No.

バングラデシュ国
農村開発技術センター機能強化計画
実施協議報告書

平成 14 年 12 月

（2002 年）

国際協力事業団
農業開発協力部
農業技術協力課

農開技
JR
03-31

序　　文

国際協力事業団は、バングラデシュ国の要請を受け、平成 11 年 11 月に基礎調査、平成 12 年 11 月に第一次短期調査、平成 13 年 6 月に第二次短期調査を実施し、その調査報告を踏まえて、平成 14 年 9 月 21 日から 26 日まで、国際協力事業団農業開発協力部次長 稲田 幸三氏 を団長とする実施協議調査団を現地に派遣しました。

同調査団は、バングラデシュ国関係者とプロジェクト実施のための協議を行い、討議議事録（R/D）の署名・交換を行いました。その結果、本プロジェクトを平成 15 年 1 月 10 日から 3 年間の計画で実施することとなりました。

本報告書は同調査団の協議結果を取りまとめたものであり、今後、本プロジェクトの実施にあたり広く活用されることを願うものです。

終わりにこの調査にご協力とご支援を頂いた内外の関係各位に対し、心から感謝の意を表します。

平成 14 年 12 月

独立行政法人 国際協力事業団
理　事　　鈴 木　信 毅

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第１章　実施協議調査団の派遣

１－１　調査団派遣の経緯と目的

(1) 要請の背景

バングラデシュ国では、第 5 次 5 カ年国家計画（1997/98～2001/02）を策定し、農業の発展及び農業以外の産業の育成を通じての地域開発及び貧困緩和を行う方針が定められている。特に、農村インフラ整備を最優先課題の一つと位置付け、地方行政・農村開発・協同組合省（MLGRD&C）の地方行政技術局（LGED）が実施機関となり、農村道路整備、灌漑施設整備等の各事業が進められている。

当該分野のニーズが増大する中、LGED の業務範囲は年々拡大を続けている。各プロジェクトの業務実施能力が評価される一方、LGED の組織機能の脆弱さ（具体的には、中枢機関が担うべき技術管理面での全体的な一貫性、統一性の確保に困難を来していること）が指摘されており、一過的なプロジェクトや配置コンサルタントに依存せずにプロジェクト間の情報共有やノウハウの蓄積を確保できるよう要望する声は高い。

1998 年 11 月、JBIC は円借款北部農村インフラ整備事業のコンポーネントとして LGED 本部敷地内に農村開発技術センター（RDEC）を盛り込むことを決定した。バングラデシュ国政府は各地で進められる農村インフラ整備事業の実施に際し、本センターを技術支援の中心的な部署として機能させ、上記問題が解決される事を期待している。

このような状況の下、RDEC の機能発揮には海外からの技術協力が必要との判断に至り、バングラデシュ国政府は 1999 年 4 月、日本国政府に対し、主に技術面から RDEC の機能を強化することを目的としたプロジェクト方式技術協力を要請してきた。

(2) 過去の調査団派遣

これまでに実施した調査団の派遣実績は以下の通り。

① 1999 年 11 月　基礎調査団派遣
LGED の組織、協力ニーズ、及びそれらを取りまく農業農村開発の現状調査

② 2000 年 11 月／2001 年 6 月　第一次および第二次事前評価調査団派遣
プロ技協力実施の可能性及び妥当性の検討を行い、協力方針と協力範囲を定めるプロジェクト・ドキュメント案を作成。

(3) 実施協議調査団派遣の目的

これまでの調査結果を踏まえ、技術協力プロジェクトを開始するにあたりプロジェクト実施のために必要な措置等をバングラデシュ政府関係者と確認するとともに、討議議事録（R/D）等に署名交換を行う。

１－２　調査項目

(1) R/D 記載の内容についてバングラデシュ側と協議し、合意する。

(2) 以下の事項に関し、バングラデシュ側の実施体制を確認する。

① 農村開発技術センターの LGED における位置づけと役割の明確化
② プロジェクトに配置する人員計画の明確化
③ プロジェクト活動に必要な場所（オフィス・スペース）の確保見込みの確認
④ バングラデシュ側予算措置の見込みの確認

