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取扱注意

MW:420,0-

Request for a Development Study (JICA)

**National Digital Mapping Project
in the Republic of Azerbaijan**

October, 1998

**The State Committee for Geodesy and Cartography,
the Republic of Azerbaijan**

1 Background

1.1 Summary

In the Republic of Azerbaijan, the financial and legal reform programs are supported by the international cooperation organizations since the country's independence, but mapping projects, the fundamental information on planning and development, are not adequately supported. In order to shift its economy from controlled to market economy, strengthening the private sector and fostering foreign direct investment would be necessary. In this connection, it seems to be useful to realize a complex of measures aimed at development of legal and economic mechanisms in order to improve the level of economy and social welfare in the country. Currently, economic reform programs based on the market economy are on going being supported by international organizations such as the World Bank and IMS.

Under these circumstances, what the Government of the Republic of Azerbaijan needs to do is not only to accelerate implementation of the reform programs but also to formulate a national development plan to set up a foundation of economic development. In order to prepare national development plans, infrastructure plans, and other development plans in various sectors of economy, fundamental geographic information needs to be updated, so that the plans based on accurate information will reflect current condition of the country.

After the collapse of the former Soviet Union, however, structural adjustment programs and other reform programs supported by the World Bank, IMF and other international cooperation organizations resulted in reduction of the government budgets. The financial condition of the State Committee of Geodesy and Cartography is not an exception. Highly trained engineers in the State Committee were drained to the private sector as a result of the tight budget policy. Unfortunately, capabilities of the State Committee of Geodesy and Cartography became limited to tackle current survey needs of the country. Needs of updating topographic maps are known but the work has been slow due to financial and technical difficulties. Especially, an updating work is urgent on the topographic maps at a scale of 1/50,000 produced in 1980 to 1987, because they are the bases of planning and development in various sectors. By updating the topographic maps in digital format, distribution of the information to other agencies will become easier, and GIS development would become possible in near future. Therefore, the Government of Azerbaijan requests "National Digital Mapping Project in the Republic of Azerbaijan" to the Government of Japan.

1.2 Title of the Project

National Digital Mapping Project in the Republic of Azerbaijan

1.3 Counterpart

The State Committee for Geodesy and Cartography, the Republic of Azerbaijan

1.4 Study Area

The study area (about 70,000 km²) covers all the land of the Republic of Azerbaijan excluding the occupied area by the Armenians.

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1.5 Background

1.5.1 Current Conditions

Azerbaijan covers an area of 86,600 square kilometers. The total population of the country is about 7.5 million. About 40% of the total population live in the capital, Baku. About 85% of the population are Azeris; others are Armenians, Russians, and other minorities. The land of Azerbaijan includes Nakhichevan Autonomous Republic that is surrounded by Turkey, Armenia, and Iran and Nagorno-Karabakh States. Azerbaijan, with GDP per capita in 1996 of \$480, is one of the oldest oil exporting country in the world.

As a result of military aggression of the Republic of Armenia against the Azerbaijan Republic, the Armenian forces have occupied about 20% of the territory of the Azerbaijan Republic. About 900,000 or 12% of the population became refugees. In May 1994, a cease-fire has been held, and in January 1996, a peace talk in Moscow was held and a permanent settlement was agreed.

Stagnating national economy is mainly due to the conflict against Armenia and reduction of trade with the republics of the former Soviet Union. Chechnya fights that affected the nation's transport links were other sources of the reduced trade. Insufficient infrastructure and facilities caused deterioration of the oil industry. In September 1994, the state oil company, SOCAR, signed a production sharing agreement with an international consortium of oil company (AIOC) to develop the oil fields of Chirag, Azeri and the deep water portion of Gunashli located in the Azerbaijan's sector of the Caspian Sea.

In 1995, the World Bank and IMF initialed economic cooperation programs, and in 1996, the annual economic growth turned positive and reached to 1.3%. Comprehensive structural reform programs aim to stabilize its economy by employing the market-driven mechanism on food prices, oil and gas prices, and in other financial sectors. In 1995, an agrarian reform program was introduced to shift state and cooperative ownership of farmland to individuals.

Table 1 Basic Data

Area	866,000 km ²
Population	7,270,000
Urban	3,890,000
Local	3,570,000
Average Life Expectancy	71
Infant Mortality Rate	25/1000
Annual population growth rate	1.2%
GDP	15,352,200 million manats
GDP per capita	2,023,220 manat

Macroeconomic instability during the political and economic transition periods and concentration of exports in the republics of the former Soviet Union, whose transport, laws, currency systems were also in transition, were considered as the direct causes of economic stagnation.

Historically, Azerbaijan's industrial structure is centralized in the oil industry, and the industrial structure will continue as it is. However, facilities of oil wells, being operated since the turn of the century, have been deteriorated, and the output is decreasing since 1987.

Currently, transport infrastructure satisfies its demand. The conflict with Armenia and closure of railways to/from Iran and Turkey reduced transport quantity substantially. 665,000 telephone lines are in operation. Out of 665,000, about 300,000 lines are operated in the capital, Baku. Long distance communication is not sufficient and facilities are also deteriorated. AZPHONESAT established by a public-private partnership operates the international telecommunication, and Utel produces telephone equipment.

1.5.2 Issues

Issues of industrial development are summarized in dilapidated facilities and financing of their operation. The most urgent problem in infrastructure is to finance operation and maintenance of the causeway for the development offshore oil wells and restoration of electric and communication facilities. In order to utilize market mechanisms, legal systems, pricing of commodities, balancing demand and supply need to be reformed and adjusted. On-going efforts of privatization and partnership with foreign corporations need to be enhanced. Other programs such as the agrarian reform program, reform on commodity pricing, development of irrigation facilities, and reform on water pricing shall foster development in the agricultural sector.

1.5.3 Environment

Air pollution is not a national issue, yet in populated areas in Baku and Sumgaid, the air pollution indicators go beyond the standards. Soil pollution from chemical industries and crude oil extraction, and deteriorating water quality in the Caspian coastal areas need urgent mitigation measures and treatment; however, because of the financial shortage, counter measures are not implemented, yet. Over use of chemical fertilizers and negative effects on soil and crops were reported. Also, solid waste management is considered as poor by international standards, and dumping of solid waste to less-equipped facilities is informed.

1.6 National Policies

The national policies are in line with the structural reform programs supported by the World Bank and IMF. The programs aim political and macro-economic stability, inflation preventive monetary policy, privatization and strengthening of the private sector, promotion of foreign direct investment, protection of private property, stabilization of the financial sector, establishment of trade and settlement mechanisms, safety net, and reduction of subsidies. The important sectors to be developed are: 1) energy sector;

2) agricultural infrastructure development; 3) transport and telecommunication infrastructure development; and 4) social sector.

1.7 Trends of the International Donor Organizations

1.7.1 Cooperation from International Organizations

The World Bank provides aids on policy aid, economic and sector planning policy support, loans on structural reform programs, and project loans. We received IDA loans, totaling \$130 million, to stabilize macro-economy, to support structural reform programs, to raise market incentives in the agricultural sector, and to support the disadvantaged. IMF's STF loans are used for deregulation on prices, unified exchanged rate, prevention of inflation, privatization, reduction on government spending, and safety net. EC also supports socio-economic reform programs aiming to restructure social systems, to strengthen organizations, to promote privatization, to support legal system development, and to enhance human resource development. EBRD supports infrastructure development to promote private investment. Hydroelectric Power Plant Development Project, Power Line Development Project, Water Supply Project in Baku, the Baku International Airport Control project, a truck transport project, and Azerbaijan Investment Bank Support Project are some of the infrastructure development projects supported by EBRD. From the Turkish Import/Export Bank, we received loans totaling \$2.50 million. The major purpose of the loan, about \$1 million, is to purchase Turkey products. The rest is used for projects such as the Baku international airport development and refugee camp development projects.

1.7.2 Japan

Japan provided \$1,340,000 as an emergency aid in 1993. Other aids are through UNHCR amounting to \$2,660,000 in sum since 1993. We explained our major development policies to a Japanese mission in July 1993 that visited as a part of the three-country visit in the Caucasian region. In April 1997, an official document was signed on an aid for increased food production and a non-project grant aid. The economic cooperation is still in the early stage, but surely it is going.

2 Terms of Reference

2.1 Objective of the Study

- (1) Digital mapping at a scale of 1:50,000 in area of 70,000km²
- (2) Technology transfer on digital mapping

2.2 Study Area

The study area has an area about 70,000km² that covers all the land in the Republic of Azerbaijan excluding the Armenia occupied area.

