

**Framework Convention  
for the Protection of the Marine  
Environment of the Caspian Sea**

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Original: English

Annex 2

# **STRATEGIC CONVENTION ACTION PROGRAMME**

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## LIST OF ABBREVIATIONS

BAT	Best available techniques
BEP	Best environmental practice
CEP	Caspian Environment Programme
CIS	Commonwealth of Independent States (formerly the USSR)
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
EIA	Environmental impact assessment
ESPOO Convention	Convention on Environmental Impact Assessment in a Transboundary Context
GIS	Geographical information system
NCAP	National Caspian Action Programme
NGO	Non-governmental organization
POPs	Persistent organic pollutants
PTS	Persistent toxic substance
RAC	Regional Activity Centre
SCAP	Strategic Convention Action Programme
SPACE	Special Protected Areas of the Caspian Ecosystem
Stockholm Convention	Stockholm Convention on Persistent Organic Pollutants
Tehran Convention	The Framework Convention for the Protection of the Marine Environment of the Caspian Sea
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme

## LIST OF DEFINITIONS

Action Programme	The Action Programme for the protection and sustainable development of the marine environment of the Caspian Sea <sup>1</sup>
Alien species	Also known as exotic or introduced species - any species occurring in an area outside of its historically known natural range as a result of intentional or accidental dispersal by human activities
Biodiversity	Also known as Biological diversity - the variability among living organisms from all sources including, <i>inter alia</i> , terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems
Coastal area	The terrestrial area bordering the coastline and affected by its proximity to the sea and by the sea level fluctuations
Diffuse sources	Land-based sources of pollution, other than point sources, from which substances enter the environment as a result of land run-off, precipitation, atmospheric deposition, drainage, seepage or hydrologic modification or destruction of habitats
Dumping	Any pollution to the sea from any deliberate disposal into the marine environment of wastes or other matter from vessels, aircraft, platforms, or other man-made structures in the Caspian Sea or any deliberate disposal of vessels, aircraft, platforms, or other man-made structures in the Caspian Sea <sup>2</sup>
Environmental emergency	A situation that causes damage or poses an imminent threat of pollution or other harm to the marine environment of the Caspian Sea and that result from natural or man-made disasters
Environmental impact assessment	The national procedure for evaluating the likely impact of a proposed activity on the environment
Hazardous substance	Any substance that is toxic, carcinogenic, mutagenic, teratogenic or bio-accumulative, especially when they are persistent <sup>3</sup>
Hot-spot	A limited and definable local land area, stretch of surface water or specific aquifer that is subject to excessive pollution and necessitates priority attention in order to prevent or reduce the actual or potential adverse impacts on human health, ecosystems or natural resources and amenities of economic importance
Impact	Any effect which results, or is likely to result, from a proposed activity on the marine environment of the Caspian Sea, including flora, fauna, soil, atmospheric air, water, climate, landscape, historical monuments and or interaction among those factors; also includes effects on human health and safety, cultural heritage,

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<sup>1</sup> Article 1 of the Convention « Use of Terms »

<sup>2</sup> Ibid

<sup>3</sup> Ibid

	socio-economic or other conditions resulting from alternations to those factors
Industrial accident	An event resulting from an uncontrolled change in the course of any activity involving harmful and hazardous substances in an industrial installation for example during manufacture, use, storage, handling or disposal or during transportation of such substances
Invasive species	An alien species whose establishment and spread may cause economic or environmental damage to the ecosystems or biological resources or harm to human health
National Authority	The authority designated by each Contracting Party to be responsible for the coordination of actions by such Contracting Party for implementing the Tehran Convention and its Protocols <sup>4</sup>
Oil	Petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined products
Oil pollution incident	An occurrence or series of occurrences having the same origin, which results or may result in a discharge of oil and which poses or may pose a threat to the marine environment, or to the coastline or related interests of one or more States, and which requires emergency action or other immediate response
Point sources	Land-based sources of pollution where emissions are introduced into the environment from any discernible, confined and discrete conveyance, including but not limited to pipes, outfalls, channels, ditches, tunnels, conduits or wells from which pollutants are or may be discharged
Pollution	The introduction by man, directly or indirectly, of substances or energy into the environment resulting or likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health and hindrance to legitimate uses of the Caspian Sea <sup>5</sup>
Pollution from land-based sources	Pollution of the sea from all kinds of point and non-point sources based on land reaching the marine environment, whether water-borne, air-borne or directly from the coast, or as a result of any disposal of pollutants from land to the sea by way of tunnel, pipeline or other means <sup>6</sup>
[Regional Centre	Caspian Regional Centre for preparedness, response and cooperation in combating oil pollution in cases of emergency]
Vessel	A vessel of any kind that operates in the marine environment, including hovercraft, hydrofoil boats, submarines, towed and self-driving boats, as well as platforms and other manmade offshore structures <sup>7</sup>

<sup>4</sup> Article 1 of the Convention "Use of Terms"

<sup>5</sup> Ibid

<sup>6</sup> Ibid

<sup>7</sup> Ibid

## 1 INTRODUCTION

### 1.1 Background

In 2003, the Caspian littoral states, comprising Republic of Azerbaijan, Islamic Republic of Iran, Republic of Kazakhstan, Russian Federation, and Turkmenistan, signed the Framework Convention for the Protection of the Marine Environment of the Caspian Sea. Following ratification by all five Governments of the Caspian littoral states, the Tehran Convention entered into force on the 12<sup>th</sup> August 2006. The objective of the Tehran Convention is the protection of the Caspian environment from all sources of pollution including the protection, preservation, restoration, and sustainable and rational use of the biological resources of the Caspian Sea.

