

**PROTOCOL FOR THE PROTECTION OF THE CASPIAN SEA AGAINST POLLUTION
FROM LAND-BASED SOURCES AND ACTIVITIES
TO THE FRAMEWORK CONVENTION FOR THE PROTECTION
OF THE MARINE ENVIRONMENT OF THE CASPIAN SEA**

Preamble

Caspian littoral States:

Republic of Azerbaijan,

Islamic Republic of Iran,

Republic of Kazakhstan,

Russian Federation,

Turkmenistan,

hereinafter referred to as the Contracting Parties

And being the Parties to the Framework Convention for the Protection of the Marine Environment of the Caspian Sea, done at Tehran, Islamic Republic of Iran, on 4 November 2003, hereinafter referred to as the Convention;

Determined to implement the Convention, and in particular its Articles 7 and 11, paragraph 1;

Taking into consideration the Strategic Convention Action Programme for the Caspian Sea, adopted at Tehran, Islamic Republic of Iran, 12 November 2008;

Recognising the unique ecological and hydrological nature of the Caspian Sea as the largest inland body of water on earth;

Desiring to pursue the protection and conservation of the marine environment and coastal areas and sustainable use of natural resources of the Caspian Sea as an integral part of the development process, meeting the needs of present and future generations in an equitable manner;

Conscious of the serious danger posed to the marine environment and coastal areas, living resources and human health by pollution from land-based sources and activities;

Taking note in particular of the environmental problems caused by the sea-level fluctuations;

Noting the importance for the Caspian littoral States of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, adopted in Washington, D.C., on 3 November 1995;

HAVE AGREED as follows:

Article 1. Purpose of the Protocol

The purpose of this Protocol 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 an environmentally sound marine environment of the Caspian Sea.

Article 2. Use of Terms

For the purposes of this Protocol:

- (a) “Conference of the Parties” means the body referred to in Article 22 of the Convention;
- (b) “Secretariat” means the body referred to in Article 23 of the Convention;
- (c) “Best available techniques (BAT)” means the latest stage of development (state of the art) of processes, facilities or methods of operation, which indicate the practical suitability of a particular measure for limiting emissions and waste. “Techniques” include both the technology used and the way in which the installation is designed, built, maintained, operated and dismantled.
- (d) “Best environmental practice (BEP)” means the application of the most appropriate combination of environmental control measures and strategies.
- (e) “Coastal area” means terrestrial area bordering the coastline and affected by the proximity to the sea and by the sea level fluctuations;
- (f) “Hot-spot” means a limited and definable 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;
- (g) “Pollution from land-based sources” means pollution of the sea from all kinds of point and diffuse sources based on land reaching the marine environment, whether water-borne, air-borne or directly from the coast;
- (h) “Point sources” means 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;

(i) “Diffuse sources” means 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;

(j) “Emission” means any kind of discharges, effluents or releases of polluting substances into the water, air or soil;

(k) “Emission controls” means controls requiring a specific emission limitation, such as an emission limit value, or otherwise specifying limits or conditions on the effects, nature or other characteristics of an emission or operating conditions which affect emissions;

(l) “Emission limit values” means the mass, expressed in terms of certain specific parameters, concentration or level of an emission, which may not be exceeded during any one or more periods of time. The emission limit values for substances shall normally apply at the point where the emissions leave the installation, dilution being disregarded when determining them;

(m) “Environmental quality standard (EQS)” means the concentration of a particular substance or group of substances in water, sediment or biota which should not be exceeded in order to protect human health and the environment;

(n) “Environmental quality objective (EQO)” means a goal, which specifies a desirable target for environmental quality that should be met in some particular environment, such as a river, beach or industrial site.

Article 3. Scope of Application

In accordance with Article 3 of the Convention and pursuant to Article 1 of the present Protocol this Protocol shall apply to:

(a) Emissions of polluting substances originating from land-based point and diffuse sources that have or may have an adverse effect on the marine environment and/or coastal areas of the Caspian Sea. These emissions shall include, those which reach the marine environment including brackish waters, marshes and coastal lagoons, *inter alia* through mouths of rivers, canals or other watercourses, groundwater flows, 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 under the conditions defined in Annex III;

(c) Pollution resulting from activities that affect the marine environment and/or coastal areas of the Caspian Sea, including physical alteration of the natural state of the coastline and alteration or destruction of the landscape or habitats.

Article 4. General Obligations

1. The Contracting Parties shall individually or jointly take all appropriate measures in accordance with the provisions of the Convention to prevent, control, reduce and to the maximum

extent possible eliminate pollution of and other adverse effects on the marine environment and coastal areas of the Caspian Sea from land-based sources and activities.