(3) プロジェクト・ドキュメント（案）内容を精査し必要に応じて改訂する。

１－３　調査団の構成

団員氏名	担当業務	所属
稲田　幸三	総括	独立行政法人国際協力事業団 農業開発協力部 次長
西野　徳康	農村インフラ	農林水産省 近畿農政局 南近畿土地改良調査管理事務所 調査計画課 課長
木下　佳信	協力計画	独立行政法人国際協力事業団 農業開発協力部 農業技術協力課 職員

１－４　調査日程

日数	月日	曜日	調 査 内 容	宿泊地
1	9/21	土	JL719 (Narita 11:25→Singapore 17:15) SQ436 (Singapore 20:30→Dhaka 22:30)	Dhaka
2	22 日	日	JICA 事務所打ち合わせ 在バングラデシュ日本国大使館表敬 大蔵省経済協力部（ERD）表敬 日本国際協力銀行バングラデシュ事務所表敬 地方行政技術局（LGED）表敬	Dhaka
3	23 日	月	地方行政・農村開発・協同組合省表敬 LGED プロジェクトダイレクターとの意見交換会 第 1 回協議	Dhaka
4	24 日	火	JBIC「北部農村インフラ整備」Mymensingh 事業地視察	Dhaka
5	25 日	水	第 2 回協議 R/D、M/M 及びプロジェクト・ドキュメント署名	Dhaka
6	26 日	木	在バ日本大使館、JICA、JBIC 事務所結果報告	Dhaka

１－５　主要面談者

(1) バングラデシュ政府

・大蔵省経済協力部

Mr. Iqbal Mahmood	Deputy Secretary, Economic Relations Division, Ministry of Finance

・地方行政・農村開発・協同組合省（MLGRD&C）

Mr. Abdus Samad Mallik	Joint Secretary, Local Government Division, MLGRD&C
Mr. Syed Mamunul Alam	Senior Assistant Chief, Local Government Division, MLGRD&C

・地方行政技術局（LGED）

Mr. Md.Shahidul Hassan	Chief Engineer, LGED, MLGRD&C
Mr. Saroj Kumar Sarker	Assistant Chief Engineer, MLGRD&C
Mr. Md.Wahidur Rahman	Superintending Engineer (Project Monitoring & Evaluation), LGED, MLGRD&C

(2) 日本政府関係者

・在バングラデシュ日本大使館
小林全権特命大使
前田参事官
柿沼二等書記官
木村二等書記官

・JBIC ダッカ駐在員事務所
内田主席駐在員

・JICA バングラデシュ事務所
坂本所長
河崎次長
鍋田職員

・LGED 派遣専門家
上潟口専門家

第２章　団長総括報告

２－１　所感

① LGED は各種ハード事業の実施を通じ、組織の機能強化・人材育成にも努めており、この趣旨が地方組織まで理解されている。
② また、各ドナーのプロジェクトダイレクター(約 30 名)との意見交換において、RDEC の活動が十分理解されていることを確認できた。また LGED の技術力・指導力の向上を望む発言もあった。
③ このこと及び JBIC プロジェクトとの連携といった観点から、本件協力は有効であると思われる。
④ 更に LGED は道路の維持管理や集落機能の強化への取り組みをはじめており、プロジェクトの協力としては、住民参加を前提とした技術のマニュアル作り的な要素も含まれる。
⑤ 具体的な活動計画については、長期専門家派遣後、実態を充分に把握した上で作成していく必要がある。

２－２　今後の課題と対応

① 半年を目途に運営指導調査団を派遣する。その中で、暫定 PDM および PO を完成させる。
② 技術的課題だけではなく、組織的事項（組織規定や業務分担を含む）についてもアドバイスをすることとする。
③ 技術・組織の両面から横断的連携の強化を検討する必要がある。
④ 技術体系の中に住民の参加手法を含めることの検討が必要。研修活動にあたっては、本部・地方職員のみならず、地域住民や民間業者といったあらゆる関係者をも含んで、研修・人材育成体制を検討する必要がある。

