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Terms of Reference

Application for the
Technical Cooperation (Development Study)
by the Government of Japan
for Japanese Fiscal Year 1999

1. Project digest

(1) Project title

Watershed Management Master Plan for Karoon River

(2) Location

• Name of place

Karoon watershed (Khuzestan Province, Lorestan, Province. Fars Province. etc) 7 million hector

• Map

(3) Implementation Agency

Planning and project control will be done at central office of Ministry of Jihad-e- Sazandegi. The local office of this ministry will carried out the implementation section.

Project Planning and control

• Name of the agency

Evaluation and Study division of Watershed Management Department
Ministry of Jihade Sazandegi

• Number of the stuff of the Agency

Senior expert 15

Expert 40

Others 20

• Name of the agency

Khuzestan Branch Office of Ministry of Jihade Sazandegi.

Lorestan Branch Office of Ministry of Jihade Sazandegi.

• Number of the stuff of the Agency

Senior expert 3

Expert	10
Others	30

- Organization Chart
Attached 2

(4) Justification of the project

- Present condition of the sector

Evaluation and study division has the responsibility on strategically planning for the watershed management due to the large area of land, evaluation and priority decision of watershed management project has not been done.

- Sector development policy of national and local government

National government

Importance of rural development is well recognized by the government of Iran. Jihade Sazandegi has the responsibility for rural development and strongly promotes on many aspects.

Local government

Land use adjustment of the rural group is close to administration of local government.

- Problems to be solved in the sector

Evaluation and Study division has not enough knowledge about making master plan, especially the local experts do not have enough experience.

- Outline of the project

Land use planning, data monitoring, legislation, administration, training and propaganda program for adjust land use.

- Purpose of the project

Find overuse the suitable lands area and formulate land use plan in Karoon Basin. Legislation, administration and propaganda program for adjust land use.

- Goal of the project

Adjust unsuitable land use in Karoon watershed, and reduce the flood damage. This will be the sample case of land use adjustment planning of this country.

- Prospective beneficiaries

Rural group who suffers from flood damage, and have low productivity in their lands

- The projects priority in the national development plan
The second national plan (from 1995 to 1999)

(5) Desirable or scheduled time of the commencement of the Project

Winter 1999

(6) Expected funding source and assistance

National budget

(7) Other relevant project

In this catchments there are a plan for construction of five large dams. Karoon Four Dam is now under construction with assistance of Japanese Government, which is very important for developments of the country. Due to the heavy erosion and sedimentation in the basin, watershed management is very important and urgent measure which should be carried out.

2. Terms of Reference of the Proposed Study

(1) Necessity of the Study

Land use adjustment constrains to many groups not use the area as used in the past. Before constraints, we should evaluate the effect and formulate master plan for suitable land use.

(2) Necessity of Japanese technical cooperation

Due to the high precipitation and high density of population. Japan has large scale of natural disaster. Now Japan is one of the most experienced and advanced countries in the world. We believe Japanese methodology is very suitable for us.

(3) Objectives of the Study

Evaluation of land use

Land use planning (including map)

Proposal for land use program implementation

(4) Area to be covered by the Study

Karoon watershed 7-millions ha

(5) Scope of the Study

Identification of the places of regions that have over use or underused

their potential

Land use planning and considering sustainable development in the regions

Land evaluation study of the region

Soil conservation of slope lands, flood-apt lands and land slide watersheds.

(6) Study Schedule

Start 1999 winter and duration is 3 years

(7) Expected Major outputs of the Study

Land use map

Land use planning map

Proposal for suitable land use and the methodology for implementation

(8) Request of Study to the donor countries

Senior expert of geomorphology

Senior expert of watershed management and planning

Senior expert of environmental planning and reconstruction

Senior expert of penology

Senior expert of forestry

Senior expert of range land management

Senior expert of erosion control and sedimentation

Senior expert of hydrology

(9) Other relevant information

No idea

3 Facilities and information of the Study Team

(1) Assignment of the counterpart personnel of the implementing agency for the Study (number academic background etc)

Senior expert of Hydrology

Senior expert of GIS

Senior expert of landslide

(2) Available data, information documents, maps, etc. related to the Study

See the list 1

(3) Information on the security condition in the Study area.

