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**TERMS OF REFERENCE  
FOR MASTER PLAN STUDY  
ON INTEGRATED ENVIRONMENTAL MANAGEMENT  
IN BAKU CITY**

**1. BACKGROUND INFORMATION**

Since the break up of the Soviet Union, economic output of Azerbaijan has declined dramatically as a result of several factors, including the collapse of the domestic trade and payment system, the war with Armenia, cut-off of transport links to the north, and a relatively slow economic reform process. Heavy industry was especially hard hit, and many large complexes are now operating at less than 20% of capacity. Oil and gas production declined by an estimated 30% from the late 1980s to the middle of the 1990s. But the accumulation from the past of toxic industrial waste, heavy metals, pesticide residues, and oil pollution represents substantial problems in the country.

In particular, Baku city as the capital of Azerbaijan, located along the south coast of the Apsheron peninsula, is a center of the oil-refining and oil-engineering industry. Heavy industry has been highly concentrated in the city, with large chemical, petrochemical and metallurgical complexes. On- and off-shore oil and gas production has been extensive for more than a century in and along the coast of the Caspian sea. Pollution from oil fields and the oil refineries continues at high rates. Besides, air pollution from road transport is also on the rise, as witnessed by a highly polluting and poorly maintained urban bus fleet, an aging vehicle fleet, and import of vehicles with no or limited emission control.

**(1) Soil and water contamination due to oil excavation**

In and around Baku city, oil production has left behind vast areas of waste land with oil ponds and severely contaminated soil with radioactive substances, a shore along the Baku bay black with oil residues, and heavy pollution of the Caspian Sea. In the Binagadi district of the city, the efforts of administration, institutions and enterprises were combined with those of the people of the district, so that many lands contaminated or flooded by oil wells have been restored for agricultural production and construction. However, there are many places that still need to be rehabilitated from oil contamination, as in the following cases involving lakes:

- The further increase in the water level of the Beyuk Shor lake, which is situated north of the city, has resulted in the oil water flooding of vast territories used in the national economy, as well as damage to the Baku-Mardakyan highway which is the main link with Baku airport.
- The Red lake situated in the Karadag region, west of the city, has been used as a collector of water drained from oil extraction sites. The lake's water is contaminated by oil hydrocarbons as well as suspended substances, and is highly mineralized. The rise of the water level resulted in the polluted flooding of the Baku-Tbilisi highway and took more than 15 oil wells out of operation. There is a threat of flooding to a number of other oil wells.
- The Ganli Gel lake is situated in the southwest of Baku city in a natural hollow. It was formed in the 1960s also as a collector of drained waters. In addition, the water in the lake is highly contaminated by organic domestic and human waste products, mineralized, and contains heavy metals.

## (2) Solid waste treatment issue

Domestic solid waste also causes a great problem because Baku city's experimental treatment plant stopped its operation in 1995 due to economic difficulties. And the existing dumping sites are too close to residential areas and improperly managed due to lack of facilities and equipment. Moreover, due to the lack of specialized waste containers for glass, textile, paper, plastic, etc., the problem of preliminary separation remains unsolved. At the same time, industrial processing is impossible without the solution of this problem.

On the other hand, industrial solid waste including harmful substances has also been piled up or left around the city without appropriate treatment or recycling.

## (3) Air pollution

Air pollutants in Baku city reached 972,600 tons in 1994 and 623,930 tons in 1995, including 241,100 tons from motor vehicles. Air pollutants in the city accounts for 66.1 % of the total air pollutants in the Republic. This fact demonstrates how much the ecological situation in the region is degraded.

The situation is aggravated by the fact that the majority of dust and gasproofing installations work ineffectively, and some of them do not operate at all. Thus, 10 % of the 2,000 pieces of anti-air-pollution equipment checked by the experts of the State Committee for the Environment in 1994 - 1995 were inoperative, and 150 worked

ineffectively.

#### (4) Lack of vegetative space

In the beginning of the century, the Apsheron peninsula including the Baku city had practically no trees, because of the deficiency of fresh water. At present the city has 12,278.42 hectares of forested land, which is equivalent to about 70m<sup>2</sup> per capita, with a norm equal to 96m<sup>2</sup> per capita. Among the forested lands there are large areas such as Primorskiy park (63.7 hectares) and Nagorniy park (40 hectares) and others. Large amounts of forested land are also on the territory of garden areas, which occupy a large part of the coastal area of the peninsula.

But in spite of such national efforts, the city still has a lot of barren land partially due to soil contamination by oil and due to inappropriate city planning. Besides, the present lack of maintenance will degrade the quality of the existing vegetation itself. It is desirable to establish more managed vegetative space for people's amenity and a beautiful landscape for the nation's capital city in the future.

#### (5) Weak Environmental Institution and Enforcement System

In order to implement measures for effective environmental management, there is a need for an environmental legal framework including basic environmental laws, supplementary laws, regulations and standards on air, water and noise pollution, waste dumping and so forth, the institutional system to enforce environmental regulations and encourage energy conservation, cleaner production, raw material and waste minimization, capacity development for human resources, and the building of necessary facilities for environmental monitoring and industrial inspection.

However, the capacity to develop environmental policies, necessary environmental laws, regulations and standards to implement the regulations of the national and local environmental authorities is still limited. Therefore, the administrative system for environmental management has to be strengthened according to the requirements of Baku City.

## 2. NECESSITY OF THE STUDY

A number of serious environmental problems have thus been identified in and around Baku city. They are scattered oil excavation sites, abandoned industrial wastes and sludge, and huge industrial plants which will not be operated any more. Some areas might have been polluted and damaged, and might be toxic and harmful for human health.

However, little environmental consideration had been given to the industrial and energy development so far, and the consequences were of disastrous proportions. The population in parts of Baku area suffered from high levels of air pollution, occupational health risks, exposure to highly toxic waste and water pollution.

