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2. 要請書

1. 協議議事録 (Minutes of Meeting)

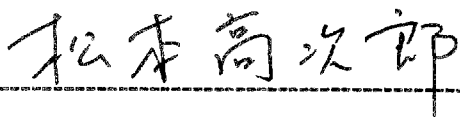
MINUTES OF MEETING
BETWEEN THE JAPANESE FACT FINDING TEAM
AND THE AUTHORITIES CONCERNED OF THE GOVERNMENT
OF THE REPUBLIC OF TURKEY
ON THE JAPANESE TECHNICAL COOPERATION
FOR MINE DEVELOPMENT IN THE REPUBLIC OF TURKEY

The Japanese Fact Finding Team (hereinafter referred to as "the Team") organized by Japan International Cooperation Agency (hereinafter referred to as "JICA") visited the Republic of Turkey from February 20 to March 2, 2001 for the purpose of surveying present situation of the mining sector of Turkey, clarifying the background and concept of the proposal for the Project on the Center for Digital Processing of Images (hereinafter referred to as "the Project") in the field of mine development, which is made by the authorities concerned of the Government of the Republic of Turkey (hereinafter referred to as "the Turkish side").

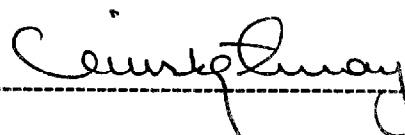
During its stay in the Republic of Turkey, the Team had a series of meetings on the Project with the Turkish side.

As a result of the meetings, both sides reached common understandings concerning the matters referred to the documents attached hereto.

Ankara, March 1, 2001



Mr. Kojiro Matsumoto
Leader
Fact Finding Team
Japan International Cooperation Agency
Japan



Mr. Gürkan Tunay
Head of Geological Research Department
General Directorate of Mineral Research
and Exploration (MTA)
The Republic of Turkey

ATTACHED DOCUMENT

I. Background of the Project Proposal

The Republic of Turkey is abundant in various kinds of mineral resources, which has contributed to the development of Turkey as a modern nation. However, since those mineral deposits outcropping on the surface have been already developed, it tends to become difficult to discover new deposits without applying high technology for exploration.

One of the high technologies to cope with the difficulties is satellite remote sensing, which has been operated for the recent two decades. Sensors on the orbit obtain surface-information on the whole area of the earth. With increasing the level of industrial technology, capability of sensors has been improved drastically. Nowadays satellite imageries are utilized not only for geological investigation, identification of potential areas of natural resources, but also for environmental impact survey, identification of hazardous area etc. Another high technology which are very efficient to handle with variety of data is GIS, which enable integration of a wide range of geo-information related to lithology, structural geology, geochemistry, geophysics, hydrogeology, and a suite of environmental studies as well as remote sensing.

The General Directorate of Mineral Research and Exploration (Maden Tetkik ve Arama Genel Müdürlüğü, hereinafter referred to as "MTA"), founded in 1935 has conducted many systematic geological exploration programs and research works. In these activities, MTA started remote sensing in 1975 with establishing the Remote Sensing Unit. In 1994, Remote Sensing Unit was reorganized to Remote Sensing Center for more intensive activities with updating the labo instruments at the same time.

However, since the labo instruments and software as well as the capacity of researchers have not been improved sufficiently, it makes the most of the latest remote sensing analysis difficult.

Therefore, upgrading of their capacity and the infrastructure to the up-to-date level such as ASTER (Advanced Spaceborne Thermal Emission and Reflection Radiometer) data utilization in the above mentioned geo-science field is now becoming pressing needs to MTA.

On the other hand, as a leading agency in remote sensing and GIS technology in Turkey, MTA recognizes responsibility to disseminate its up-to-date technology to other organizations in Turkey and also those countries that need and apply these high technologies in their duties.