The Caspian Sea is an environmental entity with the unique natural resources, having undeniable global importance and core value for the people living on its coasts. The Declaration adopted by the Presidents of the Caspian States at their second meeting, 16 October 2007, Tehran, Islamic Republic of Iran, reflects the recognition of the Caspian States of their responsibility « towards the present and future generations for the conservation of the Caspian Sea and its environmental system integrity ».

The Caspian Sea with its unique hydrographical and ecological characteristics is threatened by pollution and sea level fluctuations. Pollution derives from various sources as a result of human activities, including the discharge, emission and disposal of harmful and hazardous substances, wastes and other pollutants, both in the sea and from land-based sources. At present, the intensity of contamination exceeds the ecological capacity of the Caspian Sea. Therefore, the assessment of the ecological condition of the Caspian Sea, survey of direct and indirect negative impacts on the ecosystem, examination of the ecosystem response to these impacts, and the study of the ecosystem's capacity of adaptation to contamination are the necessary activities for the sustainable and rational usage of its resources. Such actions need to be harmonised on a regional scale, reinforcing the importance of cooperation among the littoral states and with relevant international organizations, with the aim to protect and conserve the marine environment of the Caspian Sea.

The following approach was adopted in formulating the SCAP. Firstly, consideration was given to other regional Conventions and Protocols, together with their consequent Action Plans. Of note is the example of the Barcelona Convention and the Mediterranean Action Plan. Secondly, the SCAP incorporates, insofar as possible, text that has already been approved by the Contracting Parties. Thus, the basic framework of the SCAP mirrors the layout of the Tehran Convention. The actions are based largely on the CEP Strategic Action Programme.

The Strategic Convention Action Programme is a comprehensive, long-term agenda and framework for the implementation of the Tehran Convention and its Protocols over a period of 10 years to be translated and implemented through National Action Programmes supported by the biennial Programmes of Work of the Convention Secretariat. Intermediate revisions of the Action Programme may be decided upon by the meetings of the Contracting Parties in order to take into account new Protocols or other emerging developments related to the implementation of the Tehran Convention.

## **1.2 Objectives**

The objective of the SCAP is to implement provisions of the Tehran Convention and its protocols upon their entry into force for the mid-term perspective in the area of the protection of the Caspian sea from all sources of pollution as well as the protection, preservation, restoration and sustainable and rational use of the biological resources of the Caspian sea by means of defining the main directions for the activities of the Contracting Parties under the Tehran Convention and future protocols upon their entry into force.

## **1.3 The Geographic Scope**

This Strategic Convention Action Programme shall be applied to the marine environment of the Caspian Sea, taking into account its water level fluctuations and pollution from land-based sources<sup>8</sup>.

## **1.4 Principles**

Pursuant to the Article 5 of the Convention, the following principles shall guide actions to achieve the objective of this Strategic Convention Action Programme and to implement its provisions:

- (a) the precautionary principle, by virtue of which, where there is a threat of serious or irreversible damage to the Caspian Sea environment, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent such damage;
- (b) “the polluter pays” principle, by virtue of which the polluter bears the costs of the pollution, including its prevention, control and reduction;
- (c) the principle of accessibility of information on the pollution of the marine environment of the Caspian Sea according to which the Contracting Parties provide each other with relevant information in the maximum possible amount.

## **1.5 Implementation**

The Caspian coastal States are responsible for the implementation of the Tehran Convention, its Protocols and the SCAP.

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<sup>8</sup> Article 3 of the Convention



The Secretariat of the Convention arranges, “upon the request of any Contracting Party, for technical assistance and advice for the effective implementation of the Convention, its protocols”<sup>9</sup> and the SCAP.

The specific tasks entrusted to the Secretariat and the issue-specific branches of the Secretariat in order to implement the activities of SCAP, as well as the corresponding budgets, are decided upon by the meetings of the Contracting Parties to the Tehran Convention.

The Secretariat establishes and strengthens relations with other regional programmes, the secretariats of relevant international conventions, the United Nations Commission on Sustainable Development and the international financial institutions related to environment and sustainable development in the Caspian region.

In the formulation and implementation of the SCAP, the Contracting Parties to the Tehran Convention will regularly involve as appropriate:

- (a) UN specialised agencies;
- (b) Local, provincial and regional authorities;
- (c) Non-governmental organizations involved in the protection of the Caspian environment and the promotion of sustainable development;
- (d) Organisations representing economic activities.

In implementing sustainable development, priority will be given to strengthening institutional capacity and environmental policy coordination at national, as well as regional, provincial and local levels, as appropriate. In this context, particular attention will be given to the implementation of existing legal instruments, such as the Tehran Convention and its future Protocols.

## **2 PREVENTION, REDUCTION AND CONTROL OF POLLUTION<sup>10</sup>**

### **2.1 Background**

Data on the overall environmental quality of the Caspian Sea region are generally not systematic or comprehensive, although efforts are being made to initiate a more comprehensive and integrated monitoring system in the region. In the former USSR, water and sediment quality measurements were taken on a regular basis and with good coverage. With the break up of the USSR the monitoring became fragmented and irregular. However, it is known that in the immediate years following the break up, the flux of pollutants through rivers into the Caspian changed with a drastic reduction in industrial and agricultural activity in the four CIS states. The economic recovery of the recent years is changing the environmental quality situation, although this cannot yet be substantiated with reliable data

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<sup>9</sup> Article 23 paragraph (f) of the Convention.

<sup>10</sup> Section III of the Convention “ Prevention, Reduction and Control of Pollution” .

and information. A review of those reliable data that do exist, including data from sediment and ecotoxicological surveys undertaken as part of CEP during its two phases up to 2006, do indicate a highly stressed environment in certain spots, but there is no sufficient data to assess a highly stressed environment of the entire Caspian ecosystem. Moreover the pollution data set created under the sediment contaminant survey in 2005 Caspian Sea supports rather the trend of a decline in the environmental quality.