On the contrary, the present difficult transition period has been a mixed blessing for the environment. The decline in industrial and agricultural output has significantly reduced air pollution, industrial effluent, and pollution from agrochemicals. But in the near future, oil exploration and processing under the new oil contracts will allow further economic development of the city, increasingly degrading its environment. Therefore, now is a good opportunity to formulate an environmental master plan for the city in order to build up planning and institutional capacity for effective environmental management and to implement preventive and mitigative measures against the forecasted environmental damages beforehand.

In fact, UNDP and World Bank have already started to assist in the following planning-type projects on environmental conservation:

- Project on Institutional Capacity Building in Environmental Management in Azerbaijan, including formulation of "Guidelines for the Environmental Impact Assessment Process" and "State of the Environment Report Azerbaijan",
- Project on Environmental Rehabilitation of Sumgait,
- Greater Baku Water Supply Rehabilitation Project, including wastewater treatment system, and
- Project on Formulation of "State Action Plan of Environmental Management"

However, these terminated or on-going projects have targeted either the whole area of the country or Sumgait city, which is another industrial region in the Apsheron peninsula. Besides, even in the case of Baku area, the only issues addressed are water supply as well as wastewater treatment.

Therefore, it is quite urgent to establish an environmental management master plan specifically for Baku city to prevent effectively its present and future environmental degradation, placing more stress on planning and institutional capacity-building for the environmental fields as below:

- (1) Oil excavation sites, which are scattered within the city and located too close to the residential areas, degrading land as well as scenery;
- (2) Heavy industry area and petro-chemical plants, which severely pollute ambient air damaging human health, due to their timeworn facilities and location close to the residences;

- (3) Domestic and industrial solid wastes, which are left without appropriate management, causing potential risk to health, land and scenery; and
- (4) Barren land without vegetation, which is located in and around the city, decreasing urban amenity and natural resources.

### **3. OBJECTIVES OF THE STUDY**

The following are major direct objectives envisaged under this study idea:

- (1) To develop a master plan for environmental management in Baku City area and to submit the appropriate institutional system including the legal framework, the government organizations, facilities and equipment, human resources and its training programs necessary for implementing the developed master plan.
- (2) To design the implementation schedule of and package different environmental conservation measures proposed under the master plan, and to carry out quick and simple preliminary feasibility studies for high-priority environmental projects among them for promotion of early realization; and
- (3) To transfer technologies and know-how on both the formulation and the implementation of master plans, by means of joint activities through studies and planning with counterpart staff.

### **4. SCOPE OF WORK**

#### **4-1. Study Area**

The study area covers (1) old and new development regions of Baku city, which includes 11 administrative areas (7 areas form the main body of city agglomeration) with about 2,200-km<sup>2</sup> land and over 2 million population, (2) oil excavation sites and oil-polluted inland water surfaces in its suburb, and (3) coastal area fronting Baku bay.

So neither the Apsheron peninsular as a whole nor the large Caspian sea itself is subject to the proposed study activities.

#### **4-2. Component and Phasing of the Study**

In order to formulate a master plan for environmental management, the study team is to review the existing results of analyses on air, water, soil, etc. in Baku city. Complementary sampling and analysis on these environmental items will also be done. On the other hand, the future directions on population and industrial development will be examined so that the extent of water and energy required in the future can be clarified.

Based on these data and information, it can be identified what type of natural degradation and pollution should be most significantly protected. As a result of these studies, the study area will be categorized depending on the health risk (zoning), which can be a baseline to examine appropriate locations for new factories, how to manage industrial solid waste, and where to locate solid waste treatment areas. In addition, a vegetative plantation program on the scattered barren land will be a significant study component.

Possible measures for environmental conservation to be proposed under the master plan include legislative and institutional enforcement programs necessary for plan implementation in addition to technical approaches such as environmental monitoring, waste treatment, rehabilitation of oil excavation sites, plantation, etc. And implementation schedule, scope and goals for these measures will be planned together with their rough cost estimation. Detailed components and procedures of the study can be phased as follows:

#### Phase 1 : Examination of Present Situation

- (1) Review the present environmental legal framework, the institutional system, capacity of human resources engaged in environmental management, facilities and equipment for necessary law enforcement, and the on-going environmental programs
  - National Committee for Ecology
  - Baku Committee on Ecology
  - Environmental Section of the Baku City Authority
  - Other Government Organizations concerned
- (2) Review on contents and progress of following municipal-level plans/programs available or under preparation :
  - Urban development plans in and around Baku city,
  - Land use plans in and around Baku city,
  - Infrastructure development programs in and around Baku city,
  - Environmental conservation schemes in and around Baku city, and
  - Other plans and programs related to the economic development of Baku city
- (3) Review of the following national or regional plans/programs related to Baku city's environment and development, and identification of the city's role/relation within these planning frameworks;
  - "State Action Plan of Environmental Management" formulated with assistance of the World Bank,
  - "Caspian Sea Environment Program" implemented jointly with the other Caspian



littoral states,

- “Medium Term Public Investment Program 1997-1999”, and
- Other national or regional plans/programs in terms of economic development or environmental conservation

(4) Collection, analysis and data-base formulation of the existing data/information concerned with the city’s present situation such as:

- Natural aspects including flora/vegetation, topography, climate and hydrology,
- Land use including residential areas, industrial locations and relocated people’s camps,
- Urban infrastructure including water supply system, sewerage system, transportation system and domestic/industrial waste treatment system,
- Pollution including surface water/groundwater quality, ambient air quality and soil,
- Sea-rise phenomenon and its damage in the coastal area along Baku bay, and
- Other socioeconomic aspects including population distribution, industrial structure, household income and health/sanitation

#### Phase 2 : Complementary Environmental Study and Estimation of Future Development Scenario

(1) Complementary sampling and analysis mainly of water and air essential for formulation of a master plan,

(2) Estimation of a future development scenario of the study area, based on the existing development plans/programs, consisting of concrete figures such as:

- Population taking account of relocated people’s movement,
- Development levels and land occupancy by industry,
- Economic indicators (e.g. GDP) and energy consumption,
- Water demand and domestic/industrial waste water,
- Traffic volume, and
- Domestic and industrial solid wastes

