

添 付 資 料

- 添付資料 1. 協議議事録 (M/D)
- 添付資料 2. 調査団員リスト
- 添付資料 3. 調査日程
- 添付資料 4. 主要面会者リスト
- 添付資料 5. 個別協議議事録
- 添付資料 6. 質問票回答
- 添付資料 7. 収集資料リスト

添付資料 1. 協議議事録 (M/D)

**MINUTES OF DISCUSSIONS
ON
THE PREPARATORY STUDY
ON
SEWERAGE AND STORM WATER DISPOSAL PROJECT, GUJRAT
IN
THE ISLAMIC REPUBLIC OF PAKISTAN**

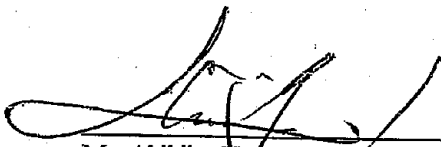
In response to a request for Grant Aid from the Government of the Islamic Republic of Pakistan (hereinafter referred to as "the Government of Pakistan") , the Government of Japan decided to conduct a Preparatory Study on Sewerage and Storm Water Disposal Project, Gujrat (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

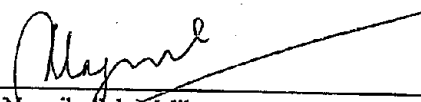
JICA sent to Pakistan the Preparatory Study Team (hereinafter referred to as "the Team"), which is headed by Mr. Akihiko YAMADA, Deputy Director, Fourth Project Management Division, Grant Aid Management Department, JICA and is scheduled to stay in the country from February 17 to March 8, 2003.

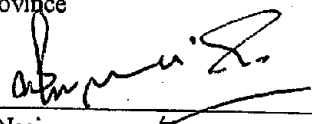
The Team held a series of discussions with the officials concerned of the Government of Pakistan and conducted a field survey at the study area.


In the course of discussions, the Government of Pakistan explained the main items and its necessity as described on the attached sheets. The team will continue further study as to the viability of the Project in Japan and report the finding to the Government of Japan.

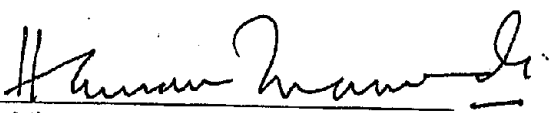
Lahore, March 1, 2003

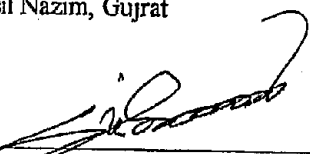

Mr. Akihiko Yamada
Leader, Preparatory Study Team,
Japan International Cooperation Agency


Mr. Naguibullah Malik
Secretary, Local Government and Rural Development Department,
Punjab Province


Mr. K.B. Nasir
Senior Chief (PPH) For Chairman, Planning and Development
Board, Punjab Province


Mr. Muhammad Ashraf Khan
Joint Secretary,
Economic Affairs Division,
Ministry of Economic Affairs & Statistics


Mr. Mian Haroon Masood
Tehsil Nazim, Gujrat


Mr. Saif Iqbal Ahmed
Tehsil Municipal Officer
Gujrat

ATTACHMENT

1. Objective of the Project

The objective of the Project is to reduce water borne diseases in Gujrat through rehabilitation and construction of sewerage and storm water disposal system.

2. Project Site

The site of the Project is located in Gujrat as shown in ANNEX-1.

3. Responsible Agency and Implementing Agency

3-1. The Responsible Agency is the Local Government and Rural Development Department, Punjab Province.

3-2. The Implementing Agency is the Local Government and Rural Development Department, Punjab Province through the Tehsil Municipal Administration, Gujrat

4. Items requested by the Government of Pakistan

The Government of Pakistan explained necessity of the requested items described in ANNEX-2.

Both sides confirmed that rehabilitation of the present sewerage system should be considered as first priority because the area covered by the present system is suffering worse impact to environment.

JICA will assess the appropriateness of the request and will report the findings to the Government of Japan.

5. Japan's Grant Aid System

5-1. The Government of Pakistan understood the Japan's Grant Aid System explained by the Team, as described in ANNEX-3.

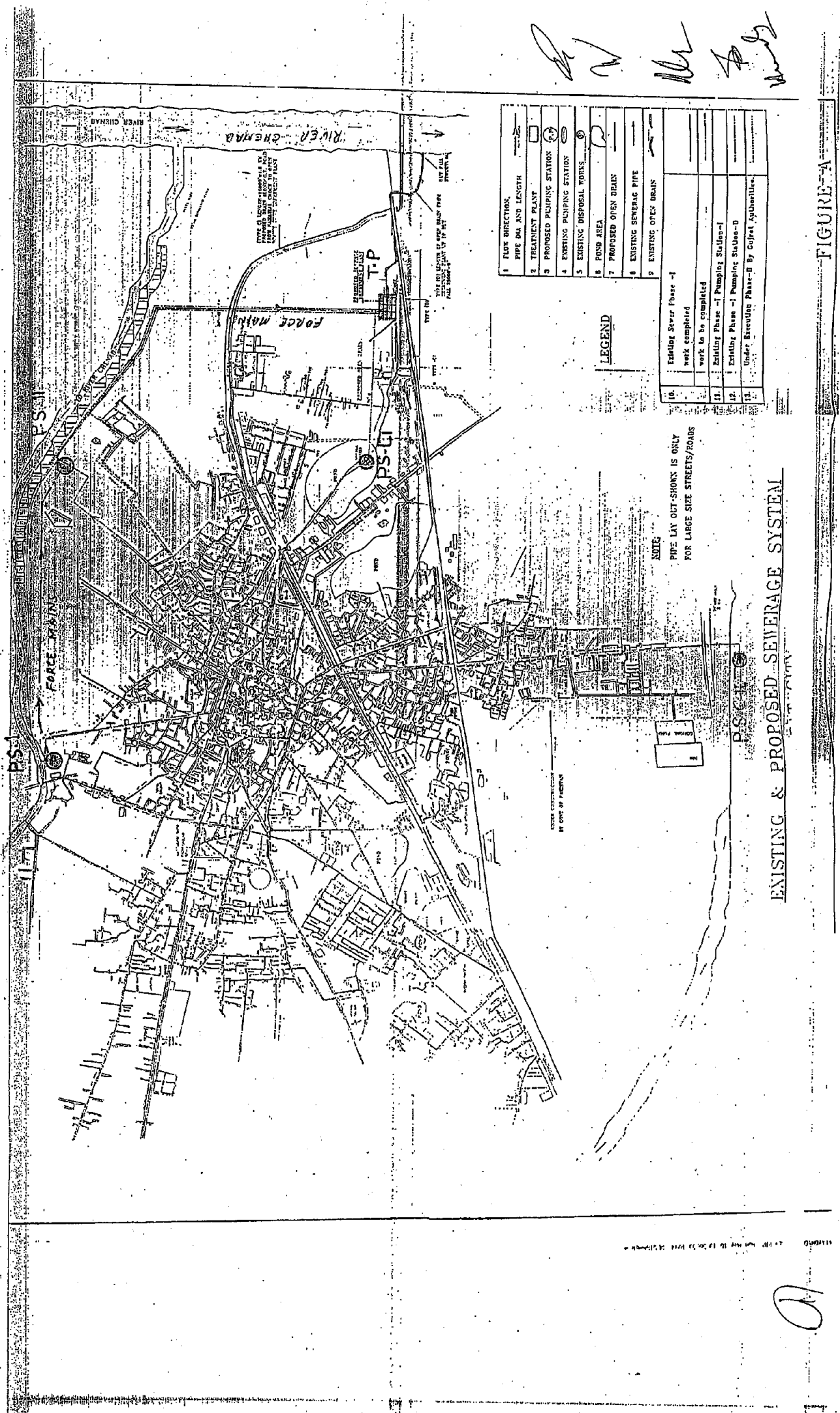
5-2. The Government of Pakistan will take the necessary measures described in ANNEX-4, as a condition for the Japan's Grant Aid to be implemented.