2. The Contracting Parties shall, in particular:

(a) Apply the precautionary principle, by virtue of which where there are threats of serious or irreversible damage to the marine environment or to public health, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent such damage;

(b) Apply the polluter pays principle, by virtue of which the costs of pollution prevention, control and reduction measures are to be borne by the polluter;

(c) Promote cooperation between and among Contracting Parties in environmental impact assessment related to activities which are likely to have significant adverse effect on the marine environment of the Caspian Sea;

(d) Ensure that environmental factors, including health aspects, are thoroughly taken into account in the development of relevant plans and programmes;

(e) Take preventive measures to minimize the risk of pollution caused by industrial accidents and natural disasters through disaster preparedness and response;

(f) Take special measures of protection against land-based pollution and activities potentially harmful for natural spawning grounds of sturgeon, Caspian salmon and other valuable species;

(g) Promote sustainable development of the coastal areas through the integrated approach to development of coastal areas;

(h) Endeavour to cooperate on the basis of mutual consent in achieving the objectives of the Protocol with non-littoral States that have in their territories parts of the hydrologic basin of the Caspian Sea.

Article 5. Measures of Implementation

1. Each Contracting Party shall designate a national authority competent to coordinate the implementation of this Protocol and inform accordingly other Contracting Parties through the Secretariat.

2. In implementing this Protocol, the Contracting Parties shall:

(a) Adopt regional and/or national programmes or plans of actions based on pollution source control and containing measures and, where appropriate, timetables for their completion. In developing such programmes or plans they may take into consideration recommendations of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities and the relevant provisions of the Strategic Action Programme for the Caspian Sea.

(b) Address activities and substances listed in Annex I through the progressive development, adoption and implementation of:

(i) emission controls, including emission limit values for relevant substances, environmental quality standards and environmental quality objectives, as well as management practices based on the factors defined in Annex I; and

(ii) timetables for achieving the limits, management practices and measures agreed by the Contracting Parties;

(c) Utilize or promote BAT and BEP and the application of, access to and transfer of environmentally sound technology, including cleaner production, taking into account the social, economic and technological conditions and criteria set forth in Annex V.

Article 6. Common Guidelines and Standards

1. In conformity with Article 18 of the Convention, the Contracting Parties shall progressively formulate and adopt, if necessary in cooperation with competent international organisations, common guidelines and, as appropriate, standards or criteria dealing in particular with:

(a) The length, depth and position of pipelines for coastal outfalls, taking into account, in particular, the methods used for treatment of emissions;

(b) Special requirements for emissions necessitating separate treatment;

(c) The quality of sea-water that is necessary for the protection of human health, living resources and ecosystems when used for specific purposes;

(d) The control and, where necessary, progressive replacement of products, installations and industrial and other processes causing significant pollution of the marine environment and coastal areas;

(e) Specific requirements concerning the quantities of the substances discharged, listed in Annex I to this Protocol, their concentration in emissions and methods of discharging them.

2. The regional programmes and plans of action referred to in Article 5, paragraph 2 (a) of this Protocol shall be elaborated and implemented taking into consideration the following:

(a) The common emission limit values, environmental quality standards or environmental quality objectives, as well as timetables for the implementation of the measures aimed at preventing, reducing or eliminating, as appropriate, pollution from land-based sources and activities shall be established by the Contracting Parties and periodically reviewed for substances listed in Annex I to this Protocol; and

(b) The Conference of the Parties shall define pollution prevention criteria as well as recommend appropriate measures to reduce, control and eliminate pollution of the marine environment of the Caspian Sea from land-based sources and activities and periodically update them to reflect the increasing information through the monitoring programmes referred to in Article 13 of this Protocol, the changes in the industrial and other human activities and possible advances in science and the pollution control technologies.

Article 7. Pollution from Point Sources

1. The Contracting Parties shall ensure that the emission controls of point sources of pollution by substances listed in Annex I that have or may have an adverse effect on the marine environment or coastal areas of the Caspian Sea are based on BAT, BEP or the relevant emission limit values.

2. The Contracting Parties shall adopt and implement national action plans with timetables for achieving substantial reductions of inputs of pollutants from point sources on the basis of the list of hot-spots to be adopted and subsequently reviewed and revised every two years by the Conference of the Parties.

3. Point source emissions shall be subject to authorisation or regulation by the competent national authorities of the Contracting Parties, taking due account of the provisions of this Protocol, Annex IV thereto and the relevant decisions and recommendations of the Conference of the Parties.

4. To this end, the Contracting Parties shall provide for a system of regular inspection by their competent national authorities to assess compliance with authorisations and regulations of emissions into the environment. The Contracting Parties shall have in place appropriate sanctions in case of non-compliance with authorisations and regulations and ensure their application.

Article 8. Pollution from Diffuse Sources

1. The Contracting Parties shall ensure that the methods of control of diffuse sources of pollution by substances listed in Annex I affecting or having the potential to affect the marine environment or coastal areas of the Caspian Sea are based on BEP and BAT.

