

**JAPAN INTERNATIONAL COOPERATION AGENCY
THE ISLAMIC REPUBLIC OF IRAN**

**THE STUDY ON IMPROVEMENT OF IRRIGATION,
DRAINAGE AND AGRICULTURAL DEVELOPMENT
FOR GORGAN PLAIN, GOLESTAN PROVINCE
IN THE ISLAMIC REPUBLIC OF IRAN**

FINAL REPORT

February 2003

Pacific Consultants International

Exchange Rate (June 2002)		
US\$ 1.00	=	Rial 7,918
Rial 1.00	=	US\$ 0.000126
US\$ 1.00	=	Yen 123.45

PREFACE

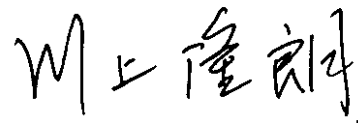
In response to a request from the Government of the Islamic Republic of Iran, the Government of Japan decided to conduct the Study on Improvement of Irrigation, Drainage and Agricultural Development for Gorgan Plain, Golestan Province and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA dispatched to the Islamic Republic of Iran a study team headed by Mr. Satoru KIDO of Pacific Consultants International, four (4) times between January 2002 and January 2003.

The team held discussions with the officials concerned in the Government of the Islamic Republic of Iran, and conducted a field survey in the study area. Upon returning to Japan, the team conducted further studies and prepared this final report.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials of the Government and those concerned in the Islamic Republic of Iran for the close cooperation they have extended to the team.



Takao Kawakami
President
Japan International Cooperation Agency

Tokyo, February of 2003

Mr. Takao Kawakami
President
Japan International Cooperation Agency

Transmittal Letter

We are glad to submit the Final Report of the Study on The Study on Improvement of Irrigation, Drainage and Agricultural Development for Gorgan Plain, Golestan Province in the Islamic Republic of Iran.

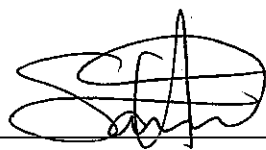
The report consists of the feasibility study for the irrigation and drainage project on priority areas, which have been prepared in consideration of the advices and recommendations of relevant ministries of the Government of Japan and JICA on formulation of development, as well as the discussions with the Iranian counterpart on the Draft Final Report and their comments on the report.

The Gorgan Plain is located in the west part of the Golestan Province in the north region of the Iran country. It is surrounded by the Elbourz Mountains and the Caspian Sea. Therefore, the improvement and stabilization of the production by introducing adequate agricultural technology will activate the regional economy and elevate the living conditions of farmers. On the other hand, the Study Area has salinization and alkalization problems of the soil, being necessary to be careful in elaborating a development plan that is sustainable with an adequate future vision, and also being in constant harmony with the environment.

It is contemplated in the report projects related to the agricultural development, which play important roles in the region, introducing the crop rotation with pasture and integration of agriculture and livestock, utilizing more effectively the land resources and making possible a sustainable agriculture, with the intention to increase the income of the farmers, elevate the living standard of the rural population and activate the regional economy. The plan is considered to produce a major socioeconomic impact in the region. It is thus anticipated that these plans be put into implementation as soon as possible following the implementation schedule proposed in the report.

Taking this opportunity, we express our sincere gratitude to the officials of your Agency, the Ministry of Foreign Affairs and the Ministry of Agriculture, Forestry and Fishery of the Government of Japan for their valuable advices and recommendations for our study. We are also grateful to the officials of the Ministry of Jihad-e-Agriculture of the Islamic Republic of Iran and the Golestan Agriculture Organization and other public organizations involved in the Study for their devoted cooperation and support during the implementation of the Study in Iran.