There is no security problem in the study area.

4. Global Issues (environment, Woman in development, poverty)

(1) Environmental components of the project

Suppose, our country is covered with very good vegetation covers just two thousand years ago and explosion of population had destroyed perfectly in these 50 years. The over all goal of this project is just to reacquire this environment with prosperity of rural group. Reducing soil erosion and sedimentation and creating new job and rising the income of local people in the catchment and this will reduce the environmental

(2) Anticipated environmental impact

We will have good vegetation and tree cover.

(3) Woman as main beneficiaries or not

No

(4) Project components which require special consideration of woman

No

(5) Anticipated impacts on woman caused by the project.

Women get same impact as men

(6) Poverty reduction components of the project

We consider that poverty is one important factor which low-income groups toward to unsuitable land use. Unsuitable land use and the consequence of it that is low productivity is the main cause of poverty in the region. It is hoped that with this project there would be a major. We should include or relate to poverty reduction component.

(7) Any constraints against low income people by the project

Yes. Watershed management projects prohibit had land use in the basin. Sam rural people such as framer and animal husbandry will be leaded not to ill-use of land. Fortunately we have enough room for improving land use. For instance grazing and dry farming that are not effective to get harvested but effective to destroy vegetation cover should be reduced. However they can get pasture from grassland and small irrigation project can increase their income from 3 times to 10 times easily.

5. Undertaking of the government of I.R, Iran

In order to facilitate a smooth and efficient of the Study, the government of

the Islamic Republic of IRAN shall take necessary measures.

- (1) To secure the safety of Study Team
 - (2) To permit the members of the Study Team to enter, leave and sojourn in I.R.IRAN in connection with their assignment their in, and exempt them from alien registration requirement and consultation fees.
 - (3) To exempt the Study Team from taxes, duties and other charges on equipment, machinery and other material brought into and out of for the I.R.IRAN 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 of the Study.
 - (5) To provide necessary facilities to the Study Team for the remittance as well as utilization of the funds introduces in I.R.Iran from Japan in connection with the implementation of the Study.
 - (6) To secure permissions or entry into private properties or restricted areas for the conduct of the Study.
 - (7) To secure permission or entry for the Study to take all data documents and necessary material related to the Study out of I.R.Iran to Japan.
 - (8) To provide material services as needed. It expenses will be chargeable to members of the Study Team
6. The government of I.R.Iran shall bear the claims, if any arise 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 of willful misconduct on the part of the member of the Study Team.
7. Study and evaluation division of watershed management bureau of Jihade Sazandegi shall act as 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 I.R.Iran assured that matters referred in this form will be

ensured for the smooth conduct of the Development Study by the Japanese Study Team.

Hamid Abdlahi

Deputy of Watershed Management
Ministry of Jihade Sazandegi

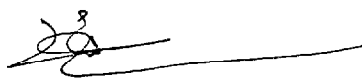
On behalf of the government of I.R.Iran

August 24, 1998

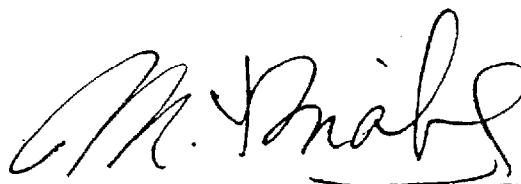
SCOPE OF WORK
FOR
THE STUDY
ON
WATERSHED MANAGEMENT PLAN
FOR
KAROON RIVER
IN
THE ISLAMIC REPUBLIC OF IRAN

AGREED UPON BETWEEN
WATERSHED MANAGEMENT DEPARTMENT,
MINISTRY OF JIHAD-E-SAZANDEGI
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

Tehran, October 24, 1999



Mr. Mehdi Varshabi
Deputy Minister for Watershed Management,
Ministry of Jihad-e-Sazandegi



Mr. Masayuki WATANABE
Team Leader,
Preparatory Study Team
Japan International Cooperation
Agency (JICA)

I. INTRODUCTION

In response to the request of the Government of the Islamic Republic of Iran (hereinafter referred to as "IRI"), the Government of Japan has decided to conduct the study on watershed management plan for Karoon River (hereinafter referred to as "the Study") in accordance with relevant laws and regulations in force in Japan.

