CaspEco</td>
<td>The Caspian Sea: Restoring Depleted Fisheries and Consolidation of a Permanent Regional Environmental Governance Programme</td>
</tr>
<tr>
<td>CIS</td>
<td>Commonwealth of Independent States</td>
</tr>
<tr>
<td>CITES</td>
<td>Convention on International Trade and Endangered Species</td>
</tr>
<tr>
<td>DSLS</td>
<td>Danish Society for a Living Sea</td>
</tr>
<tr>
<td>EC</td>
<td>European Commission</td>
</tr>
<tr>
<td>EIU</td>
<td>Economist Intelligence Unit</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
</tr>
<tr>
<td>FC</td>
<td>Fisheries Committee under the Ministry of Agriculture of Kazakhstan</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GEF</td>
<td>Global Environment Fund</td>
</tr>
<tr>
<td>HACCP</td>
<td>Hazard Analysis and Critical Control Points</td>
</tr>
<tr>
<td>ISO</td>
<td>International Organization for Standardization</td>
</tr>
<tr>
<td>IUCN</td>
<td>International Union for Conservation of Nature</td>
</tr>
<tr>
<td>IUU</td>
<td>Illegal, Unreported and Unregulated</td>
</tr>
<tr>
<td>JSC</td>
<td>Joint Stock Company</td>
</tr>
<tr>
<td>MARA</td>
<td>Ministry of Agriculture and Rural Affairs of Turkey</td>
</tr>
<tr>
<td>MCS</td>
<td>Monitoring, Control and Surveillance</td>
</tr>
<tr>
<td>NAS</td>
<td>North Aral Sea</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
</tr>
<tr>
<td>NPOA</td>
<td>National Plan of Action</td>
</tr>
<tr>
<td>POL</td>
<td>Petroleum, Oil and Lubricants</td>
</tr>
<tr>
<td>RFB</td>
<td>Regional Fishery Body</td>
</tr>
<tr>
<td>RK</td>
<td>Republic of Kazakhstan</td>
</tr>
<tr>
<td>RPOA</td>
<td>Regional Plan of Action</td>
</tr>
<tr>
<td>SEC</td>
<td>Subregional Office for Central Asia (FAO)</td>
</tr>
<tr>
<td>SINAS</td>
<td>Syr Darya Control and Northern Aral Sea Project</td>
</tr>
<tr>
<td>SSR</td>
<td>Soviet Socialist Republic</td>
</tr>
<tr>
<td>STM</td>
<td>Special Tax Mode</td>
</tr>
<tr>
<td>SWOT</td>
<td>Strengths, Weaknesses, Opportunities, Threats</td>
</tr>
<tr>
<td>TAC</td>
<td>Total Allowable Catch</td>
</tr>
<tr>
<td>TCP</td>
<td>Technical Cooperation Programme (FAO)</td>
</tr>
<tr>
<td>TICA</td>
<td>Turkish International Cooperation Agency</td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
</tr>
<tr>
<td>USSR</td>
<td>Union of Socialist Soviet Republics</td>
</tr>
<tr>
<td>VAT</td>
<td>Value Added Tax</td>
</tr>
<tr>
<td>WTO</td>
<td>World Trade Organization</td>
</tr>
</tbody>
</table>

#### Exchange rate:
The average exchange rate applied throughout this document is: US$1 = tenge148.