(3) Qualitative environmental impact assessment on the future Baku city without any new environmental conservation measures, based on the existing environmental data, results of complementary environmental studies and the future development scenario estimated above. On-going or planned environmental projects/schemes for the city will be regarded as given. Environmental items mainly subject to the assessment are :

- Water pollution, - Air pollution, -Soil contamination,
- Flora/vegetation, - Negative impacts of solid wastes,
- Accidental risks due to petrochemical industry and oil transport, and

- Other environmental damages along the Baku bay coastline area

### Phase 3 : Formulation of Master Plan for Environmental Management

- (1) Establishment of short-, mid- and long-term conservation goals clarifying:
  - Target years,
  - Target environmental levels for the whole Baku city, and
  - Clearance goals of environmental standards by industry
- (2) Ecological and environmental zoning of Baku city in line with the conservation goals established above, integrating social and natural factors including:
  - Plans/programs for the city's economic restoration, industrial development, tourism, land use, etc.,
  - Transportation network,
  - Environmental impacts "without-measures" assessed above,
  - Locations and special distribution of existing industries including oil fields,
  - Natural resources such as topography, climate, groundwater, Baku bay, surrounding green-belts, etc., and
  - Historical or political urbanization processes in the past (old and new city areas, relocated camps, etc.)
- (3) Planning on environmental measures required to achieve the conservation goals either for the overall study area or each environmental zone, consisting of:
  - Basic Policy for Environmental Management in Baku City Area
  - Basic Strategies for Implementing the Policy
  - Ways and Means for Effective Environmental Management
  - Projects and their Measures for Implementation
  - Priority for Implementation
- (4) Actions for capacity development for environmental management including the legal framework, organizations, manpower development, facilities and equipment and other necessary issues
  - Policy for capacity development in environment
  - Measures for strengthening environmental management
  - Development of organizations and manpower
  - Development of environmental facilities and equipment
  - Programs for manpower training

Phase 4 : Evaluation of the Master Plan and Preliminary Feasibility Studies on Projects with High Priority

- (1) Overall evaluation of the proposed contents of the master plan from various points of view such as institutional, technical, economic and financial aspects
- (2) Selection of high-priority measure projects, considering urgency, ease of implementation, effectiveness, donors' concerns, Azerbaijan's interests and so on
- (3) Preliminary feasibility studies on the selected high-priority projects in order to examine institutional feasibility, financial requirements and sources, technical alternatives, contributions to environmental conservation, etc.

#### 4-3. Study Schedule and Reporting

Approximately eighteen (18) months will be necessary for implementation of the proposed master-plan study. The study and reporting can be scheduled phase-wise as in the next table:

Phase / Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Phase 1	→																	
Phase 2				→														
Phase 3								→										
Phase 4														→				
Reporting	Ic				P1				In				P2				Df	F

(Notes) Ic: Inception Report      P1: Progress Report (1)      In: Interim Report  
P2: Progress Report (2)      Df: Draft Final Report      F: Final Report

## 5. EXPERTISE INPUT

About eighty (80) man-months (MM) in total shall be required for the study. The MM is distributed by necessary field of expertise as below:

<u>EXPERTISE</u>	<u>MM</u>
(1) Environmental Management Planning (Team Leader)	11
(2) Land Use and Urban Planning	10
(3) Analysis and Simulation of Water Quality	8
(4) Analysis and Simulation of Air Quality	10
(5) Designing and Cost Estimation of Conservation Measures	7
(6) Organizational and Institutional Planning	8
(7) Solid Waste Management	9
(8) Soil Rehabilitation	9
(9) Socio-economic and Financial Analysis	8
Total	80

## 6. REMARKS

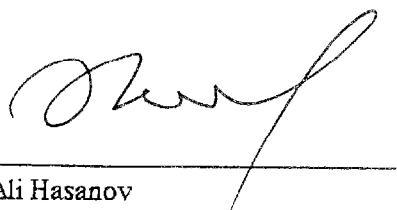
- (1) During this master plan study, the completed or on-going projects concerned such as "Greater Baku Water Supply Rehabilitation Project" (World Bank) and "Institutional Capacity-Building Project for Environmental Management" (UNDP) are synthesized ignoring improper duplication as well as resource loss.
- (2) The Master Plan is formulated in harmony with the existing "State Action Plan of Environmental Management" and other planned environmental conservation project ideas for Baku city. In particular, the following project proposed in the "Medium Term Public Investment Program 1997-1999" should be taken into full account:
  - Construction of the Plant for Domestic and Industrial Waste Recycling
- (3) This master plan project is not oriented to city planning or urban development, but rather to environmental management. So the existing city development plans/programs will be regarded as given, and the master plan is to propose and implement environmental management measures essential to direct these development ideas toward more sound ones from environmental points of view.

- (4) For this master plan study, the Azerbaijan Government will be requested to prepare project office space and to offer governmental staff as project counterparts. And the Government is supposed to make special arrangements for cost-free customs clearance for the equipment brought in for the study.

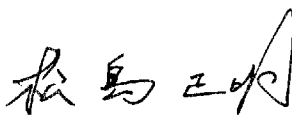
SCOPE OF WORK  
FOR  
*THE MASTER PLAN STUDY ON  
INTEGRATED ENVIRONMENTAL MANAGEMENT  
IN BAKU CITY IN AZERBAIDJAN REPUBLIC*

AGREED UPON BETWEEN  
STATE COMMITTEE FOR ECOLOGY AND CONTROL FOR NATURE USE,  
BAKU COMMITTEE FOR ECOLOGY AND CONTROL FOR NATURE USE,  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

Baku, August 20, 1999



Mr. Ali Hasanov  
Vice Prime Minister, Chairman  
State Committee for Ecology and Control  
for Nature Use



Mr. Masaaki MATSUSHIMA  
Leader of the Preparatory Study Team  
The Japan International Cooperation Agency



Mr. Mamed Akhmedov  
Chairman  
Baku Committee for Ecology and Control  
for Nature Use

## I. INTRODUCTION

In response to the request of the Government of Azerbaijan Republic (hereinafter referred to as "the Government of Azerbaijan"), the Government of Japan decided to conduct The Master Plan Study on Integrated Environmental Management in Baku City in Azerbaijan Republic (hereinafter referred to as "the Study") in accordance with the relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of the Government of Japan, will undertake the Study in close cooperation with the authorities concerned of the Government of Azerbaijan.