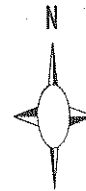
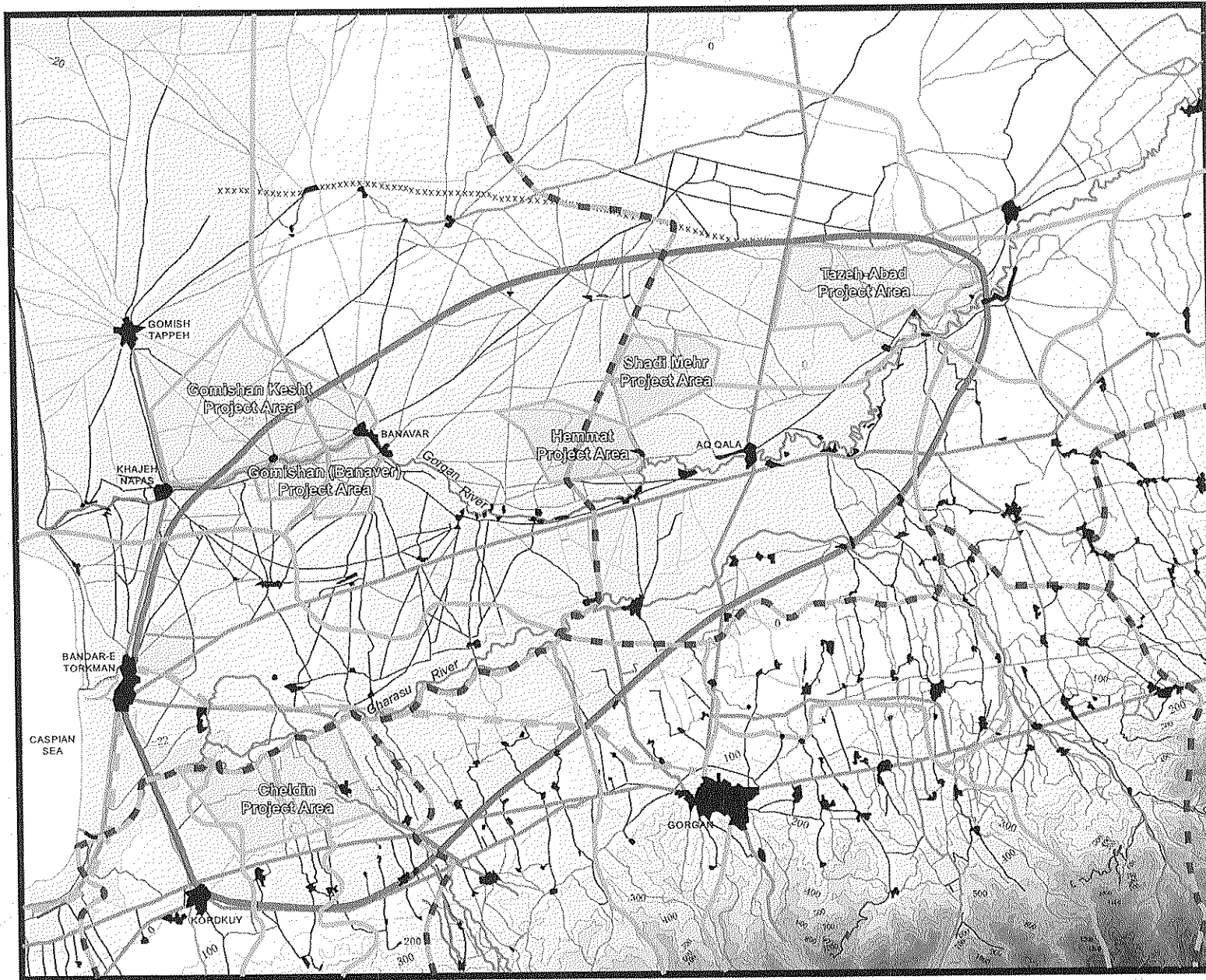
Sincerely yours,



Satoru Kido

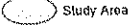
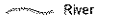
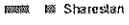
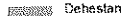
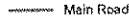
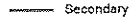
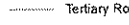
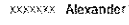
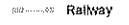
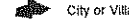
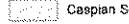