6. Other Relevant Issues

6-1. The Team explained that the Government of Pakistan should have full responsibility in securing the land necessary for the Project.

6-2. The Team explained that the Government of Pakistan should obtain the approval required by the laws and regulations on Environmental Impact Assessment related to the Project.

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1	FLOW DIRECTION	
2	PIPE DIA AND LENGTH	
3	TREATMENT PLANT	
4	PROPOSED PUMPING STATION	
5	EXISTING PUMPING STATION	
6	EXISTING DISPOSAL TANKS	
7	POD AREA	
8	PROPOSED OPEN DRAINS	
9	EXISTING SEWERAGE PIPE	
10	EXISTING OPEN DRAIN	

10.	Existing Sewer Phase - I work completed
11.	work to be completed
11.	Existing Phase - I Pumping Station-I
12.	Existing Phase - I Pumping Station-D
13.	Under Breeding Phase-II By Colpat Submittal

NOTE:
PIPE LAY OUT-SHOWN IS ONLY
FOR LARGE SIZE STREETS/ROADS

EXISTING & PROPOSED SEWERAGE SYSTEM

FIGURE-A

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Items Requested by Government of Pakistan (Scope of Work)

No.	Item	Remarks
1	Sewer Pipes	81,735km
2	Manholes/Chambers	2,682 each
3	Pumps	2 places
4	Sewerage Treatment Plant	1 place
5	Drainage Works Open Channel/ Rehabilitation of channel/ Dyke/ Rehabilitation of street and road	

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Japan's Grant Aid

1. Japan's Grant Aid Procedures

- (1) The Japan's Grant Aid Program is executed by the following procedures.
- Application** (Request made by a recipient country)
 - Study** (Preparatory Study / Basic Design Study conducted by JICA)
 - Appraisal & Approval** (Appraisal by the Government of Japan and Approval by the Cabinet of Japan)
 - Determination of Implementation** (Exchange of Notes between the both Governments)
 - Implementation** (Implementation of the Project)

(2) Firstly, an application or a request for a project made by the recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to see whether or not it is suitable for Japan's Grant Aid. If the request is deemed suitable, the Government of Japan entrusts a study on the request to JICA (Japan International Cooperation Agency).

Secondly, JICA conducts the Study (Basic Design Study), using a Japanese consulting firm. If the background and objective of the requested project are not clear, a Preparatory Study is conducted prior to a Basic Design Study.

Thirdly, the Government of Japan appraises the Project to see whether or not it is suitable for Japan's Grant Aid Program, based on the Basic Design Study Report prepared by JICA and the results are then submitted to the Cabinet for approval.

Fourthly, the Project approved by the Cabinet becomes official when pledged by the Exchange of Notes signed by the both Governments.

Finally, for the implementation of the Project, JICA assists the recipient country in preparing contracts and so on.

2. Contents of the Study

- (1) Contents of the Study

The purpose of the Study (Preparatory Study/Basic Design Study) conducted on a project requested by JICA is to provide a basic document necessary for appraisal of the project by the Japanese Government. The contents of the Study are as follows:

- a) to confirm background, objectives, benefits of the project and also institutional capacity of agencies concerned of the recipient country necessary for project implementation,
- b) to evaluate appropriateness of the Project for the Grant Aid Scheme from a technical, social and economical point of view,
- c) to confirm items agreed on by the both parties concerning a basic concept of the project,
- d) to prepare a basic design of the project,
- e) to estimate cost involved in the project.

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Final project components are subject to approval by the Government of Japan and therefore may differ from an original request.

Implementing the project, the Government of Japan requests the recipient country to take necessary measures involved which are itemized on Exchange of Notes.

(2) Selecting (a) Consulting Firm(s)

For smooth implementation of the study, JICA uses (a) consulting firm(s) registered. JICA selects (a) firm(s) through proposals submitted by firms, which are interested. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference made by JICA.

The consulting firm(s) used for the study is (are) recommended by JICA to a recipient country after Exchange of Notes, in order to maintain technical consistency and to ensure smooth implementation of the Project within the period.

(3) Status of a Preparatory Study in the Grant Aid Program

A Preparatory Study is conducted during the second step of a project formulation and preparation as mentioned above.

A result of the study will be utilized in Japan to decide if the Project is to be suitable for a Basic Design Study.

Based on the result of the Basic Design Study, the Government would proceed to the stage of decision making process (appraisal and approval).

It is important to notice that at the stage of Preparatory Study, no commitment is made by the Japanese side concerning the realization of the Project in the scheme of Grant Aid Program.

3. Japan's Grant Aid Scheme

(1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non-reimbursable funds needed to procure facilities, equipment and services for economic and social development of the country under the following principles in accordance with relevant laws and regulations of Japan. The Grant Aid is not in a form of donation or such.

(2) Exchange of Notes (E/N)

The Japan's Grant Aid is extended in accordance with the Exchange of Notes by both Governments, in which the objectives of the Project, period of execution, conditions and amount of the Grant etc. are confirmed.

(3) "The period of the Grant Aid" means one Japanese fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedure such as Exchange of Notes, concluding a contract with (a) consulting firm(s) and (a) contractor(s) and a final payment to them must be completed.

(4) Under the Grant, in principle, products and services of origins of Japan or the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant may be used for the purchase of

products or services of a third country origin.

However the prime contractors, namely, consulting contractor and procurement firm, are limited to "Japanese nationals". (The term "Japanese nationals" means Japanese physical persons or Japanese juridical persons controlled by Japanese physical persons.)

(5) Necessity of the "Verification"

The Government of the recipient country or its designated authority will conclude into contracts in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. The "Verification" is deemed necessary to secure accountability to Japanese taxpayers.

(6) Undertakings required to the Government of the recipient country

In the implementation of the Grant Aid, the recipient country is required to undertake necessary measures such as the following:

- a) to secure land necessary for the sites of the project and to clear and level the land prior to commencement of the construction work,
- b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities in and around the sites,
- c) to secure buildings prior to the installation work in case the Project is providing equipment,
- d) to ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid,
- e) to exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts,
- f) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(7) Proper Use

The recipient country is required to maintain and use facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for their operation and maintenance as well as to bear all expenses other than those to be borne by the Grant Aid.

(8) Re-export

The products purchased under the Grant Aid shall not be re-exported from the recipient country.

(9) Banking Arrangement (B/A)

- a) The Government of the recipient country or its designated authority shall open an account in

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the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by Government of the recipient country or its designated authority under the contracts verified.

b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay issued by the Government of the recipient country or its designated authority.