The present document sets forth the scope of work for the Study.

## II. OBJECTIVES OF THE STUDY

The objectives of the Study are:

1. To develop a master plan for Baku City area, which includes directions of environmental management measures including the institutional system for the Baku Committee for Ecology and control for nature use (hereinafter referred to as "BCE"), identification of environmentally degraded areas, and appropriate measures for actions required, .
2. To develop basic ideas to solve serious environmental problems by exploring possible measures, and strengthening an environmental monitoring system, and
3. To pursue technology transfer on developing the master plan by means of joint work between the Japanese Study Team and the counterpart personnel .

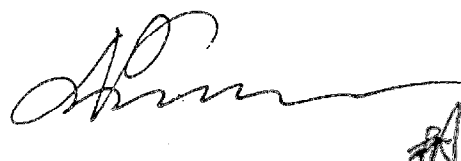
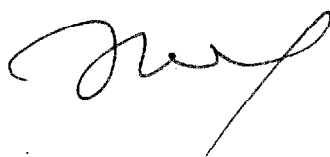
## III. STUDY AREA

The Study shall cover the area under control by BCE.

## IV. SCOPE OF THE STUDY

Major Components of the Study are issues as follows:

1. Establishment of environment oriented database for land use planing
2. Development of basic management plan for industrial and domestic wastes
3. Development of environmental monitoring system and capacity enhancement of BCE's laboratory
4. Institutional strengthening and human resources development for BCE



Phase I : Collection and review of related data and information

1. National policy for social and economic development
  - (1) National Economic and / or Social Development Plan
  - (2) National Industrial Development Plan
2. Policy for social and economic development in Baku City
  - (1) Baku City Planning
  - (2) Land Use Plan for Baku City Area
  - (3) Economic and / or Social Development Plan for Baku City Area
  - (4) Public Infrastructure Development Plan for Baku City Area
  - (5) Environmental Programs for Baku City Area
3. Identification of Environmental problems
  - (1) Reviewing environmental study reports made by the research institutes
  - (2) Field reconnaissance and exploring on environmental problems
  - (3) Study on present and past industrial activities through information on kinds of industries, production process, raw materials, energy sources for plants, goods and their volume, wastes generated, and others
4. Institutional and legal framework for environmental management
  - (1) Reviewing the legal framework, i.e. related environmental laws, regulations, and standards enforced in Azerbaijan
  - (2) Responsibility of the State Committee for Ecology and control for nature use and BCE, and coordination mechanism for environmental management among authorities concerned

Phase II : Supplementary Environmental Study and Estimation of Future Development Scenario

1. Supplementary sampling and analysis of air, water, polluted soil, and waste
2. Development of pollution map
3. Preparation of Geographic Information System (GIS) and database
4. Estimation of a future development scenario of the study area, based on the existing development plans / programs
5. Forecast of deterioration of future environmental conditions (air, water, polluted soil, and waste)

Phase III : Formulation of Master Plan for Environmental Management

1. Establishment of short-, mid- and long-term conservation goals
2. Detailed study for main components as follows:
  - (1) Establishment of environment oriented database for land use planning
  - (2) Development of basic management plan for industrial and domestic wastes
  - (3) Development of environmental monitoring system and capacity enhancement of BCE's laboratory
  - (4) Institutional strengthening and human resources development for BCE
3. Cost estimation of main components
4. Study on investment plan and financial analysis
5. Formulation of implementation schedule
6. Evaluation of master plan and selection of priority projects





#### Phase IV : Formulation of implementation program on priority projects

1. Formulation of implementation program
2. Evaluation of the projects

### V. SCHEDULE OF THE STUDY

The study will be carried out in accordance with the tentative schedule as attached in the Annex I. The schedule is tentative and subject to be modified when both sides agree upon any necessity that may arise during the course of the Study.

### VI. REPORTS

JICA shall prepare and submit the following reports in English to the Government of Azerbaijan:

1. Inception Report:

Thirty (30) copies at the commencement of the study in Azerbaijan. This report will describe the Study schedule, methodology and Study Team members assignment as well as the outline of the field survey.

2. Progress Report (1):

Thirty (30) copies at the end of first field survey.

3. Interim Report:

Thirty (30) copies at the end of second field survey..

4. Progress Report (2):

Thirty (30) copies at the end of third field survey..

5. Draft Final Report :

Thirty (30) copies of Draft Final Report at the fourth field survey in Azerbaijan. The Azerbaijan side shall submit their comments within one (1) month after the receipt of the Draft Final Report.

6. Final Report:

Sixty (60) copies of Final Report within one (1) month after the receipt of the comments on the Draft Final Report.

### VII. UNDERTAKINGS OF THE GOVERNMENT OF AZERBAIDJAN

1. To facilitate the smooth conduct of the Study, the Government of Azerbaijan will take the following necessary measures:

- (1) to secure the safety of the Japanese Study team (hereinafter referred to as "the Team").
- (2) to permit the members of the Team to enter, leave and sojourn in Azerbaijan for the duration of their assignment therein, and exempt them from foreign registration

requirements and consular fees.