2.3 Necessity of the study

2.3.1 Mapping capability of the State Committee of Geodesy and Cartography

After the collapse of the former Soviet Union, human resources were drained to the private sector, mainly because of the financial difficulties of the State Committee on Geodesy and Cartography. The Committee as one of the agencies of the former Soviet Union had a role to produce maps for the whole of the former Soviet Union. The technology it possessed was one on the highest, but now it is not the case.

2.3.2 Necessity of up-dated geographic information

The Republic is currently using 1/50,000 topographic maps as base maps for development. To formulate development plans and programs, up-dated geographic information is necessary; however, currently, available maps with a scale of 1/50,000 were produced in 1987 or before. The updating work of topographic maps is urgent especially those with a scale of 1/50,000 for their uses in regional development studies and plans such as in agriculture development. As the structural reform program progresses, infrastructure needs become more apparent. For the purpose of preparing environmental protection plans and environmental assessment on facility development, updated geographic information is necessary.

2.3.3 Obsolete Geographic Information

Existing maps with a scale of 1/50,000 were produced in 1980 to 1987 before the independence. The contents on the maps do not reflect the current condition, especially the ground features.

2.3.4 Digital

The major advantage of producing maps in digital format is that application of the digital data is larger than that in paper media. One of the reasons of delaying the updating work is that the maps are in analogue format which requires higher costs. The government of Azerbaijan is planning to develop its own national GIS system in the future. Flexibility of application and efficiency of information dissemination to the private sector are advantages of digital mapping, and potential of application is very high. The digital technology transferred from Japanese experts shall help the State Committee on Geodesy and Cartography to train necessary personnel in a limited period. Advantages of digital mapping technology are proven in Japan and other countries; the technology shall be advantageous to the State Committee on Geodesy and Cartography as well.

2.4 Necessity of Japanese Support

Japan's support was initiated in 1991 as a trainees invitation program and an aid on medical supplies. The total amount of the aid is about 0.4 million dollars. It is an intention of the government of Azerbaijan that sources of international cooperation be diversified; therefore, expectation of economic and technical cooperation from Japan is high. In January 1998, as an Eurasian diplomatic policy proposed by the former Prime Minister Hashimoto and a support on-going structural reform programs, Japan has promised the yen loans amounting to about 210 billion yen including 20.7 billion-yen loans and a 500,000-dollar refugee support program. We already expressed that our development goals are in 1) energy sector, 2) agricultural infrastructure development, 3) transport and communication infrastructure development, 4) social sector improvement in July 1996 when the Japanese mission visited our country. Achieving the development goals is only possible by preparing development plans based on updated geographical information. In order to make the use of available yen loans, the national digital mapping project is necessary. In Japan, already digital maps are commercially available and its technology is established. With the technology acquired through Japan's technical cooperation programs, our country's advancement in the future will be promised.

2.5 Outline of the Project

- (1) Aerial photography
- (2) Control Point Survey
- (3) Leveling
- (4) Aerial triangulation
- (5) Field verification
- (6) Plotting, editing, and updating
- (7) Structuring
- (8) Printing

2.6 Schedule

The study period shall be thirty-six months.

2.7 Output

- (1) Aerial Photographs
 - 1) Negative film (1/40,000)
 - 2) Contact prints (1/40,000)
- (2) Digital maps
 - 1) Topographic data file (CD-ROM)
 - 2) Structured data file (CD-ROM)
- (3) Printing
 - 1) Topographic maps
 - 2) Plates

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3 Request of the Study to other donor agencies, if any

None

3.1 Expected funding source and/or assistance (including external or internal)

- 1) The annual budget of the State Committee for Geodesy and Cartography for office and equipment;
- 2) JICA for the Study.

3.2 Other relevant information, if any

None

4 Facilities and information for the Study Team, etc.

4.1 Assignment of counterpart personnel of the implementing agency for the Study (number, academic background)

Each one research officer (BS/BA or a higher degree) in the respective field of expertise will be assigned to each member of the Japanese study Team.

4.2 Available data, information, documents, pamphlets etc. related to the Study

(1) Organization

Central Staff

Production Union for Aerial Geodesy and Cadastre	Gjandja Aerial Geodesy Concern	Baku Mapping Factory	Central Fund for Geodesy and Cartography	Technical Provision Direction	Project Research Concern Geo- Project
topography, geodesy, engineering geodesy, cadastre, sea survey, map compilation, editing, and preparing for printing, data processing	topography, geodesy, engineering geodesy, map editing and preparing for printing, data processing	map editing, printing and publishing	topography, geodesy, cartography production collecting, checking and sales	provision of all necessary materials for topography, geodesy and cartography	project and topography research for construction

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(2) Machinery and equipment

	Operating	Inoperative	note
Terrestrial Survey Instruments	quantity	quantity	
Theodolite	58	12	
Level	34	8	
Distance measuring instrument	6	2	
GPS	1		
Photogrammetry equipment			
Photographing aircraft	1		AN-2 (being leased)
Aerial camera	2	2	
Analog plotter			
Analytic plotter			
Map compilation system			
Printing			
Coordinatograph			
Process camera	2		
Printing press			

(3) Topographic maps

Scale	Area	Year
1/1,000,000	whole country	1987
1/500,000	whole country	1987
1/250,000	whole country	1987
1/100,000	whole country	1979-91
1/50,000	whole country	1980-88
1/25,000	whole country	1980-97
1/10,000	82% of the whole of the country	1986-97

(4) Survey related projects planned in three years

Aerial Photography	12,000km ²
Control Points	150 points
Topographic mapping	1/25,000 (17,000km ²) 170 sheets
Topographic map printing	800 sheets, 40,000 copies

4.3 Information on the security conditions in the Study Area

The security for the Study Team will be kept in good condition by the efforts of the Government of the Republic of Azerbaijan.

5 Global Issues (Environment, Women in Development, Poverty, etc.)

5.1 Environmental components (Pollution, Water, Sewer, Environmental Management, Forestry, Biodiversity)

The requested project is an urban planning information management study. In the process of organizing data and information, the environmental components will be taken into consideration.

5.2 Anticipated environmental impacts.

The study is an urban planning information management; therefore, there will be no direct physical effects on natural environment.

5.3 Women as main beneficiaries.

Beneficiaries of the programs are not limited to women. Gender, age, race and other physiological factors are not relevant to the implementation of the study.

5.4 Project components which require special considerations for women (such as gender difference, women specific role, women's participation), if any.

None

5.5 Anticipated impacts on women caused by the Project, if any.

None

5.6 Poverty reduction components of the Project, if any.

The goal of the Study is to prepare fundamental geographic information. It will indirectly contribute to a reduction of poverty in future.

5.7 Any constraints against the low-income people?

None

6 Undertakings of the Government of The Republic of Azerbaijan

In order to facilitate a smooth and efficient conduct of the Study, the Government of the Republic of Azerbaijan shall take necessary measures:

- 1) to secure the safety of the Study Team;
- 2) to permit the members of the Study Team to enter, leave and sojourn in (in The Republic of Azerbaijan) in connection with their assignments therein, and exempt them from alien registration requirement and consulate fees;
- 3) to exempt the Study Team from taxes, duties and any other charges on equipment, machinery and other materials brought into and out of The Republic of Azerbaijan for the conduct of the Study;
- 4) to exempt the Study 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 Study Team for their services in connection with the implementation to the Study;
- 5) to provide necessary facilities to the Study Team for remittance as well as utilization of the funds introduced in the Republic of Azerbaijan from Japan in connection with the implementation of the Study;
- 6) to secure permission or entry into private properties or restricted areas for the conduct of the Study;
- 7) to secure permission for the Study Team to take all data, documents and necessary materials related to the Study out of the Republic of Azerbaijan to Japan;
- 8) to provide medical services as needed. Its expenses will be chargeable to members of the Study Team.

- 7 The Government of the Republic of Azerbaijan shall bear claims, if any arises against member(s) of the Japanese Study 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 Study Team.
- 8 The State Committee of Geodesy and Cartography shall act as a counterpart agency to the Japanese Study Team and also as coordinating body in relation with other governmental and non-governmental organization concerned for the smooth implementation of the Study.


The Government of the Republic of Azerbaijan is assured that the matters referred to in this form will be ensured for a smooth conduct of the Development Study by the Japanese Study Team.