Pollution threats include contaminants sequestered in the major impoundments; continued and increased use of banned agrochemicals; increased industrial activities, potential widespread hydrocarbon pollution, with the anticipated expansion of oil and gas development and transportation; and acute damage from oil and hazardous substance spillage, particularly from substandard vessels currently used in the region. Available data do not support the generally held view that nutrient loading is a regional problem, although a large anomalous algal bloom (AAB) was recorded in the Southern Caspian in 2005 near the Iranian coast in the southwest Caspian. There is a lack of information about pollution in groundwater and its interaction with the Caspian Sea.

There are several potential sources of pollution for the Caspian Sea. Land-based activities serve as point and diffuse sources of pollutants, with transport being by surface and ground waters, as well as through the atmosphere. Maritime and marine activities encompass shipping, offshore oil and gas exploration and production, seabed activities and dumping. Various other human activities, including deforestation, desertification and littering, can contribute to the degradation of the marine environment. Invasive species and accidental oil spills can also have deleterious consequences on the Caspian Sea. Appropriate actions, including relevant regional monitoring programmes, for addressing these multiple potential sources are considered here.

## **2.2 Pollution from Land-Based Sources<sup>11</sup>**

The objective of this component is to prevent, control, reduce and to the maximum extent possible eliminate pollution of the marine environment from land-based sources and activities in order to achieve and maintain a sound environmental status of the Caspian Sea.

Several potential land-based sources of pollution are recognised, comprising:

- a) Emissions of polluting substances originating from land-based point and diffuse sources that affect or may affect the marine environment and coastal areas of the Caspian Sea. These emissions shall include those which reach the marine environment through rivers, canals or other watercourses, including groundwater flow, coastal disposals and outfalls, disposal under the seabed with access from land, or through run-off;
- b) Inputs of polluting substances transported through the atmosphere into the marine environment of the Caspian Sea from land-based sources; and

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<sup>11</sup> Article 7 of the Convention “Pollution from Land-Based Sources”

- c) Discharges that affect the marine environment or coastal areas of the Caspian Sea resulting from activities such as the physical alteration of the natural state of the coastline, and alteration or destruction of the landscape or habitats.

Activities outlined below will have to be undertaken within the context and in support of the implementation of the Protocol on Land-based sources of Pollution and Activities under discussion. They depend upon the development of regional strategies for pollution reduction, as well as strengthening pollution prevention, monitoring and control measures in the littoral states. Recognising the role of diffuse sources, actions will be taken to promote environmentally sound agricultural practices in the Caspian region.

#### ***2.2.1 Regional strategies for pollution reduction***

- Undertake a comprehensive regional inventory of pollution emissions from land-based sources.
- Undertake by each Caspian State in its coastal zone a survey of the coastal zone with the purpose to identify and characterize major contaminated land sites, and a strategy of pollution mitigation and remediation for areas where the pollution creates concern, for the purposes of the regional strategies of pollution reduction.
- Reduce pollution from existing and decommissioned onshore oil and gas installations causing significant pollution.
- Utilize or promote BAT and BEP, together with the application of, access to and transfer of environmentally sound technology, including cleaner production.

#### ***2.2.2 Pollution prevention, monitoring and control measures***

- Develop a regional plan for strengthening discharge licensing, compliance monitoring and enforcement of pollution control and prevention.
- Develop recommendations for harmonization of pollution discharge and emission, and water quality standards.
- Reduce untreated discharges from coastal municipal sources.
- Develop and introduce economic instruments to encourage reduced pollution loads.
- Implement pilot projects to demonstrate the most cost effective reclamation technologies for a range of contaminants.

#### ***2.2.3 Environmentally sound agricultural practices***

- Establish and promote best practice recommendations for the use of agrochemicals, including application times and rates, handling, storage and disposal.
- Demonstrate through pilot projects environmentally sound agricultural practices such as soil conservation, protection of surface and groundwater, use of natural fertilizers and use of pest resistant crop strains.
- Combat eutrophication in sensitive coastal zones by controlling soil and water contamination from agriculture and other nutrient sources.

### **2.3 Pollution from Seabed Activities<sup>12</sup>**

The objective of this component is to take all appropriate measures to prevent, control and reduce pollution of the Caspian Sea resulting from seabed activities.

The littoral states of the Caspian Sea have a common interest in protecting the marine environment from the danger posed by seabed activities, such as the construction of seabed pipelines and artificial islands. Apart from the requirement for Environmental Impact Assessments, a comprehensive approach to the sustainable use of the seabed needs to be investigated. Measures need to be defined that relate to preventing pollution from seabed activities.

Activities outlined below depend upon the development of regional strategies to regulate seabed activities:

- Draft and adopt ancillary instruments to the Tehran Convention on the Regulation of Seabed Activities.

### **2.4 Pollution from Vessels<sup>13</sup>**

The objective of this component is to prevent, control, reduce and to the maximum extent possible eliminate pollution of the marine environment from marine-based sources and activities in order to achieve and maintain a sound environmental status of the Caspian Sea.

Several marine activities can be potential sources of pollution to the marine environment. Shipping is one such source, recognising that oil pollution incidents are specifically considered elsewhere (Section 2.8). The definition of vessels includes offshore oil and gas installations.

Activities outlined below depend upon the development of regional strategies for pollution reduction. Actions to be taken are:

- Develop port waste management plans for all ports.
- Provide adequate vessel waste reception and treatment facilities in all main ports in accordance with port waste management plans.
- Reduce pollution from existing and abandoned off-shore oil and gas installations.

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<sup>12</sup> Article 8 of the Convention “Pollution from Seabed Activities”

<sup>13</sup> Article 9 of the Convention “Pollution from Vessels”.