- (3) to exempt the members of the Team from taxes, duties, fees and any other charges on equipment, vehicles, machinery and other materials brought into and out of Azerbaijan for the conduct of the Study.
  - (4) to exempt the members of the Team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Team for their services in connection with the implementation of the Study.
  - (5) to provide necessary facilities to the Team for the remittances as well as the utilization of the funds introduced into Azerbaijan from Japan in connection with the implementation of the Study.
  - (6) to secure permission for the Team to enter into private properties or restricted areas for the implementation of the Study.
  - (7) to secure permission for the Team to take all data and documents including photographs and maps related to the Study out of Azerbaijan to Japan.
  - (8) to provide medical services as needed. It's expenses shall be chargeable to the members of the Team.
2. The Government of Azerbaijan shall bear claims, if any arises, against the members of the Team resulting from, occurring in the course of, or otherwise connected with, the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the member of the Team.
  3. Baku Committee for Ecology and control for nature use shall act as a counterpart agency to the Japanese Study Team and also as a coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study. Close cooperation with the Executive Power of Baku City may be required.
  4. Baku Committee for Ecology and control for nature use shall, at its own expense, provide the Team with the following, in cooperation with other organizations concerned:
    - (1) Available data and information related to the Study,
    - (2) Counterpart personnel and supporting staff,
    - (3) Necessary number of vehicles with drivers for the Team
    - (4) Suitable office space with necessary equipment in Baku, and
    - (5) Credentials or identification cards to the member of the Team.

## VIII. UNDERTAKINGS OF JICA

For the implementation of the Study, JICA shall take the following measures:

1. to dispatch, at its own expense, the Team to Azerbaijan,
2. to pursue technology transfer to counterparts personnel in the course of the Study.

## IX. CONSULTATION

JICA and Baku Committee for Ecology and control for nature use will consult with each other in respect of any matter that may arise from or in connection with the Study.

(Annex I)

The Master Plan Study  
on Integrated Environmental Management  
in Baku City  
in Azerbaijan Republic

Tentative Schedule

MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
DESCRIPTION																		
PHASE	Phase I					Phase II					Phase III					Phase IV		
WORK IN AZERBAIDJAN																		
WORK IN JAPAN																		
REPORT PRESENTATION	▲	▲								▲				▲		▲	▲	▲
	IC/R	P/R (1)								IT/R				P/R (2)		DF/R	F/R	

NOTE

IC/R : Inception Report

P/R (1) : Progress Report (1)

IT/R : Interim Report

P/R (2) : Progress Report (2)

DF/R : Draft Final Report

F/R : Final Report

MINUTE OF MEETINGS

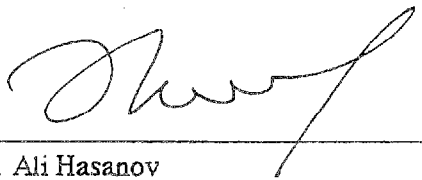
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## 1. Introduction

In response to the request of the Government of Azerbaijan Republic (hereinafter referred to as "the Government of Azerbaijan"), the Preparatory Study Team (hereinafter referred to as "the Team") of Japan International Cooperation Agency (hereinafter referred to as "JICA") visited Azerbaijan from August 11 to August 21, 1999 to discuss the Scope of Work (hereinafter referred to as "S/W") for the Master Plan Study on Integrated Environmental Management in Baku City in Azerbaijan Republic (hereinafter referred to as "the Study").

The Team carried out field surveys of the study area and held a series of discussions with the authorities concerned of the State Committee for Ecology and control for nature use (hereinafter referred to as "SCE"), the Baku Committee for Ecology and control for nature use (hereinafter referred to as "BCE"), and other related organizations.

The list of attendance is attached in the Appendix 1.

The Minute of Meetings have summarized main points of the discussions made in the course of the preparation of S/W for the purpose of better understanding for S/W.

## 2. Study Area

Both side agreed on the study area as described in S/W (see in Annex 2). However in-depth study for each components will be discussed and focused taking into consideration urgency and necessity from environmental management point of view in the course of the study.

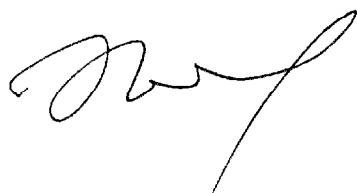
## 3. Target Year

Both side agreed that the target year for the master plan should be set tentatively up to year 2010. However it may be modified according to the the progress of other development projects and activities related to environmental management.

## 4. Geographic Information System (GIS) and database

Target area for GIS system is initially same as in the above article 2. However it was agreed that main target area shall be limited in central Baku, and other priority area will be discussed and made based on the request from BCE.

Items and depth of the database must be based on and limited to the existing environmental data available to the team.



## 5. Coordination with Other Ministries and Organizations

The team requested BCE to coordinate with SCE regarding smooth implementation of the study, and the SCE and BCE to coordinate with other ministries and organizations concerned to get maximum cooperation from those organizations as well as to avoid any duplicated works. The team also suggested to establish a Steering Committee and Working Group(s) to achieve the above mentioned coordination. The SCE and BCE agreed to this point and promised to set up the committee and to invite representatives from relevant ministries and organizations shown in appendix 3.

## 6. Coordination with International Organizations

The team requested the SCE and BCE to coordinate with the World Bank and other international donor agencies and development organizations to exchange view and information as well as to avoid any duplicated works, and the SCE and BCE agreed to this point.

## 7. UNDERTAKINGS OF GOVERNMENT OF AZERBAIDJAN

- (1) It was confirmed that the SCE and BCE would assign the appropriate number of counterpart personnel to the JICA study team. The specialized fields of the study team are as follows.
  - a. Team leader/environmental management
  - b. Environmental monitoring
  - c. Solid waste management
  - d. Air pollution
  - e. Water pollution / hydrology
  - f. Soil pollution
  - g. Urban planning
  - h. Computerized database
  - i. Economist
- (2) The team requested that the Azerbaijan side would provide suitable office space with necessary equipment, and sufficient numbers of vehicles with drivers for the Study. The Azerbaijan side accepted to provide suitable office space with necessary equipment (desk, chairs, filing cabinets, and other appropriate office equipment), electricity and telephones, but the Azerbaijan side expressed concern that, due to budgetary and administrative constraint, it would be difficult to provide appropriate number of vehicles with drivers and other necessary office equipments such as computer. The Study Team recognized the situation and agreed to convey the message to JICA headquarters for positive consideration.