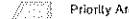
Team Leader

The Study on Improvement of Irrigation,
Drainage and Agricultural Development
for Gorgan Plain, Golestan Province



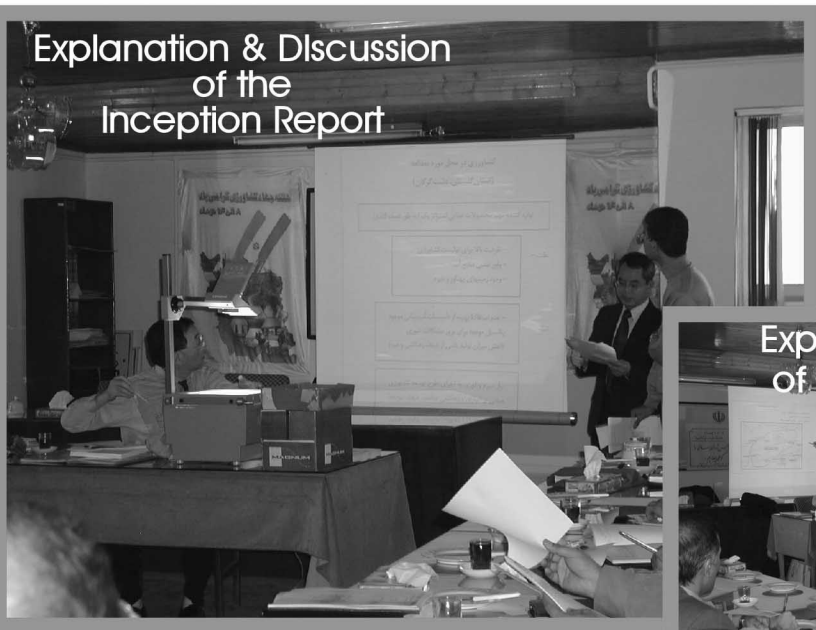
STUDY AREA

LEGEND

-  Study Area
-  River
-  Sharestan
-  Deheslan
-  Main Road
-  Secondary Road
-  Tertiary Road
-  Alexander Wall
-  Railway
-  City or Villages
-  Caspian Sea
-  100 Ground Level (m)
-  Priority Areas



Explanation & Discussion
of the
Inception Report



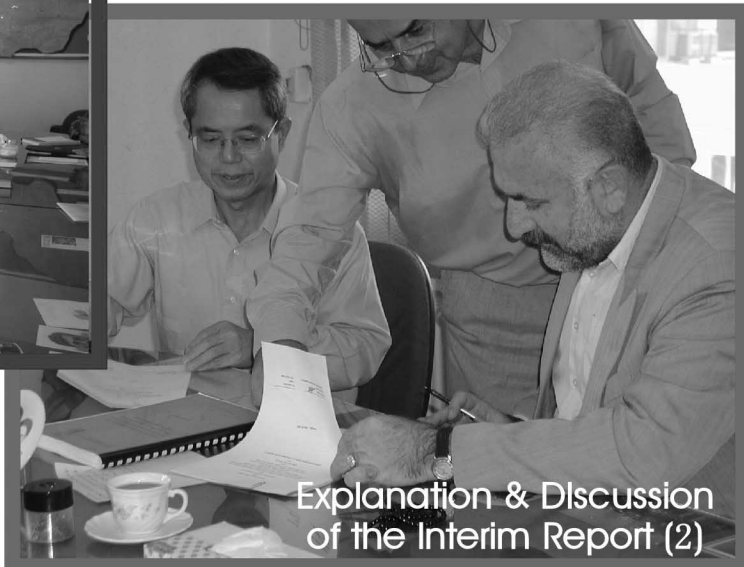
Explanation & Discussion
of the Inception Report



Explanation & Discussion
of the Progress Report (1)



Explanation & Discussion
of the Interim Report (2)



Explanation & Discussion
of the Progress Report (2)