2. The Contracting Parties shall take all necessary measures to substantially reduce the pollution load from agricultural activities affecting the marine environment and coastal areas of the Caspian Sea in order to comply with the agreed EQS and EQO for substances listed in Annex I to this Protocol in accordance with criteria defined in Annex II.

Article 9. Pollution from Other Activities

1. The Contracting Parties shall ensure that activities, which have or may have an adverse effect on the marine environment or coastal areas of the Caspian Sea and which are not covered by the provisions of Articles 7 and 8 of this Protocol, are conducted on the basis of BAT and BEP.

2. The Contracting Parties shall take all appropriate measures to prevent, control, reduce and to the maximum extent possible eliminate pollution of the marine environment and coastal areas as a result of the sea-level fluctuations. To this end, they shall protect petroleum and chemical facilities and oil contaminated land under potential threat of inundation and shall decommission obsolete on-shore installations and storage facilities.

Article 10. Integrated Approach to Coastal Area Development

1. The Contracting Parties shall individually and, where appropriate, jointly apply integrated approach to the development of coastal areas, on the basis of, *inter alia*, coastal area planning. They shall adopt and implement mitigation measures to reduce negative impacts of natural hazards such as long-term sea-level fluctuation, storm-surges, storms, earthquakes and coastal erosion on the population and infrastructure of the coastal areas.

2. The Contracting Parties shall take all appropriate measures to reduce and reverse deforestation and land degradation in the coastal areas and shall develop and implement national plans of actions and programmes aimed at reforestation and combating desertification.

Article 11. Transboundary Impacts

1. Where pollution from land-based sources and activities originating from any Contracting Party is likely to adversely affect the coastal areas of one or more of the other Contracting Parties or the marine environment of the Caspian Sea, the Contracting Party concerned shall inform and consult the potentially affected Contracting Parties, with a view to resolving the issue.

2. If the discharge from a watercourse, which flows through the territories of two or more Contracting Parties or forms a boundary between them, causes or is likely to cause pollution of the marine environment of the Caspian Sea, the Contracting Parties concerned shall cooperate with a view to ensuring the full application of this Protocol, including, where appropriate, through the establishment of joint bodies responsible for identifying and resolving pollution problems.

3. A Contracting Party shall not be responsible for any pollution originating in the territory of a non-Contracting State or States.

Article 12. Environmental Impact Assessment

1. Pursuant to Article 17 of the Convention, the Contracting Parties shall develop and adopt regional and corresponding national guidelines concerning the assessment of the potential environmental impacts of land-based projects and activities, including possible transboundary impacts, and review and update those guidelines as appropriate.

2. Each Contracting Party shall introduce and apply procedures of environmental impact assessment of any planned land-based activity or project within its territory that is likely to cause significant adverse effect on the marine environment and coastal areas of the Caspian Sea.

3. The implementation of activities and projects referred to in paragraph 2 of this Article shall be made subject to a prior written authorisation from the competent authorities of the Contracting Party, which takes fully into account the findings and recommendations of the environmental impact assessment.

Article 13. Information and Data Collection, Monitoring and Assessment

1. Within the framework of the provisions of, and the monitoring programmes provided for in Article 19 of the Convention, and if necessary in cooperation with competent international organisations, the Contracting Parties, to the extent possible, shall:

(a) Collect data and information and prepare and maintain a national database on the conditions of the marine environment and coastal areas of the Caspian Sea as regards its physical, biological and chemical characteristics;

(b) Collect data and information and prepare and maintain a national database of inputs of substances listed in Annex I of this Protocol from land-based sources, including information on the distribution of sources and the quantities of such substances introduced to the marine environment and coastal areas of the Caspian Sea;

(c) Undertake regional assessment on a regular basis (at least once in five years) of the state of the marine environment and coastal areas of the Caspian Sea;

(d) Systematically assess the levels of pollution along their coasts, in particular with regard to activities and substances listed in Annex I and periodically provide information in this respect to the Secretariat;

2. The Contracting Parties shall collaborate in establishing elements of the regional monitoring programme as well as compatible national monitoring programmes, with analytical quality control, and to promote data storage, retrieval and exchange.

3. Information referred to in paragraph 1 of the present Article shall be made available to other Contracting Parties through the Secretariat.

Article 14. Exchange of Information

Pursuant to Article 21 of the Convention, the Contracting Parties shall directly or through the Secretariat exchange on a regular basis available data and information on the state of the marine environment and coastal areas and on the implementation of this Protocol. The Contracting Parties shall develop systems and networks for the exchange of information.

Article 15. Public Participation

1. Each Contracting Parties shall, in accordance with Article 21 of the Convention and its national legislation, promote the participation of local authorities and the public in measures that are necessary for the protection of the marine environment and coastal areas of the Caspian Sea against pollution from land-based sources and activities, including environmental impact assessments, and in decision-making processes relevant to the implementation of this Protocol.