## 8. Counterpart Training

The SCE and BCE requested that JICA conduct counterpart training in Japan, in addition to on-the-job-training, for the purpose of smooth technology transfer during the Study. The team agreed to convey the request to JICA H. Q. for consideration.



## 9. Technology Transfer Seminar

The SCE and BCE requested that JICA hold a seminar as a part of technology transfer in the course of the study. The team recognized the necessity and promised to convey the request to JICA H.Q. for consideration.

## 10. Equipment necessary for the study

- (1) The SCE and BCE requested the study team to bring the basic equipment for environmental analysis necessary for the study. The team agreed to convey the request to JICA H.Q. for consideration. Procurement of equipment will be finalized by JICA based on the absolute necessity of the study avoiding any duplication between existing facility at BCE lab. and those to be provided by other donors.
- (2) The SCE and BCE agreed to bare the cost of custom handling charge (0.15%) for the equipment.

## 11. Report

As for the study reports, the SCE and BCE agreed to make them open to the public in order to achieve maximum use of the study results.

The SCE and BCE requested that JICA to provide executive summaries for each reports and final report as a reference in Russian for better understanding of the study result. The team recognized this necessity and promised to convey this request to JICA H.Q. for consideration.



## LIST OF ATTENDANCE

(Azerbaijan side)

## Ministries of Foreign Affairs

Mr. Israfil Akhmedov

First Secretary,

International Economic Relations Department

## Department of Foreign Investment and Technical Assistance, Cabinet of Ministers

Dr. Nail S. Fataliyev

Deputy Head of Division

## State Committee of Ecology and Control for Nature Use

Mr. Fuad Akhund-Zade

Head of Department for Ecology Project

Mr. Ramiz Tagiev

Head of Department for National Park

Mr. Jafarov Ogtay

Head of Department for Science and Natural Resources

Dr. Rauf B. Muradov

Director of Project Implementation Unit,

Urgent Environmental Investment Project

Prof. Aslan N. Shahverdiyev

Coordinator of the Ozone Center

## State Committee of Hydrometeorology

Mr. Musayev Zulfugar Fatulla

Chairman

Mr. Kezimov Seifulla

Vice Chairman

Mr. Mansimov Mirzakhan

Vice Chairman

Mr. Hajiv Giling Abdul

Head of Environmental Pollution Monitoring Serves

## Baku Committee of Ecology and Control for Nature Use

Mr. Mamed Akhmedov

Chairman

Mr. Hasanov Tofik

Project Manager,

Mr. Abdulhasanov Mutalim

Director, Water Resources Conservation Department

## Executive Power of Baku City

Mr. Eldaniz Lahidjev

First Deputy Mayor

Mr. Adalat Azioy

Deputy Mayor

Mr. Agamelik Melikov

Deputy Mayor

Mr. Isa Qarashov

Vice-chief of International Department

Ms. Nurana Mardanova

Chief of Press, Mayor's office

Mr. M. Ataev

Chief of Protocol, Mayor's office

## Azerbaijan National Aerospace Agency

Mr. Rustam B. Rustamov

First Deputy Director-General

Mr. Haji-Zadeh Fuad

Director of Institute of Ecology

Mr. Aliev Niyazi

Manager of Institute of Ecology

Mr. Ahmedov Shahim

Chef of Department

Mr. Zejrualon A.K.

Chef of Department

Mr. Ismatova H.R.

Chef of Department

Mr. Aldullaser H.A.

Chef of Department

Mr. Alies N. S.