２－３　その他

① R/D の先方便宜供与の内容について、専門家の旅費負担等の条項(6.(4)、(5))の実施が難しいとの答弁があったが、署名実例があることを説明し、バングラデシュ側の了解を得た。
② RDEC が活動を行うにあたって必要な機材については、先方より JICA からの供与機材の他に JBIC からの支援を検討する旨の説明があった。この点においては、今後一層 JICA と JBIC の連携強化を図る必要がある。

第３章　協議結果及び先方への確認事項

３－１　プロジェクト協力骨子

LGED との協議の結果、協力の骨子は R/D の ANNEX1 に記載される内容で合意された。

(1) 上位目標

RDEC（Rural Development Engineering Center）が将来にわたって、技術の中核として、機能する。

(2) プロジェクト目標

RDEC が機能するための準備が整う。

(3)　活動：

① 技術情報の収集・蓄積・共有（テクニカルライブラリ）
② 技術基準、適用技術マニュアル化方針の決定
③ 研修活動の活性化
④ ①～③を踏まえたステップアッププランの策定

(4) 日本側の投入：

① 長期専門家 4 名の派遣
② 短期専門家の派遣、機材の供与（必要に応じ）

(5) プロジェクト期間

2003 年 1 月 10 日より 3 年間

３－２　調査団確認事項

(1) RDEC の役割と所掌事務

本調査の対処方針にある RDEC の組織上の位置付け及び業務所掌を明確にすることについて、LGED 幹部に確認した。先方からの説明によれば、技術基準の作成や職員・施工業者等への研修指導は既に多くの所掌の中の一部であり、その部分を RDEC の所掌として本プロジェクトにより独立させ、一層の活性化を図ろうとするものと認識していることが明らかになった。

つまり､本協力においては改めて RDEC としての業務所掌を作成する性質のものではなく、組織の所掌再編というアプローチにより LGED を強化することである。

(2) カウンターパート等のスタッフの配置状況

(1)の所掌の変更に伴い、現在の LGED の関係部署をそのまま RDEC として移動し、幹部職員もこれに伴い移動する。現時点では、LGED 局次長も含めてカウンターパートとなる予定の 4 名の Superintending Engineer に対する異動が命令されている事が確認された。

なお、本協力で農村計画/リーダーのカウンターパートとなる予定の LGED 局次長は、プロジェクトマネージャーとしてセンター長を兼任することが明らかになった。

(3) オフィスの状況

現在、RDEC ビルは JBIC 事業により建設中であった。ビル全体は 2003 年 2 月完成予定であるが、オフィス(3～4F)となる部分は 2002 年 12 月までに完成予定である。（2002 年 9 月末現在で、3 階層フロア部及び支柱を建設中）

仮にビル建設が遅れた場合には、LGED 本部内にオフィススペースを確保することを確認し、ミニッツに記載した。

(4) プロジェクト運営予算確保の見通し

調査団の照会に対し、LGED 幹部は既に TAPP を了しており予算執行は可能という説明を受けた。また、技術協力成果の持続性の観点から、バングラデシュ国で行うプロジェクトの活動費用、特に、そのうち研修実施費用については、基本的にバングラデシュ国の負担により支出することを確認し、その旨ミニッツに記載した。

(5) 機材の要望

バングラデシュ側からは、プロジェクト活動にあたり自動車 2 台の供与が必要との強い要望があった。調査団からは LGED 幹部に対し、JBIC が現在行う予定である RDEC 施設整備（事業名：北部農村インフラ整備）の中に機材調達が盛り込まれており、JBIC 事業との調整も必要であることを伝え、供与する機材の詳細については今後特定することとした。なお、車輌等の機材メンテナンス費用はバングラデシュ側の負担事項であることを確認した。

第４章　実施に関しての留意点

４－１　暫定 PDM 及び PO に関する事項

半年を目途に運営指導調査団を派遣する。その中で、暫定 PDM および PO を完成させる。

標記プロジェクトについては､3 年間という期間でプロジェクトの成果を導く必要があり、赴任から間もなく活動に取りかかる体制を整える事が重要になると考えられる。具体的には、以下のような計画で実現できると理想的であろう。