Explanation
& Discussion
of the Report

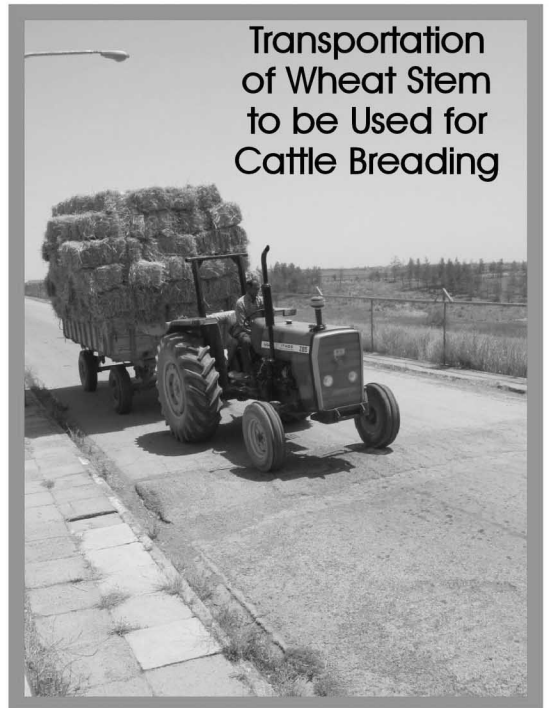
Actual Conditions of the Study Area

Harvest of Wheat



Gorgan River

Transportation
of Wheat Stem
to be Used for
Cattle Breeding



Gharasu River

Gorgan Plain View from the Mountains



Tazeh Abad Scheme



Irrigation Canal



Irrigation Canal



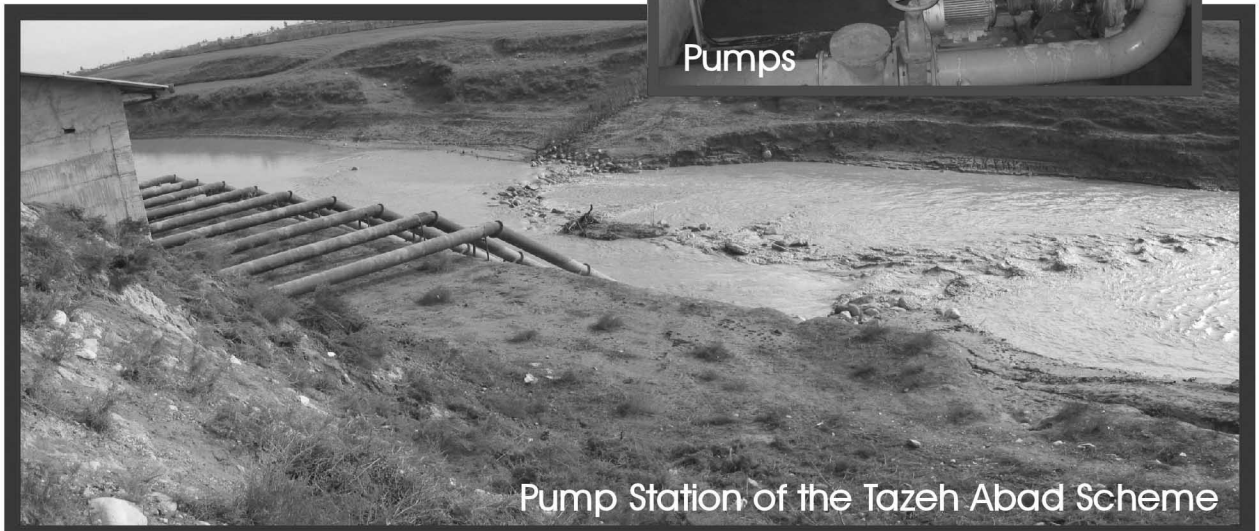
O/M Road



Irrigation Canal



Pumps



Pump Station of the Tazeh Abad Scheme