SCOPE OF WORK
ON
NATIONAL DIGITAL MAPPING
IN
THE REPUBLIC OF AZERBAIJAN

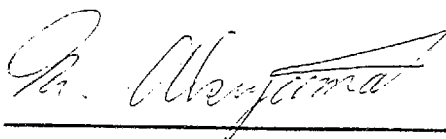
AGREED UPON BETWEEN

STATE COMMITTEE
FOR
GEODESY AND CARTOGRAPHY
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

BAKU
22 December 1999



Adil S. SOULTANOV
Chairman
State Committee for Geodesy and
Cartography



Minoru AKIYAMA
Leader
Preparatory Study Team
Japan International Cooperation Agency

I. INTRODUCTION

In response to a request of the Government of the Republic of Azerbaijan, the Government of Japan has decided to conduct the "Study for National Digital Mapping" (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 the Republic of Azerbaijan.

The present document sets forth the scope of work with regard to the Study.

II. OBJECTIVES OF THE STUDY

The objectives of the Study are to:

- 1) prepare digital topographic data, through revising 1:50,000 topographic maps by digital mapping, that will assist the Government of the Republic of Azerbaijan in developing various plans and programs; and
- 2) strengthen the institutional capacity of the counterpart agency through technology transfer in the course of the Study.

III. STUDY AREA

The Study shall cover the territory of the Republic of Azerbaijan excluding the Armenian occupied area, Nakhichevan and national boundary zone. The study area, approximately 60,000 km², is shown in Appendix-1.

IV. SCOPE OF THE STUDY

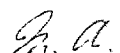
In order to achieve the objective mentioned above, the Study shall cover following items.

- 1) Aerial photography

Black and white aerial photographs covering the study area shall be taken at the scale of 1/40,000 with associated GPS data.

- 2) Digitizing

Existing 1/50,000 scale topographic maps shall be either scanned or vectorized



according to the map symbol types.

3) DEM production

Digital Elevation Model data shall be produced from vectorized relief lines (contour lines) of every 10m in plain area and every 50m in mountainous area.

4) Collection of information of change

The latest information for major topographical features excluding topographic relief shall be collected through interpretation of the aerial photographs, stereo plotting and/or field verification.

5) Revision

Digitized information shall be revised according to the collected information of change.

6) Preparation of printing films

Printing films shall be prepared using laser-plotter at the scale of 1/50,000.

7) CD-ROM production

Prepared digital data shall be compiled into CD-ROM.

8) Technology transfer

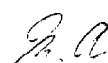
In order to facilitate technology transfer to the counterpart personnel, some part of the above-mentioned items shall be undertaken by the counterpart personnel under the technical supervision of the Japanese study team.

V. STUDY SCHEDULE

The Study shall be implemented in accordance with the tentative study schedule shown in Appendix 2. The schedule, including report submission dates stated in the next clause (VI), is tentative and subject to be modified when both sides agree upon and any necessity that arises during the course of the Study.

VI. REPORTS AND FINAL PRODUCTS

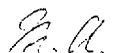
JICA shall prepare and submit the following reports in English and Russian, and the final products of topographic mapping work to the Government of the Republic of Azerbaijan. In case any contradiction arises in writing, the English text shall prevail.



1. Inception Report
20 copies At the time of starting of the Study
2. Progress Reports
20 copies At the end of the first year and the second year
3. Draft Final Report
20 copies At the end of the third year
4. Final Report
20 copies At the end of the Study
5. Final products of topographic mapping
 - (1) Aerial photographs
 - 1) Negative film 1 set
 - 2) Contact prints 3 sets
 - 3) Digital image data 5 sets
 - (2) Digital topographic data
 - 1) Raster data 5 sets
 - 2) Vector data 5 sets
 - 3) DEM 5 sets
 - (3) Topographic map
 - 1) Printing films 1 set
 - 2) Digital image data 5 sets

VII. UNDERTAKING OF THE GOVERNMENT OF THE REPUBLIC OF AZERBAIJAN

1. To facilitate smooth conduct of the Study, the Government of the Republic of Azerbaijan shall take the following necessary measures:
 - (1) to secure the safety of the Japanese study team;
 - (2) to permit the members of the Japanese study team to enter, leave and sojourn in the Republic of 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 Japanese study team from taxes, duties, fees and any other charges on equipment, machinery and other materials brought into and out of the Republic of Azerbaijan for the conduct of the Study;
 - (4) to exempt the members of the Japanese study 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 Japanese study team for their services in connection with the implementation of the Study;
 - (5) to provide necessary facilities to the Japanese study team for remittance as well as

utilization of the funds introduced into the Republic of Azerbaijan from Japan in connection with the implementation of the Study;

- (6) to secure permission for the Japanese study team for entry into private properties and restricted areas for the implementation of the Study;
- (7) to secure permission for the Japanese study team to acquire necessary radio frequency for the implementation of the Study;
- (8) to secure permission for the Japanese study team to take all data and documents including topographic maps, original manuscripts and aerial photographs related to the Study out of the Republic of Azerbaijan to Japan;
- (9) to secure necessary permission for aerial photography by a foreign registered aircraft for the implementation of the Study; and
- (10) to provide medical services as needed. Its expenses will be chargeable on the members of the Japanese study team.

2. The Government of the Republic of Azerbaijan shall bear claims, if any arises, against the members of the Japanese study 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 members of the Japanese study team.

3. The State Committee for Geodesy and Cartography (hereinafter referred to as "SCGC") 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.

4. SCGC shall, at its own expense, provide the Japanese study team with the following in cooperation with other organizations concerned:

- (1) available data and information related to the Study,
- (2) counterpart personnel,
- (3) suitable office space with necessary equipment in Baku,
- (4) vehicles with drivers, and
- (5) credentials or identification cards.

VIII. UNDERTAKING OF JICA

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

- (1) to dispatch, at its own expense, the Japanese Study team to the Republic of Azerbaijan;
- and



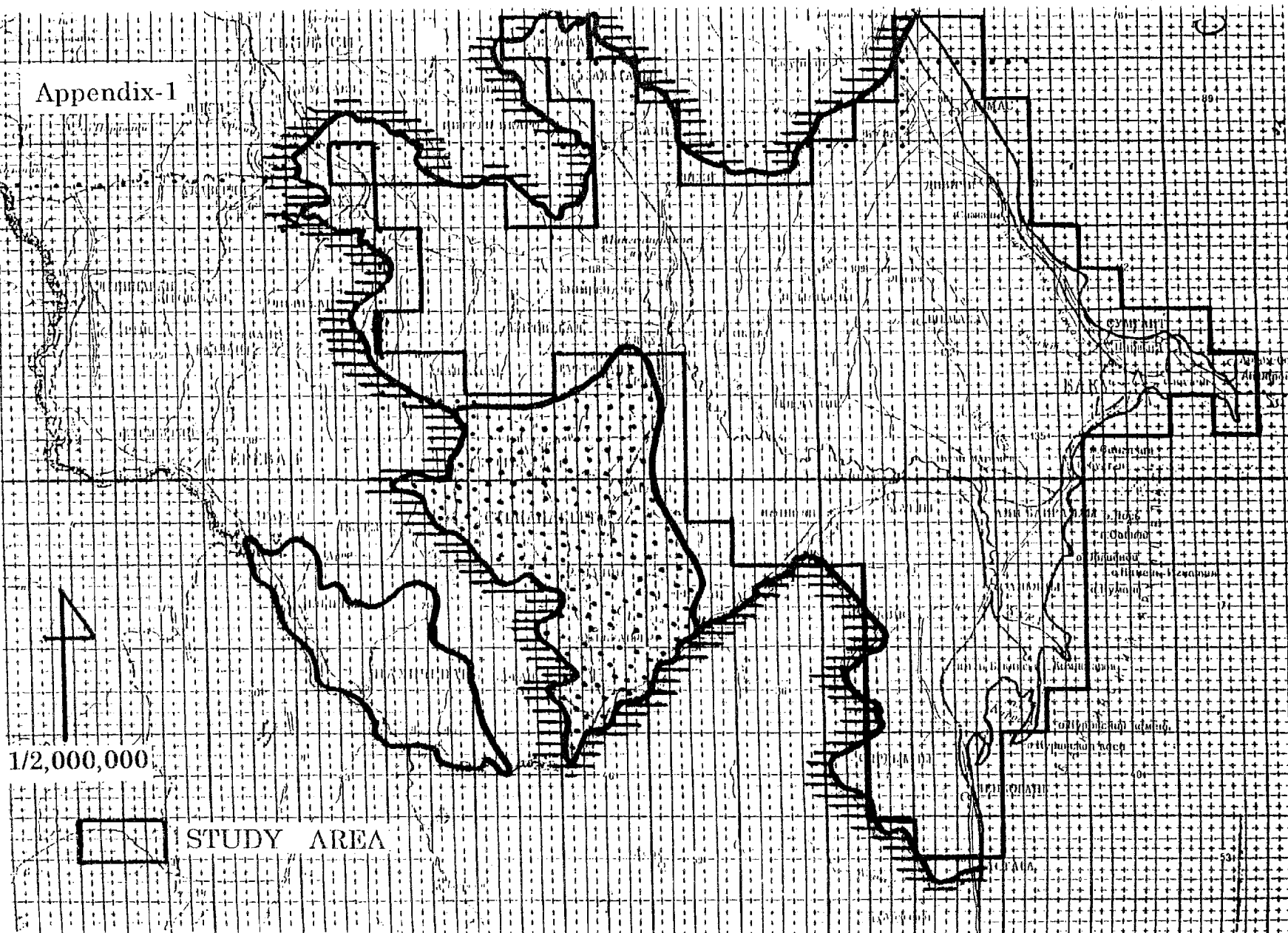
- (2) to pursue technology transfer to the Azerbaijan counterpart personnel in the course of the Study.