2. Each Contracting Party shall, in accordance with Article 21 of Convention and its national legislation, facilitate public access to the information concerning conditions of the marine

environment and coastal areas of the Caspian Sea, measures taken or planned to be taken to prevent, control and reduce pollution taking into account provisions of existing international agreements concerning public access to environmental information which they are Party to.

Article 16. Cooperation and Assistance

1. The Contracting Parties shall cooperate on a regional basis through the Secretariat, or, where appropriate, bilaterally in the prevention, control, reduction and, to the maximum extent possible, elimination of pollution of the marine environment and coastal areas of the Caspian Sea from land-based sources and activities.

2. In conformity with Article 20 of the Convention, the Contracting Parties shall encourage scientific and technological cooperation related to pollution from land-based sources and activities, particularly in research on quality and quantity of inputs, pathways, fates and effects of pollutants on the environment and on the development of new methods and techniques of pollution prevention, reduction and elimination, including the development and application of cleaner production approaches to this effect.

3. The Contracting Parties shall endeavour to cooperate, directly or through the Secretariat, with those Contracting Parties which request it in obtaining assistance for the implementation of this Protocol particularly to:

(a) Develop scientific, technical, educational and public awareness programmes and train scientific, technical and administrative personnel;

(b) Provide technical advice, information and other assistance.

4. The Contracting Parties shall cooperate with international organisations, programmes and international agreements relevant to the prevention, reduction and control of pollution of the marine environment and coastal areas from land-based sources and activities.

Article 17. Reporting

1. Each Contracting Party shall submit to the Secretariat reports on measures undertaken for the implementation of this Protocol in a format to be adopted by the Conference of the Parties. The Secretariat shall circulate the received reports to all Contracting Parties.

2. Such reports shall include, *inter alia*:

(a) Information on legal and regulatory measures, action plans, programmes and other steps taken for the implementation of this Protocol, its Annexes and recommendations adopted thereunder;

(b) Data on the quantities of substances of concern as per Annex I discharged into the Caspian Sea;

(c) Statistical data on the authorisations granted in accordance with Article 7 of this Protocol;

(d) Data and information resulting from monitoring as provided for in Article 13 of this Protocol;

(e) Information on pollution as a result of activities that alter or may alter the coastline or that adversely affect habitats within coastal areas;

(f) Information on the results achieved in the elimination and control of pollution from hot-spots;

(g) Information on the implementation of action plans, programmes and measures adopted under this Protocol to prevent, control, reduce and to the maximum extent possible eliminate pollution of the marine environment and coastal areas from land-based sources and activities, including information on the results achieved and, if the case arises, difficulties encountered in the implementation of this Protocol.

3. Regional reports shall be prepared through the Secretariat on the implementation of this Protocol and on the state of the marine environment and coastal areas of the Caspian Sea, using the data and information contained in national reports.

4. Nothing in this Protocol shall require a Contracting Party to supply information, the disclosure of which is contrary to the interests of its national security.

Article 18. Compliance

1. To facilitate the implementation of this Protocol the Contracting Parties shall develop procedures ensuring compliance to be adopted by the Conference of the Parties.

2. The Conference of the Parties shall:

(a) On the basis of the reports referred to in Article 17 and any other information submitted by the Contracting Parties, review and evaluate their compliance with the Protocol and the decisions and recommendations adopted thereunder;

(b) Where appropriate, decide upon and call for steps to bring about compliance with the Protocol and decisions adopted thereunder and promote the implementation of recommendations, including measures to assist a Contracting Party to carry out its obligations.

Article 19. Institutional Provisions

1. For the purposes of this Protocol and in accordance with Article 22, paragraph 10 of the Convention, the Conference of the Parties shall, *inter alia*:

(a) Keep under review the implementation of this Protocol;

(b) Oversee the work of the Secretariat and provide guidance for its activities;

- (c) Keep under review the content of this Protocol;
- (d) Consider and adopt any amendments to this Protocol or its annexes, as well as any additional annexes;
- (e) Consider reports submitted by the Secretariat on matters relating to this Protocol;
- (f) Consider the efficacy of the measures adopted and the advisability of adopting other measures, including those in annexes;
- (g) Adopt and review, where appropriate, relevant regional programmes, plans of actions and measures in accordance with Article 5 of this Protocol;
- (h) Adopt and review, where appropriate regional guidelines, standards or criteria in accordance with Article 6 of this Protocol;
- (i) Adopt and review, where appropriate, procedures for exchange of information and assist in developing information systems and networks for the exchange of information in accordance with Article 14 of this Protocol;
- (j) Review and evaluate information submitted by the Contracting Parties in accordance with Articles 13, 14 and 17 of this Protocol;
- (k) Review and evaluate the Contracting Parties' compliance with the provisions of this Protocol, the decisions and recommendations adopted thereunder as provided for in Article 18 of this Protocol;
- (l) Adopt, review and where necessary amend, a list of hot-spots as provided for in Article 7 of this Protocol;
- (m) Seek, where appropriate, the technical and financial services of relevant international bodies and scientific institutions for the purposes of this Protocol;
- (n) Establish any such subsidiary body as may be deemed necessary for the implementation of this Protocol in accordance with Article 22, paragraphs 9 (a) and (c) of the Convention.

