

添付資料

A. Scope of Work of the Study

B. レポート協議議事録

C. 調査団及びカウンターパート名簿

D. 関連機関及び担当者

添付資料 A

Scope of Work of the Study

SCOPE OF WORK

FOR

THE STUDY ON THE REHABILITATION OF MINOR IRRIGATION TANKS
FOR RURAL DEVELOPMENT IN TAMILNADU

AGREED UPON BETWEEN

THE MINISTRY OF WATER RESOURCES, GOVERNMENT OF INDIA, AND THE PUBLIC
WORKS DEPARTMENT, GOVERNMENT OF TAMILNADU

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

DELHI, 9TH AUGUST, 1996

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I. INTRODUCTION

In response to the request of the Government of India (hereinafter referred to as "GOI"), the Government of Japan (hereinafter referred to as "GOJ") has decided to conduct the Study on the Rehabilitation of Minor Irrigation Tanks for Rural Development in Tamil Nadu, (hereinafter referred to as "the Study") in accordance with the relevant laws and regulations in force in Japan.

Accordingly, Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programmes of GOJ, will undertake the Study in close cooperation with the authorities concerned of GOI and the Government of Tamil Nadu (hereinafter referred to as "GOIN").

On the part of GOI and GOIN, the Ministry of Water Resources (hereinafter referred to as "MOWR"), and the Public Works Department (hereinafter referred to as "PWD") shall act, respectively, as counterpart agencies to the Japanese study team and also as a coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

The present document sets forth the Scope of Work with regard to the Study.

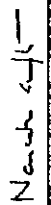
II. OBJECTIVES OF THE STUDY


The objectives of the Study are:


1. To formulate Master Plan on the Rehabilitation of Minor Irrigation Tanks for Rural Developments for the State of Tamil Nadu,
2. To conduct Feasibility Studies in the selected areas where tank irrigation agriculture is predominant in the rural society, and
3. To carry out technology transfer to the Indian counterpart personnel through on-the-job training in the course of the Study.


III. STUDY AREA

The Study covers Anna, MGK, Ramanaulapuram, Pasumpu, Muthuramalinga Thevar and


Mr. Naresh Gupta
Secretary,
Public Works Department,
Government of Tamil Nadu


Mr. Rajendra Mishra
Deputy Secretary,
Ministry of Water Resources


Mrs. Rama Murali
Joint Secretary,
Department of Economic Affairs,
Ministry of Finance


Mr. Tadashi Tsuchiya
Leader,
Preparatory Study Team,
Japan International Cooperation Agency

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Kamranjhar districts (a total area of approximately 20,463 sq. km.).

IV. SCOPE OF THE STUDY

Phase I (Master Plan Study)

1. Collection and review of the existing reports, data and information by way of field survey with emphasis on the following items:
 - a. Location and current condition of irrigation tanks in the study area.
 - b. Tank operation and water management systems
 - c. Rehabilitation and maintenance system of the irrigation tanks
 - d. Agricultural practices and agro economy
 - e. Socio-economic conditions and social environmental aspects
 - f. Natural conditions (climate and geographical environment, etc.)
 - g. Analysis of the governmental policies and agricultural preferences for the rural sector
2. Major constraints which impair the efficiency of the irrigation tanks and remedial measures necessary
3. Review of the ongoing tank rehabilitation plan and projects including criterion adopted
4. Formulation of Master Plan for the rehabilitation of irrigation tanks and selection of areas for the Feasibility Study

Phase II (Feasibility Study)

1. Collection of data and information in the selected areas through additional field survey.
2. Formulation of rehabilitation plan of irrigation tanks in line with rural participation promotion in the selected areas covering the following elements:
 - a. Land use plan, farming plan and agricultural supporting system
 - b. Preliminary engineering design for the rehabilitation work
 - c. Operation and maintenance plan for irrigation
 - d. Water management
 - e. Environmental protection plan

f. Designing of optimum implementation schedule of the rehabilitation works

g. Estimation of the project costs and benefits

h. Evaluation and recommendation

3. Establishing guidelines on the irrigation tanks for subsequent rehabilitation plans and project appraisal

V. STUDY SCHEDULE

The tentative work schedule of the Study is as attached (see Annex I).

VI. REPORTS

Japanese side shall prepare and submit the following reports in English to GOI/GOTTN:

1. Inception Report
- Thirty (30) copies in English at the commencement of Phase I Study.
2. Progress Report (1)
- Thirty (30) copies in English at the end of the field work of Phase I Study.
3. Interim Report
- Thirty (30) copies in English at the commencement of Phase II Study.
4. Progress Report (2)
- Thirty (30) copies in English at the end of the field work of Phase II Study.
5. Draft Final Report
- Thirty (30) copies in English at the end of the second home office work. The Indian side provides JICA with its comments on the Draft Final Report within one (1) month after receipt of the Draft Final Report.
6. Final Report
- Fifty (50) copies in English within one (1) month after receiving GOI's comments on the Draft Final Report.

VII. UNDERTAKING OF GOI/GOTTN

1. To facilitate the smooth conduct of the Study, GOI/GOTTN shall take necessary measures:
 - (1) To secure the safety of the Japanese study team during their assignment in India,
 - (2) To permit the members of the Japanese study team to enter, leave and sojourn in India for the duration of their assignment therein, and exempt them from foreign registration requirements and consular fees,
 - (3) To exempt the members of the Japanese study team from taxes, duties and other charges on equipment, machinery and other materials brought into and out of India for the conduct of the Study,
 - (4) To exempt the members of the Japanese study team from income taxes 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 the necessary facilities to the Japanese study team for remittance as well as utilization of the funds introduced into India from Japan in connection with the implementation of the Study,
 - (6) To secure permission for entry into private properties and other areas for the conduct of the Study when necessary arises,
 - (7) To make available to the Japanese study team to take all data and documents (including photographs and maps), other than those restricted, related to the Study out of India to Japan, and,
 - (8) To provide medical services as needed and its expenses will be chargeable on the members of the Japanese study team.
2. GOI/GOTTN shall bear claims, if any arises, against the members of the Japanese study team resulting from, occurring in the course of, or otherwise connected with, the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Japanese study team.

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3. MOWR/PWD, have all responsibilities for the implementation of the Study and also as coordinating bodies in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

4. MOWR/PWD shall, at its own expense, provide the Japanese study team with the followings, in cooperation with other relevant organizations:

- (1) Counterpart personnel,
- (2) Suitable office space with necessary equipment in Madras and survey site,
- (3) Vehicles with drivers and necessary equipment for the Study, and
- (4) Credentials or identification cards.

VIII. UNDERTAKING OF JICA

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

- (1) To despatch, at its own expense, the Japanese study team to India, and
- (2) To perform technology transfer to the Indian counterpart personnel in the course of the Study.