## **2.5 Pollution Caused by Dumping<sup>14</sup>**

The objective of this component is to take all appropriate measures to prevent, abate and eliminate to the fullest extent possible pollution of the Caspian Sea caused by dumping from vessel and aircraft.

Given the danger posed to the marine environment by the dumping of wastes or other matter, the coastal States of the Caspian Sea have a common interest in protecting the marine environment from this hazard. Measures need to be defined that relate to dumping from vessels and aircraft.

Activities outlined below depend upon the development of regional strategies for dumping:

- Draft and adopt ancillary instruments to the Tehran Convention on dumping at sea by vessels and aircraft.
- Review and report on the occurrence of dumping from vessels and aircraft in the Caspian Sea.

## **2.6 Pollution from Other Human Activities<sup>15</sup>**

The objective of this component is to prevent, control, reduce and to the maximum extent possible eliminate pollution of the marine environment from other human activities in order to achieve and maintain a sound environmental status of the Caspian Sea.

Apart from land- and sea-based sources of pollution, there are several other human activities that can degrade the environment of the Caspian Sea in various ways. Poor land use practices leading to deforestation or desertification can impact the coastal zone. Some pollutants, including POPs and litter, can have multiple sources that require a wide-ranging strategy to ensure adequate control. Both surface and ground waters can affect the quality of the Caspian environment, but current information remains incomplete and not regionally harmonised.

Activities outlined below depend upon the development of regional strategies for pollution reduction, as well as combating deforestation and desertification. Appropriate actions, including relevant regional monitoring programmes, for addressing multiple potential sources are considered here.

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<sup>14</sup> Article 10 of the Convention “Pollution Caused by Dumping”.

<sup>15</sup> Article 11 of the Convention “Pollution from Other Human Activities”

**2.6.1 Regional strategies for pollution reduction**

- Develop and implement a Regional POPs/PTS Programme, which is to be coordinated with POPs enabling activities in Stockholm Convention signatory states.
- Develop and initiate implementation of the regional marine litter control and mitigation strategy.

**2.6.2 Combating desertification and deforestation**

- Develop legislation to combat desertification and deforestation.
- Apply remote sensing and GIS techniques to monitor trends in desertification and deforestation in the Caspian region.
- Develop and implement pilot projects designed to address root causes in critical desertification and deforestation areas.
- Introduce economic instruments and alternatives to reduce wood consumption, including use of wood fuel.
- Conduct targeted awareness campaigns on sustainable grazing practices in threatened desert areas.

**2.6.3 Regional water quality monitoring programme**

- Develop and implement a regional water quality monitoring programme focused on critical contaminants and hot-spots.
- Provide report on contaminant levels in the Caspian Sea region every three years, and make proposals for remedial actions.
- Develop and implement a research programme into the phenomena of Anomalous Algal Blooms in the Caspian Sea.
- Establish a regional monitoring programme for recreational waters.

**2.6.4 Strategy for managing groundwater**

- Assist the development of national programmes for groundwater monitoring.
- Carry out a review of legal and institutional framework for managing groundwater; and make adjustments to reflect current needs, as necessary.
- Design a regional programme of groundwater management measures, as necessary.
- Demonstrate and implement groundwater management programmes .

## 2.7 Alien and Invasive Species<sup>16</sup>

The objective of this component is to regulate the introduction of alien species and prohibit those that may have harmful impacts on the ecosystems, habitats or species, as well as regulate those already introduced that are causing or may cause damage.

Alien invasive species pose a damaging and acute threat. Invasion of *Mnemiopsis leidyi* may irrevocably change the whole Caspian ecosystem, starting from the composition of the zooplanktonic species. The invasion by this ctenophore has been a major factor impacting both fisheries and biodiversity. The direct and indirect impact of this invasive species have led to changes in Caspian food chain threatening the Caspian kilka (sardines), which is one of the major fishing resources and a food for many other commercially important fish species.

In the context and in support of the implementation of the Protocol on Biodiversity under discussion of the Tehran Convention, the following actions will be taken to regulate and control alien and invasive species:

- Periodically review and report on the status of and the risks posed by all alien species introduced into the Caspian Sea.
- Develop a Regional Plan of Action for the introduction and management of alien species, together with the control of invasive species in the Caspian Sea.
- Investigate and reach regional agreement on the appropriate measures for the possible biological control measures to reduce the impact of *Mnemiopsis leidyi* on the ecosystem of the Caspian Sea.
- Promote the construction of ballast water reception and treatment facilities to control the passage of invasive species via shipping routes.

## 2.8 Environmental Emergencies<sup>17</sup>

The objective of this component is to formulate a regional strategy for prompt and effective action in the event of an oil pollution incident at sea that would endanger the coasts or the related interests of Caspian littoral States, with a view to reducing the damage caused by such an incident.

Pollution of the Caspian Sea by oil may threaten the marine environment in general and the interests of Caspian Sea littoral states in particular. Thus, special measures are necessary in the event of accidents and other pollution incidents originating from ships, pipelines, fixed and floating platforms, and abandoned wellheads and land-based sources of pollution. Reciprocal assistance and international cooperation must be instituted amongst states in order to protect their coasts and their related interests from oil pollution.

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<sup>16</sup> Article 12 of the Convention « Prevention of Introduction, Control and Combating of Invasive Alien Species ».

<sup>17</sup> Article 13 of the Convention « Environmental Emergencies ».