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

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

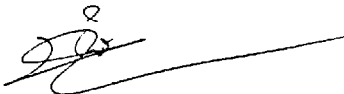
II. OBJECTIVES OF THE STUDY

The objectives of the Study are:

1. to formulate a master plan on integrated watershed management for the selected area in Karoon watershed to prevent further degradation of natural resources and to promote sustainable development.
2. to carry out technology transfer to the counterpart personnel in the course of the Study.

III. STUDY AREA

The study area shall cover the upper Karoon watershed that is shown in Appendix 1 attached.



IV. SCOPE OF THE STUDY

In order to achieve the above objectives, the Study will cover the following items:

Phase-I Basic Study

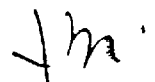
1. Collection and review of existing data and information,
2. Field survey (hydrological, geological, vegetation cover, land capability, flood damage, debris flow damage, land slide damage, erosion and sediment discharge, existing facilities) ,
3. Rural survey (land use, social, economy, life-style, industry, productivity, awareness of disaster prevention) ,
4. Organization and legal institution,
5. Preparation of the inventory on physical and non-physical features of the area,
6. Selection of the areas for Master Plan Study, and
7. Working out a basic policy of Master Plan.

Phase-II Formulation of Master Plan for Integrated Watershed Management

1. Planning framework,
2. Structural measures (sabo-planning, rain-water harvesting system, soil and water conservation, reforestation, river improvement structure, operation and maintenance) ,
3. Non-structural measures (organization and legal institutional structure, industry improvement, industry development, land use planning and management, public education and promotion of awareness of disaster prevention) ,
4. Formulation of master plan for integrated watershed management,
5. Initial environmental examination (IEE),
6. Preliminary cost estimates and financial plan,
7. Evaluation
 - (a) Economic evaluation,
 - (b) Financial evaluation, and
 - (c) Social impact evaluation

V.SCHEDULE OF THE STUDY

The Study will be carried out in accordance with the attached tentative schedule as shown in Appendix 2.



VI. REPORTS

JICA shall prepare and submit the following reports in English to IRI.

1. Inception Report:

Twenty (20) copies at the commencement of the first work in Iran.

2. Progress Report (1):

Twenty (20) copies at the end of the first work in Iran.

3. Interim Report:

Twenty (20) copies at the commencement of the second work in Iran.

4. Progress Report (2):

Twenty (20) copies at the end of the second work in Iran.

5. Draft Final Report:

Twenty (20) copies at the first of the third work in Iran.

IRI shall submit its comments within one (1) month after the receipt of the Draft Final Report.

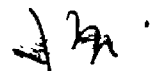
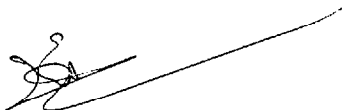
6. Final Report:

Twenty (20) copies within one (1) month after receipt of the comments on the Draft Final Report.

VII. UNDERTAKINGS OF IRANIAN SIDE

1. To facilitate smooth implementation of the Study, IRI shall take 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 Iran for the duration of their assignment therein, and exempt them from alien registration requirements and consular fees,
- (3) to exempt the members of the Japanese Study Team from taxes, duties and any other charges on equipment, machinery and other materials brought into and out of Iran 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 Study Team for remittance as well as utilization of funds introduced into Iran from Japan in connection with the implementation of the Study,



- (6) to secure permission for entry into private properties for the implementation of the Study,
 - (7) to secure permission for the Japanese Study Team to take all data and documents related to the Study out of Iran to Japan, and
 - (8) to provide medical services as needed. Its expenses will be chargeable on the members of the Japanese Study Team.
2. IRI shall bear claims, if any arises, against the members of the 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 Study Team.
 3. Watershed Management Department, Ministry of Jihad-e-Sazandegi (hereinafter referred to as "WMD") shall act as a counterpart agency to the 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. WMD shall, at its own expense, provide the Study Team with the followings, in cooperation with other organizations concerned:
 - (1) available data (including photographs and maps) and information related to the Study,
 - (2) counterpart personnel,
 - (3) suitable office space with necessary equipment and furniture, and
 - (4) credentials or identification cards.