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Major undertakings to be taken by each government

NO	Items	To be covered by the Grant Aid	To be covered by the Recipient side
1.	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
2	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine(Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and custom clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	(●)	(●)
3	To accord Japanese nationals whose services may be required in connection with the supply of the products and the service under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
4	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract		●
5	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid		●
6	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for the transportation and installation of the equipment		●

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添付資料 2. 調査団リスト

No	Name	Job title	Occupation
1	Akihiko YAMADA 山田 章彦	Leader 総括	Deputy Director, Fourth Project Management Division, Grant Aid Management Department, JICA 国際協力事業団 無償資金協力部 業務第四課 課長代理
2	Akiko URAGO 浦郷 昭子	Sewerage Planning/ Social and Environmental Analysis 下水計画/ 社会環境配慮	IC Net Limited アイ・シー・ネット(株)
3	Fumio FUKUDA 福田 文雄	Waste Water Treatment Planning 汚水処理施設計画	Sowa Consultants Inc., (株)ソーワコンサルタント
4	Itsuo NOZAWA 野沢 逸男	Drainage Planning 排水網計画	Oyo Corporation 応用地質(株)

添付資料 3. 調査工程

調 査 工 程

No	月日	曜日	官団員	コンサルタント役務団員
1	2/17	月		成田→イスラマバード (21:50)
2	2/18	火		JICA 事務所打合せ、日本大使館表敬、EDA 表敬 ラホールへ移動
3	2/19	水		パンジャブ州政府表敬 グジュラートへ移動
4	2/20	木		グジュラート地区庁表敬 実施機関と打合せ
5	2/21	金		サイト調査
6	2/22	土		サイト調査 ラホールへ移動
7	2/23	日	成田→バンコク→カラチ	資料収集・団内打合せ
8	2/24	月	カラチ→イスラマバード JICA 事務所打合せ、日本 大使館表敬、EDA 表敬	ラホール WASA 表敬・ポンプ場視察 資料収集
9	2/25	火	グジュラートへ移動	グジュラートへ移動 サイト調査 実施機関と協議
10	2/26	水		サイト調査 実施機関と M/D 案協議
11	2/27	木	実施機関及びグジュラート地区庁と M/D 案協議・合意	ラホールへ移動
12	2/28	金	パンジャブ州政府と M/D 案協議・合意	資料収集
13	3/1	土		M/D 署名 資料収集・NGO インタビュー調査
14	3/2	日	ムルタンへ移動 (綿花プロジェクト)	資料収集・団内打合せ
15	3/3	月		グジュラートへ移動
16	3/4	火		サイト調査・資料収集・実施機関と打合せ サイト調査・資料収集
17	3/5	水	イスラマバードへ移動	実施機関と打合せ
18	3/6	木	(綿花プロジェクト)	イスラマバードへ移動 イスラマバード下水処理場視察 ラウルピンティ WASA 表敬・資料収集 ローカルコンサルタント調査
19	3/7	金	EDA と M/D 署名、日本大使館帰国報告、JICA 事務所帰国報告、	資料収集
20	3/8	土		資料収集
21	3/9	日		イスラマバード(19:00)→カラチ →バンコク→成田

添付資料 4. 主要面会者リスト

経済省(Economic Affairs Division)

Mr. Muhammad Ashraf Khan :Joint Secretary (Japan / ADB 担当)

パンジャブ州政府 (Punjab Province)

Mr. Humanyun Farshori :Chairman, Planning & Development Dep.
Mr. Amjad Duraiz :Assistant Chief, Planning & Development Dep.
Mr. K.B. Nasir :Senior Chief (PPH) For Chairman, Planning & Development Board
Mr. Irfan Tariq :Assistant Chief, Planning & Development Board
Mr. Naguibullah Malik :Secretary, Local Government & Rural Development Dep.
Mr. Javid Latif Wains :Deputy Secretary, Local Government & Rural Development Dep.
Mr. Manzeer Hussain :Director, DHELHR
Mr. Rane Abdul Rashid Khan :Chief Engineer, DHELHR

グジャラート地区政府 (Gujrat District)

Mr. Chaudhry Shafaat Hussain :District Government Gujrat, Nazim
Mr. Agha Nadeem :DCO Gujrat
Mr. Ch Munawar Hussain :S.E. Gepco/ Wapda
Mr. Abdul Ghefoo Harral :XEN Gepco/ Wapda
Mr. M. Ejog Ahmad :SDE//C
Mr. Israf Ahmad Malik :EDO
Mr. Muhammad Asghar :DO Planning
Mr. Khadim Hussain :DOH & TP
Mr. Muhammad Tariq :DO Roads
Mr. Muhammad Amhtar :EDO (W&S)

グジャラート TMA (Gujrat Tehsil Municipal Administration)

Mr. Mian Haroon Masood :Tehsil Nazim
Mr. Safir Iqbal Ahmed :Tehsil Municipal Officer
Mr. Mirza Rasheed Baig :Tehsil Officer (Infrastructure & Sanitation)
Mr. Afzal Malhi :Chief Officer HQ
Mr. Gauher Rashid :Tehsil Officer (planning and coordination)
Mr. Nasir Warrach :Tehsil Officer (Regulation)

Mr. Ch. Ihsan Ullah
Mr. Muhammand Ashraf Ch.

:Tehsil Officer (Finance)
:Sub Divisional Officer (Infrastructure & Sanitation)

Mr. Mohammand Sarwer

:Sub Divisional Officer (Infrastructure & Sanitation)

Dr. Mohammand Afzal Hunjre

:Municipal Health Officer

その他の機関

Dr. Inam Hag

:District Officer Health, Gujrat

Dr. Khalid ur Rehman

:Aziz Bhatti Shaheed Hospital

Mr. Muhamad Ashraf

:Naib Nazim UC27

NGO

Mr. Mirza Ikram Baig

:Citizen Forum

Miss Shaheen Attiqur Rehman

:Director, BUNYAD

Ms. Safia Javed Choudhry

:Punjab Muslim Leagu Qaideazam

Mrs. Naghal Onnehi

:Citizen Welfare Organization

在パキスタン日本大使館

松永 健

:一等書記官

北田 裕道

:一等書記官

村田 秀男

:二等書記官

JICA パキスタン事務所

山浦 信幸

:所長

種村 秀和

:所員

Mr. Mahmood A. Jilani

:Chief Programme Officer

Mr. Haroon-ur-Rashid Rana

:Programme Officer

添付資料 5. 個別協議議事録

日時： 2003年2月19(水) 11:00~12:00

場所： パンジャブ州、HUD&PHED オフィス、ラフォール

面会者：Messrs. Mr. Humanyun Farshori (Chairman, Planning & Development Dep.), Naguibullah Malik (Secretary, Local Government & Rural Development Dept.), Agha Nadeem (DCO Gujrat), Safir Iqbal Ahmed (Gujrat Tehsil Municipal Officer)他

日本側：種村秀和、Haroon-ur-Rashid Rana (JICAパキスタン事務所)、福田文雄 (給水計画)、野沢逸男 (施設計画)、浦郷昭子 (社会・環境配慮)

協議骨子：表敬訪問および本件調査に関する全体打合せ

協議内容要旨：

1. 日本側から、本予備調査の目的、調査概要、無償資金協力案件の実施に至る F/S、B/D 等の手続きと本予備調査の位置付けを説明する。
2. 「パ」国側から、以下の点について説明があった。
 - ① 産業、人口等グジュラート市の概要
 - ② 本案件の要請経緯：本案件は 1996 年に要請に上がったが、経済制裁等社会経済状況の変化のため今日まで中断していたとのこと
 - ③ 現時点と 1996 年当時とでは要請内容に差異が予想されが、本下水処理施設改善案件は 20 年来の懸案案件であり、良い解決策を期待している
 - ④ グジュラート市当局はもとより、州、地区の Housing & Urban Development 局、Water & Sanitation セクター、州政府も JICA 調査団への必要な協力を行う。具体的な項目として、以下の事項があげられた。
 - i) 宿泊施設として、グジュラート市にあるゲストハウスの提供。
 - ii) 「パ」国側キーパーソンとして、DCO、Mr. Baig を指名し、調整にあたらせること。
3. 「パ」国から、固形廃棄物管理も調査の範囲かとの質問があった。
4. 日本側は、今回の要請範囲に入っており、関連情報を調査する計画であると回答する。
5. 「パ」国から、援助の基本形態として、施設建設と機材供与の 2 つの形態があるが、本要請の場合どちら形態になるのかとの質問があった。
6. 「パ」国から、援助実施の有無が決定されるのはいつ頃になるのかとの質問があった。
7. 日本側は、わが国外務省に本予備調査結果が提出されるのは 3 月末であり、その後外務省が判断をすることになるので、次ぎの段階である基本設計実施の有無の決定は早くとも 5 月末頃と思われると回答した。
8. 「パ」国から、再度、科学的ですばらしい結果とグジュラートの人々に喜ばれる援