In the context and in support of the implementation of the Protocol on Regional preparedness, Response and Cooperation in combating oil pollution incidents under discussion, the following actions will be taken regarding disaster prevention and response:

- [Establish a Caspian Regional Centre for preparedness, response and cooperation in combating oil pollution in cases of emergency]
- Develop and implement a Caspian Sea Plan concerning Regional Cooperation in Combating Oil Pollution.
- Finalize and approve national oil spill contingency plans and harmonize the oil spill contingency plans with the national plans.
- Develop regional contingency plan for spills of hazardous substances other than oil.
- Update vulnerable resources mapping of the Caspian Sea for inclusion in the national and regional plans.
- Identify potential sources of oil pollution and undertake regional risk assessment for spillage of oil and hazardous substances from shipping, pipelines, offshore and onshore production and storage facilities.
- Promote the development of regional agreements for liability and compensation in the event of oil spills.
- Develop regional agreement on minimum standards of maintenance of existing Caspian tanker fleet.
- Develop a Natural Disaster Preparedness and Mitigation Plan for the Caspian Sea.

### **3 PROTECTION, PRESERVATION AND RESTORATION OF THE MARINE ENVIRONMENT<sup>18</sup>**

#### **3.1 Background**

The Caspian biodiversity is low across all phyla compared to other seas, but, due to its historic isolation, endemism is high. Approximately 40% of the species found in the Caspian are endemic and therefore any threat may lead to a potentially high loss of global biodiversity. Quantifiable data on the status of the biodiversity of the Caspian Sea is scarce. In recent years no systematic monitoring of biodiversity (except in connection with fishery productivity and oil company monitoring) has been undertaken by the Caspian states. Even population number and temporal distribution of main commercial fishing species such as sturgeon, kilka, and Caspian seals are still in dispute. The aerial surveys of 2005 and 2006 supported by the CEP note a continuous decline in the population of seals and a considerable

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<sup>18</sup> Section IV of the Convention “Protection, Preservation and Restoration of the Marine Environment”



difference with the existing official survey figures, which are much higher. These gaps in knowledge are in itself a major threat. Other threats include habitat erosion, fragmentation, and degradation (observed, but not quantified), unsustainable use of key species, pollution and, as considered above, invasive species. The presence of persistent organic pollutants, in particular DDT, is also a major source of concern, especially on the point of its accumulation in the long-living species – molluscs, seals, and sturgeons.

Catches of sturgeons, herrings, sprats, and some other commercial fish have continued to decline in recent years. Official data from the Caspian countries indicate that the sturgeon catches have dropped from an average 13 thousands tons a year in the period from 1950-1960 (peaking in the 1970s to 28 thousands tons a year) to 3 thousands tons in 1996-1999 and to less one thousand tons in 2004-2005. Sturgeon catch fell resulting in calls for export bans. Factors contributing to the fishery decline include poaching, the impact of dams, loss of habitats, and perhaps pollution. Kilka catches declined from 400 thousands tons in 1970s to 115 thousands tons in 2001 and to 64 thousands tons in 2005. The decline in the sturgeon, kilka, and other species catches directly effect human livelihoods and food for the local people.

The coastal landscapes, habitats, amenities and infrastructure are being damaged by a variety of natural and man-made factors. Natural factors include water level fluctuations, wind induced or storm-induced surges and earthquakes. Man-made causes include desertification/deforestation, regulation of rivers, urbanization and industrial development, inadequate agricultural/aquaculture planning and development, poor groundwater management, inadequate recreational development, and land-based and sea-based pollution. Climate change is influencing and often exasperating the impacts of the natural and man factors resulting in considerable social and economic damages in the coastal areas. Close to 40 percent of the Caspian coastal area is impacted and it is estimated that of this area, about 69 percent has undergone desertification in various ways. Unsustainable coastal area development combined with chronic and acute pollution, and the decline in fisheries has produced undesired human health impacts. Understanding of the concepts of integrated coastal zone and coastal land use planning are critical to addressing these issues.

### 3.2 Marine Living Resources<sup>19</sup>

The objective of this component is to take appropriate measures for the protection, preservation, restoration and rational use of marine living resources.

Pressure on the marine environment of the Caspian Sea due to different kinds of human activities threatens biological diversity, as well as the health and integrity of the coastal and marine ecosystems of the Caspian Sea. The Caspian Sea is a unique ecosystem, and contains a large number of biotopes and species of great national, regional and global importance that need protection, preservation and restoration. Safeguarding biodiversity and, as appropriate, improving the state of the natural and cultural heritage of the coastal and marine areas of the Caspian Sea, is important both for fulfilling obligations to the Convention on Biological Diversity (Rio de Janeiro, 1992) and to guarantee sustainable and rational use of biological resources. Parties note that the cooperation linked to the protection, preservation, restoration

<sup>19</sup> Article 14 of the Convention “Protection, Preservation, Restoration and Rational Use of Marine Living Resources”.

and rational use of marine living resources of the Caspian Sea will be undertaken through relevant national authorities of the Caspian States within the framework of the [future] [and/or] [existing] regionally agreed mechanisms of interaction between the Caspian States in this area.

The actions outlined below will promote increased regional collaboration to achieve strengthened protection for biodiversity, ensure all key threatened species are maintained or restored to viable levels, rehabilitate stocks of migratory (sturgeon, inconnu, herring) commercially valuable fish species, rehabilitate stocks of Caspian seal and promote the sustainable use of commercial fisheries resources

### **3.2.1 *Protection for biodiversity***

- Draft and adopt a Biodiversity Conservation Protocol to the Tehran Convention.
- Establish a regional biodiversity monitoring system.
- Develop an international research programme on Caspian biodiversity related issues.
- Ensure biodiversity issues and impacts are taken into account in all EIA and planning applications.

### **3.2.2 *Ensure all key threatened species are maintained or restored to viable levels***

- Identify and assess the status of key threatened species.
- Ensure adequate legal protection for key threatened species.
- Provide improved *in situ* and *ex situ* protection for key threatened species.
- Create a gene bank of key threatened species.