IX. CONSULTATION

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

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MINUTES OF MEETING

ON

DISCUSSIONS OF SCOPE OF WORK

FOR

THE STUDY ON THE REHABILITATION OF MINOR IRRIGATION TANKS
FOR RURAL DEVELOPMENT IN TAMILNADU

DELHI, 9TH AUGUST, 1996

Naresh Gupta
Mr. Naresh Gupta
Secretary,
Public Works Department
Government of Tamil Nadu

Rajendra Mishra
Mr. Rajendra Mishra
Deputy Secretary
Ministry of Water Resources

Rama Murali
Mrs. Rama Murali
Joint Secretary,
Department of Economic Affairs
Ministry of Finance

Tadashi Tsuchiya
Mr. Tadashi Tsuchiya
Leader,
Preparatory Study Team
Japan International Cooperation Agency

⊙ : Comments on Df/R by the Indian side
Ic/R : Inception Report
P/R(1) : Progress Report(1)
I/R : Interim Report
P/R(2) : Progress Report(2)
Df/R : Draft Final Report
F/R : Final Report

| Period | Work in India | Home office work in Japan | Phase | Reports |
|--------|---------------|---------------------------|-------|---------|
| 1 | | | | Ic/R |
| 2 | | | | P/R(1) |
| 3 | | | | P/R(1) |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | Ic/R |
| 7 | | | | P/R(2) |
| 8 | | | | P/R(2) |
| 9 | | | | |
| 10 | | | | Df/R |
| 11 | | | | Df/R |
| 12 | | | | F/R |
| 13 | | | | F/R |
| 14 | | | | |
| 15 | | | | |

TENTATIVE WORK SCHEDULE

Annex

system tanks) which have larger command area under the control and maintenance of PWD are proposed to be taken up.

There are approximately 2,600 such PWD tanks in the study area (see Annex II)

2. A long list of the minor irrigation tanks will be prepared and handed to the study team at the time of the commencement of the Study. Contents of the list are as attached. (see Annex III)
3. A 1:5,000 map for each village in the study area and 1:50,000 maps of the study area, with indications of catchment area, command area and other necessary information on them, will be made available to the study team when required.
4. Areas for the Feasibility Study will be selected on the basis of the outcomes of the Phase I Study, and the guidelines will be formulated to suggest rehabilitation methods and maintenance system of the irrigation tanks.
5. The Indian side explained that environmental impact of the rehabilitation work will be negligible because the work will be made only on the structures existing for centuries, and therefore EIA will not be necessary.
6. A steering committee will be established for coordinating the authorities concerned and enhancing effective implementation of the project. The authorities gracefully scheduled to participate are: Departments of Public Works, Agriculture, Agricultural Engineering, Environment, and Rural Development of the State of Tamil Nadu.
7. In view of conducting a site survey in distant areas of the Tamil Nadu State, the portable communication equipment will be provided wherever available under the extended network of Public Works Department.
8. PWD explained the difficulties to provide vehicle because of their limitation of the budget and requested the Japanese side to procure the vehicles. The Japanese side stated that it would convey the request to the Japanese Government.

The Preliminary Study Team, headed by Mr. Tadashi Tsuchiya, for the Study on the Rehabilitation of Minor Irrigation Tanks for Rural Development in Tamil Nadu (hereinafter referred to as "the Study") made a visit to India from 29th July, 1996, to discuss the Scope of Work for the Study with authorities concerned of the Government of India.

In connection with the above, a series of discussions was held between the Japanese study team and the authorities concerned of the Government of India/the Government of Tamil Nadu (list of participants attached as Annex I), and both sides came to an agreement and signed the Scope of Work on the 9th of August, 1996.

The salient results of the discussions are as follows:

1. The Study will be conducted in Anna and MGR (former Chengalpattu - MGR district) and Ramnathapuram, Pasunpuram, Muthuramalinga Thevar and Kamarajar districts (former Ramnathapuram district) with focus on the PWD tanks, based upon explanations by PWD as follows:
 - A. Selection of above five districts
 - a. These five districts account for more than 35% of minor irrigation tanks in the State.
 - b. The command area of tanks in these districts account for more than 43% of the total command area in the State.
 - c. These districts lie in different agro-climatic zones.
 - d. The number of marginal and small farmers forms a high percentage in these districts.
 - B. Focus on PWD tanks

There are three types of minor irrigation tanks in the State of Tamil Nadu, i.e., Panchayat Union tanks, PWD tanks and Ex-zamin tanks. Some of the minor irrigation tanks are called as "system tanks" because of their nature that they get their supply of water through a system of canals from storage Reservoirs and have assured supply apart from the yield from their own catchments.

The Panchayat Union tanks are under the control of Panchayat Unions with command area less than 40 ha. The Ex-zamin tanks are generally small tanks with limited command area mostly less than 40 ha. The PWD tanks have command area more than 40 ha and supply water to many farmers.

With a view to derive maximum benefits from the rehabilitation project, PWD tanks (except

List of Participants

- I Government of India
- 1 Ministry of Finance
- (1) Mrs. Rama Murali, Joint Secretary
- (2) Mr. D. N. Narasimha Raju, Deputy Secretary
- (3) Mr. G. S. Grewal, Under Secretary
- 2 Ministry of Water Resources
- (1) Mr. Rajendra Mishra, Deputy Secretary
- II State Government of Tamil Nadu
- 1 Department of Public Works
- (1) Mr. Durai Murugan, Minister
- (2) Mr. Naresn Gupta, Secretary
- (3) Mr. M. Kaliperimal, Chief Engineer, for Minor Irrigation
- (4) Mr. M. Krishnamoorthy, Joint Chief Engineer
- (5) Mr. S. M. Arasu, Superintending Engineer
- (6) Mr. T. J. Kisbore Vincent, Executive Engineer
- (7) Mr. P. Natanasigamani, Assistant Executive Engineer
- 2 Others
- (1) Mr. P. A. Viswanathan, Superintending Engineer, Agricultural Engineering Department
- (2) Mr. K. Chandravadu, Joint Director of Agriculture Department

III Japanese Side

Preparatory Study Team

- (1) Mr. T. Tsuchiya, Leader
- (2) Mr. T. Iijima
- (3) Mr. T. Aoki
- (4) Mr. T. Kunne
- (5) Ms. M. Yamazaki