助計画となることを期待しているとの要望が述べられた。

9. 日本側は、本案件をどのように進めていくかということは、予備調査の結果をもとに、あくまでも日本国の外務省が判断することであると回答した。

日時： 2003年2月20(木) 10:30~11:30

場所： グジャラート地区 Zilla Nazim オフィス、グジャラート市

面会者：

「パ」国側：Messrs. Chaudhary Shafaat Hussain(District Government Gujrat, Nazim)、
Safir Iqbal Ahmed(Gujurat Tehsil Municipal Officer)、Mirza Rasheed Baig
(Tehsil Officer (Infrastructure & Sanitation))

日本側：種村秀和、Haroon-ur-Rashid Rana (JICA パキスタン事務所)、福田文雄 (給水計画)、
浦郷昭子 (社会・環境配慮)、野沢逸男 (施設計画)

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2. 「パ」国側から、以下の点について説明があった。
 - ① グジャラート地区の構成：Gujrat、Kharian、Sarai Alamgir の3つの Tehsil から成る。
 - ② 本要請案件についてはグジャラート地区が諸権限を有している。
 - ③ 水道
3. 「パ」国から、本予備調査も含めて、今後の案件処理プロセスについて質問があった。
4. 日本側は、わが国外務省に本予備調査結果が提出されるのは3月末であり、その後4月から始まる次の会計年度に外務省が判断をすることになるので、次ぎの段階である B/D 実施の有無の決定は早くとも5月末頃と思われると回答した。
5. 日本側は、また、社会・環境配慮において問題のないこと、施設の技術的、財政的な持続性の確保が期待されること、緊急性も本案件を進めるに当って重要な観点であることを説明する。
6. 日本側の水道料金についての質問に対し、「パ」側から、現在1世帯あたり45R Sを徴収している、料金設定についてはTMAが権限を持っているとの説明があった。
7. 日本側の産業排水処理についての質問に対し、「パ」側から、現在は無処理のまま下水道施設に排出されているとの説明があった。
8. その他：1998年には経済制裁もあり本案件が停止していたが、今回は進展を期待していると、「パ」国は述べた。

添付資料 6. 質問票回答

**QUESTIONNAIRE
FOR
SEWERAGE AND STORM WATER DISPOSAL PROJECT, GUJRAT
IN
THE ISLAMIC REPUBLIC OF PAKISTAN**

FEBRUARY 2003

**JAPAN INTERNATIONAL COOPERATION AGENCY
PREPARATORY STUDY TEAM**

QUESTIONNAIRE

The Preparatory Study Team shall be furnished with the following general and specific information on the requested project, in order to clarify the contents of the project and to appraise the scope of cooperation.

Please answer in detail as much as possible in writing to the following questions (Items A), and please kindly provide us with data and information requested herein (Items B) for the sake of smooth implementation of the preparatory study:

A. QUESTIONS

1. Confirmation of the contents of the requested project (Sewerage and Storm Water Disposal Project, Gujrat)

1-1 Background of the project

- (1) The reason why this project was requested in high priority from your country prevailing over water supply project which seems to much more satisfy basic human needs.

Ans: At present water are being supplied to the inhabitants of Gujrat city at a rate of 40 gallons per capita per day through 34 Nos. Tube wells of production capacity of 22,500 gallons per hour. The pumping hours of the machinery are 16. The disposal facilities for waste water are inadequate due to this reason. The safe disposal of sludge water has been assigned high priority

- (2) The Japanese Government cooperation requires local cost. Any local cost such as land acquisition, building permit, water right, resettlement of local people and other necessary works for the Project have to be covered by the Pakistani Government. Can you allocate local fund for this project?

Ans: Relates to Government of Punjab/Government of Pakistan

1-2 Outline of the project

- (1) Project area:

Please clarify the project area.

Ans: The Project area has been clarified on the attached map.

- (2) Concept of the project:

Concept of the project was defined in the concept clearance committee meeting held on 10th January, 1996 as follows:

“New sewer network would be constructed and waste water generated by 0.25 million population will be collected in sedimentation tanks for primary treatment before disposal into River Chenab”.

We understand that concept of the project is not varied till now. Is it right?

Ans: There is no basic change in the concept of the project defined in year 1996. This project envisages construction of two new disposal stations, construction of treatment plant, rehabilitation of the existing as well as construction of new channel and construction of sewers of size ranging from 9" i/d to 54" i/d.

(3) Contents of sewage treatment plant:

A sewage treatment plant in the project would be for primary treatment only according to the above concept of the project. Therefore, we understand that sewage treatment plant of the project equips with physical treatment facilities only but biological treatment facilities for secondary treatment is not necessary. Is it right?

Ans: Sewage treatment plant would consist of primary treatment discharging the affluent met with the environmental quality standards of Pakistan regarding a BOD, COD and suspended solids before discharging it into River Chenab. Therefore, partially biological treatment facilities for secondary treatment is necessary.

(4) Scope of the project:

Please clarify the location and contents of the following works which have been nominated in your requested project.

- 1) 81,735 meter sewer pipes
- 2) 2,682 manholes/chambers
- 3) Two places of pumping station
- 4) One place of sewage treatment plant
- 5) Drainage works (rehabilitation of channel, dyke and rehabilitation of street & road)

Ans: The requisite information has been given on the attached plan.

(5) Sewerage system of the project area

We understand that separate sewerage system is applied in the project area judging from the above concept of the project and requested works of the project. Is it right?

Ans: Partially combined sewerage system is planned to be applied in the project area taking into consideration domestic sewage, rain fall and a part of industrial sewage also.

(6) Impact of the project

Please explain the impact of the project effecting to improvement of water bone disease and water quality of ground water and River Chenab in detail.

Ans: It will improve environmental and sanitation condition of the area which ultimately shall control the population in sanitary condition and danger to Public Health by reducing the water born diseases. The Water quality report of the existing tube wells of the representatives. 5 Nos. Tube wells are attached herewith. Regarding quality of water of River Chenab, it is appended that maximum discharge of the River in high flood is about 3,00,000 cusecs and reportedly there is no instance of any

disease caused to the animal life and human being living out stream of the River.

(7) Feasibility study

Please explain the feasibility study of this plan made in 1996 by Municipal Committee Gujrat.

Ans: Copy of the feasibility study report made in 1996 by Municipal Committee, Gujrat is attached herewith.

2. Questions on Counterpart organization

(1) Please explain the role and responsibility of Housing, Urban Development and Public Health Engineering Department (HUD & PHED) of Punjab Province, Gujrat District and Gujrat TMA in sewerage and storm water disposal works

Ans: The execution of the project shall be implemented by Tehsil Municipal Administration, Gujrat under the control of Secretary, Local Government & Rural Development Department, Government of the Punjab, Lahore.

(2) Please explain how to share the cost for construction of sewerage and storm water disposal facilities between the above three organizations

Ans: Operation and maintenance cost shall be borne by Tehsil Municipal Administration, Gujrat whereas the construction cost shall be met out of the funds provided by Government of the Punjab at the time of the implementation of the project.