On the above-mentioned backgrounds, MTA, through the government of the Republic of

Turkey, requested the government of Japan to implement the Project-type Technical Cooperation for the purpose of improving the technology and function of the present Remote Sensing Laboratory Unit, which was reorganized again into a unit under the Division of Remote Sensing and Geographical Information System (hereinafter referred to as “the RS/GIS Division”), and establishing the Center for Digital Processing of Images (hereinafter referred to as “the Center”) as the research and training center under the RS/GIS Division.

II. Concept of the Project Proposal

1. Name of the Project

The Turkish side proposed to use “the Project on the Center for Digital Processing of Images” as the name of the Project.

2. Implementation Agency of the Project

The Turkish side explained to the Team that MTA would bear overall responsibility for the implementation of the Project, and that the department in charge would be the Geological Research Department of MTA.

3. Duration of the Project

The Turkish side explained that the adequate duration of the Project would be five (5) years. The Team stated that the duration should be further examined.

4. Site of the Project

The Turkish side explained that the Project would be implemented at a building in the premise of MTA, and that renovation of the building would start in the middle of March and complete in the beginning of August 2001.

The address of the premise is as follows.

Eskisehir Yolu, 06520 Ankara, Turkey

5. Objective of the Project

The Turkish side explained the objective of the Project to the Team as follows.

- (1) To acquire advanced technology of remote sensing and geographical information system (GIS) for mineral exploration, hazard research, and environmental research
- (2) To establish the Center which conducts researches and training of the field mentioned above.

Furthermore, the Turkish side explained the provisional function of the Center to the Team as

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follows.

(1) Research

- Systematic study which is not limited to particular areas (e.g. alteration mapping of the whole Turkey)
- Studies of specific area and/or theme (similar to on-going Biga peninsula project)
- Supporting activity for other units or departments

(2) Training

(a) Content

- Basic course about introduction of remote sensing and GIS
- Advanced course about actual application of remote sensing and GIS, including case study

(b) Target

- MTA staff
- University staff and students
- Staff of other government organizations in Turkey and other countries
- Staff of private companies in Turkey and other countries

(c) Scale, frequency

- For several years hereafter, five (5) to ten (10) persons for one (1)-month basic course annually. If possible, a few persons for three (3) months to one (1) year advanced course annually.
- In the future, ten (10) to twenty (20) persons for one (1)-months basic training course annually. Three (3) to five (5) persons for ten (10) to twelve (12)-months advanced course annually.

6. Fields of Technology Transfer

The Turkish side requested the Team to transfer following technical fields and items from the Japanese side.

(1) ASTER data processing and its application to geologic problems

a. Image processing

- Regional and local hydrothermal alteration mapping with visible and near infrared (VNIR), short-wave infrared (SWIR), and thermal infrared (TIR) data for mineral exploration
- Lithological and structural mapping with VNIR, SWIR, and TIR data for general geologic purposes
- Temperature estimation with TIR data for geothermal exploration

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- b. Digital Elevation Model (DEM) processing
 - Regional DEM substituting for current Turkish topographic-map-based DEM
 - Periodical monitoring of local topographic change
- c. Case studies
 - Introduction to the case studies in the field of resource exploration, environmental evaluation, hazardous area delineation with respect to landslide and earthquake

(2) Geographic Information System (GIS)

- a. Construction of GIS data sets incorporating geological, geophysical, and geochemical survey results
- b. Spatial analysis
 - Mineral potential mapping
 - Hazard potential mapping especially for landslide prediction

(3) SAR data processing

- a. Basic image processing
- b. Periodical monitoring on active fault zone and subsiding sites with interferometry

(4) Others

- a. Operation and application of field spectrometer
- b. Mineral exploration expert system

7. Measures to be Taken by the Japanese Side

The Team explained that input by the Japanese side would be the following three (3) components, in case the Project was carried out under the framework of Project-Type Technical Cooperation.

(1) Dispatch of Japanese Experts

(a) Long-term experts

The usual number of long-term experts is four (4) to six (6).