Chef of Department

Mr. Aliyev Hamid

Chef of Department





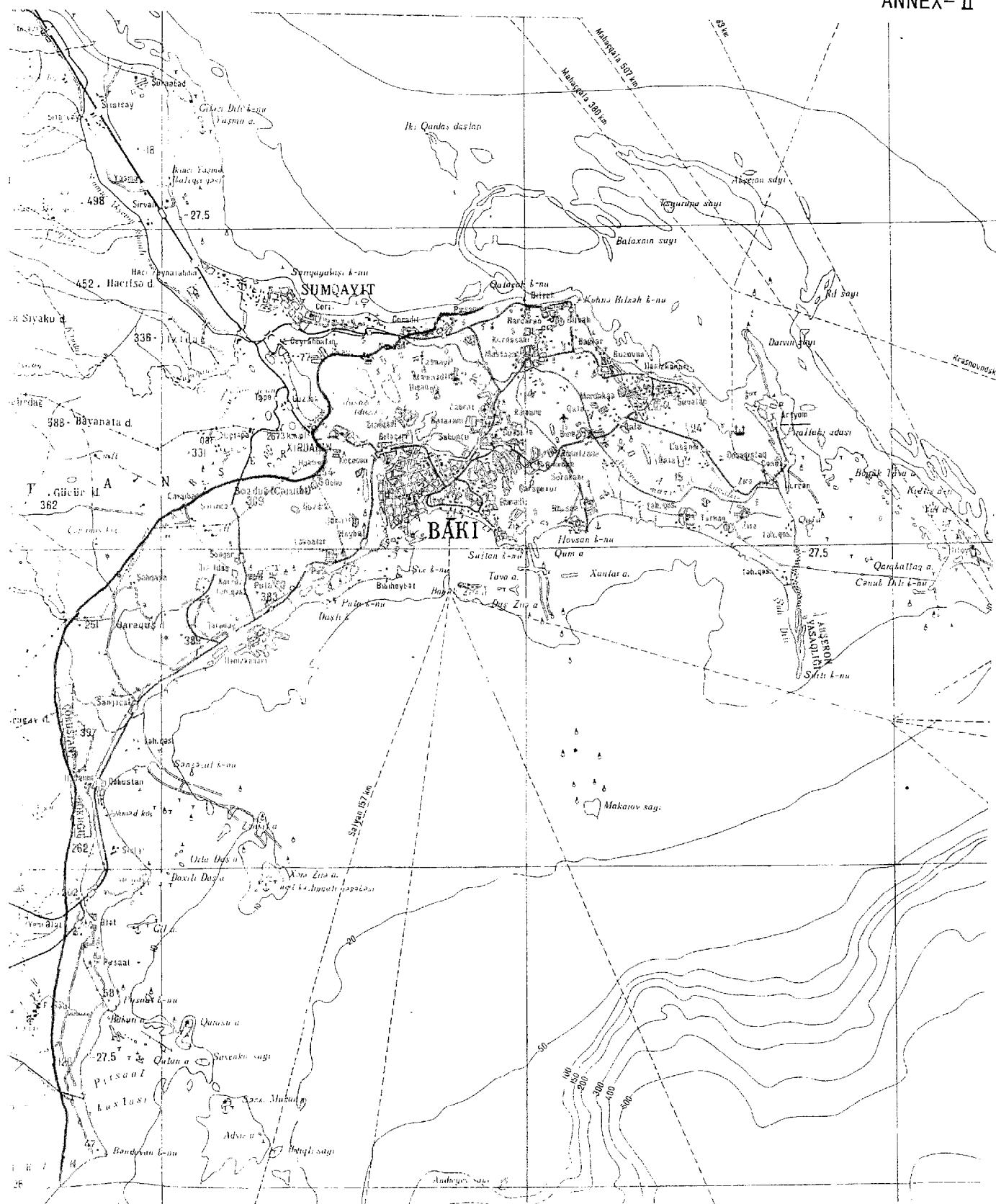

(Japanese side)

Preparatory Study Team of Japan International Cooperation Agency (JICA)

Mr. Masaaki Matsushima	Team Leader
Mr. Kentaro Inoue	Environmental Management Planning
Mr. Takayuki Nakagawa	Study Planing
Mr. Fumio Fukuda	Urban Environmental Management
Mr. Akisuke Kobayashi	Environmental Monitoring
Mr. Munehiro Fukuda	Polluted Soil Recovery
Ms. Kumiko Ikawa	Interpreter









## The tentative function and composition of the Steering Committee

### I. Function

The study on Master Plan Study on Integrated Environmental Management of Baku city in Azerbaijan Republic (hereinafter to as "the Study") will cover a wide range of subjects handled by other organizations and agencies. Therefore the SCE and BCE will establish a Steering Committee and Working Group(s) which consist of other organizations and agencies for overall management of the Study.

### <sup>7</sup> II. Composition

1. Cabinet of Ministers
2. State committee on Ecology and Control for Nature Use
3. State Committee of Hydrometeorology
4. Baku committee on Ecology and Control for Nature Use
5. Ministry of Public Health
6. State committee for operational safety control and monitoring in industry and mining
7. Executive Power of Baku city
8. State committee for Melioration and Water Economy
9. Ministry of Economy
10. Ministry of Finance
11. SOCAR
12. Ministry of Transport
13. Others

The above noted organization and agencies would be confirmed at the commencement of the Study.



### 資料3 調査対象地域の概要

#### 3 - 1 主要指標

正式名称：アゼルバイジャン共和国 (Azerbaijan Republic)

土地面積：86,600km<sup>2</sup> (日本の約4分の1)

人口：770万人 (1998年12月末)

首都：バクー市

GNP：39億ドル (1997年：世界銀行)

一人当たりGNP：510ドル (1997年：世界銀行)

経済成長率：10.0% (1998年：CIS統計委員会)

物価上昇率：-0.8% (1998年：CIS統計委員会)

失業者数：1.4% (1997年末：CIS統計委員会)

主要産業：石油産業 (石油精製、石油化学、機械)、農業 (綿花、ブドウ、野菜等)

外国貿易 (1997年：CIS統計委員会)：

輸出総額 6.1億ドル

輸入総額 9.7億ドル

主要貿易相手国 (1997年：国家関税委員会)

輸出 イラン (24.3%)、ロシア (23.1%)、グルジア (17.1%)

輸入 トルコ (22.6%)、ロシア (19.1%)、ウクライナ (10.8%)

通貨：マナト (Manat)。1994年1月から唯一の支払い手段となっている。

為替レート：1ドル = 4,277マナト (1999年8月18日現在)

民族：アゼルバイジャン人 (82.7%)、ロシア人 (5.6%)、アルメニア人 (5.6%) (1995年)

言語：公用語はアゼルバイジャン語 (トルコ語系)

宗教：イスラム教シーア派が優勢

#### 3 - 2 社会・経済状況

##### (1) 政治体制

政体：共和国。元首は大統領。

元首：アリエフ・ヘイダール・アリルザ・オグル大統領。任期は5年。1993年10月、選挙により第3代「ア」国大統領に就任。1998年10月、圧倒的支持を受けて再選される。

議会：一院制 (任期5年、前回選挙は1995年11月) の国民会議。定数125名。

政府：ラシザデ、アルトゥール首相。首相は大統領が任命。

略史：13世紀	モンゴル帝国領に編入
15世紀後半	イラン・サファビー朝により「ア」国全域征服される。
18～19世紀	「ア」国の北半分をロシア帝国が、南半分をイランが併合
1920年	グルジア、アルメニアとともにザカフカス社会主義連邦ソビエト共和国を形成、ソ連邦に加盟
1936年	アゼルバイジャン・ソビエト社会主義共和国として連邦に加盟
1988年 2 月	同共和国内のナゴルノ・カラバフ自治州においてアルメニアへ帰属替えを求めるアルメニア人の運動が高揚。
1989年10月	共和国主権宣言
1991年 2 月	国名を「アゼルバイジャン共和国」に改称
1991年 8 月	共和国独立宣言

内政：最大の政治課題は1988年に、「ア」国領内のナゴルノ・カラバフ自治州のアルメニアへの帰属変更を巡って開始された、ナゴルノ・カラバフ紛争の解決である。1993年にアルメニア軍が分離主義者を支援するために浸入し、「ア」国領の20 %が現在アルメニアの支配下にある。1994年 5 月以来停戦合意が遵守されているが大量難民が発生しており、既に100万人がバクー市に流れ込んで来ているといわれている。