3. Questions on sewerage and storm water disposal system

Please explain the following questions in detail and provide the related material, if any:

(1) What kind of problem is there on the existing sewerage and storm water disposal system?

Ans: The existing sewers and storm water channels are choked and inundated dated during rainy season and nuisance is caused to the public due to stagnant water in the streets/on the road.

(2) What kind of countermeasures was ever performed to solve or mitigate the above problem?

Ans: During rainy season the sewers are submerged and start overflowing. Sullage sets are deployed at the effected areas to give maximum relief.

(3) How do the people cooperate to solve or mitigate the above problem?

Ans: The inhabitants of the project area do cooperate with the Tehsil Municipal Administration in shape of material and labour etc

- (4) What idea do you have in order to rehabilitate, reconstruct, maintain and operate the existing sewerage and storm water disposal system?
Ans: The sanitary staff of Tehsil Municipal Administration is making full efforts to clean choked sewer line regarding cost of maintenance. TEHSIL MUNICIPAL ADMINISTRATION has planned to impose sewerage tax so that to maintain the system in proper working order.
- (5) What kind of sewerage and storm water disposal system is there in other cities in your country for your model case?
Ans: A partially combined sewerage system has been applied in other cities of Punjab as well as in case of Gujrat city.
- (6) Is there a master plan of sewerage and storm water disposal in Gujrat city?
Ans: Copy of master plan is attached herewith.
- (7) How do you relate the sewerage and storm water disposal system to the urban development plan, if any, of Gujrat city?
Ans: The sewerage and storm water disposal system and the urban development plan is inter related with each other as the construction of residential building and other development activities have been strictly banned in vicinity of the area earmarked for the construction of disposal station and treatment facility.
- (8) How is the demarcation of watershed between this project and other sewerage and storm water disposal project?
Ans: The watershed area has been marked on the plan.
- (9) What kind of development plan is there for infrastructure such as road, electricity supply facility, gas supply facility, water supply facility, telecommunication facility?
Ans: A copy of master plan has been attached showing the necessary existing infrastructure and this is being update at present.
- (10) What kind of malfunction is there and where is it in the existing sewerage and storm water disposal facility, such as malfunction of mechanical and electrical equipment, deterioration of concrete structure, deterioration of sewer pipeline & manholes, leakage, etc.
Ans: At present there are 2 Nos Disposal Stations working. One is along Sargodha Road and the other is situated at Kalra Kalan. The Pumping machinery installed at Kalra Kalan Disposal Station has exhausted its life, only 2 Nos. pumping sets remained in working condition and the rest of the machinery is often out of order. Much time is required for getting this pumps repaired repeatedly. This disposal station was constructed during the year 1986 and now the condition of concrete structure of pump hous, manhole covers have also started deteriorating.

(11) What idea do you have for the priority facility, such as hospitals, schools, government offices, etc. in case the rehabilitation or renewal, maintenance and operation are made to the malfunctioned sewerage and storm water disposal?

Ans: The priority has been fixed as provision of hospital, schools and government offices etc.

(12) Is there any ground water contamination due to the existing sewerage and storm water disposal system?

Ans: Since the collection and disposal of solid waste is not being managed properly due to financial constraints of Tehsil Municipal Administration. There are chances of ground water contamination due to leach ate from solid waste.

(13) Did you got any aid for the sewerage and storm water disposal system by other country or organization in the pasts?

Ans: No such aid was got by other country or organization for the sewerage and storm water disposal system in the past.

(14) Are there sewerage systems which were made by inhabitants independently?

Ans: No such sewerage system have been made by the inhabitants independently. However, in slump areas the inhabitants have constructed small septic tanks in the streets from where Sullage water is being discharged into nearby open places or drains etc.

4. Questions on social and environmental issues

4-1 Land acquisition of the project sites

(1) Is it possible to acquire land on the project site for the proposed pumping stations and sewage treatment plant?

Ans: Yes. The land is available.

a. The land expropriation area

Ans: The area is 25 hectors.

b. The rough estimate of expenses

Ans: Rs. 0.5 million.

c. The necessary period

Ans: One year.

(2) Please explain the procedure of land acquisition

Ans: The procedure of land acquisition is not involved as a land has been earmarked for the construction of disposal/treatment facility.

4-2 Relocation of houses on project sites

(1) Is it possible to relocate houses on the project site for the proposed pumping stations and sewage treatment plant?

Ans: The relocation of the houses on the project site is not involved.

- a. Number of houses to be relocated **Ans.** nil
- b. The rough estimate of expenses **Ans.** nil
- c. The necessary period **Ans.** nil

4-3 Natural environment

- (1) Have there been any changes in wild lives recently?
 - a. Decreased or increased vegetation **Ans.** No. change.
 - b. Decreased or increased species **Ans.** No. change.
- (2) Are there any wild lives which are picked or caught for eating?
 - a. Plants **Ans.** nil
 - b. Terrestrial Animals **Ans.** nil
 - c. Aquatic Animals **Ans.** Yes

4-4 Informal residence

- (1) Are there informal residential area in the city? **Ans:** Yes

- (3) Do they have safe water, electricity and toilet?

Ans: No. They do not have safe water and toilet except electricity at certain.

- (3) Are there any organizations that support people in informal residence?

Ans: Nil

4-5 Disease and public health

- (1) What kind of preventive measures against water-borne disease are taken?

Ans: People are often vaccinated as preventive measures. Moreover, they have been requested to use boiled drinking water during the rainy seasons.

- (3) Are there any organizations that support public health?

Ans: There are NGOs which are supporting and imparting the public health education.

- (3) How about arsenic poisoning caused by ground water for drinking?

Ans: No case arsenic poisoning has been found in ground water for drinking.

B. REQUIRED DATA AND INFORMATION

No.	Item	Availa- -bility (Y/N)	Agency of Information Source	Name of Materials
1.	Development Plan			
1.1	National and regional development plan			
	1) National development plan for water supply and sanitation sector	N		
	2) Regional development plan for Gujrat District and Gujrat TMA	Y	TMA Gujrat	
	3) Land use plan of Gujrat Distrcit and Gujrat TMA	Y	Same above	
1.2	Sewerage and storm water disposal development plan of the project area			
	1) Feasibility study report made by Municipal Committee Gujrat in December 1996	Y	TMA Gujrat	
	2) Any report concerning sewerage and storm water disposal development of the project area, if you have.	Y	Same above	
2.	Counterpart Agency			
2.1	Housing, Urban Development and Public Health Engineering Department (HUD & PHE) of Punjab Province			
	1) Organization chart	N		
	2) Number of personnel	N		
	3) Budgetary arrangement	N		
2.2	Gjurat District Office			
	1) Organization	Y	District Gujrat	
	2) Number of personnel	Y	Same above	
	3) Budgetary arrangement	Y	Same above	
2.3	Gujrat TMA			
	1) Organization chart	Y	TMA Gujrat	
	2) Number of personnel	Y	Same above	
	3) Budgetary arrangement	Y	Same above	
	4) Income and expenditures in water supply and sanitation/drainage works in the past three years	Y	Same above	
3.	Data and information regarding natural conditions of the project area			
3.1	Maps and other information			
	1) Topographic maps; scale 1/500, 1/1,000 or 1/5,000	N		
	2) Geological maps; scale 1/50,000 and 1/10,000	N		
	3) Aerial photograph, 1/500,000, 1/200,000, 1/100,000, 1/50,000 and 1/25,000	N		