(b) Short-term experts

The number and the field of short-term experts are determined depending upon necessity for technology transfer. The usual number of short-term experts is zero (0) to five (5) per year.

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(2) Training of Turkish Counterpart Personnel in Japan

The usual number of the counterpart personnel (hereinafter referred to as "C/P") accepted is zero (0) to two (2) annually.

(3) Provision of Equipment

Part of the machinery, equipment and other materials (hereinafter referred to as "the Equipment") necessary for technology transfer in the Project would be provided by the Japanese side. The costs and responsibility necessary for domestic transport, installation, adjustment, maintenance and repair of the Equipment should be borne by the Turkish side.

The Turkish side asked the Team about provision of data of ASTER, which would be necessary for technology transfer. The Team replied that the matter was to be discussed after consultation with the authorities concerned of Japan (hereinafter referred to as "the Japanese side").

8. Measures to be Taken by the Turkish Side

The Team explained to the Turkish side that the following measures were to be taken by the Turkish side.

(1) Buildings and Facilities for the Project

The Turkish side should prepare the building and facilities necessary for the implementation of the Project.

(2) Long Term Assignment of C/P

The Turkish side should provide the full time and part time services of C/P and the administrative personnel.

Furthermore, should the allocation of C/P and the administrative personnel be changed for either the personnel or administrative reasons, the Turkish side should immediately take necessary measures to supplementary assign appropriate number of personnel for the Project.

(3) Machinery, Equipment and Materials

The Turkish side should supply at its own expenses machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than those provided by the Government of Japan through JICA.

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(4) Local Costs

Timely allocation of the necessary amount of local costs by the Turkish side is indispensable for the successful implementation of the Project.

(5) Sustainability of the Project

The Turkish side should take necessary measures to ensure that the self-reliant operation of the Project will be sustained during and after the period of the Japanese technical cooperation, through the full and active involvement in the Project of all related authorities, beneficiary groups and institutions so that the technologies and knowledge acquired by the C/P through the Project should ultimately contribute to the economic and social development of the Republic of Turkey.

III. Schedule Hereafter

The Team explained that the Japanese side would decide whether or not it proceeds the further investigation and consideration of the proposed Project in about May 2001. Furthermore, The Team explained that, in case the Japanese side decided to proceed, a couple of preliminary studies would be conducted, and that, in case the Japanese side finally determined to implement the Project, the Implementation Study Team would be dispatched to conclude the Record of Discussions in the beginning of Japanese fiscal year 2002 at the earliest.

IV. Attendants at the Meetings

The list of attendants at the meetings is as shown in ANNEX.



List of Attendants at the Meetings

Turkish Side

General Directorate of Mineral Research and Exploration (MTA)

Mr. A.Kemal Işiker	General Director
Mr. Murat Erendil	Deputy General Director
Mr. Gürkan Tunay	Head of the Geological Research Department
Mr. Erdem Çörekçioğlu	Coordinator R/S and GIS Division
Mr. Şükrü Şafak	Coordinator External relationships and International Projects Division
Ms. Mesude Aydan	Unit Manager External Relationships Unit
Mr. Temal Topçu	Unit Manager R/S Lab.Unit
Mr. Ünal Akman	Geological Engineer R/S Lab.Unit
Mr. Kenan Tüfekçi	Geomorphologist R/S Lab.Unit
Mr. Ekrem Cengiz	Coordinator Feasibility Research Department

Japanese Side

(1) Fact Finding Team

Mr. Kojiro Matsumoto	Leader
Mr. Hitoshi Nakamura	Technical Cooperation Planning
Mr. Tsunekazu Ajiki	Technical Transfer Planning
Mr. Shuichi Miyatake	Mineral Exploration
Ms. Yukari Saito	Cooperation Planning

(2) JICA Turkey Office

Mr. Toru Naito	Assistant Resident Representative
Mr. Emin Özdamar	Head of Technical Cooperation Division