2. For the purposes of this Protocol and in accordance with Article 23, paragraph 4 of the Convention, the Secretariat shall *inter alia*:

- (a) Prepare and make available to the Contracting Parties reports and results of studies which may be required for the implementation of this Protocol or as requested by them;
- (b) Forward to the Contracting Parties information submitted to the Secretariat in accordance with Article 13 of this Protocol;
- (c) Prepare draft regional programmes, plans of actions or measures to be adopted by the Conference of the Parties in accordance with Article 5 of this Protocol;

(d) Prepare draft regional guidelines, standards or criteria to be adopted by the Conference of the Parties in accordance with Article 6 of this Protocol.

Article 20. Funding

1. To achieve the objectives of this Protocol, the Contracting Parties, shall as far as possible:

(a) Consider and ensure the availability of financial resources for the formulation and implementation of related domestic, bilateral and multilateral programmes, projects and measures;

(b) Promote the mobilization of financial resources from bilateral and multilateral funding sources and mechanisms, including grants and loans;

(c) Explore innovative methods and incentives for mobilizing and channeling resources, including those of foundations, governmental agencies of other countries, international organizations, non-governmental organizations and private sector entities.

2. The Financial Rules of the Convention shall apply *mutatis mutandis* to this Protocol, unless otherwise decided by the Conference of the Parties.

Article 21. Settlement of Disputes

Any dispute between the Contracting Parties concerning the application or interpretation of the provisions of this Protocol shall be settled in accordance with Article 30 of the Convention.

Article 22. Adoption and Entry into Force of the Protocol

1. This Protocol shall be adopted by a unanimous decision of the Contracting Parties at a meeting of the Conference of the Parties.

2. This Protocol shall be open for signature only by Caspian littoral States, in the city of Tehran from the 12th of December 2012 to the 12th of June 2013.

3. This Protocol shall be subject to ratification, acceptance or approval by the Caspian littoral States and shall be open for accession by any Caspian littoral State from the date on which the Protocol is closed for signature.

4. Instruments of ratification, acceptance, approval or accession shall be deposited with the Depository of the Convention.

5. This Protocol shall enter into force on the ninetieth day after the date of deposit of the instrument of ratification, acceptance, approval or accession by all Caspian littoral States.

Article 23. Adoption of Amendments and Annexes to the Protocol, and Amendments to the Annexes

Any Contracting Party may propose amendments and annexes to the Protocol, as well as amendments to its annexes. These amendments and annexes shall be adopted by the Contracting Parties and enter into force in accordance with Articles 24 and 25 of the Convention.

Article 24. Effect of the Protocol in National Legislation

The provision of this Protocol shall not affect the right of Parties to adopt relevant stricter national measures for the implementation of this Protocol.

Article 25. Relationship with Other International Treaties

Nothing in this Protocol shall prejudice the rights and obligations of the Contracting Parties under other international treaties to which they are parties.

Article 26. Reservations

No reservations may be made to this Protocol.

Article 27. Depository

The Depository of the Protocol is the Depository of the Convention.

Article 28. Authentic Texts

The Azerbaijani, English, Farsi, Kazakh, Russian and Turkmen texts of this Protocol are equally authentic. In case of dispute arising as to the interpretation or application of this Protocol the English text shall be authoritative.

Article 29. Relationship with the Negotiations of the Legal Status of the Caspian Sea

Nothing in this Protocol shall be interpreted as to prejudge the outcome of the negotiation on the final legal status of the Caspian Sea.

IN WITNESS WHEREOF the undersigned, being duly authorized, have signed this Protocol.

Done at the city of Moscow on the twelfth day of December of 2012.

**PROTOCOL FOR THE PROTECTION OF THE CASPIAN SEA
AGAINST POLLUTION FROM LAND-BASED SOURCES AND ACTIVITIES
TO THE FRAMEWORK CONVENTION
FOR THE PROTECTION OF THE MARINE ENVIRONMENT OF THE CASPIAN SEA**

ANNEX I

Activities and Categories of Substances of Concern

This Annex contains elements, which shall be taken into account by the Contracting Parties in the preparation of action plans, programmes and measures for the prevention, control, reduction and to the maximum extent possible elimination of pollution from land-based sources and activities referred to in Articles 5 and 6 of this Protocol.

Such action plans, programmes and measures shall aim to cover the activities listed in Section A and also cover the categories of substances enumerated in Section B, selected on the basis of the characteristics listed in Section C of the present Annex. In preparing action plans, programmes and measures, the Contracting Parties may take into account the provisions of the relevant international instruments.