### **3.2.3 *Rational Use of Biological Resources***

- Conduct activities to protect, restore and conserve biological resources,
- Support strengthening of regional cooperation, including scientific exchanges, and improving hatchery efficiency.
- Develop aquaculture and create a gene bank for fish species of the Caspian Sea.
- Explore a possibility of development and implementation of ancillary instruments to the Tehran Convention in accordance with Article 14 of the Convention

- Improve national mechanisms of compliance with and enforcement of national legislation and relevant Multilateral Environmental Agreements for the protection of biological resources.

#### **3.2.4 *Rehabilitate stocks of Caspian seal***

- Conduct scientific surveys to evaluate the number and health of Caspian seal stocks.
- Strengthen regional cooperation in Caspian seal research activities.
- Draft and adopt a regional management plan for the Caspian seal.

### **3.3 Coastal Zone Management<sup>20</sup>**

The objective of this component is to take necessary measures to develop and implement national strategies and plans for planning and management of the land affected by its proximity to the sea, and in support of the implementation of the future Protocols on Biodiversity and against Pollution from Land-based Sources and Activities.

The Caspian Sea region is subject to unsustainable coastal area development caused by different factors that impact the human population, the environment and the amenities. The coastal landscapes and habitats are damaged by a variety of natural and human-made factors. Natural factors include sea water level fluctuations, earthquakes and climate change. Human-made causes include desertification, deforestation, regulation of rivers, urbanization and industrial development, improperly planned agricultural, aquacultural and recreational development, and land-based and sea-based pollution.

The actions outlined below will ensure that a network of special protected areas, wildlife habitats for the Caspian Ecosystem (SPACE) be established and stakeholders apply regional, circum-Caspian approach to habitat conservation in the Caspian.

#### **3.3.1 *Special Protected Areas of the Caspian Ecosystem (SPACE)***

- Designate circum-Caspian protected area virtual network comprised of one established protected area in each Caspian State's coastal zone in order to anchor SPACE,
- Establish an effective low-cost network structure;
- Create a regional communication network between SPACE as a part of web-based TCIS Caspian Information Centre.

#### **3.3.2 *Identify and restore priority coastal habitats***

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<sup>20</sup> Article 15 of the Convention « Coastal Zone Management »

- Develop and apply a standardized methodology for the assessment of the environmental health of coastal habitats.
- Design, implement and monitor coastal habitat restoration projects.

### **3.3.3 Sustainable use and management of coastal areas**

- Improve, as needed, national regulation on coastal area planning and management.
- Develop technical capacity at local and municipal government level for coastal planning and introduce economic instruments to promote rational land use.
- Develop regional databases, including GIS, for coastal planning and management.
- Develop regional guidelines for integrated coastal area management planning and undertake a pilot project in each Caspian state.
- Develop ecotourism pilot projects based on existing and successful models from other regions.
- Promote alternative income sources and the adoption of sustainable livelihoods in coastal fishing communities.

## **3.4 Caspian Sea Fluctuation<sup>21</sup>**

The objective of this component is to take all appropriate measures to understand and alleviate implications of the sea level fluctuations of the Caspian Sea.

The sea level fluctuates considerably in the Caspian Sea. Natural factors include variations in discharges from the Volga and Ural Rivers, climate changes in the catchments areas and variable evaporation rates. Anthropogenic activities, including the damming of rivers and bays, and the diversion of watercourses, have also had an effect. Water level fluctuations negatively affect coastal infrastructure and related amenities, and cause a number of indirect effects, such as introducing contaminants from flooded lands, alteration of coastal habitats and infrastructures, and massive die-offs of coastal reed beds.

Activities outlined below depend upon the development and implementation of strategies for the management of sea level rise:

- Draft and adopt ancillary instruments to the Tehran Convention addressing the implications of the sea level fluctuations of the Caspian Sea.
- Undertake an assessment of coastal vulnerability to sea level rise and potential economic losses.

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<sup>21</sup> Article 16 of the Convention « Caspian Sea Level Fluctuations »

- Develop a set of sea level fluctuation scenarios that take into account climate change over the next fifty years and reassess coastal vulnerability to sea level rise and the consequent potential economic losses.
- Develop regional guidelines for adaptive management for sea level fluctuation and climate change.

#### **4 PROCEDURES<sup>22</sup>**

The Caspian Sea is a unique ecosystem confronted by a series of environmental stresses. For the most part the problems are not unique to the Caspian Sea, but have become intensified due to its landlocked nature. Unilateral solutions will not succeed in the long term and the five littoral states must cooperate to mitigate current and prevent future pollution. Recent openness has allowed a better understanding of the environmental problems and a fostered a wide felt appreciation for what is at stake. Regional cooperation is necessary in formulating, elaborating and harmonising rules, standards, recommended practices and procedures consistent with the Tehran Convention.

Activities outlined below depend upon the development of regional mechanisms to harmonise procedures for environmental impact assessment, to ensure co-operation between the contracting parties, to establish monitoring programmes, to encourage research and development, and to guarantee the exchange of and access to information.

##### **4.1 Environmental Impact Assessment<sup>23</sup>**

The objective of this component is to implement effective and transparent EIA procedures in a transboundary context to any proposed activity that is likely to cause a significant transboundary impact on the marine environment and land affected by proximity to the sea in order to prevent, reduce and control pollution of the marine environment and land affected by proximity to the sea, promote conservation of its biodiversity, and rational use of its natural resources, and protect human health.

The application of environmental impact assessment at an early stage in the decision making process for proposed activities promotes the implementation of the principles of sustainable development. Public participation is recognized as an important contribution to environmental decision-making.