IX. OTHERS

JICA and SCGC shall consult with each other in respect of any matter that may arise from or in connection with the Study.



Appendix-1



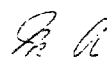
Appendix-2

TENTATIVE SCHEDULE OF THE STUDY

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33				
Work in Azerbaijan	<div></div>												<div></div>												<div></div>												
Work in Japan	<div></div>	<div></div>											<div></div>												<div></div>												
Report and Final Products	△ IC/R											△ PG/R1 Photo													△ PG/R2											△ DF/R Data	△ F/R Map

IC/R : Inception Report
 PG/R1 : Progress Report for the 1st Year
 PG/R2 : Progress Report for the 2st Year
 DF/R : Draft Final Report
 F/R : Final Report

Photo : Aerial Photographs
 Data : Digital Topographic Data
 Map : Tophographic Map

MINUTES OF MEETING
FOR
THE SCOPE OF WORK
ON
NATIONAL DIGITAL MAPPING
IN
THE REPUBLIC OF AZERBAIJAN

AGREED UPON BETWEEN


STATE COMMITTEE
FOR
GEODESY AND CARTOGRAPHY

AND

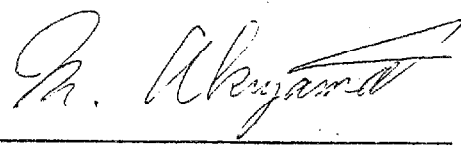
JAPAN INTERNATIONAL COOPERATION AGENCY

BAKU

22 December 1999



Adil S. SOULTANOV
Chairman
State Committee for Geodesy and
Cartography



Minoru AKIYAMA
Leader
Preparatory Study Team
Japan International Cooperation Agency

The Japanese Preparatory Study Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Mr. Minoru AKIYAMA (Director, Geographic Department, Geographical Survey Institute, Ministry of Construction) visited the Republic of Azerbaijan from November 30th to December 28 th, 1999 in connection with the Study on " National Digital Mapping in the Republic of Azerbaijan " (hereinafter referred to as "the Study").

The Team had a series of discussions on the Scope of Work of the Study with officials of State Committee for Geodesy and Cartography (hereinafter referred to as "SCGC"). The attendance list is attached in Appendix-1.

Main items, which were agreed upon by both sides, are as follows:

1. Tentative Study Flow

The Team proposed SCGC the tentative study flow shown in Appendix 2. SCGC understands the flow in principle.

2. Aerial Photography

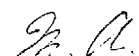
SCGC requested the Team that GPS coordinate information corresponding to each photographs shall be provided. The Team recognized the advantage of such information if the information will be connected to the National Geodetic Coordinate System. SCGC promised to carry out necessary survey for this purpose by their staff under the supervision of the Japanese study team.

All photographs shall be inspected by SCGC and the Japanese study team, and confidential parts shall be blackened before used in the Study.

3. Digitizing

Map symbols shall be divided into three categories as symbols to be eliminated, rasterized and vectorized. Draft of such categorization shall be made by SCGC and notified to JICA by the end of January. Both sides agreed that relief lines (contour lines) shall be categorized as raster symbols. Both sides also agreed that maximum number of uneliminated symbols is one hundred.

Features of eliminated symbols shall be deleted from the original printing films by SCGC in cooperation with the Japanese study team. Materials for the work shall be provided by the Japanese study team.



Features of vector symbols can be digitized as skelton lines if the original symbols can be regenerated by software provided in the course of the Study.

4. Elevation Information

Relief lines (Contour lines) of every 10m in plain area and every 50m in mountainous area shall be vectorized besides rasterized relief lines (contour lines). Digital Elevation Model (DEM) data shall be produced out of the vectorized relief lines (contour lines). SCGC promised to carry out preparatory work if necessary.

5. Field Verification

Field verification shall be conducted by SCGC under the supervision of the Japanese study team. Administrative boundaries and geographical names shall be also verified by SCGC.

6. Technology Transfer

Both sides agreed that OJT shall be conducted in SCGC as much as possible within the capacity of SCGC and the time schedule. Both side also agreed that the target volume of OJT is 20% of the whole area. OJT shall be implemented in Azerbaijan under the technical supervision of the Japanese study team. Details of OJT will be determined between the Japanese study team and SCGC after the commencement of the Study.

SCGC promised to assign necessary number of counterparts for the OJT. SCGC also expressed their preference for OJT in the following technologies.

- GPS Surveying
- Scanning of Maps
- Vectorization of Map Symbols
- Digital Photogrammetry
- Vector Data Editing
- Raster Data Editing
- Inspection of Digital Map
- GIS Analysis
- Printing Film Production from Digital Map

7. Alternation of schedule in aerial photography

Both sides agreed that if the aerial photography failed to be completed in one year after the commencement of the Study, other measures alternative to the new aerial photography shall be discussed by both sides.

8. Information Disclosure



Both sides agreed that the digital map data prepared in the Study and paper maps being produced from printing films prepared in the Study shall be widely disclosed to the public after eliminating inappropriate features.

9. Study Equipment

SCGC requested the Team that the study equipment indispensable to maintain and to improve the technology to be transferred to SCGC in the course of implementing the Study shall be provided to SCGC. The Team promised to convey the request to the JICA headquarters.

10. Training

The SCGC requested that Azerian counterpart personnel take advantage of training in Japan related to the Study to promote an effective technology transfer. The Team promised to convey this request to JICA Headquarters in Tokyo.

11. Vehicles

SCGC explained the difficulty in providing the vehicles, and the Team promised to convey the situation to JICA Headquarters.

12. Others

Both sides agreed that daily allowances and accommodation fees arising from assignments of SCGC personnel in the course of implementing the Study shall be borne by SCGC.

The Minutes of Meeting are prepared both in English and Russian. When any doubt arises in their interpretation, English text shall prevail.



Appendix-1

Attendant List

Azerbaijan Side

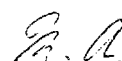
Mr. Adil S. SOULTANOV
Mr. Gennadiy E. NEKRASOV