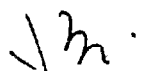
VIII. UNDERTAKINGS OF JAPANESE SIDE

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

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

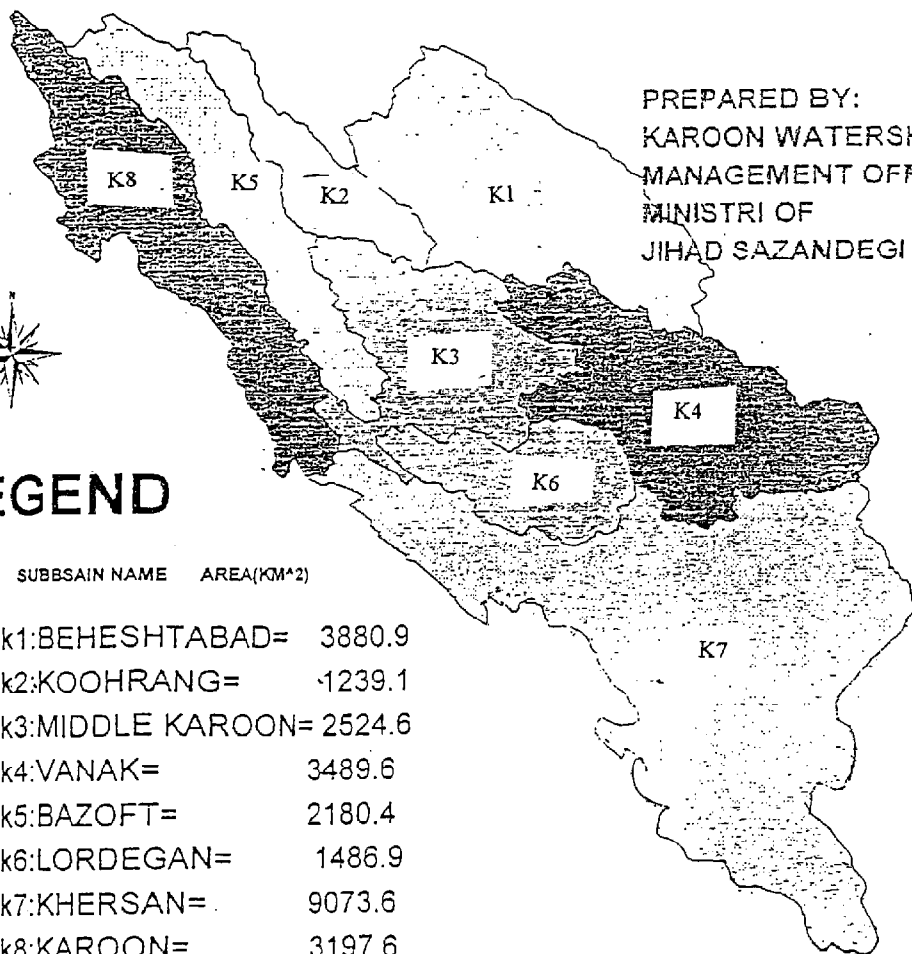
IX. CONSULTATION

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





KAROON SUBBASIN



PREPARED BY:
KAROON WATERSHED
MANAGEMENT OFFICE
MINISTRI OF
JIHAD SAZANDEGI

LEGEND

COLOR SUBBASIN NAME AREA(KM²)