No.	Item	Availability (Y/N)	Agency of Information Source	Name of Materials
	4) Satellite image, 1/500,000, 1/100,000, 5) Land use maps and vegetation maps 6) Earthquake data	N N N		
3.2	Meteorological and hydrological data 1) Meteorological data near the project area for the last 10 years 2) Hydrological data of Chenab river, Bhimbar river and Helsing river a. Discharge – daily, monthly & annual b. Water level – daily & monthly c. Water quality – SS, COD, BOD d. Measurement stations and maps	N Y N N N	TMA Gujrat	e-mail
4.	4.1 Sewerage and storm water disposal system General 1) Map of sewerage system coverage (present and future) 2) Population covered by sewerage system (present and future) 3) Sewage discharge quantity a. Domestic sewage (per capita and total) b. Liquid industrial effluents 4) Map of inundation area and record of inundation in the past 5 years 5) Organization and municipal budget of Gujrat TMA for sewerage and storm water disposal	Y Y Y N Y Y	TMA Gujrat TMA Gujrat TMA Gujrat TMA Gujrat Same above	
4.2	Sewerage and storm water disposal facilities 1) Location map of existing sewerage and storm water disposal facilities 2) Inventory sheets of sewerage and storm water disposal facilities such sewer collector, drainage pipes, storm water disposal pumping station, etc. 3) Brief specification, general layout, typical sectional drawings, construction cost and year of construction of the facilities 4) Detailed drawings of sewer collector and storm water drainage pipes 5) History of improvement or rehabilitation of the facilities	Y Y Y N N	TMA Gujrat Same above Same above	

No.	Item	Availability (Y/N)	Agency of Information Source	Name of Materials
	6) Operation and maintenance record of the pumping facilities, and electric power consumption	Y	TMA Gujrat	
	7) List of available equipment for sewer and drainage pipes cleaning and maintenance	Y	Same above	
	8) Design standard to be applied for sewerage and storm water drainage facilities such as rainfall intensity and coefficient of run-off	Y	Same above	
5.3	Data and information regarding sewage treatment plant and water quality control			
	1) Inventory of sewage treatment and storm water disposal facilities of the other cities in Punjab Province			
	a. Outline of sewage treatment system	N		
	b. Treated water quantity and water quality after treatment	N		
	c. Construction cost, source of fund and year of construction	Y	TMA Gujrat	
	2) Water quality standard for municipal and liquid industrial effluents	N		
	3) Inventory (name, location, kind of industry, and quantity and quality of waste water) of factories in the project area discharging waste water	N		
	4) Location map of discharge point of municipal sewerage and storm water drainage into the river	Y	TMA Gujrat	
	5) Organization for water quality control of the project area	Y	TMA Gujrat	
	6) Present water quality monitoring system and water quality analysis record:			
	a. Waste water from factory	Y	TMA Gujrat	
	b. River water	N		
	c. Ground water	N		
	7) Present collection and disposal system of raw sewage of the area located outside the existing sewerage system	N		
	8) Location map of the planned pumping station and sewage treatment plant	Y	TMA Gujrat	
5.	Data and information regarding solid waste management			
	1) Municipal regulations concerning solid water management	Y	TMA Gujrat	
	2) Coverage map of municipal solid waste collection services	Y	TMA Gujrat	

No.	Item	Availability (Y/N)	Agency of Information Source	Name of Materials
	3) Present solid waste collection and disposal system by Gujrat TMA a. Solid waste collection system b. Quantity of solid waste c. Location map of open dumping site and structure of open dumping site 4) List of equipment used for solid waste collection 5) Organization and budget for solid waste management of Gujrat TMA 6) What are the major problems concerning solid waste collection and transport?	Y Y Y Y Y Y	TMA Gujrat Same above Same above Same above Same above Same above	
6.	Data and information regarding water supply system 1) Water supply system of Gujrat TMA a. Map of service area b. Served population (present and future) and coverage ratio c. Water supply capacity and water demand (present and future) d. Per capita water consumption 2) Location map of tube wells and other water sources, and water production capacity by kind of water source 3) Location map of water supply facilities such as water intake, reservoir tanks and distribution pipeline network 4) Organization and budget for water supply works of Gujrat TMA	Y Y Y Y Y Y Y	TMA Gujrat Same above Same above Same above Same above Same above Same above	
7.	Tariff for public services and income per household 1) Annual average income per household (Upper class, Middle class and Lower class) 2) Tariff for public services a. Water tariff per household per month b. Tariff for sewerage per household per month c. Tariff for solid waste collection per household per month 3) Collection system and collection conditions (actual collection ratio)	Y Y Y Y Y N Y	TMA Gujrat TMA Gujrat Same above TMA Gujrat Same above TMA Gujrat	Lower Class: 3000 to 4000 Rs/month Through bank

No.	Item	Availability (Y/N)	Agency of Information Source	Name of Materials
8.	Data and information regarding social and environmental issues			
	1) Public health			
	a. History of epidemic disease including water-borne disease (for the last five years)	N		
	2) Natural environment			
	a. Location of particular area officially protected such as national and natural parks	Y	TMA Gujrat	
	b. Location of environmentally vulnerable area	N		
	c. Species of precious animals and plants	N		
	d. Distribution of important historical spots, landscape and scenery	Y	TMA Gujrat	
	e. Vegetation maps	N		
	f. Aerial photos	N		
	3) Social issues			
	a. Location of flood area	Y	TMA Gujrat	
	b. Land use maps	Y	Same above	
	c. Location of toilet	N		
9.	Others			
9.1	Statistic data			
	1) District census report of Gujrat	Y	TMA Gujrat	
9.2	Capable Consultants list			
	1) Sewerage/drainage engineering	Y	TMA Gujrat	
	2) Topographic survey	Y	Same above	
	2) Soil investigation	N		
	3) Environmental study	N		
	4) Social survey	N		
9.3	Construction materials			
	1) List of domestic productions of pipe materials for sewerage/drainage works	Y	TMA Gujrat	
	2) Any custom restriction on importation of the possible construction materials	N		
9.4	Unit Price for construction			
	1) Unit price regarding construction material for sewerage/drainage works	Y	TMA Gujrat	
	2) Unit price regarding construction equipment, vehicles etc.	N		
	3) Unit price for engineers for design and construction of sewerage/drainage works	N		

添付資料 7. 収集資料リスト (■収集資料/□専門家作成資料)

主管部長	文書管理課長	主管課長	情報管理課長	技術情報課長	図書館受入日

地域	プロジェクトID	調査団番号	調査の種類又は指導科目	無償資金協力(予備調査)	担当部課	無償業務第四課	
国名	調査団名又は専門家氏名	配属機関名	現地調査期間又は派遣期間	15年2月17日～15年3月9日	担当者氏名	林 将幸	
アジア	パキスタン		グジュラート下水処理施設改善計画予備調査				
番号	資料の名称	形態(図書、ビデオ、地図、写真等)	収集資料	専門家作成資料	JICA作成資料	取扱い区分	図書館記入
A	統計資料、法令・基準						
A-1	Economic Survey 2001-2002	オリジナル	*			JR・CR()・SC	
A-2	District Census Report of Gujrat (1998)	オリジナル	*			JR・CR()・SC	
A-3	Issues in Pakistan's Economy (1999)	オリジナル	*			JR・CR()・SC	
A-4	Environmental Laws in Pakistan (2000)	オリジナル	*			JR・CR()・SC	
A-5	Pakistan's Environmental Laws and their Compliance (2003)	オリジナル	*			JR・CR()・SC	
A-6	Human Development in South East Asia 2002	オリジナル	*			JR・CR()・SC	
A-7	Statistical Supplement 2001-2002	オリジナル	*			JR・CR()・SC	
A-8	Annual Budget Statement	オリジナル				JR・CR()・SC	
A-9	Budget Speech	オリジナル	*			JR・CR()・SC	
A-10	Federal Budget in Brief	オリジナル	*			JR・CR()・SC	
A-11	Explanatory Memorandum on Federal Receipts	オリジナル	*			JR・CR()・SC	
A-12	Estimates on Foreign Assistance	オリジナル	*			JR・CR()・SC	
A-13	Demands for Grants and Appropriations	オリジナル	*			JR・CR()・SC	
A-14	Punjab Local Government Ordinance, 2001 (As amended up to 24th June, 2002)	コピー	*			JR・CR()・SC	