Priorities for action should be established by assessing the relative importance of impacts upon marine and coastal ecosystems and resources, public health, socio-economic benefits, including cultural values

A. Activities

The following, identified on the basis of their potential to pollute the marine environment, are activities of concern, not listed in order of importance, when setting priorities by the Contracting Parties, individually or jointly, while preparing action plans, programmes and measures for the prevention, control, reduction and elimination to the maximum extent possible of land-based pollution:

1. Agriculture and animal husbandry.
2. Industry:
 - Aquaculture;
 - Electronic;
 - Energy production;
 - Fertilizer production;
 - Food processing;
 - Forestry;
 - Nuclear;
 - Metal industry;

- Mining;
 - Oil and gas related activities;
 - Paper and pulp;
 - Pharmaceutical;
 - Production of construction materials;
 - Production and formulation of biocides;
 - Recycling;
 - Shipbuilding and repairing;
 - Tanning;
 - Textile.
3. Waste management:
 - Hazardous and toxic waste;
 - Industrial wastewaters;
 - Municipal solid waste and wastewaters;
 - Radioactive waste;
 - Sewage sludge disposal;
 - Waste incineration and management of its residues;
 - Rocket fuel.
 4. Tourism.
 5. Transport.
 6. Construction and management of artificial islands.
 7. Construction of motorways and highways.
 8. Liquidation of chemical weapons and ammunition.
 9. Dredging.
 10. Construction of harbours and harbour operations.
 11. Alteration of the natural physical state of the coastline.
 12. Installations out of exploitation which are affected by sea-level fluctuations.

B. Categories of Substances

The following, identified on the basis of their hazardous or otherwise harmful characteristics, are categories of substances of concern, not listed in order of importance, when preparing action plans and programmes, and taking measures by the Contracting Parties for the prevention, control, reduction and to the maximum extent possible elimination of land-based pollution.

1. Acid and alkaline compounds which may impair the quality of water.
2. Biocides and their derivatives not covered with other points.
3. Crude oils and hydrocarbons of petroleum origin and used lubricating oils.
4. Cyanides and fluorides.
5. Heavy metals and their compounds.

6. Marine litter (Any persistent, manufactured or processed, solid material which is discarded, disposed of, or abandoned).
7. Substances which may cause eutrophication.
8. Non-biodegradable detergents and other non-biodegradable surface-active substances.
9. Non-toxic substances that have an adverse effect on the oxygen content of the marine environment or that may have adverse effect on physical or chemical characteristics of seawater or that may interfere with any legitimate use of the sea.
10. Organohalogen compounds and substances; which may form such compounds in the marine environment.
11. Organophosphorus compounds and substances which may form such compounds in the marine environment.
12. Organotin compounds and substances which may form such compounds in the marine environment.
13. Pathogenic microorganisms.
14. Polycyclic aromatic hydrocarbons.
15. Radioactive, including/and nuclear substances.

C. Characteristics of Substances

In the preparation of action plans, programmes and measures for the prevention, control, reduction and to the maximum extent possible elimination of land-based pollution the Contracting Parties will take into account, as appropriate, the following characteristics of substances and factors, not in order of importance:

1. Bioaccumulation and biomagnification.
2. Cumulative effects of substances.
3. Distribution pattern of substances (i.e. quantities involved, use patterns and probability of reaching the marine environment).
4. Effects on the organoleptic characteristics of marine products intended for human consumption.
5. Effects on the smell, colour, transparency, temperature or other characteristics of seawater.
6. Health effects and risks.
7. Negative impacts on marine life and the sustainable use of living resources or another legitimate uses of the sea.
8. Persistence of substances.
9. Potential for causing eutrophication.
10. Radioactivity.
11. Ratio between observed concentrations and no observed effect concentrations (NOEC).
12. Risk of undesirable changes in the marine ecosystem and irreversibility or durability of effects.
13. Toxicity or other noxious properties (e.g. carcinogenicity, mutagenicity, teratogenicity).
14. Capability of long-distance transport.

ANNEX II

Diffuse Sources of Pollution from Agriculture

Definitions

For the purposes of this Annex:

1. “Diffuse sources of pollution from agriculture” means non-point sources of pollution originating from the cultivation of crops and rearing of domesticated animals, excluding intensive animal rearing operations that would otherwise be defined as point sources;
2. “Best practices” means economical and achievable structural or non-structural measures designed to prevent, reduce or control the run-off of pollutants to the marine environment and coastal areas of the Caspian Sea.

B. Plans for the Prevention, Control and Reduction of Diffuse Sources of Pollution from Agriculture

Each Contracting Party shall as soon as possible after this Protocol enters into force, develop plans and measures for the prevention, control and reduction of diffuse sources of pollution from agriculture that may adversely affect the marine or coastal environment of the Caspian Sea. Such plans and measures shall address, in particular, diffuse sources of pollution containing substances causing eutrophication, pesticides, sediments and pathogens.