In the context and in support of the implementation of the Protocol on Environment Impact Assessment in a Transboundary Context after its entry into force, the following actions will be taken:

- Ensure the adoption of the necessary legal, administrative or other measures to implement the provisions of this Protocol

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<sup>22</sup> Section V of the Convention « Procedures »

<sup>23</sup> Article 17 of the Convention « Environmental Impact Assessment »

- Ensure all appropriate measures are taken to introduce and apply procedures of environmental impact assessment of any planned activity, that are likely to cause significant adverse effect on the marine environment of the Caspian Sea.
- Take all appropriate measures to disseminate results of environmental impact assessments.
- Ensure effective public participation in the EIA procedure of a proposed activity pursuant to this Protocol, commencing at early stage of EIA procedures.

#### **4.2 Co-operation between the Contracting Parties<sup>24</sup>**

The objective of this component is to ensure regional cooperation in formulating, elaborating and harmonising rules, standards, recommended practices and procedures consistent with the Tehran Convention.

The actions outlined below will promote increased regional collaboration to achieve strengthened protection to prevent, reduce and control pollution of and to protect, preserve and restore the marine environment of the Caspian Sea.

- Develop programmes for monitoring quality of water
- Develop contingency plans for pollution emergency cases
- Establish emission and discharge limits for waste and evaluate the effectiveness of control programmes
- Establish water quality objectives and propose relevant measures for maintaining and, where necessary, improving existing water quality
- Develop harmonised action programmes for the reduction of pollution loads from municipal and industrial point and diffuse sources, including agriculture, urban and other runoff.

#### **4.3 Monitoring<sup>25</sup>**

The objective of this component is to ensure regional cooperation in the elaboration and implementation of harmonised regional monitoring programmes of pollutants, of rules and standards, and recommended practices and procedures consistent with the Tehran Convention.

In the context and in support of the implementation of the Tehran Convention, the following actions will be taken to prevent, reduce and control pollution of and to protect, preserve and restore the marine environment of the Caspian Sea.

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<sup>24</sup> Article 18 of the Convention « Cooperation Between the Contracting Parties »

<sup>25</sup> Article 19 of the Convention « Monitoring »

- Establish and implement individual and/or joint programmes for monitoring environmental conditions of the Caspian Sea.
- Agree upon a list of parameters and pollutants which discharge into the Caspian Sea that will be measured regularly.
- Conduct individual or joint assessments of the environmental conditions of the Caspian Sea
- Evaluate the effectiveness of measures taken for the prevention, control and reduction of pollution of the marine environment of the Caspian Sea.
- Harmonise rules for the setting up and operation of monitoring programmes, measurement systems, analytical techniques, data processing and evaluation procedures for data quality.
- Develop a centralised database and information management system to function as a repository of all relevant data, serve as the basis for decision-making and as a general source of information and education for specialists, administrators and the general public.

#### **4.4 Research and Development<sup>26</sup>**

The objective of this component is to cooperate in the conduct of research into and development of effective techniques for the prevention, control and reduction of pollution of the Caspian Sea.

Activities outlined below depend upon initiating or intensifying specific national research programmes. Also, emphasis will be placed on promoting international research aimed at generating a better understanding of the marine environment of the Caspian Sea.

- Develop methods for the assessment of the toxicity of harmful substances and their effect on the ecosystem of the Caspian Sea
- Develop and applying environmentally sound or safe technologies
- Phase out and/or substitute substances likely to cause pollution
- Develop environmentally sound or safe methods for the disposal of hazardous substances
- Develop environmentally sound or safe techniques for water-construction works and water-regulation
- Assess the physical and financial damage resulting from pollution
- Improve knowledge about the hydrological regime and ecosystem dynamics of the Caspian Sea, including sea level fluctuations and the effects of such fluctuations on the Sea and coastal ecosystems

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<sup>26</sup> Article 20 of the Convention « Research and Development »

- Study the levels and possible effects on the ecosystem of radiation and radioactivity in the Caspian Sea.

#### **4.5 Exchange of and Access to Information<sup>27</sup>**

The objective of this component is to ensure public access to information regarding the environmental status of the Caspian Sea.

In the context and in support of the implementation of the Tehran Convention, the following actions will be taken to exchange information on a regular basis.

- Ensure public access to information regarding the environmental conditions of the Caspian Sea.
- Ensure public access to information regarding measures taken or planned to be taken to prevent, control and reduce pollution of the Caspian Sea in accordance with national legislation and taking into account provisions of existing international agreements concerning public access to environmental information.

### **5 CIVIL SOCIETY PARTICIPATION IN CASPIAN ENVIRONMENTAL STEWARDSHIP<sup>28</sup>**

#### **5.1 Background**

The objective of this component is to strengthen the participation of civil society, together with the institutional and legal frameworks, in the environmental stewardship of the Caspian Sea.

Public Participation in environment management of the Caspian Sea, including being involved in the decision making, planning, implementation and monitoring of the activities, is especially pertinent for the Caspian Sea where the environmental condition is deteriorating. There are many potential benefits from public participation in decision-making and implementation of environmental programmes and policies. When the appropriate channels of horizontal communication between the government and various levels are opened, a cycle of participation is established which can lead to the following externalities among others:

- A strong sense of shared ownership of decisions, therefore improved chances of success
- Public awareness
- Government accountability and efficiency
- A culture of cooperation to defuse and prevent conflicts and tension

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<sup>27</sup> Article 21 paragraph 2 of the Convention « Exchange of and Access to Information »

<sup>28</sup> *ibid*



- Pooling of ideas and taping into locally-relevant information essential for decision-making
- A higher degree of compliance with regional treaties that in the long-term, can reduce the costs of enforcement

The actions outlined below aim to increase the participation of the public in coastal communities, as well as stakeholders of Caspian countries, in the management of Caspian environment; improve understanding on the part of local, regional and governmental authorities regarding the importance of environmental issues and increase their involvement in project implementation; and develop active partnerships between the Caspian NGO Forum, local and multinational enterprises, and other stakeholders in the region. Some key mechanism will be through improved environmental education programmes and better communications and information sharing.