K1	BEHESHTABAD=	3880.9
K2	KOOHRANG=	1239.1
K3	MIDDLE KAROON=	2524.6
K4	VANAK=	3489.6
K5	BAZOFT=	2180.4
K6	LORDEGAN=	1486.9
K7	KHERSAN=	9073.6
K8	KAROON=	3197.6

0 100000

TOTAL 27,072 KM²

APPENDIX 1

TENTATIVE STUDY SCHEDULE

MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
WORK IN IRAN																					
WORK IN JAPAN																					
REPORT PRESENTATION																					
	△							△			△					△		△		△	
	IC/R							P/R(1)			IT/R					P/R(2)		DF/R		F/R	

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 :

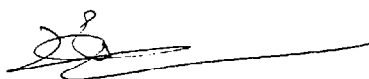
Final Report

APPENDIX 2

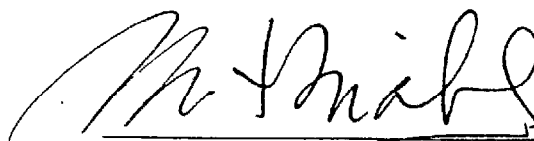
MINUTE OF MEETING
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AGREED UPON BETWEEN
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Tehran, 24 October, 1999



Mr. Mehdi Varshabi
Deputy Minister for Watershed Management,
Ministry of Jihad-e-Sazandegi



Mr. Masayuki WATANABE
Team Leader,
Preparatory Study Team
Japan International Cooperation
Agency (JICA)

In response to the request of the Government of the Islamic Republic of Iran (hereinafter referred to as "IRI"), Japanese Preparatory Study Team (hereinafter referred to as "the Team ") was sent by Japan International Cooperation Agency (hereinafter referred to as "JICA") to discuss with Watershed Management Department, Ministry of Jihad-e- Sazandegi (hereinafter referred to as "WMD"), the Scope of Work (S/W) for the study on watershed management plan for Karoon river (hereinafter referred to as "the Study").

The Team carried out the field survey on the study area and had a series of discussions with the officials of WMD from 11 to 24 October. The participants and attendees to the meetings are listed in the attached Appendix 1. The following matters were mutually confirmed with regard to the Scope of Work (S/W) signed on 24 October 1999 in Tehran.

1. Aerial photography and mapping

The aerial-photo shall cover all the area of 27,072km² upper Karoon watershed. The mapping area shall be decided between JICA study team and WMD, but the area shall be 10,000km² at maximum.

2. Areas for Master Plan

The areas for Master Plan shall be decided between JICA study team and WMD.

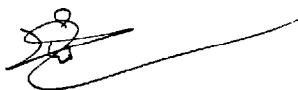
3. Target year for the M/P is 2020.

4. Equipment

IRI made the request of the equipment as shown in APPENDIX 2. WMD shall bear the cost for maintenance and drivers for vehicles. The team agrees to convey this request to JICA Headquarters for further consideration.

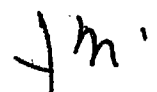
5. WMD requested that JICA would hold seminars and workshops during the course of the study to transfer technology to counterpart personnel. The team agreed to convey these requests to the JICA Headquarters.

6. WMD requested that JICA provide counterparts training in Japan. The team agrees to convey this request to JICA Headquarters for further consideration.



7. WMD agrees to accommodate the JICA request for appropriate and sufficient office space for the Study Team and counterpart personnel in Tehran and Shahr-e-Kord.

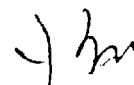
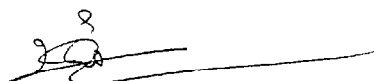
8. WMD approves that Final Report on this project will be opened to the public.

A handwritten signature in black ink, consisting of a stylized 'S' followed by a horizontal line.A handwritten signature in black ink, consisting of the letters 'Jm' followed by a small dot.