DISTRICTWISE LIST OF TANKS IN TAMIL NADU

| Sl. No. | Name of District | In charge of Panchayat Unions | | In charge of Public Works Dept. | | Total | | | |
|---------|---|-------------------------------|----------------|---------------------------------|-----------------------|-------|------|------|-------|
| | | Less than 20 ha | 20 ha to 40 ha | From Total Tanky Tanks | From Panchayat Unions | | | | |
| 1. | Chennai | 1241 | 517 | 1780 | 5 | 1787 | 756 | 3747 | |
| 2. | North Arcot | 1482 | 602 | 2084 | 632 | 513 | 1165 | 422 | 3233 |
| 3. | South Arcot | 1213 | 551 | 1766 | 573 | 181 | 757 | 79 | 7677 |
| 4. | Salem | 419 | 300 | 519 | 188 | - | 111 | - | 237 |
| 5. | Dharmapuri | 1451 | 128 | 1579 | 98 | 3 | 191 | 154 | 1834 |
| 6. | Coimbatore & Periyar | 42 | 22 | 64 | 57 | 7 | 59 | - | 123 |
| 7. | Thanjavur | 318 | 153 | 491 | 5 | 640 | 655 | - | 1176 |
| 8. | Dudhicuttai | 4609 | 775 | 5334 | 369 | 161 | 570 | 58 | 6394 |
| 9. | Tiruchy | - | - | - | 173 | 85 | 258 | 214 | - |
| 10. | Madurai & Anna | 2112 | 249 | 3391 | 228 | 493 | 771 | 301 | 4493 |
| 11. | Tamil Nadu - Kanyakumari, Ranichitapuram & Karaikal | 642 | 491 | 1333 | 1378 | 130 | 1508 | 7167 | 10708 |
| 12. | Tamil Nadu - Madhavaram & Chidambaram | 886 | 159 | 965 | 203 | 377 | 665 | 415 | 2076 |
| 13. | Tamil Nadu - Tirunelveli | 1867 | 11 | 1016 | 34 | 560 | 921 | - | 2038 |
| 14. | Milgric | - | - | - | - | - | - | - | - |
| Total | | 16477 | 3716 | 20413 | 5776 | 3677 | 3993 | 9655 | 37797 |

* Includes Tanks having area less than 40 hectares also.

ABSTRACT

| | |
|--------------------------|--------|
| 1. Panchayat Union Tanks | 20,413 |
| 2. P.W.D. Tanks | 6,593 |
| 3. District Tanks | 9,666 |
| Total | 36,702 |

Items of Long List

A. Name of Tank

B. Tank Code No. (under PIR scheme)

C. Location:

1. Administrative Unit

District

Taluk

Village

2. Coordinates

Latitude

Longitude

Altitude

3. River Basin

D. Climatology

1. Stations of Reference

2. Coordinates *

Latitude

Longitude

Altitude

3. Years of Observations *

4. Average Rainfall *

SW Monsoon

NE Monsoon

Winter period

Hot period

Total

* for each station

E. Hydrology

1. Catchment Area

Free Catchment Area

Intercepted Catchment Area

Total

Equivalent Catchment Area

2. Type of Catchment

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3. Dependable Yield per Area

4. Yield

From Free Catchment

From Intercepted Catchment

From Supply Channel

Total

F. Tank Characteristics

1. Full Tank Level

2. Maximum Water Level

3. Top Bund Level

4. Free Board

5. Length of Bund

6. Height of Bund

7. Top Width of Bund

8. Side slope, Front X:1

Rear Y:1

9. No. of Filings

10. Useful Yield

11. Live Storage Capacity

12. Dead Storage Capacity

13. Maximum Depth of Storage

G. Surplus Arrangement

1. Length of Weir

B. C. Calingula Weir

Sand Weir

Total

2. Crest Level

3. Maximum Flood Discharge

4. Designed Flood Discharge

5. Flood Lift

H. Head Sluices

For each sluice

1. Chamage

2. Silt Level

3. Discharge

4. Lining

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J Socio Economics

1. No. of Farmers by Size
 - below 1 ha
 - between 1 - 2 ha
 - above 2ha
 - Total
 - Average Size
2. No. of Persons Concerned
 - Farmers' Family
 - Farm Labourers' Family
3. Hamlets
 - For each Hamlet
 - Name
 - No. of Farmers
 - No. of Persons
 - Male Adult (Work age)
 - Female Adult
 - Children
 - Aged
4. W. U. A
 - Name
 - Name of President
 - Registered Date
5. Status of On-going Project
 - EEC
 - DANIDA
 - WB

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5. Regulating Arrangement
6. Registered Ayacut
 1. Ayacut
 - Irrigable Area
 - by Tank Only
 - by Tank and Well
 - Other Cultivated Area
 - Permanent Crop
 - Registered Ayacut
2. No. of Well for Irrigation
 - Energized
 - Common Use
 - Individual Use
 - Not Energized
 - Common Use
 - Individual Use
 - Total
3. Crop Area
 - Permanent Crop
 - Sugar Cane
 - Banana
 - Others
 - Sub Total
 - Seasonal Crop
 - 1st Rice
 - 2nd Rice
 - 3rd Rice
 - Cotton
 - Pulse
 - Miller
 - Oil seed
 - Others
 - Sub Total
 - Fallow Area
 - Total
4. Average Crop Yield
 - Permanent Crop
 - Sugar Cane
 - Banana
 - Others
 - Seasonal Crop (* in Husk)
 - 1st Rice
 - 2nd Rice
 - 3rd Rice
 - Cotton
 - Pulse
 - Miller
 - Oil seed
 - Others

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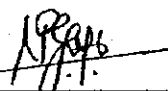
添付資料 B

レポート協議議事録


- B-1 : インセプションレポート
- B-2 : プロGRESSレポート (1)
- B-3 : インテリムレポート
- B-4 : プロGRESSレポート (2)
- B-5 : ドラフト・ファイナルレポート

**MINUTES OF MEETING
ON
INCEPTION REPORT
FOR
THE STUDY
ON
THE REHABILITATION OF MINOR IRRIGATION TANKS
FOR
RURAL DEVELOPMENT IN TAMIL NADU
BETWEEN
THE MINISTRY OF WATER RESOURCES, GOVERNMENT OF INDIA,
WATER RESOURCES ORGANIZATION,
THE PUBLIC WORKS DEPARTMENT, GOVERNMENT OF TAMIL NADU
AND
JAPAN INTERNATIONAL COOPERATION AGENCY**

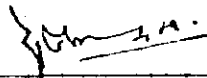
DELHI, 13TH DECEMBER, 1996



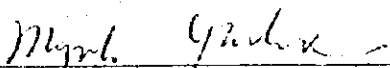
Mr. N. P. Gupta
Secretary,
Public Works Department,
Government of Tamil Nadu



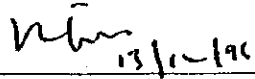
Dr. Shoji Kanatsu
Leader,
JICA Study Team



Mr. Rajendra Mishra
Deputy Secretary,
Ministry of Water Resources



Ms. Miyuki Yamazaki
Advisory Team,
JICA



Mr. D.N. Narasimha Raju
Deputy Secretary,
Ministry of Finance,
Department of Economic Affairs

In accordance with the Scope of Work for the Study on the Rehabilitation of Minor Irrigation Tanks for Rural Development in Tamil Nadu (hereinafter referred to as "the Study"), the Government of Japan dispatched through Japan International Cooperation Agency (JICA) the Study Team headed by Dr. Shoji Kanatsu and the Advisory Team, JICA represented by Ms. Miyuki Yamazaki for the implementation of the Study to India. At the commencement of the Study, the Study Team officially submitted thirty (30) copies of the Inception Report and explained basic concepts, methodology and schedule of the Study in the presence of Indian authority represented by Water Resources Organization of Public Works Department, Government of Tamil Nadu between 9th and 11th December, 1996, at the office of Public Works Department. As a result of explanation and exchange of opinions on the Inception Report, the following points were agreed upon by the Indian side and Japanese side:

1. The Indian side basically agreed upon the contents of the Inception Report that was prepared in due compliance with the conditions set forth in the Scope of Work for the Study.
2. The Indian side agreed upon that the Study Team would proceed to the next stage of the Study in accordance with the methodology and schedule mentioned in the Inception Report.
3. The Indian side agreed upon that the Steering Committee should meet at the required stages of the Study such as explanation session of Progress Reports, Interim Report and Draft Final Report.
4. Both sides agreed to collaborate each other for the efficient implementation of the Study in order to achieve the objectives of the Study accorded in the Scope of Work.
5. Additionally, both parties discussed and confirmed on the following items:

5.1 JICA Study Team explained the importance of the tank inventory list to be


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prepared by the Indian side and handed to the JICA Study Team at the commencement of the Study, as stated in the Minutes of Meeting for Scope of Work, is yet under preparation by the Indian side, and the Indian side expressed that such list will be completed and handed to the JICA Study Team by the end of December 1996.