Chairman, SCGC
First Vice Chairman, SCGC

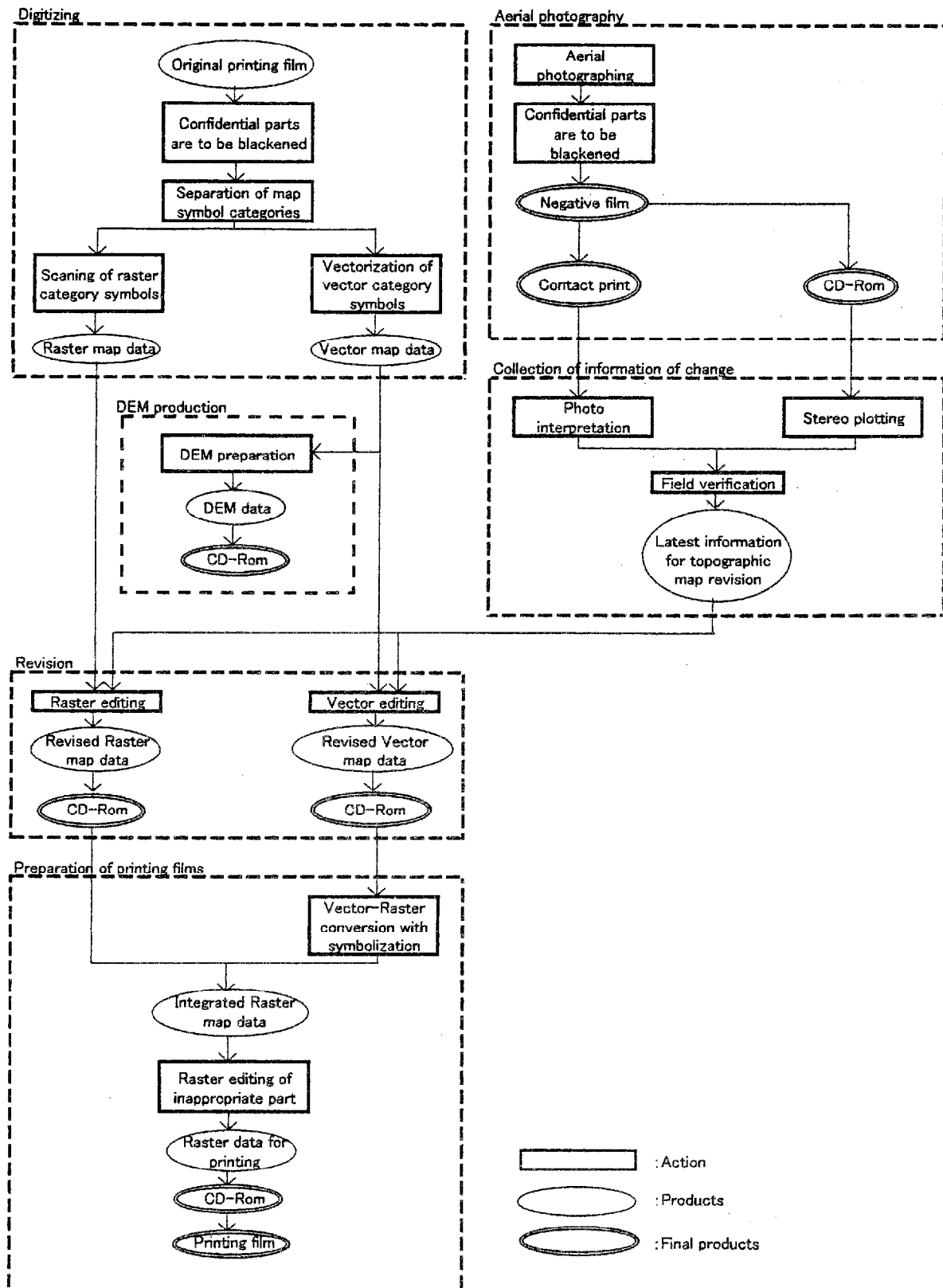
Japanese Side

Mr. Minoru AKIYAMA
Mr. Seiji MATSUZAKI
Mr. Takahiro KASAI
Mr. Yoshitake EGAWA
Mr. Hiroyuki MATSUDA
Mr. Rikizo MIYASAKA
Mr. Yoshiharu TAKANO

Leader of the Team
Member of the Team
Member of the Team
Member of the Team
Member of the Team
Member of the Team
Member of the Team



TENTATIVE STUDY FLOW



ОБЪЕМ РАБОТ ПО
НАЦИОНАЛЬНОЙ ЦИФРОВОЙ КАРТОГРАФИИ
В АЗЕРБАЙДЖАНСКОЙ РЕСПУБЛИКЕ

СОГЛАСОВАН МЕЖДУ
ГОСУДАРСТВЕННЫМ КОМИТЕТОМ
ПО ГЕОДЕЗИИ И КАРТОГРАФИИ
АЗЕРБАЙДЖАНСКОЙ РЕСПУБЛИКИ
И ЯПОНСКИМ АГЕНТСТВОМ
МЕЖДУНАРОДНОГО СОТРУДНИЧЕСТВА

БАКУ

22 декабря 1999 года



Адилъ С. СУЛТАНОВ
Председатель
Государственного Комитета
по Геодезии и Картографии



Минору АКIJAMA
Руководитель Группы
Предварительного Изучения
Японское Агентство
Международного Сотрудничества

I. ВВЕДЕНИЕ

В ответ на запрос Правительства Азербайджанской Республики, Правительство Японии решило провести "Исследование по Национальной Цифровой Картографии" (далее именуемое как "Исследование") согласно соответствующим законам и правилам, действующим в Японии.

Соответственно, Японское Агентство Международного Сотрудничества (далее именуемое "JICA") как официальная организация, ответственная за осуществление программ технического содействия со стороны Правительства Японии, предпримет Исследование в тесном сотрудничестве с соответствующими органами Правительства Азербайджанской Республики.

В настоящем документе излагается объем работ по данному Исследованию.

II. ЦЕЛИ ИССЛЕДОВАНИЯ

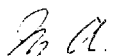
Исследование преследует следующие цели:

- 1) подготовить цифровые топографические данные путем исправления топографических карт масштаба 1:50000 с помощью методов цифровой картографии, которые помогут Правительству Азербайджанской Республики в развитии различных планов и программ; и
- 2) усилить возможности организации-партнера путем передачи технологии в ходе Исследования.

III. ТЕРРИТОРИЯ ИССЛЕДОВАНИЯ

Исследование будет охватывать территорию Азербайджанской Республики, за исключением территорий, оккупированных Арменией, Нахичевани и пограничной зоны страны. Территория исследования, составляющая примерно 60000 км², показана в Приложении 1.

IV. ОБЪЕМ ИССЛЕДОВАНИЯ



Для достижения вышеуказанных целей Исследование должно включать следующие пункты.

1) Аэрофотосъемка

Должны быть получены черно-белые аэрофотоснимки всей территории Исследования в масштабе 1:40000 с использованием соответствующих данных GPS.

2) Цифрование

Существующие топографические карты масштаба 1:50000 должны быть либо отсканированы, либо векторизованы в соответствии с типами условных обозначений (символов) карт.

3) Подготовка цифровой высотной модели.

В равнинной местности цифровая высотная модель должна быть подготовлена на основе векторизованных рельефных линий (контурных линий) через каждые 10 м, а в горной местности – через каждые 50 м.

4) Сбор информации об изменениях

Самая поздняя информация по основным топографическим характеристикам, за исключением топографического рельефа, должна быть собрана интерпретацией аэрофотоснимков, стерео вычерчиванием и/или полевыми исследованиями.

5) Исправление

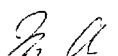
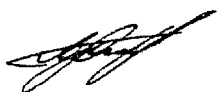
Цифровая информация должна быть исправлена в соответствии с собранной информацией об изменениях.

6) Подготовка печатных пленок

Печатные пленки должны быть подготовлены в масштабе 1:50000 с использованием лазерного плоттера.

7) Изготовление CD-ROM

Подготовленные цифровые данные должны быть скомпилированы на CD-ROM.



8) Передача технологии

Для облегчения передачи технологии персоналу партнера некоторая часть вышеупомянутых пунктов должна быть выполнена персоналом партнера под техническим надзором Японской Исследовательской Группы.

V. ГРАФИК ИССЛЕДОВАНИЯ

Исследование должно быть осуществлено в соответствии с предварительным Графиком Исследования, приведенным в Приложении 2. График, включая даты представления отчетов, указанные в следующей статье (VI), носит предварительный характер и может быть изменен по взаимному согласию обеих сторон и в случае возникновения необходимости в ходе Исследования.

VI. ОТЧЕТЫ И КОНЕЧНЫЕ ПРОДУКТЫ

JICA подготовит и представит Правительству Азербайджанской Республики следующие отчеты на английском и русском языках и конечные продукты работ по цифровой картографии. В случае возникновения какого-либо противоречий в тексте, английский текст будет преобладать.