## ( 2 ) 国の行政組織

「ア」国の行政組織は変革期にあるが、1999年 8 月時点での行政組織は、首相府（Cabinet Ministers）以下16の省庁（Ministry）と20の国家委員会（State Committee）が設置されている。

### 【Ministries 省庁】

\*出典：BAKU TODAY 1999

- 1) Ministry of Agriculture and Food 農業食料省
- 2) Ministry of Communications 通信省
- 3) Ministry of Culture 文化省
- 4) Ministry of Defense 防衛省
- 5) Ministry of Economics 経済省
- 6) Ministry of Education 教育省
- 7) Ministry of Finance 大蔵省
- 8) Ministry of Foreign Affair 外務省
- 9) Ministry of Information and Press 情報報道省

- 10) Ministry of Internal affairs 内務省
- 11) Ministry of Justice 法務省
- 12) Ministry of National Security 国家安全保障省
- 13) Ministry of Public Health 保健省
- 14) Ministry of Labor & Social Protection 労働社会保護省
- 15) Ministry of Trade 貿易省
- 16) Ministry of Youth and Sports 青少年スポーツ省

【State Committees 国家委員会】

\*出典：BAKU TODAY 1999

- 1) Audit Chamber of the Azerbaijan Republic 会計検査院
- 2) Chamber of Commerce and Industry of Azerbaijan 商工会議所
- 3) State Committee for Anti-Monopoly Politics and Business Support 国家独占禁止ビジネス支援委員会
- 4) State Committee for Construction and Architecture 国家建設建築委員会
- 5) State Committee for Ecology & Control for Nature Use 国家環境委員会
- 6) State Committee for Geodesy and Cartography 国家測地学地図委員会
- 7) State Committee for Geology and Mineral Resources 国家地質鉱物資源委員会
- 8) State Committee for Housing Municipal Economy 国家住宅地方自治経済委員会
- 9) State Committee for Hydrometeorology 国家水文気象委員会
- 10) State Committee for Melioration & Water Services 国家改善水道委員会
- 11) State Committee for Land 国家土地委員会
- 12) State Committee for Monitoring Safety Procedures in Industry and Mining 国家工鉱業安全監視委員会
- 13) State Committee for the Production of Special Machinery and Conversion 国家特殊機械生産転換委員会
- 14) State Committee for Property 国家資産委員会
- 15) State Committee for Protection and Restoration of Historical and Cultural Memorials 国家歴史文化財保護復旧委員会
- 16) State Committee for Refugees and Displaced Persons Problems 国家難民問題委員会
- 17) State Committee for Science and Technology 国家科学技術委員会
- 18) State Committee for Statistics 国家統計委員会



19) State Committee for Veterinary Medicine 国家獣医学委員会

20) State Custom Committee 国家税関委員会

上記行政組織において、環境に関連するモニタリングは、国家水文気象委員会ほか、幾つかの組織で行われているが、環境行政を行う組織は唯一「国家環境委員会」となっている。国家水文気象委員会については、近い将来、国家環境委員会に併合されるとも言われている。

### (3) 経済構造

ナゴルノ・カラバフ紛争で壊滅的な打撃をうけた「ア」国経済も停戦合意後、IMFの支援を受け経済安定化に努めた結果、GDP成長率が1996年にプラスに転じ、1998年には10%と高成長を記録し、今後も石油分野を中心として高い成長率が見込まれているが、石油偏重経済が懸念材料となっている。

一方、経済が成長軌道に乗ったとはいえ、それ以前の激しい落ち込みがあることから、現在でも国民の生活は楽なものとはいえない。加えて、失業者や難民の問題、所得格差の拡大が深刻化しつつあり、失業率が政府公式発表では、1.4%であるが、企業内失業等も加味すると労働人口の20～25%に上るとみられる（国家統計委員会）。また、国営企業の民営化や法制度の整備等の経済改革が遅れており、特に工業の中で機械・設備や鉱業・化学等の分野は現在もマイナス成長を続けており、大規模国営企業の合理化が急務となっている。

石油価格の低迷により、石油に偏った経済の脆弱さと経済構造の危険性を十分に認識した「ア」国政府は、それを是正していくため、機械、石油化学分野の近代化、合理化を推進し、輸出競争力をつけることを政府の方針として掲げている。しかしながら、そのプログラムの実現には外国からファイナンスが必要であり、安定的な石油収入の確保がはかれるまでのファイナンスが鍵となっている。一方、上水道、電力関連、輸送ルート等のインフラ整備も滞っている状態であり、社会資本整備と産業育成とのバランスのとれた運営が期待されている。

## 3 - 3 自然状況

### (1) 地勢 / 地形図

「ア」国は旧ソ連の南西部に位置し、東はカスピ海に面し、北はロシアのカフカス山脈、西はグルジア・アルメニア、南はイランと国境を接し、クラ川を中心に平野が広がっている。

同国の地形図の作成は、国家測地学地図委員会が管轄しており、旧ソ連時代から各種の地図を作成している。「ア」国全国の地図はもとより、バクーにおいては縮尺 1 / 10,000 ~ 1 / 5,000 の市街地図を作成しており、地区によっては縮尺 1 / 500 の詳細な地下埋設管図も作成している。

## (2) 気候 / 気象観測

「ア」国の気候は、アプシェロン半島の乾燥気候から、南端の亜熱帯気候まで 9 つの気候帯があるといわれている。平均気温は最も高い 7 月で 27 、最も低い 1 月で 1 となっており、冬に 0 以下になることはほとんどない。年間の平均降雨量はクラ (Kura) 平野の低地部で 200 ~ 300mm であるが、南部のレンコラン (Lenkoran) 平地では 1,000 ~ 1,750mm となっている。

同国の気象観測は、国家水文委員会が全土を対象に、30箇所の観測地点で観測を行っている。