添付資料 7. 収集資料リスト (■収集資料/□専門家作成資料)

主幹部長	文書管理課長	主管課長	情報管理課長	技術情報課長	図書館受入日

番号	資料の名称	形態(図書、ビデオ、地図、写真等)	収集資料*	専門家作成資料	JICA作成資料	発注	発行機関	取扱区分	図書館記入欄
A-15	Sectoral guidelines for environmental reports: Major sewerage schemes (1997)	コピー	*				Pakistan Environmental Protection Agency	JR・CR()・SC	
B	開発計画関連報告書								
B-1	The Islamic Republic of Pakistan Rehabilitation of Gujrat City - Present situation April 1995	コピー	*				(unknown)	JR・CR()・SC	
B-2	Gujrat outline developmen Plan 1999-2024, Scale 1:16000	コピー	*				Directrate of Physical Planning Housing anc Physical Planning Punjab / Regional Physical Planning Office Rawalpindi	JR・CR()・SC	
B-3	Ten Year Perspective Development Plan 2001-11 and Three year Development Programme 2001-04, Islamabad September 1, 2001	コピー(部分)	*				Government of Pakistan Planning Commission	JR・CR()・SC	
C	地図								
C-1	Gujrat Guide Map, Surveyed 1996, Scale 1:15,000	地図(カラー)	*				Printed at the Survey of Pakistan Offices, Rawalpindi	JR・CR()・SC	
C-2	Map of Punjab Six Edition, 2000, Scale 1:1,000,000	地図(カラー)	*				Printed at the Survey of Pakistan Offices, Rawalpindi	JR・CR()・SC	
C-3	Topographic map Punjab (Gujranwara, Gujrat and Stalkot District)	図面(コピー)	*				Designmen(Local Consulting Firm)	JR・CR()・SC	
D	上下水道関連資料・図面								
D-1	Fasibility Study for Sewerage and Storm Water Disposal Project Gujrat, Feb. 1997	報告書(コピー)	*				Municipal Committee Gujrat	JR・CR()・SC	
D-2	Sewerage System in Gujrat City: Preliminary Engineering Report, Sept. 1999	報告書(コピー)	*				Municipal Committee Gujrat	JR・CR()・SC	
D-3	Sewerage and Storm Water Disposal Project Gujrat(要請の工事内訳書)	コピー	*				Gujrat TMA	JR・CR()・SC	

添付資料 7. 収集資料リスト (■収集資料/□専門家作成資料)

主幹部長	文書管理課長	主管課長	情報管理課長	技術情報課長	図書館受入日

地域		プロジェクトID		調査団番号		担当者氏名		
アジア		調査団名又は専門 家氏名		調査の種類又は指導科目		担当部課		
パキスタン国		配属機関名		現地調査期間又は派遣期間		担当者氏名		
番号	資料の名称	形態(図番、ピク ス、地図、写真等)	収集 資料	専門家 作成資 料	JICA作 成資料	発行情関	取扱区分	図書館記入覧
D-4	Existing Sewerage Pipe Line in Gujrat City(既存下水管の管径別延長内訳)	コピー	*			Gujrat TMA	JR・CR()・SC	
D-5	Plan of Gujrat City(上記D-3, D-4の位置図面)	図面(コピー)	*			Gujrat TMA	JR・CR()・SC	
D-6	Plan of Gujrat City(要請の下水排水区分図)	図面(コピー)	*			Gujrat TMA	JR・CR()・SC	
D-7	Population(対象地域の下水排水区毎の人口推計)	コピー	*			Gujrat TMA	JR・CR()・SC	
D-8	Environmental Protection Agency Laboratories, Industrial Waste Water Analysis Report(既存下水の水質分析結果)	コピー	*			PHED Lahore	JR・CR()・SC	
D-9	Design Criteria for Water Supply, Sewerage & Drainage Schemes 1998(上下水道設計基準)	コピー	*			Punjab Public Health Engineering Department	JR・CR()・SC	
D-10	Waste Water Treatment in Lahore(ラホールの下水処理場建設計画書)	コピー	*			Water and Sanitation Agency, Lahore Development Authority	JR・CR()・SC	
D-11	Survey Plan: Construction of Kalra Drain	図面(コピー)	*			Designmen(Local Consulting Firm)	JR・CR()・SC	
D-12	Plan of Gujrat City: Extension Phase-I(Catchment Area)	図面(コピー)	*			Designmen(Local Consulting Firm)	JR・CR()・SC	
D-13	水道下水道料金改定に関するグジュラート市議会議決資料	コピー	*			Gujrat TMA	JR・CR()・SC	
D-14	Gujrat Sewerage & Drainage Phase-II: 水理計算結果一覧表	コピー	*			Gujrat TMA	JR・CR()・SC	
D-15	Gujrat Sewerage & Drainage Phase-II: 水理計算書抜粋	コピー	*			Gujrat TMA	JR・CR()・SC	
D-16	Plan of Gujrat City(Phasing)	図面(コピー)	*			Designmen(Local Consulting Firm)	JR・CR()・SC	
D-17	Plan of Gujrat City(Priority)	図面(コピー)	*			Designmen(Local Consulting Firm)	JR・CR()・SC	
D-18	Plan of Gujrat City(Phasing Modified)	図面(コピー)	*			Designmen(Local Consulting Firm)	JR・CR()・SC	

添付資料 7. 収集資料リスト (■収集資料/□専門家作成資料)

主管部長	文書管理課長	主管課長	情報管理課長	技術情報課長	図書館受入日

プロジェクトID		調査団番号		発行機関		取扱区分		図書縮記入覧	
地域	調査団名又は専門家氏名	調査の種類又は指導科目	無償資金協力(予備調査)	発行機関	取扱区分	図書縮記入覧	図書縮記入覧	図書縮記入覧	図書縮記入覧
国名	配属機関名	現地調査期間又は派遣期間	15年2月17日~15年3月9日	担当者氏名	担当者氏名	担当者氏名	担当者氏名	担当者氏名	担当者氏名
アジア	グジュラート下水道処理施設改善計画予備調査	調査の種類又は指導科目	無償資金協力(予備調査)	担当者氏名	担当者氏名	担当者氏名	担当者氏名	担当者氏名	担当者氏名
パキスタン	配属機関名	現地調査期間又は派遣期間	15年2月17日~15年3月9日	担当者氏名	担当者氏名	担当者氏名	担当者氏名	担当者氏名	担当者氏名
番号	資料の名称	形態(図書、ビデオ、地図、写真等)	複製資料	専門家作成資料	JICA作成資料	発行	取扱区分	図書縮記入覧	図書縮記入覧
D-19	Plan of Gujrat City(Existing and Proposed Sewerage System)	図面(コピー)	*				JR・CR()・SC		
D-20	Plan of Gujrat City(Showing Existing Sewerage System; No. of Houses, Street length) Part-1	図面(コピー)	*				JR・CR()・SC		
D-21	Plan of Gujrat City(Showing Existing Sewerage System; No. of Houses, Street length) Part-3	図面(コピー)	*				JR・CR()・SC		
D-22	Phase II Gujrat: Detail Plan of Disposal Works	図面(コピー)	*				JR・CR()・SC		
D-23	A-Section of RCC Sewer Phase-II	図面(コピー)	*				JR・CR()・SC		
D-24	Proposed Site Plan for Disposal Works of Sewerage & Drainage Scheme Gujrat Phase II	図面(コピー)	*				JR・CR()・SC		
D-25	X-section of Circular Manhole Chamber Phase II	図面(コピー)	*				JR・CR()・SC		
D-26	X-section of Circular Manhole Chamber 6, 5 i/d for 48" i/d RCC pipe under waterPhase II	図面(コピー)	*				JR・CR()・SC		
D-27	L-Section for Sewerage & Drainage Scheme Gujrat Phase II	図面(コピー)	*				JR・CR()・SC		
D-28	L-Section for Sewerage & Drainage Line 7, 6 & 16, 15 Phase I	図面(コピー)	*				JR・CR()・SC		
D-29	L-Section of RCC pipe sewer Line (8-7-6, 16-15) Phase I	図面(コピー)	*				JR・CR()・SC		
D-30	Intermediate Pumping Station Phase I	図面(コピー)	*				JR・CR()・SC		
D-31	Detail Drawing for Disposal Station Shadiwal Road Gujrat Phase I	図面(コピー)	*				JR・CR()・SC		
D-32	Plan Drawing for Disposal Station Shadiwal Road Gujrat Phase I	図面(コピー)	*				JR・CR()・SC		
D-33	Sewerage System in Gujrat City -Preliminary Engineering Design:Trunk Sewer along Shahdaula Road Phase I AEC/GT/PR/01	図面(コピー)	*				JR・CR()・SC		