- | | |
|--|-------------------------------|
| 1. Первоначальный отчет | |
| 20 экземпляров | В момент начала Исследования |
| 2. Промежуточный отчет | |
| 20 экземпляров | В конце первого и второго лет |
| 3. Проект окончательного отчета | |
| 20 экземпляров | В конце третьего года |
| 4. Окончательный отчет | |
| 20 экземпляров | В конце Исследования |
| 5. Конечные продукты изготовления топографических карт | |
| (1) Аэрофотоснимки | |
| 1) Негативы | 1 комплект |
| 2) Контактные отпечатки | 3 комплекта |

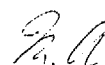


- | | |
|-------------------------------------|--------------|
| 3) Данные цифрового изображения | 5 комплектов |
| (2) Цифровые топографические данные | |
| 1) Растровые данные | 5 комплектов |
| 2) Векторные данные | 5 комплектов |
| 3) Цифровая высотная модель | 5 комплектов |
| (3) Топографические карты | |
| 1) Печатные пленки | 1 комплект |
| 2) Данные цифрового изображения | 5 комплектов |

VII. ОБЯЗАТЕЛЬСТВА ПРАВИТЕЛЬСТВА АЗЕРБАЙДЖАНСКОЙ РЕСПУБЛИКИ

1. В целях содействия беспрепятственному проведению Исследования Правительство Азербайджанской Республики должно принять следующие меры:

- 1) обеспечить безопасность группы Японской Исследовательской Группы;
- 2) разрешить членам Японской Исследовательской Группы беспрепятственный въезд, выезд и временное пребывание в Азербайджанской Республике в течение периода выполнения ими своего служебного назначения и освободить их от необходимости регистрации иностранных подданных и от консульских сборов;
- 3) освободить Японскую Исследовательскую Группу от уплаты налогов, пошлин, взносов и любых других расходов на оборудование, машины и другие материалы, ввозимые в Азербайджанскую Республику или вывозимые из нее с целью проведения исследования;
- 4) освободить членов Японской Исследовательской Группы от уплаты подоходного налога и выплат любого рода, налагаемых на или в связи с любыми видами вознаграждения или заработной платы, выплачиваемыми членам Японской Исследовательской Группы за их услуги, оказанные при проведении Исследования;
- 5) обеспечить Японской Исследовательской Группе необходимые условия и средства для перевода и использования денежных средств, поступающих в Азербайджанскую Республику из Японии в связи с проведением Исследования;

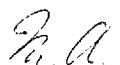
- 6) гарантировать Японской Исследовательской Группе разрешение на вход или доступ к частным владениям или запретным зонам для проведения Исследования;
- 7) Обеспечить Японской Исследовательской Группе разрешение на получение необходимой радиочастоты для проведения Исследования;
- 8) гарантировать членам Японской Исследовательской Группы разрешение на вывоз из Азербайджанской Республики в Японию всех данных и документов, включая топографические карты, оригиналы рукописей и аэрофотоснимки, связанные с Исследованием;
- 9) обеспечить необходимое разрешение для проведения аэрофотосъемки с самолета, зарегистрированного за рубежом, для выполнения Исследования;
- 10) при необходимости обеспечить медицинское обслуживание, расходы по которому будут оплачены членами Японской Исследовательской Группы;

2. Правительство Азербайджанской Республики разберет любые претензии к одному или нескольким членам Японской Исследовательской Группы, возникающие в ходе исследования или каким-либо образом связанные с исполнением ими служебных обязанностей в процессе проведения Исследования, за исключением случаев, когда такие претензии возникают по причине грубой халатности или намеренного нарушения правил поведения со стороны члена Исследовательской Группы.

3. Государственный Комитет по Геодезии и Картографии (далее именуемый "ГКГК") будет выступать как партнерская организация по отношению к Японской Исследовательской Группе, а также как координирующий орган в связях с другими государственными и негосударственными организациями, заинтересованными в беспрепятственном проведении Исследования.

4. ГКГК должен за свой счет предоставить Японской Исследовательской Группе следующее совместно с другими заинтересованными организациями:

- (1) имеющиеся данные и информация, связанные с Исследованием;
- (2) партнерский персонал;
- (3) подходящее помещения для офиса с необходимым оборудованием;
- (4) автомобили с водителями, и



(5) удостоверения личности.

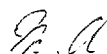
VIII. ОБЯЗАТЕЛЬСТВА JICA.

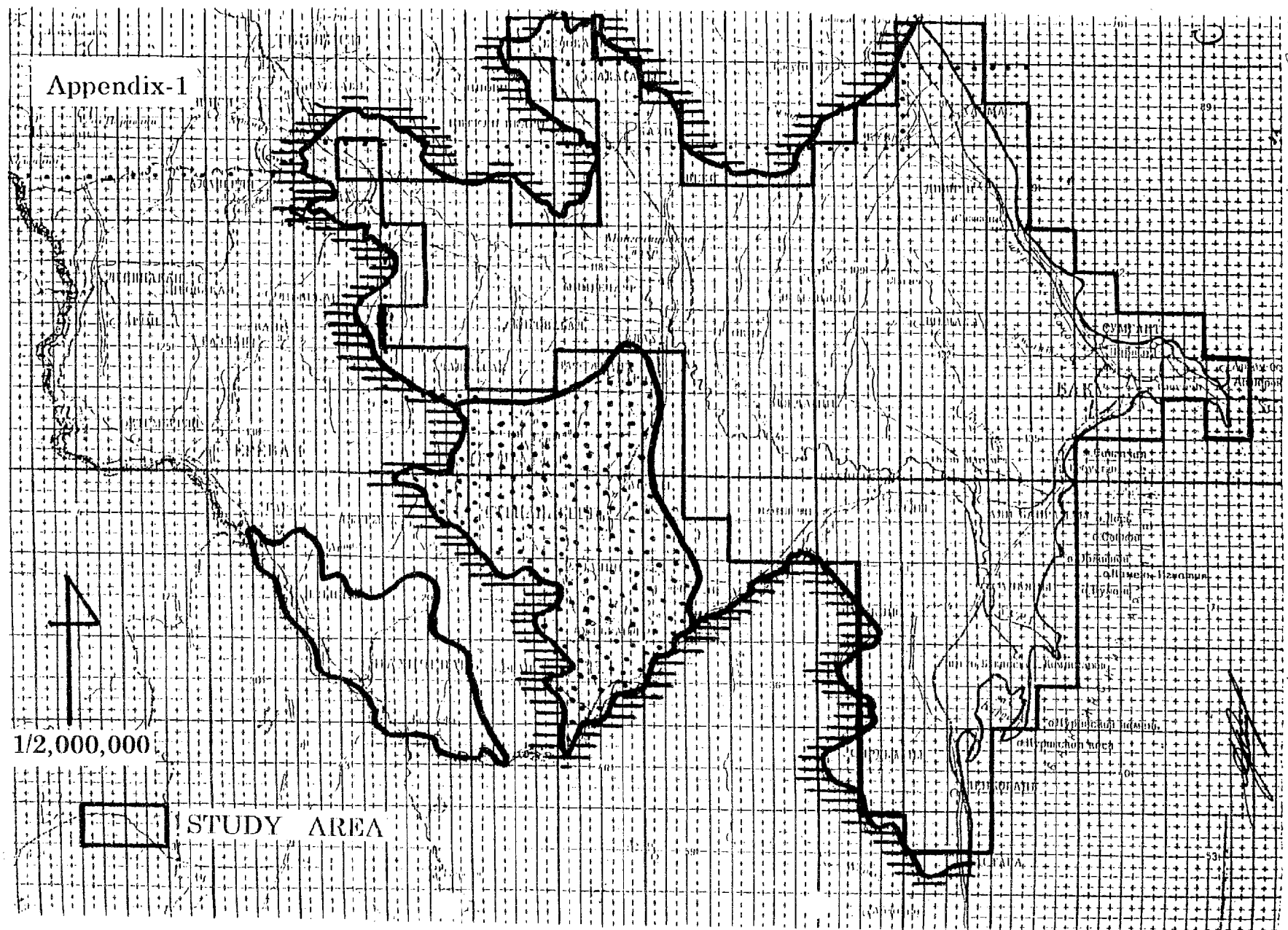
Для проведения Исследования JICA обязуется принять следующие меры:

- (1) направить за свой счет Японскую Исследовательскую Группу в Азербайджанскую Республику, и
- (2) провести передачу технологии персоналу азербайджанского партнера в ходе Исследования.

IX. ПРОЧЕЕ

JICA и ГКГК должны консультироваться друг с другом в отношении любых вопросов, которые могут возникнуть в связи с Исследованием.





Appendix-2

TENTATIVE SCHEDULE OF THE STUDY

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	
Work in Azerbaijan	<div></div>												<div></div>												<div></div>									
Work in Japan	<div></div>	<div></div>											<div></div>												<div></div>									
Report and Final Products	△ IC/R											△ PG/R1 Photo												△ PG/R2									△ DF/R Data	△ F/R Map

IC/R : Inception Report

PG/R1 : Progress Report for the 1st Year

PG/R2 : Progress Report for the 2st Year


DF/R : Draft Final Report

F/R : Final Report

Photo : Aerial Photographs

Data : Digital Topographic Data

Map : Tophographic Map



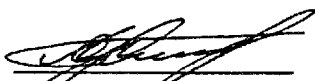
7. A.