The following are elements of concern when developing such plans:

1. An assessment and evaluation of diffuse sources of pollution from agriculture that may adversely affect the marine environment and coastal areas of the Caspian Sea, including:
 - (a) An estimation of loadings that may adversely affect the marine environment and coastal areas of the Caspian Sea;
 - (b) An identification of potential risks to human health;
 - (c) An evaluation of existing best practices and their effectiveness;
 - (d) The establishment of monitoring programmes.
2. Policy, legislative and economic measures including:
 - (a) An assessment and evaluation of adequacy of plans, policies and legal mechanisms directed toward the management of diffuse sources of pollution from agriculture and the development of a plan to implement such modifications as may be necessary to achieve best practices;
 - (b) An evaluation of the existing administrative framework to manage diffuse sources of pollution from agriculture;

- (c) The development and promotion of economic and non-economic incentive programmes to increase the use of best practices to prevent, control and reduce pollution of the marine environment and coastal areas of the Caspian Sea from diffuse sources of pollution from agriculture.
3. Education, training and awareness programmes including:
- (a) The establishment and implementation of programmes for the agricultural sectors and the general public to raise awareness of diffuse sources of pollution from agriculture and their impacts on the marine environment and coastal areas, public health and the economy;
 - (b) The establishment and implementation of programmes at all levels of education on the importance of the marine environment and coastal areas and the impact of pollution from agricultural activities;
 - (c) The establishment and implementation of training programmes for government agencies and the agricultural sectors on the implementation of best practices, including the development of guidance materials for agricultural workers on structural and non-structural best practices, to prevent, reduce and control diffuse sources of pollution from agriculture;
 - (d) The establishment of programmes to facilitate effective technology transfer and information exchange.

C. Reporting

Each Contracting Party shall report on its plans for prevention, control and reduction of pollution of the marine environment and coastal areas of the Caspian Sea from diffuse sources of pollution from agriculture in accordance with Article 17 of this Protocol.

ANNEX III

Pollution Transported Through the Atmosphere

This Annex defines the conditions of application of this Protocol to pollution from land-based sources and activities transported through the atmosphere in terms of Article 3, paragraph 2 (b).

1. This Protocol shall apply to polluting emissions into the atmosphere under the following conditions:

- (a) The discharged substance is or could be transported to the marine environment and coastal areas of the Caspian Sea under prevailing meteorological conditions;
- (b) The input of the substance into the marine environment and coastal areas of the Caspian Sea is hazardous, based on criteria developed under Article 6 of the Protocol, in relation to the quantities of the same substance reaching the marine environment and coastal areas by other means.

2. In the case of pollution of the marine environment and coastal areas of the Caspian Sea from land-based sources and activities through the atmosphere, the provisions of Articles 4 and 7 of this Protocol shall apply progressively to appropriate activities and substances listed in Annex I to this Protocol as will be agreed by the Contracting Parties.

3. Subject to the conditions specified in paragraph 1 above, the provisions of Article 6, paragraph 1 of this Protocol shall also apply to:

- (a) Emissions - quantity and rate - of substances discharged into the atmosphere, on the basis of the information available to the Contracting Parties concerning the location and distribution of air pollution sources;
- (b) The content of substances of concern in fuel and raw materials;
- (c) The efficiency of air pollution control technologies and more efficient manufacturing and fuel burning processes;
- (d) The application of substances of concern in agriculture and forestry.

4. The provisions of Annex IV to this Protocol shall apply to pollution through the atmosphere whenever appropriate. Air pollution monitoring and modelling using acceptable common emission factors and methodologies shall be carried out in the assessment of atmospheric deposition of substances, as well as in the compilation of inventories of quantities and rates of pollutant emissions into the atmosphere from land-based sources.

5. All Articles of this Protocol shall apply equally to pollution from land-based sources and activities transported through the atmosphere wherever applicable and subject to the conditions specified in paragraph 1 above.

ANNEX IV

Authorisation for Emissions

Pursuant to Article 7, paragraph 3 of this Protocol, the Contracting Parties when considering the issue of an authorisation for the emissions containing substances of concern listed in Annex I to this Protocol, shall evaluate and consider, as appropriate, the following factors:

A. Characteristics and Composition of the Emissions

1. Type and size of point or diffuse source (e.g. industrial process);
2. Type of emissions (e.g. origin, average composition);
3. State of waste (e.g. solid, liquid, sludge, slurry);
4. Total amount (volume discharged, e.g. per year);
5. Discharge pattern (continuous, intermittent, seasonally variable, etc.);
6. Concentrations with respect to relevant constituents of substances listed in Annex I and of other substances as appropriate;
7. Physical, chemical and biochemical properties of the waste effluents.