5.2 For the extension of technical cooperation and technology transfer during the Study, the Indian side requested the JICA Study Team for the counterpart training in Japan during the period of the Home Office Work of the Study Team in 1997. The JICA Study Team stated that it would convey the request to the Japanese Government.

5.3 The Indian side requested that the database and GIS systems, which will be formulated by the Study Team, will be handed over to the Indian side together with system, computer and peripherals.

5.4 Both parties agreed to prepare the Minutes of Meeting on the Progress Report (1), which will be prepared by the Study Team and discussed with the Indian side at the end of Phase I Field Work in India, and to be signed between the Government of Tamil Nadu represented by the Public Works Department and the JICA Study Team in Chennai. It will be reported to the Government of India through JICA India Office in Delhi.

5.5 Both sides agreed that vehicles should be provided by the JICA Study Team.

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PARTICIPANTS OF THE MEETING

INDIAN SIDE

Ministry of Finance, Government of India

| | |
|-------------------------|------------------|
| Mr. D.N. Narasimha Raju | Deputy Secretary |
| Mr. G.S. Grewal | Under Secretary |

Ministry of Water Resources, Government of India

| | |
|---------------------|------------------|
| Mr. N. Suryanarayan | Commissioner |
| Mr. Rajendra Mishra | Deputy Secretary |

Public Works Department, Government of Tamil Nadu

| | |
|------------------------------|--|
| Mr. Durai Murugan | Minister |
| Mr. N. P. Gupta | Secretary |
| Mr. G. Ganapathi Subramanian | Engineer in Chief, Water Resources Organization(WRO) |
| Mr. R. Syed Badruddin | Chief Engineer |
| Mr. M. Krishnamoorthy | Joint Chief Engineer |
| Mr. A. Veerappan | Deputy Chief Engineer |
| Mr. T.J. Kishore Vincent | Executive Engineer |
| Mr. N. Vaidyanathan | Executive Engineer |
| Mr. P. Natanasigamani | Assistant Executive Engineer |
| Mr. R. Venkatesan | Assistant Executive Engineer |

Agriculture Department, Government of Tamil Nadu

| | |
|------------------|-------------------------|
| Mr. P.A. Ramiah | Director of Agriculture |
| Mr. K. Chandrudu | Joint Director |

JAPANESE SIDE

JICA Study Team

| | |
|---------------------|--|
| Dr. Shoji Kanatsu | Team Leader |
| Mr. Keiji Matsumoto | Irrigation and Drainage Engineer |
| Mr. Soichiro Yumoto | Farmers' Organization and Institution Specialist |
| Mr. C. Kadirvel | Rural Community Specialist |

JICA Advisory Team

| | |
|---------------------|---|
| Ms. Miyuki Yamazaki | Agriculture, Forestry and Fisheries Development Study Department, JICA |
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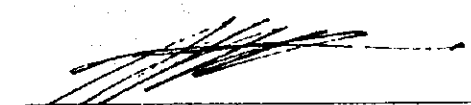


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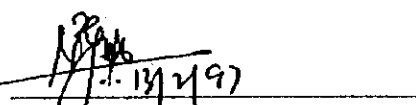


**MINUTES OF MEETING
ON
PROGRESS REPORT (I)
FOR
THE STUDY
ON
THE REHABILITATION OF MINOR IRRIGATION TANKS
FOR
RURAL DEVELOPMENT IN TAMIL NADU
BETWEEN
THE MINISTRY OF WATER RESOURCES, GOVERNMENT OF INDIA,
THE PUBLIC WORKS DEPARTMENT, GOVERNMENT OF TAMIL NADU
AND
JAPAN INTERNATIONAL COOPERATION AGENCY**

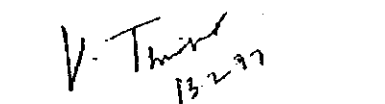
Chennai, 13th February, 1997



Dr. Shoji Kanatsu
Team Leader
JICA Study Team



Mr. N.P. Gupta
Secretary,
Public Works Department,
Government of Tamil Nadu



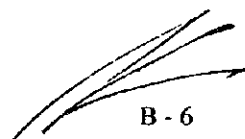
Mr. V. Thirumurthi
Chief Engineer, DRCS, WRO
Public Works Department


In accordance with the Scope of Work for the Study on the Rehabilitation of Minor Irrigation Tanks for Rural Development in Tamil Nadu (hereinafter referred to as "the Study"), the Government of Japan dispatched through Japan International Cooperation Agency (JICA) the Study Team headed by Dr. Shoji Kanatsu for the implementation of the Study to India since 5th December 1996.

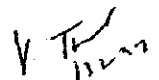
At the end of the field survey of the Phase I Study, the Study Team officially submitted thirty (30) copies of the Progress Report (I) and explained its contents with an emphasis laid on the results of data collection and their review, present conditions of the Study Area, the basic concepts for Master Plan, candidate scheme for the Feasibility Study, etc. at the presence of Indian authority represented by the Public Works Department of Tamil Nadu State on 10th and 12th February, 1997. At the office of Public Works Department.

As a result of explanation and exchange of opinions on the Report, the following points were agreed upon by the Indian side and Japanese side:

1. The Indian side confirmed that the Progress Report (I) was prepared in due compliance with the conditions and methodology set forth in the Inception Report for the Study except categorization of tanks, which is studied tentatively based on the available data in this Stage because of the delay of Tank Inventory List completion by PWD.
2. The basic concepts for the Master Plan of the Project presented in the Report have been good correlation with the results of the diagnosis and analysis of the prevailing potentials and constraints in the Study Area. The detailed review on the Report will be made by the Indian side and comments will be sent to the Study Team by 10th March, 1997, if any.
3. The Indian side requested the study on the conjunctive use of water sources in the chained tanks basin within the Study.
4. The Indian side explained the difficulty to prepare the suitable office spaces/facilities for the Study Team. The Study Team answered that these requests will be conveyed to the Government of Japan.
5. The Indian side agreed upon that the Study Team would proceed to the next stage of the Study including the analysis and categorization of tanks, in accordance with the methodology and schedule mentioned in the Inception Report.