**ПРОТОКОЛ ВСТРЕЧИ
ПО ОБЪЕМУ РАБОТ
ПО НАЦИОНАЛЬНОМУ ПРОЕКТУ
ЦИФРОВОЙ КАРТОГРАФИИ
В АЗЕРБАЙДЖАНСКОЙ РЕСПУБЛИКЕ**

**СОГЛАСОВАН МЕЖДУ
ГОСУДАРСТВЕННЫМ КОМИТЕТОМ
ПО ГЕОДЕЗИИ И КАРТОГРАФИИ
АЗЕРБАЙДЖАНСКОЙ РЕСПУБЛИКИ
И ЯПОНСКИМ АГЕНТСТВОМ
МЕЖДУНАРОДНОГО СОТРУДНИЧЕСТВА**

БАКУ

22 декабря 1999 года



АДИЛЬ С. СУЛТАНОВ

Председатель

Государственного Комитета
по Геодезии и Картографии



МИНОРУ АКIJАМА

Руководитель Группы

Предварительного Изучения

Японское Агентство

Международного Сотрудничества

Японская Группа Предварительного Изучения (далее именуемая как "Группа"), организованная Японским Агентством Международного Сотрудничества (далее именуемым JICA) и руководимая г-ном Минору АКИАМОЙ (директор географического департамента Института Географических исследований при Министерстве строительства), посетила Азербайджанскую Республику в период с 30 ноября по 28 декабря 1999 года в связи с исследованием по "Национальной Цифровой Картографии в Азербайджанской Республике" (далее именуется как "Исследование").

Группа провела серию дискуссий по объему работ с представителями Государственного Комитета по Геодезии и Картографии (далее именуемого "ГКГК"). Список участников приведен в Приложении 1.

Обе стороны пришли к согласию по следующим основным пунктам:

1. Предварительный ход (схема) Исследования.

Группа предложила ГКГК предварительную схему Исследования, показанную в Приложении 2. ГКГК в принципе понимает схему.

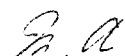
2. Аэрофотосъемка.

ГКГК обратился к Группе с просьбой предоставить координатную информацию GPS для каждого фотоснимка. Группа осознает преимущества такой информации для Национальной Геодезической Координатной Системы. ГКГК обещал с этой целью провести своими силами необходимое исследование под техническим надзором Японской Группы Исследования.

Все фотоснимки должны быть проверены ГКГК и Японской Исследовательской Группой, и конфиденциальная часть должна быть затемнена до использования в ходе Исследования.

3. Цифрование.

Символы (условные обозначения) карт будут разделены на 3 категории: символы, подлежащие удалению; растровые символы; символы, подлежащие векторизации. Данная классификация будет проведена ГКГК и передана JICA до конца января. Обе стороны согласились, что рельефные линии (контурные линии) должны быть классифицированы как растровые символы. Обе стороны также пришли к согласию, что максимальное количество символов, не



подлежащих изъятию, равно ста.

Характеристики изымаемых символов должны быть удалены с оригинальных печатных пленок ГКГК совместно с Японской Исследовательской Группой.

Материалы для работы должны быть обеспечены Японской Исследовательской Группой.

Характеристики векторных символов могут быть оцифрованы как линии основы, если первоначальные символы смогут быть восстановлены с помощью программного обеспечения, поставленного в ходе Исследования.

4. Информация по высотам.

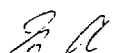
Рельефные линии (контурные линии) должны быть векторизованы через каждые 10 м в равнинной местности контурные линии и через каждые 50 м в горной местности, помимо растровых рельефных линий (контурных линий). Данные Цифровой высотной модели должны быть получены из векторизованных рельефных линий (контурных линий). ГКГК обещал провести подготовительную работу, если потребуется.

5. Полевая верификация.

Полевая верификация должна быть проведена ГКГК под наблюдением Японской Исследовательской Группы. Административные границы и географические названия также должны быть подтверждены ГКГК.

6. Передача технологии.

Обе стороны договорились, что обучение в процессе работы будет проводиться в ГКГК в пределах возможностей ГКГК и временного графика. Обе стороны также согласились, что предполагаемый объем обучения в процессе работы составит 20% всей территории, и обучение в процессе работы будет проводиться в Азербайджане под техническим надзором Японской Исследовательской Группы. Детали обучения в процессе работы будут определены Японской Исследовательской Группой и ГКГК после начала Исследования. ГКГК обещал назначить необходимое количество партнерского персонала для обучения в процессе работы. ГКГК также высказал мнение, что следующие технологии являются предпочтительными для обучения в процессе работы:



- *Исследование с применением GPS.
- *Сканирование карт.
- *Векторизация символов карт.
- *Цифровая фотограмметрия.
- *Редактирование векторных данных.
- *Редактирование растровых данных.
- *Проверка цифровых карт.
- *Анализ GIS.
- *Изготовление печатных пленок на основе цифровых карт.

7. Альтернатива аэрофотосъемки.

Обе стороны согласились, что, если аэрофотосъемку не удастся провести в течение одного года после начала Исследования, нужно будет обсудить другие альтернативные меры по отношению к проведению новой аэрофотосъемки.

8. Раскрытие информации.

Обе стороны согласились, что данные цифровых карт, подготовленных в ходе Исследования, и карты, напечатанные с печатных пленок, изготовленных в ходе Исследования, должны быть широко открыты общественности после устранения нежелательных характеристик.

9. Оборудование для Исследования.

ГКГК просил Группу поставить оборудование, необходимое для поддержки и развития технологий, должных быть переданными ГКГК в ходе осуществления Исследования. Исследование должно быть представлено в ГКГК. Группа обещала препроводить запрос в штаб-квартиру JICA.

10. Обучение.

ГКГК желал бы, чтобы работники с азербайджанской стороны имели возможность пройти связанное с Исследованием обучение в Японии для обеспечения эффективной передачи технологий. Группа обещала препроводить запрос в штаб-квартиру JICA в Токио.



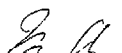


11. Автомобили.

ГКГК объяснил трудности в обеспечении автомобилей, и Группа обещала довести ситуацию до сведения штаб-квартиры JICA.

12. Прочее.

Обе стороны договорились, что расходы на проживание и денежное содержание в связи с назначениями работников ГКГК в ходе осуществления Исследования должен нести ГКГК.

Протокол составлен на английском и русском языках. В случае каких-либо сомнений в трактовках преобладать должен английский вариант.