APPENDIX-1

LIST OF PARTICIPANT

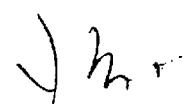
- | | |
|---------------------------|---|
| 1. Dr. Forood SHARIFI | General Director of Study and Evaluation
Department |
| 2. Dr. Ebrahim HOSSEINI | Vice General Director of Study and Evaluation
Department |
| 3. Dr. Jaffar GAYYUMLAN | Expert of Soil Conservation and Watershed
Management Research Center |
| 4. Mr. Bubak SOURI | Expert of Study and Evaluation Department |
| 5. Mr. Mostafa BEHBAHANI | Expert of Watershed Management Deputy |
| 6. Dr. Z. SHOAIE | Expert of Soil Conservation and Watershed
Management Research Center |
| 7. Mr. Okimichi SUZUKI | JICA Expert in Study and Evaluation Department |
| 8. Mr. Masayuki WATANABE | Team leader/Sabo Planning of JICA Study Team |
| 9. Mr. Munehiro MATSUI | Watershed Management Expert |
| 10. Mr. Takafumi YASUMOTO | Study Planning Officer |
| 11. Mr. Toshiro IWAHASHI | River Planning Expert |
| 12. Mr. Yoichi KISHI | Geology and Hydrology Expert |



APPENDIX-2

Equipment list

1. Soil moisture measurement	station type w/solar battery	3 units
	portable type	1 unit
2. Rainfall recorder		24 units
3. Snow depth meter	recorder type	3 units
4. Meteorological station	temp., wind velocity, etc.	3 units
5. Water level gauge		32 units
6. Current meter		2 units
7. GPS & digital camera		2 sets
8. Computer system for GIS	w/ software, including Data-base processing software	1 set
9. Walkie-talkie		2 sets
10. 4WD car		2 units
11. 4WD pick-up		1 unit
12. Geo-electric prospecting device		1 unit
13. Suspended load measurement device		1 unit

資料 4 主要面談者リスト

日本大使館

奥山爾朗	参事官
佐藤吉治	2等書記官
藤兼雅和	2等書記官
大井英臣	JICA 国際協力専門員

イラン国建設推進省

鈴木興道	JICA 派遣専門家
Mr. Varshabi	Deputy Minister for Watershed management Department
Dr. Forood Sharifi	General Director of Study and Evaluation Department
Dr. Ebrahim Hosseini	Vice General Director of Study and Evaluation Department
Dr. Jaffar Gayyumian	Expert of Soil Conservation and Watershed Management Research Center
Mr. Mostafa Behbahani	Expert of Watershed Management Deputy
Dr. Z. Shoaie	Expert of Soil Conservation and Watershed Management Research Center
Mr. Osia	Council for Deputy Minister
Mr. Shafeenia	General Director for Budget and Coordination
Mr. Senobar	General Director for Watershed Execution
Mr. Bubak Souri	Expert of Study and Evaluation Department

Lorestan 州政府

Mr. Walbani	Deputy Governor of Lorestan
Mr. Bahorvand	Governor of Khorramabad City
Mr. Saffarzadi	Director of Jihad, Lorestan Province
Mr. Mustafanejad	Deputy of Jihad, Lorestan Province, Director for Extension
Mr. Qaruntari	Manager of Watershed Management, Lorestan Province
Mr. Pirhaiyati	Director, Kalkhe Watershed Management

Chahalmahal-va-Bakhteyari 州建設推進省

Mr. Izadee	Director of Jihad Chahalmahal-va-Bakhteyari Provincial Office
Mr. Raeesi	Manager of Karoon Watershed Management Project Office
Mr. Kaviani	Manager of Chahalmahal-va-Bakhteyari Provincial Watershed Management Office
Mr. Moradi	Expert for Karoon Watershed Management Project Office
Mr. Ebrahimi Babak	Expert for Karoon Watershed Management Project Office
Mr. Koohian	Expert for Karoon Watershed Management Project Office
Mr. Nakhkoob	Expert for Karoon Watershed Management Project Office
Mr. Mardanian	Expert for Provincial Watershed Management Office

Chahal Mahal va Bakhteyari 州政府

Mr. Poor Mohamadi	Deputy Governor of Chahalmahal va Bakhteyari, Planning & Programme
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