B - 6


1.15.1997


11/2/97

PARTICIPANTS OF THE MEETING

INDIAN SIDE

Public Works Department, Government of Tamil Nadu

Mr. N.P Gupta

Secretary

Mr. V. Thirumurthi

Chief Engineer for Design, Research and Construction Support (DRCS), Water Resources Organization (WRO)

Mr. M. Krishnamoorthy

Joint Chief Engineer, DRCS-WRO

Mr. P. Natanasigamani

Assistant Executive Engineer

JAPANESE SIDE

JICA Study Team

Dr. Shoji Kanatsu

Team Leader

Mr. Keiji Matsumoto

Irrigation and Drainage Engineer

Mr. Souichiro Yumoto

Farmers' Organization and Institution Specialist

Mr. C. Kadirvel

Rural Community Specialist

Dr. Michio Nozaki

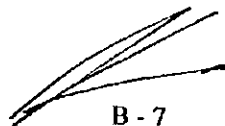
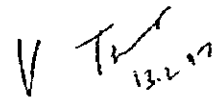
Agriculture and Agricultural Extension

Mr. Daigo Yano

Facility Design/Cost Estimate

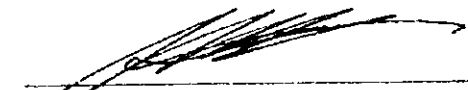
Mr. Abo Abe

Agro-economy/Project Evaluation

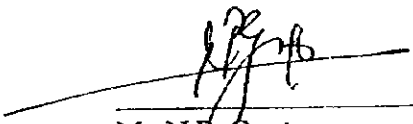


**MINUTES OF MEETING
ON
INTERIM REPORT
FOR
THE STUDY
ON
THE REHABILITATION OF MINOR IRRIGATION TANKS
FOR
RURAL DEVELOPMENT IN TAMIL NADU
BETWEEN
THE PUBLIC WORKS DEPARTMENT, GOVERNMENT OF TAMIL NADU
AND
JAPAN INTERNATIONAL COOPERATION AGENCY**

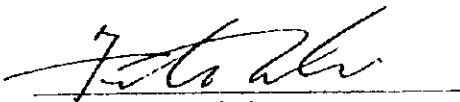
Chennai, 16th May, 1997



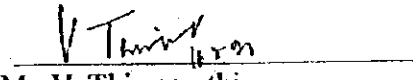
Dr. Shoji Kanatsu
Team Leader
JICA Study Team



Mr. N.R. Gupta
Secretary
Public Works Department
Government of Tamil Nadu



Ms. Fumiko Nakai
Advisory Team
JICA



Mr. V. Thirumurthi
Chief Engineer
Design, Research and Construction
Support, Public Works Department
Government of Tamil Nadu

- 1 -

In accordance with the Scope of Work for the Study on the Rehabilitation of Minor Irrigation Tanks for Rural Development in Tamil Nadu (hereinafter referred to as "the Study"), the Government of Japan dispatched through Japan International Cooperation Agency (JICA) the Study Team headed by Dr. Shoji Kanatsu for the implementation of the Study to India

At the beginning of the field survey of the Phase 2 Study, the Study Team officially submitted thirty (30) copies of the Interim Report and explained its contents with an emphasis on the basic concepts for the Master Plan of Rehabilitation of Minor Irrigation Tanks, candidate scheme for the Feasibility Study, and work items and schedule of field survey in Phase 2 Study at the presence of Indian authority represented by the Public Works Department of Tamil Nadu State (PWD), from 12th to 16th May, 1997, at the office of Public Works Department.

The following points were discussed by the Indian side and the Japanese side:

1. The Indian side examined the contents of the Interim Report and made the following observations.
 - (1) The Indian side desired that the project area should cover the entire State of Tamil Nadu and should not be confined to the study area only. The Indian side also informed that the study area need not be changed for this purpose.
 - (2) The Indian side did not agree with the implementation procedures indicated in page S-38 of the Interim Report. The Indian side informed that sufficient technical expertise and manpower are available within the PWD, Tamil Nadu for the items of works indicated therein particularly on preparation of the estimates, preparation of tender documents and implementation of the Project. Hence, there is no need to employ consultants for this purpose.
2. On the above comments from the Indian side, the Japanese side responded as follows:
 - (1) The Japanese side emphasized that such request goes beyond the Scope of Work, which was previously agreed by the both sides, and hence can not be accepted. As mentioned in the Inception Report, it is the responsibility of the Indian side to formulate the projects in such areas outside the Study Area.
 - (2) The Japanese side agreed that the further discussion should be held in the course of Phase 2 Study on the best and practical implementation method of the Project, especially on the employment of consultants for technical services wherever the required expertise is not available in the department.
3. In response to the comment 2(1), the Indian side, however suggested that even without any modification to the Study Area, the project area could be much larger due to its agro-climatic similarity. There should also therefore be no delay in the implementation of the Project.

V. Thiruv
11/2/97



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The Japanese side indicated that it is clear from the Inception Report that tanks located outside the Study Area are not covered by the Study. The Japanese side reiterated that the study for such tanks should be carried out by the Indian side based on the methodology applied to the Study.

4. The Indian side agreed that the basic concepts for the Master Plan of the Project for rehabilitation of minor irrigation tanks (the Project) presented in the Interim Report have been in good correlation with the results of the diagnosis and analysis of the prevailing potentials and constraints in the Study Area.
5. Both sides agreed that the JICA Team would train the counterpart Indian staff and permit the PWD to use their computer systems and software for preparing the master plan in the areas outside the Study Area.
6. It was agreed by the both sides that the feasibility studies shall be conducted for the following pilot tanks:

| Northern Study Area | | | |
|---------------------|-----------------------|----------|---------------|
| Catg. | Name of Tank | District | Taluk |
| NR-1 | Kilambakkam | Anna | Chengalpattu |
| NR-2 | (to be decided later) | | |
| NR-2 | Polampakkam | Anna | Madurantakam |
| NR-3 | Enaduri Periyaeri | Anna | Kanchipuram |
| NR-4 | Vadakkapattu | Anna | Sriperumbudur |

| Southern Study Area | | | |
|---------------------|----------------|----------------|-------------|
| Catg. | Name of Tank | District | Taluk |
| SR-1 | Siruvile | Pasumpon | Sivaganga |
| SP-1 | Kurumbi | Pasumpon | Karaikudi |
| SP-2 | Ramalingapuram | Kamarajar | Sattur |
| SP-3 | Sankankulam | Pasumpon | Manamadurai |
| SP-4 | Pandikanmoi | Ramanathapuram | Paramakudi |

7. The Indian side agreed that the Study Team would proceed to the next stage of the Study in accordance with the methodology and schedule as mentioned in the Interim Report.
8. The Indian side assured that the proposed candidate for the counterpart training to be held in Japan shall work closely with the Study Team members during the Phase 2 field survey in order to gain a good understanding of the Study.
9. The Indian side agreed that it shall secure an appropriate office space as discussed in which the Study Team will work throughout the Phase 2 field survey.
10. The Tank Inventory List which was submitted to the Study Team during the discussion of the Interim Report shall be examined by the Study Team, and the Indian Side agreed to make corrections and modifications, if necessary.
11. The Indian side reiterated the request to hand over the computer and software used for the study to PWD to continue the analyses, which was recorded in the Minutes of Meeting on the Inception Report. The Japanese side informed that such request should be made formally in writing to JICA.