ПРИЛОЖЕНИЕ-1

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С азербайджанской стороны

Г-н Адиль С. СУЛТАНОВ

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Член Группы

Г-н Такахиро КАСАИ

Член Группы

Г-н Йошитаке ЭГАВА

Член Группы

Г-н Хироюки МАЦУДА

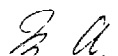
Член Группы

Г-н Рикизо МИЯСАКА

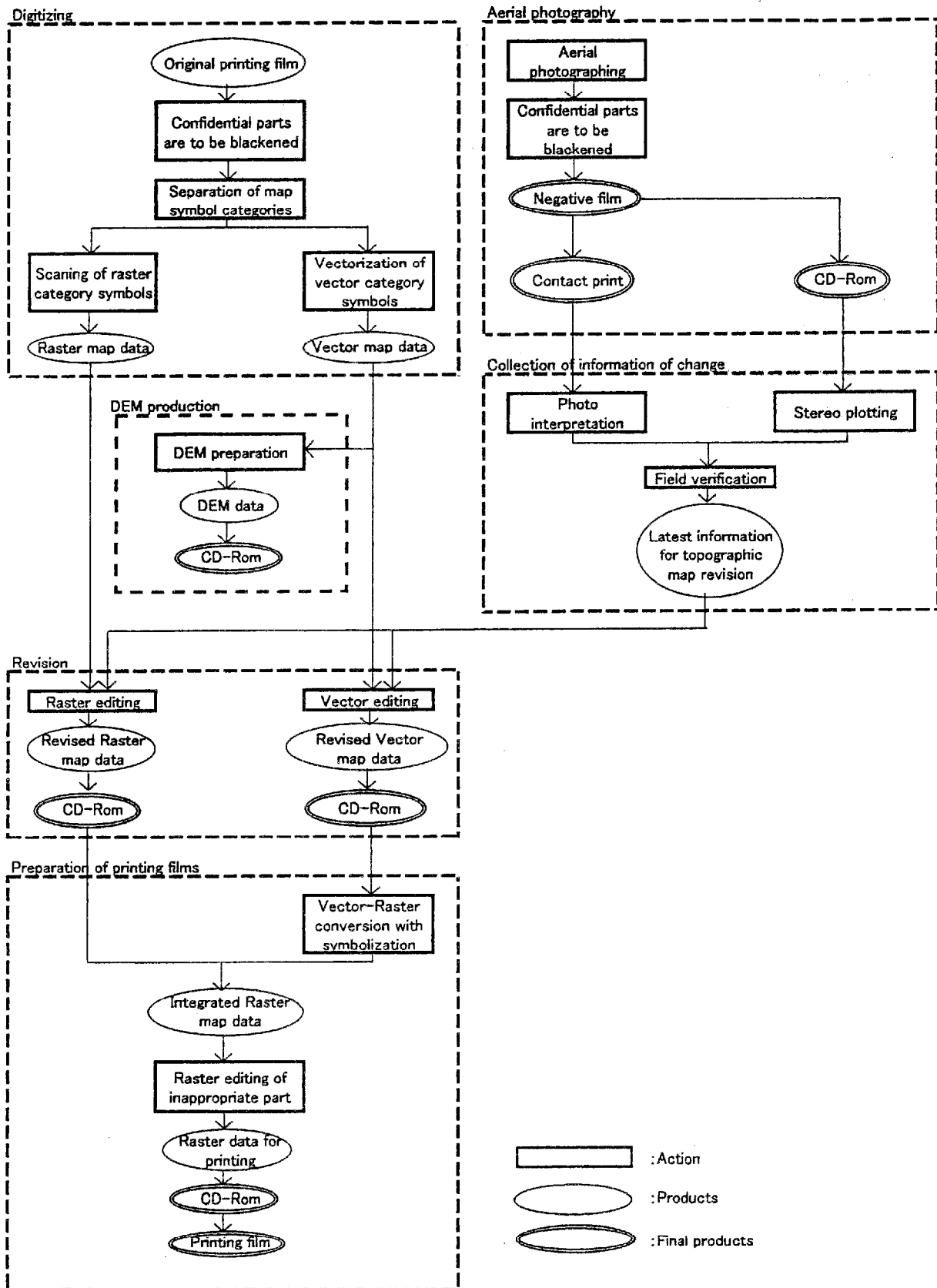
Член Группы

Г-н Йошихари ТАКАНО

Член Группы



TENTATIVE STUDY FLOW



1. Government organization and government policy

Item	Description	Availability	Note (response)
1. Central Government	(1) Organization chart (2) Annual budget with breakdown		
2. Government policy for development and reconstruction	(1) National development plan and policy (2) Major regional development plan and policy (3) Report concerning development and reconstruction plans (4) Agricultural development project		

2. Social and economic information

Item	Description	Availability	Note (response)
1. Latest national economic index	(1) GNP and GDP (2) Population (3) Growth rate of population (4) Education (5) Transport & communication (roads, railway, air,) (6) Energy (electricity, oil,) (7) Production (mine, food,) (8) Other statistical data (9) Meteorological data(Cloudiness Statistics)		

3. Organization concerning topographic mapping

Item	Description	Availability	Note(response)
1. Agency In charge of topographic mapping	(1) Jurisdiction of the agency (2) Organization chart (Inside) (3)Relation to Central Government (4)Number of staff and engineers		
2. Agency in charge of cadastral survey	(with academic background, training and experience levels) (5)Annual budget with breakdown for recent 5 years		
3. Agency in charge of natural resource survey	(6)Equipment list (survey and reproduction) (7)Future plan (8)Relation to military sector		
4. Private sector organization for survey (if not neighbor country)	(1) Name of the organization (2) Number of staff & engineers (3) Survey equipment list (4) Cost of survey, etc.		

4. Existing data and information

Item	Description	Availability	Note(response)
1. Geodetic data	<p>(1) Existing horizontal ground control points</p> <ul style="list-style-type: none"> - Location map of horizontal ground control points - Description of points - Date of establishment - Information on damage and / or loss of points - Executing organization <p>(2) Existing vertical ground control points</p> <ul style="list-style-type: none"> - Levelling network map - Location map of vertical ground control points - Description of points - Date of establishment - Information on damage and / or loss of points - Organization 		

	Description	Availability	Note(response)
2. Aerial photos	(1) Existing aerial photos <ul style="list-style-type: none"> - Disclosure policy - Coverage area - Scale of aerial photos - Flight index map - Date of aerial photography - Executing organization - Reproduction - Storage conditions and availability of photos - Distribution system - Purpose of use 		
3. Topographic maps	(1) Existing topographic maps <ul style="list-style-type: none"> - Disclosure policy - Coverage area - Index of topographic maps - Date of preparation - Executing organization - Marginal Information and legend in English - Reproduction - Storage conditions and availability of maps - Distribution system - Purpose of use 		

Item	Description	Availability	Note(response)
<p>4. Thematic maps (land use, soil, geology etc.) and geographical books</p> <p>5. Geographic Information System(GIS)</p>	<p>(1) Existing thematic map</p> <ul style="list-style-type: none"> - Scale of the map - Coverage area - Date of preparation - Executing organization <p>(2) Geographical books</p> <p>(3) National Atlas</p> <p>(4) School Atlas</p> <p>(1) Existing GIS</p> <ul style="list-style-type: none"> - Coverage area - Scale of contents - Date of establishment - Executing organization - Purpose of use 		

4. Future plan

Item	Description	Avail- ability	Note(response)
1. Basic surveying policy	<ul style="list-style-type: none"> - National geodetic network surveying master plan - National base map surveying master plan - National aerial photography master plan - Map and air photo reproduction program - Map and air photo distribution system -GIS 		
2. Activity by other donor countries for surveying , mapping and GIS	<ul style="list-style-type: none"> (1) Past and present activities by other donor countries (2) Project report (3) New proposal submitted by other donor countries (4) committed process for the Individual project by your government 		

Item	Description	Avail- ability	Note(response)
6. Agencies in charge of and/or concerning with the followings:			
(1) Permission of aerial photography (Security clearance for flight)	(1) Name of Agencies and Department (2) Name and position of the responsible persons in charge of the Japanese Study Team to contact (3) Period for permission		
2. Permission of printing for aerial photos	(1) Name of Agencies and Department (2) Name and position of the responsible persons in charge for the Japanese Study Team to contact (3) Period for permission		
(3) Permission of ground survey works	(1) Name of Agencies and Department (2) Name and position of the responsible persons in charge for the Japanese Study Team to contact (3) Period for permission		

Item	Description	Availability	Note(response)
(4) Permission of taking out survey data including aerial photos fair draft out from Azerbaijan to Japan	(1) Name of Agencies and Department (2) Name and position of the responsible persons in charge for the Japanese Study Team to contact (3) Period for permission		
(5) Custody of topographic maps, aerial photographs, geodetic data, a administrative boundary and name list	(1) Name of Agencies and Department (2) Name and position of the responsible persons in charge for the Japanese Study Team to contact		
(6)Permission to use of radio call equipment	(1)Name of Agency and department		
7. Specifications and standard	(1) Aerial photography and photo processing (2) Ground control point survey (3) Aerial triangulation (4) Photogrammetric mapping (5) GIS (6)Annotation and symbols (7) Projection (8) Spheroid (9) Printing		

Item	Description	Avail- ability	Note(response)
8. Any specific restriction related to survey , mapping and GIS (1) Law on survey , mapping and GIS (2) Restricted area (3) etc.	(1) Survey law (2) Regulation of aerial photography by foreign registered aircraft (3) etc.		

9. Other information

Item	Description	Availability	Note(response)
<p>1. Ongoing development survey / project in the proposed survey area</p> <p>2. Training for survey and mapping</p>	<p>(1) Formal education and training system for survey</p> <p>(2) On the job training on an average technician</p>		

Item	Description	Avail- ability	Note(response)
3. Availability of laborer	1) Driver (wages / day) 2) Workers (wages / day) 3) Regulation for employment		
4. Availability of counterpart			
5. Present safety conditions	(1) Present security conditions		
6. Dangerous areas	(1) Mine contaminated area		
7. Harmful animals, insects and diseases			
8. Availability of transport	(1) Government vehicles or rental cars (2) 4WD cars or others		
9. Accommodation	(1) Major facilities (2) Cost or rates		