添付資料 7. 収集資料リスト (■収集資料/□専門家作成資料)

主管部長	文書管理課長	主管課長	情報管理課長	技術情報課長	図書館受入日

		プロジェクトID		調査団番号		調査の種類又は指導科目		発行機関		取扱区分		図書補記入覧	
地域	国名	調査団名又は専門家氏名	配属機関名	形状(図書、ビデオ、地図、写真等)	収集資料	専門家作成資料	JICA作成資料	予付	発行機関	取扱区分	図書補記入覧	担当者氏名	担当部署
アジア	パキスタン国	グジュラート下水道処理施設改善計画予備調査		図面(コピー)	*				Designmen(Local Consulting Firm)	JR・CR()・SC		林 将幸	無償資金協力(予備調査)
				コピー	*				Designmen(Local Consulting Firm)	JR・CR()・SC			
				コピー	*				Designmen(Local Consulting Firm)	JR・CR()・SC			
				コピー	*				Gujrat TMA	JR・CR()・SC			
				コピー	*				Gujrat TMA	JR・CR()・SC			
				コピー	*				Gujrat TMA	JR・CR()・SC			
				コピー	*				Designmen(Local Consulting Firm)	JR・CR()・SC			
				コピー	*				Designmen(Local Consulting Firm)	JR・CR()・SC			
				コピー	*				Gujrat TMA	JR・CR()・SC			
				コピー	*				Gujrat TMA	JR・CR()・SC			
				コピー	*				Designmen(Local Consulting Firm)	JR・CR()・SC			
				コピー	*				Gujrat TMA	JR・CR()・SC			
				コピー	*				Gujrat TMA	JR・CR()・SC			
E		上水衛生関連資料・図面											
E-1		Map of solid waste collection points & disposal points		コピー	*				Gujrat TMA	JR・CR()・SC			
E-2		Consultancy Services for Solid Waste Management Programme in Guirat		コピー	*				Allied Engineering Consultants (PVT) Limited	JR・CR()・SC			
E-3		Test Reports of Water Supply Tube Wells(Gujrat市内36箇所の生産井戸の水質分析結果・3項目)		コピー	*				Pakistan Council of Scientific & Industrial Research	JR・CR()・SC			

添付資料 7. 収集資料リスト (■収集資料/□専門家作成資料)

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地域	プロジェクトID	調査団番号	調査の種類又は指導科目	無償資金協力(予備調査)	担当部課	無償業務第四課		
国名	調査団名又は専門 家氏名	所属機関名	現地調査期間又は派遣期間	15年2月17日～15年3月9日	担当者氏名	林 将幸		
番号	資料の名称	形態(図書、ビデオ、 写真等)	収集 資料	専門家 作成資 料	JICA作 成資料	発刊機関	取次区分	図書館記入号
E-4	Test Reports of Water Supply Tube Wells(Gujrat市内6箇所の生産 井戸の水質分析結果・15項目)	アジア	グジュラート下水処理施 設改善計画予備調査	*		Central Research Laboratory, PHED, Punjab Gujrat TMA	JR・CR()・SC	
E-5	List of Transport Sanitation(ごみ収集車両保有台数と将来計画)	パキスタン	調査	*		Gujrat TMA	JR・CR()・SC	
E-6	Month-wise comparative data of epidemiological activities for year 1998-2002, District Gujrat (malaria)		調査	*		District Health Office, Gujrat	JR・CR()・SC	
E-7	深井戸、水道配管網位置図		図面(コピー)	*		Gujrat TMA	JR・CR()・SC	
E-8	Repair of Water Supply in Area of Tehsil Municipal Administration Gujrat(将来水需要量の推計及び水供給増強計画)		コピー	*		Gujrat TMA	JR・CR()・SC	
F	社会配慮関連資料・図面							
F-1	Controlled Area of Municipal Committee Gujrat, Base Map(Union Councilの区分図と人口)		図面(コピー)	*		Gujrat TMA	JR・CR()・SC	
F-2	District Profile, GUJRAT(Gujrat地区の概要)		コピー	*		Gujrat District	JR・CR()・SC	
F-3	Brochure of BUNYAD - Literacy Community Council (BLCC) & NGO's Resource Center		オリジナル	*		BUNYAD	JR・CR()・SC	
F-4	Maps of squatter's area		オリジナル	*		Gujrat TMA	JR・CR()・SC	
F-5	Newspapers Cuttings		コピー	*		Daily Jazba, Dawn Sunday, Daily "DAK" Gujrat	JR・CR()・SC	
F-6	Human Rights Monitor 2001 A report on the Religious Minorities in Pakistan		オリジナル	*		National Commission for Justice & Peace	JR・CR()・SC	
F-7	From the Lane to the City: The Impact of the Orangi Pilot Project's Low Cost Sanitation Model		コピー	*		A WaterAid report by Akbar Zaidi	JR・CR()・SC	
F-8	Faisalabad Area Upgrading Project: Appropriate Design Standards and Construction Specifications for Tertiary Sewerage system		コピー	*		DFID, Faisalabad Development Authority, WASA, GHK	JR・CR()・SC	
F-9	Faisalabad Area Upgrading Project: Communities Take Charge of Local Sanitation Facilities (2001)		コピー	*		DFID, Faisalabad Development Authority, WASA, GHK	JR・CR()・SC	

添付資料 7. 収集資料リスト (■収集資料/□専門家作成資料)

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プロジェクトID	調査団番号	
アジア	プロジェクト下水処理施設改善計画予備調査	無償資金協力(予備調査)
パキスタン	調査団名又は専門家氏名	担当部課
国名	配属機関名	15年2月17日～15年3月9日
		現地調査期間又は派遣期間
		担当者氏名
		林 将幸

番号	資料の名称	形態(図書、ビデオ、地図、写真等)	収集資料	専門家作成資料	JICA作成資料	発行機関	取扱区分	図書館記入日
F-10	Faisalabad Area Upgrading Project: WASA Community Infrastructure Unit (2002)	コピー	*			DFID, Faisalabad Development Authority, WASA, GHK	JR・CR()・SC	