V. Tm
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PARTICIPANTS OF THE MEETING

INDIAN SIDE

Public Works Department, Government of Tamil Nadu

| | |
|-----------------------|---|
| Mr. Durai Murugan | Minister |
| Mr. N.P Gupta | Secretary |
| Mr. V. Thirumurthi | Chief Engineer for Design, Research and Construction Support (DRCS), Water Resources Organization (WRO) |
| Mr. M. Krishnamoorthy | Joint Chief Engineer, DRCS-WRO |
| Mr. K. Balakrishnan | Assistant Executive Engineer |

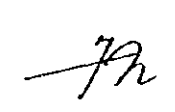
JAPANESE SIDE

JICA Study Team

| | |
|----------------------|---|
| Dr. Shoji Kanatsu | Team Leader |
| Mr. Keiji Matsumoto | Irrigation and Drainage Engineer |
| Mr. Souichiro Yumoto | Farmers' Organization and Institution Specialist |
| Mr. C. Kadirvel | Rural Community Specialist |
| Dr. Michio Nozaki | Agriculture and Agricultural Extension Specialist |
| Mr. Daigo Yano | Facility Design and Cost Estimate |
| Dr. V. Anbumozhi | Hydrologist |


JICA Advisory Team

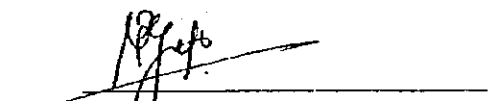
| | |
|------------------|--|
| Ms. Fumiko Nakai | Agriculture, Forestry and Fisheries Development Study Department, JICA |
|------------------|--|

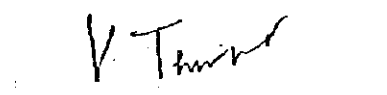


**MINUTES OF MEETING
ON
PROGRESS REPORT (2)
FOR
THE STUDY
ON
THE REHABILITATION OF MINOR IRRIGATION TANKS
FOR
RURAL DEVELOPMENT IN TAMIL NADU
BETWEEN
THE MINISTRY OF WATER RESOURCES, GOVERNMENT OF INDIA,
THE PUBLIC WORKS DEPARTMENT, GOVERNMENT OF TAMIL NADU
AND
JAPAN INTERNATIONAL COOPERATION AGENCY**

Chennai, 23rd July, 1997


Dr. Shoji Kanatsu
Team Leader
JICA Study Team


Mr. N.P. Gupta
Secretary,
Public Works Department,
Government of Tamil Nadu

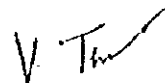

Mr. V. Thirumurthi
Chief Engineer, DRCS, WRO
Public Works Department

In accordance with the Scope of Work for the Study on the Rehabilitation of Minor Irrigation Tanks for Rural Development in Tamil Nadu (hereinafter referred to as "the Study"), the Government of Japan dispatched through Japan International Cooperation Agency (JICA) the Study Team headed by Dr. Shoji Kanatsu for the implementation of the Phase Two Study to India since 8th May 1997.

At the end of the field survey of the Phase 2 Study, the Study Team officially submitted thirty (30) copies of the Progress Report (2) and explained its contents with an emphasis laid on the results of data collection and their review, present conditions of the Pilot Tank Areas for the feasibility study, the basic concepts for implementation, etc. at the presence of Indian authority represented by the Public Works Department of Tamil Nadu State on 21st and 22nd July 1997 at the office of Public Works Department.

As a result of explanation and exchange of opinions on the Report, the following points were agreed upon by the Indian side and Japanese side:

1. The Indian side confirmed that the Progress Report (2) was prepared in due compliance with the conditions and methodology set forth in the Inception Report for the Study.
2. The basic concepts for the rehabilitation plan of 10 pilot tanks for the feasibility study presented in the Report have been in good correlation with the results of the diagnosis and analysis of the prevailing potentials and constraints in the Study Area. The Indian side will study the Progress Report (2) and will send the observations in the Report by 20th August 1997 so that they can be incorporated in the Draft Final Report.
3. The Indian side agreed upon that the Study Team would proceed to the next stage of the Study, in accordance with the methodology and schedule mentioned in the Inception Report.



PARTICIPANTS OF THE MEETING

INDIAN SIDE

Public Works Department, Government of Tamil Nadu

Mr. N.P Gupta

Mr. V. Thirumurthi

Mr. M. Narasimhan

Mr. N. Vaidyanathan

Mr. K. Balakrishnan

Mr. P. Natanasigamani

Mr. T. Sundara Raj

Secretary

Chief Engineer for Design, Research and Construction Support (DRCS), Water Resources Organization (WRO)

Joint Chief Engineer (I/C), DRCS, WRD

Executive Engineer, Madurai

Assistant Executive Engineer, Counterpart

Assistant Executive Engineer

Assistant Executive Engineer

JAPANESE SIDE

JICA Study Team

Dr. S. Kanatsu

Mr. K. Matsumoto

Mr. S. Yumoto

Mr. C. Kadirvel

Dr. M. Nozaki

Mr. D. Yano

Mr. B. Abe

Mr. S. Hosono

Mr. F. Ukaji

Dr. V. Anbumozhi

Team Leader

Irrigation and Drainage Engineer

Farmers' Organization and Institution Specialist

Rural Community Specialist

Agriculture and Extension Specialist

Facility Design Engineer

Agro-economist


Environment Specialist

Dam and Foundation Engineer


Hydrologist

**MINUTES OF MEETING
ON
DRAFT FINAL REPORT
FOR
THE STUDY
ON
THE REHABILITATION OF MINOR IRRIGATION TANKS
FOR
RURAL DEVELOPMENT IN TAMIL NADU
BETWEEN
MINISTRY OF WATER RESOURCES, GOVERNMENT OF INDIA
AND
THE PUBLIC WORKS DEPARTMENT, GOVERNMENT OF TAMIL NADU
AND
JAPAN INTERNATIONAL COOPERATION AGENCY**

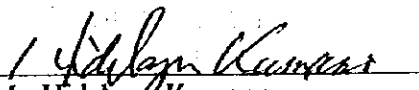
Delhi, 1st October, 1997




Dr. Shoji Kanatsu
Team Leader
JICA Study Team




Mr. N.P. Gupta
Secretary,
Public Works Department,
Government of Tamil Nadu



Mr. Hidekazu Kumano
Resident Representative,
JICA India Office



Mr. S. P. Vasudeva
Director,
Ministry of Water Resources



Mrs Rama Murali,
Joint Secretary
Department of Economic Affairs
Ministry of Finance

In accordance with the Scope of Work for the Study on the Rehabilitation of Minor Irrigation Tanks for Rural Development in Tamil Nadu (hereinafter referred to as "the Study"), the Government of Japan dispatched through Japan International Cooperation Agency (JICA) the Study Team headed by Dr. Shoji Kanatsu for the implementation of the Study to India.