## **5.2 Participation of public and stakeholders**

- Promote the establishment of NGO partnerships to provide support and guidance for improving civil society involvement and strengthening of environmental NGO Networks.
- Implement the Caspian Public Participation Strategy through its incorporation in the National Caspian Action Programmes (NCAPs).
- Set up a fund for micro-grants addressing coastal community development schemes and local environmental issues, in partnership with the private sector and international donor community.
- Set up “Friends of Caspian” programme, including an annual competition for the local, national and international companies that have achieved the most concrete gains in protection of the Caspian environment in the previous year, in at least two levels (national and international) on the territory of coastal region.

## **5.3 Communications and Information Sharing**

- Create a press bureau to improve national, regional and international awareness of the Caspian environmental issues, and encourage the media to participate in the dissemination of information.
- Strengthen awareness of environmental issues in the Caspian Sea through partnerships with national and international media.
- Provide regular training to journalists in order to strengthen environmental journalism and improve media coverage of environmental issues.
- Establish media and film festivals, in conjunction with the Caspian NGO Forum, on Caspian ecology to focus on the links between human behaviour and natural ecosystem functions.

- Establish “Caspian Day” and raise environmental awareness for specific target groups.

#### **5.4 Environmental Education**

- Create Caspian Environmental Information, Communication, and Education Centres to provide information to the public on Caspian environmental issues.
- Develop academic curriculum materials focusing on Caspian environmental issues
- Encourage the development of university level curricula for ecology and environmental science in conjunction with international institutions featuring Caspian issues.
- Promote national and regional academic partnerships at school and university levels.
- Provide a basic training course in ecology for local coastal enterprises and targeted populations emphasizing win-win scenarios and sound environmental stewardship.

#### **5.5 Local, regional and governmental authorities**

- Create targeted awareness building campaigns for ministerial authorities and regional administration involved in *inter alia*: agriculture, fisheries, transportation, and natural resource management.
- Implement national EIA procedures for all appropriate Caspian project developments, including provisions for public participation.
- Hold biennial mayoral conferences sponsored by national and international partners to foster networking among coastal local authorities and enhance their participation in implementing Caspian environmental policies.
- Develop training programmes on awareness of environmental issues for local authorities, and national ministries, through Caspian Environmental Information, Communication, and Education Centres emphasizing the environmental evaluation techniques.
- Develop of training programmes for land/property agents, construction firms, regional, district and national level planning agencies on importance of coastal sustainable development practices with concrete examples of sustainable development projects.
- Develop training programmes for regional and municipal authorities on modern techniques for wastewater and municipal waste treatment.

#### **5.6 Partnerships between Caspian NGO Forum, enterprises, and other stakeholders**

- Promote environmental partnerships between NGOs, government and private sectors to address specific Caspian issues by implementation of Caspian Public Participation Strategy.
- Develop Stakeholder Dialogue Groups at the national level and exchange experience at the regional level to improve dialogue opportunities for stakeholder groups who may be in conflict natural resource management.
- Develop a programme to encourage implementation of cleaner technologies by local industries corresponding to ISO 14000.

## **6 INSTITUTIONAL AND FINANCIAL ARRANGEMENTS**

The institutional and financial arrangements are contained in Annex I and will be updated regularly in line with the decisions of the COP.

**Annex 1**

**INSTITUTIONAL AND FINANCIAL ARRANGEMENTS**

**1. Institutional Arrangements**

At the institutional level, the Strategic Convention Action Programme will be implemented in line with the following:

- The Contracting Parties to the Tehran Convention are responsible and accountable to the Conference of the Parties for the implementation of the SCAP in accordance with their national procedures and in the context of their National Action Plans.
- Each Contracting Party, within its national administration, appoints one or more focal points to coordinate the implementation of the SCAP and other matters related to the implementation of the Convention at the national level, such as the preparation and implementation of protocols and the contacts and collaboration with donor agencies and other partners.
- Pending the decision on the location and arrangements of the Convention permanent Secretariat, the Contracting Parties have requested UNEP to provide the secretariat services. These include promoting regional cooperation to ensure a proper and effective implementation of the Convention and providing technical and administrative support services to the Conference of the Parties as set forth in Art. 23 of the Convention. The Secretariat maintains relations with relevant international and non-governmental organisations. The Secretariat biennial Programme of Work and budget is subject to approval by the Conference of the Parties and the Secretariat reports on its activities to the Meetings of the Conference of the Parties.
- Further to Art. 22.10 of the Convention, the Conference of the Parties may establish subsidiary bodies, such as ad hoc advisory working groups, as may be deemed necessary for the implementation of the Convention and the protocols.
- For the period after the conclusion of the CASPECO project the COP will have to consider the creating of the Convention Subsidiary Body that will include representatives from the Parties, international partners, relevant donors and relevant International Funding Institutions to, *inter alia*, better coordinate donor-financed activities.

**2. Financial Arrangements**

The Contracting Parties provide for financing of the implementation of the SCAP in their national budgets, and to financially support activities of the interim Secretariat and the implementation of the Programme of Work adopted by the COP. The Programme of Work and budget of the Secretariat and its activities is financed by contributions from the

Contracting Parties, voluntary contributions from governments, different organisations, as well as clearly identified counterpart contributions.

While recognizing that the Contracting Parties provide for predictable funding for the operation of the Tehran Convention, they call upon the concerned international agencies, financial institutions and donor community, in particular UNDP, UNEP, the European Union, the World Bank and the Global Environment Facility, to continue to contribute to further development and effective implementation of the Tehran Convention and its Protocols and programmes.