B. Characteristics of Emission Constituents with Respect to their Harmfulness

1. Persistence (physical, chemical, biological) in the marine environment;
2. Toxicity and other harmful effects;
3. Accumulation in biological materials or sediments;
4. Biochemical transformation producing harmful compounds;
5. Adverse effects on the oxygen content and balance;
6. Susceptibility to physical, chemical and biochemical changes and interaction in the aquatic environment with other seawater constituents which may produce harmful biological or other effects on any of the uses listed in Section F below;
7. All other characteristics as listed in Annex I, Section C.

C. Characteristics of Emission Site and Receiving Environment

1. Hydrographic, meteorological, geological and topographical characteristics of the coastal area;
2. Location and type of the source (outfall, canal outlet, etc.) and its relation to other areas (such as amenity areas, spawning, nursery, and fishing areas, shellfish grounds) and other emissions;
3. Initial dilution achieved at the point of emission into the receiving environment;

4. Dispersion characteristics such as effects of currents, tides and wind on horizontal transport and vertical mixing;
5. Receiving water characteristics with respect to physical, chemical, biological and ecological conditions in the discharge area;
6. Capacity of the receiving marine environment to receive waste effluents without undesirable effects.

D. Characteristics of the Activity or Source Category

1. Performance of existing technologies and management practices, including indigenous technologies and management practices;
2. Age of facilities, as appropriate;
3. Existing economic, social and cultural characteristics.

E. Alternative Production, Waste Treatment Technologies or Management Practices

1. Recycling, recovery and reuse opportunities;
2. Less hazardous or non-hazardous raw material substitution;
3. Substitution of cleaner alternative activities or products;
4. Low-waste or clean technologies or processes;
5. Alternative disposal activities (for example on land disposal).

F. Potential Impairment of Marine Ecosystems and Seawater Uses

1. Effects on human health through pollution impact on:
 - (a) Edible marine organisms;
 - (b) Bathing waters; and
 - (c) Aesthetics.
2. Effects on marine and coastal ecosystems, in particular living resources, endangered species and critical habitats.
3. Effects on other legitimate uses of the sea.

ANNEX V

Guidelines on “Best Available Techniques and Best Environmental Practice”

In accordance with relevant provisions of this Protocol the Contracting Parties will utilise or promote the application of Best Available Techniques (BAT) and Best Environmental Practice (BEP).

A. Best Available Techniques

1. The term “best available techniques” means the latest stage of development (state of the art) of processes, facilities or methods of operation, which indicate the practical suitability of a particular measure for limiting emissions and waste. “Techniques” include both the technology used and the way in which the installation is designed, built, maintained, operated and dismantled.

2. The use of the best available techniques shall emphasize the use of non-waste technology, if available.

3. In determining whether a set of processes, facilities and methods of operation constitute the best available techniques in general or individual cases, special consideration shall be given to:

- (a) Comparable processes, facilities or methods of operation which have recently been successfully tried out;
- (b) Technological advances and changes in scientific knowledge and understanding;
- (c) The economic feasibility of such techniques;
- (d) Time limits for installation in both new and existing plants;
- (e) The nature and volume of the emissions concerned;
- (f) The precautionary principle

4. What is “best available techniques” for a particular process will change with time in the light of technological advances, economic and social factors, as well as changes in scientific knowledge and understanding.

5. If the reduction of emissions resulting from the use of best available techniques does not lead to environmentally acceptable results, additional measures have to be applied.

B. Best Environmental Practice

1. The term “best environmental practice” means the application of the most appropriate combination of environmental control measures and strategies.

2. In making a selection for individual cases, at least the following graduated range of measures should be considered:

- (a) The provision of information and education to the public and to users about the environmental consequences of choice of particular activities and choice of products, their use and ultimate disposal;
- (b) The development and application of Codes of Good Environmental Practice which cover all aspects of the activity in the product's life;
- (c) The mandatory application of labels informing users of environmental risks related to a product, its use and ultimate disposal;
- (d) Saving of resources, including energy;
- (e) Making collection and disposal systems available to the public;
- (f) Avoiding the use of hazardous substances or products and the generation of hazardous waste;
- (g) Recycling, recovery and re-use;
- (h) The application of economic instruments to activities, products or groups of products;
- (i) Establishing a system of licensing, involving a range of restrictions or a ban.

3. In determining what combination of measures constitute “best environmental practice” in general or individual cases particular consideration should be given to:

- (a) The environmental hazard of the product and its production, use and ultimate disposal;
- (b) The substitution by less polluting activities or substances;
- (c) The scale of use;
- (d) The potential environmental benefit or penalty of substitute materials or activities;
- (e) Advances and changes in scientific knowledge and understanding;
- (f) Time limits for implementation;
- (g) Social and economic implications;
- (h) Precautionary principle.

4. It therefore follows that “best environmental practice” for a particular source will change with time in the light of technological advances, economic and social factors, as well as changes in scientific knowledge and understanding.

5. If the reduction of inputs resulting from the use of best environmental practice does not lead to environmentally acceptable results, additional measures have to be applied and best environmental practice redefined.