As a result of the Study, the Study Team officially submitted thirty (30) copies of the Draft Final Report on the Study (hereinafter referred to as "the Report") and explained its contents with an emphasis laid on the economic and financial feasibility of the Project schemes as well as the justification of overall project in the presence of Indian authority represented by the Public Works Department (PWD) of Tamil Nadu State from 24th to 29th September 1997 at the office of the PWD and from 30th September to 1st October, 1997 at the office of the Department of Economic Affairs, Ministry of Finance, Government of India.

The following points were agreed upon by the Indian and the Japanese sides.

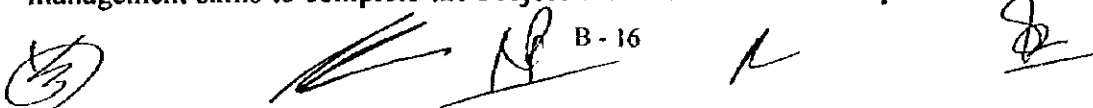
1. The Indian side confirmed that the contents of the Report were prepared in due compliance with the conditions and methodology set forth in the Inception Report.
2. Regarding the roles of consultants during the Project implementation, the representatives of the Government of Tamil Nadu stated that:
 - i) The GOTN had adequate technical capability and manpower to execute the project. Consultancy is not required for social screening and determination of requirement of community organizers; detailed design and preparation of tender documents; tendering civil works under NCB/LCB; supervision of construction; and final inspection.
 - ii) They were prepared to consider a consultancy fee of upto 1% of the project cost for assisting in various facets of the project.

The Japanese side stated that:

- i) The project covered a large number of tanks and it would be very difficult to monitor the progress of implementation unless a database system was established. For this, assistance from a consultant was desirable.
- ii) The consultant would assist only peripherally in technical issues if desired by the GOTN.
- iii) The consultancy fee could be reduced.

Both parties agreed that these issues needed to be carefully analyzed at the time of the project appraisal by the funding agency before a final view was taken.

3. GOTN wished to implement the Project in two (2) phases within a span of 10 years instead of in three (3) phases within a span of 13 years, as stated in the Report. The Japanese side has agreed to consider this point, if there is a strong evidence that the PWD possesses enough human resources capability, technical expertise and project management skills to complete the Project within the limited time period without

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affecting the quality of the works. DEA pointed out that under all circumstances, any case, the project implementation period could not exceed five years. GOTN stated that in such a case, they would like to pose the balance part of the project as a second phase.

4. Both sides agreed that the community organizers are the important component of operation and maintenance of the tank irrigation system and hence community organizers should be employed by the PWD to motivate the farmers for their active involvement in the operation and maintenance of the rehabilitated tanks.
5. Both sides agreed to combine the cost estimates for the components of the selective lining and on-farm development into one (1) category without change in the total cost estimate. The Japanese side also replied that, even though the PWD has the technical capability to take up the on-farm development works for 10 ha or below, the other government agencies which have long time experience and expertise should also be asked to participate in these kinds of works.
6. GOTN representatives pointed out that two components of the project as mentioned in the report need not be included in the project. These were:
 - i) The component for community well construction in the command area. GOTN felt that their past unsuccessful experience in this did not justify inclusion of this component.
 - ii) The component for the community building construction need not be included in this project as it was proposed to be separately constructed under the aegis of the Rural Development department.

The Japanese Side felt that:
 - i) The community well construction component was essential in the Southern Study Area.
 - ii) The community building was essential, but they had no objection if it's construction was sponsored by the Department of Rural Development.
7. It has been agreed by the both sides that based on the experience gained the guidelines evolved in the feasibility report can be extended to cover other districts of Tamil Nadu state for the future projects.
8. In general, the project proposed in the Report accurately reflected the prevailing potentials and constraints in the Study Area. The detailed review on the Report will be made by the Indian side and the comments, if any will be sent to the Study Team by October 20, 1997.
9. The Study Team will modify and/or correct the Report based on the above comments, if necessary and send the Final Report to PWD through the JICA headquarters Office in Tokyo within one (1) month after receiving the said comments from the Indian side.



LIST OF PERSONS WITH WHOM DISCUSSIONS WERE HELD

INDIAN SIDE

Ministry of Finance (Government of India)

| | |
|------------------|-----------------|
| Mrs. Rama Murali | Joint-Secretary |
| Mr. V. Bhaskar | Director |

Ministry of Water Resources (Government of India)

| | |
|--------------------|----------|
| Mr. S. P. Vasudeva | Director |
|--------------------|----------|

Public Works Department, Government of Tamil Nadu

| | |
|-----------------------------|---|
| Mr. N.P Gupta | Secretary |
| Mr. G Ganapathi Subramanian | Engineer-in-Chief |
| Mr. V. Thirumurthi | Chief Engineer for Design, Research and Construction Support (DRCS), Water Resources Organization (WRO) |
| Mr. A. Veerappan | Executive Engineer |
| Mr. P. Natanashigamani | Assistant Executive Engineer |

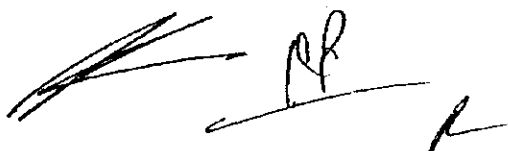
JAPANESE SIDE

JICA Study Team

| | |
|----------------------|--|
| Dr. Shoji Kanatsu | Team Leader |
| Mr. Keiji Matsumoto | Irrigation and Drainage Engineer |
| Mr. Souichiro Yumoto | Farmers' Organization and Institution Specialist |
| Dr. V. Anbumozhi | Hydrologist |

JICA India Office

| | |
|---------------------|-----------------------------------|
| Mr. Hidekazu Kumano | Resident Representative |
| Mr. Tsutomu Shimizu | Assistant Resident Representative |



添付資料 C

調査団およびタミルナド州カウンターパート

調査団およびタミルナド州カウンターパート

1997年5月末現在

| 担当 | 調査団員 | カウンターパート |
|-----------|-----------|--|
| 団長 | 金津昭治 | N. Vaidyanathan (Executive Engineer, Madurai) |
| かんがい・排水 | 松本計司 | K. Balakrishnan* (Assistant Executive Eng., Vellore) |
| 農民組織・制度 | 山本聡一郎 | P. Natanasigamani (Assistant Executive Eng., PMU) |
| 農村社会・農民支援 | C. カディルベル | N. Dayanandam (Sociologist, PMU) |
| 農業・農業支援 | 野崎倫夫 | I. Durairaj (Department of Agriculture) |
| 施設設計・積算 | 矢野大悟 | V.N. Ganesan (Assistant Engineer, DR&CS) |
| 農業経済・事業評価 | 安部望五 | A. Krishnamoorthy (Agro-economist, PMU) |
| 環境 | 細野信一郎 | S. Dhanasekaran (Project Formulation, WRO) |
| 測量監督 | 野越 修 | R. Soundararajan(DR&CS) |
| ダム・土質 | 宇梶文雄 | A. Pragadeeswaran(DR&CS) |
| 水文解析 | V. アンブモヒ | S. S. Chellapar(DR&CS) |

Notes: * full time counterpart, PMU:Tank Modernization Project Monitoring Unit, WRO: Water Resources Organization-PWD, DR&CS:Design and Research and Construction Support-WRO-PWD

タミルナド州政府運営委員会

(Government Order G.O. MS. No.5, dated January 6, 1997)

| | Position & Office | Name |
|---|---|--------------------|
| 1 | Chairman Secretary to Government, PWD | Mr. N.P.Guputa |
| 2 | Member/ Secretary Chief Engineer (DRCS-WRO),PWD | Mr. V.Thirumurthi |
| 3 | Member Secretary to Government, Environment and Forest Department | Mr. K.Sripathi |
| 4 | Member Secretary to Government, Rural Development Department | |
| 5 | Member Secretary to Government, Agricultural Department | |
| 6 | Member Director of Agriculture, Agriculture Department | Dr. Arulmozhi |
| 7 | Member Chief Engineer (Agricultural Engineering), Agricultural Engineering Department | Mr. N.Rajarathinam |

添付資料 D

調査関連機関及び担当者

調査関連機関および担当者

1. 中央政府

1.1 大蔵省経済局(Department of Economic Affairs, Ministry of Finance)

| | |
|-------------------------|------------------|
| Mrs. Rama Murali | Joint Secretary |
| Mr. D.N. Narasimha Raju | Deputy Secretary |
| Mr. G.S. Grewal | Under Secretary |

1.2 水資源省(Ministry of Water Resources)

| | |
|---------------------|-----------------------------------|
| Mr. N. Suryanarayan | Commissioner |
| Mr. Rajendra Mishra | Deputy Secretary (upto June 1997) |
| Mr. S.P. Vasudeva | Director(since August 1997) |

2. タミルナド州政府

2.1 公共事業局(Public Works Department : PWD)

2.1.1 Chennai Head Office

[Secretariate]

| | |
|-------------------|------------------------------|
| Mr. Durai Murugan | Minister |
| Mr. N.P. Guputa | Secretary to Government, PWD |

[Chepauk]

| | |
|-----------------------|--|
| Mr. G. Subramanian | Engineer in Chief, Water Resources Organization (WRO), PWD |
| Mr. R. Syed Badruddin | Chief Engineer, Design, Research and Construction Support (DRCS)-WRO, PWD (upto December 1996) |
| Mr. V. Thirumurthi | Chief Engineer, DRCS-WRO, PWD (since January 1997) |
| Mr. Krishnamoorthy | Joint Chief Engineer, DRCS-WRO, PWD (upto May 1997) |
| Mr. A. Veerappan | Deputy Chief Engineer, DRCS-WRO, PWD |
| Mr. Natanasigamani | Assistant Executive Engineer, DRCS-WRO, PWD |
| Mr. T. Sundara Raj | Assistant Executive Engineer, DRCS-WRO, PWD |
| Mr. N. Dayanandam | Rural Sociologist |
| Mr. A. Krishnamoorthy | Agricultural Economist |

2.1.2 Tank Modernization Vellore Circle

| | |
|--------------------------|--|
| Mr. S.M. Arasu | Superintending Engineer, Vellore Circle |
| Mr. T.J. Kishore Vincent | Executive Engineer, Chennai Division |
| Mr. K. Balakrishnan | Assistant Executive Engineer, Vellore Division |

2.1.3 Tank Modernization Trichy Circle

| | |
|------------------|---|
| Mr. Ramaiyan | Superintending Engineer, Trichy Circle |
| Mr. Vaidyanathan | Executive Engineer, Madurai Division |
| Mr. K. Muthusamy | Executive Engineer, Palamakudi Division |
| Mr. A. Ganesan | Assistant Executive Engineer, Kamudhi Sub-division |
| Mr. M.C. Raju | Assistant Executive Engineer, Sivagangai Sub-division |

2.1.4 Institute for Water Studies (IWS)

| | |
|-----------------------|-----------------|
| Mr. D. Chengalvarayan | Director of IWS |
|-----------------------|-----------------|

2.1.5 Institute of Hydraulics and Hydrology (IHH)

Mr. A. Vecrasamy Deputy Director

2.2 農業局 (Department of Agriculture)

[Head Office, Chepauk]

Mr. P.A. Ramiah Director of Agriculture (upto March 1997)
Dr. Arulmozhi Director of Agriculture (since April 1997)
Mr. K. Chandrudu Joint Director
Mr. M. Malik Feroz Khan Deputy Secretary

[Southern Study Area]

Mr. S. Shanmugam Joint Director, Sivagangai
Mr. R. Guousany Joint Director, Virudunagar
Mr. V. Krishnamurthy Joint Director, Ramanathapuram
Mr. C. Chockappa Deputy Director, Sivagangai
Mr. N. Thillainathan Deputy Director, Sivagangai
Mr. A. Thangaraj Deputy Director, Sivagangai
Mr. R. Ramasamy Pardian Agriculture Officer, Ramanathapuram

2.3 農業土木局(Agricultural Engineering Department)

Mr. N. Rajarathinam Chief Engineer, River Valley Project

2.4 環境・森林局(Environment and Forest Department)

Mr. K. Sripathi Secretary

2.4 農村開発局(Rural Development Department)

Mr. K. Devamurthi Deputy Secretary

3. その他インド政府機関

3.1 タミルナド農業大学(Agricultural University of Tamil Nadu)

Dr. Palanisamy Professor, Water Technology Center

3.2 アンナ大学(Anna University)

Dr. N.V. Pundarikanthan Director, Center for Water Resources & Ocean Management

3.3 Professional Assistance for Development Action (PRADAN)

Dr. M.P. Vasimalai Programme Director
Prof. C.R. Shanmugam Programme Director
Mr. R. Seenivasan Team Leader, Tank Programme

4. 日本政府関係者

4.1 在インド大使館

川上 良 参事官
福嶋正人 一等書記官(1997年3月まで)
谷内純一 一等書記官(1997年4月から)

4.2 チャンナイ総領事館

| | |
|------|-----|
| 賀来弓月 | 総領事 |
| 井原浩一 | 領事 |
| 岡本洋秋 | 副領事 |

4.3 JICA インド事務所

| | |
|------|----|
| 熊野秀一 | 所長 |
| 田中俊昭 | 次長 |
| 清水 勉 | 担当 |

4.5 OECF ニューデリー事務所

| | |
|------------------|-----------------|
| 不破吉太郎 | 首席駐在員 |
| 鈴木 博 | 次席駐在員 |
| 武貞稔彦 | 駐在員 |
| 原 昌平 | 駐在員 |
| Mr. E. Natarajan | Project Officer |

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