(1) 1 月後半の C/P 研修時の関係者打合せ

3 年間の実行計画（Plan of Operations: PO）ドラフト準備。具体的な機材投入計画協議（A4 フォーム)。

(2) 1 月初旬に専門家派遣、機材調達（現地調達）と実行計画確定

プロジェクト・ドキュメント記載の PO 素案ではプロジェクト活動初期段階で技術基準および優先させる課題を特定する業務を行うこととなっている。これを運営指導調査団派遣までに実行し、また、この結果を反映させて具体的な実行計画を策定する。

(3) 5 月上旬～7 月上旬：運営指導調査団派遣

専門家チームが作成した PO を確定させる運営指導調査団を派遣する。

４－２　機能強化の対象範囲に関する事項

技術的課題だけではなく、組織的事項（組織規定や業務分担を含む）についてもアドバイスをすることとする。

(1) 組織規程等の現状と問題点

バングラデシュ国の各省庁及び各部局についての組織規定や業務分掌は極めて簡素なものであり、実際の業務執行にあたっては、旧来からの慣例に従って行われていたり、上位からのその都度の指示により行われている模様である。

また、今回設置する農村開発技術センターは従来から設置されている担当部局で本来行うべき業務について、当該業務を活性化し、十分な機能を発揮するため、組織を別途再編する性質のものである。将来的な話はさておき、本プロジェクトを開始する段階で、新たに組織規定を設定する必要性はないと思われる。

このことから、農村開発技術センターとしての機能を発揮させるための本プロジェクトを実施する際には、こうした組織規定等の実態が事業実施のための技術の蓄積、整理、利用、研修等のシステム構築の支援といった全国的な一貫性・統一性の確保を必要とする際に、支障にならないとも限らない。

(2) 組織的事項についてのアドバイス

こうしたことから、組織規程や業務分掌の有無やその程度が業務の執行に与える影響の程度を把握し、本プロジェクト活動に影響を及ぼすこと、あるいは将来その可能性があると考えられる場合には、組織規定の整備等についても本プロジェクトの活動の一環としてアドバイスしていく必要がある。

４－３　横断的連携の強化

技術・組織の両面から横断的連携の強化を検討する必要がある。

(1) 技術連携の現状と問題点

外国ドナーの援助を多く受け入れて農村基盤整備が進められているところであるが、各事業においては、ドナー国が有する技術・基準、地域の施工等条件、設計担当業者からの提案等による設計に基づいて事業が実施されている。

事業実施において、施工そのものに必要な土木技術は大きな問題はなく、また単一の事業毎での事業推進の面からしても問題はないものと見られたが、施工実績や施工技術における創意工夫といった蓄積・整理・普及を行う体制が見られない状況にある。

(2) 横断的連携の強化

このことは、効率的な事業実施を展開していく観点からすると、農村開発技術センターを設置することが最も重要であるが、併せて、各事業間での技術の共有・連絡調整といったいわゆる横断的連携を強化していくことも重要と考えられ、技術面での体制整備だけではなく、組織体制として定常的に横断的な連携がとれるような仕組みを構築していくことが重要である。

４－４　技術体系のあり方

技術体系の中に住民の参加手法を含めることの検討が必要。研修活動にあたっては、本部・地方職員のみならず、地域住民や民間業者といったあらゆる関係者をも含んで、研修・人材育成体制を検討する必要がある。

(1) 現地での技術的取組の事例

バングラデシュ北部にあるマイメンシンにて現地調査を行ったところ、道路整備・維持補修において、地域住民の事業参加が見られた。特に女性でも簡易な土工や草刈り等の維持作業を行っており、地域環境の保全や経済的施工の点で非常に画期的なものと見られた。また地方での技術研修においては、行政職員を対象として実施されていたが、民間業者についても行うことがあるとのことであり、技術力の向上が幅広く行われていることが伺えた。

(2) 有効な取組の体系化

こうした取組については、今回現地調査したマイメンシンでのものに限り確認することができたが、施工体制に地域住民の参加を盛り込んだものとしたり、研修については、行政職員に限定するのではなく、地域住民や民間業者も視野に入れて研修を実施したり、人材育成をしていくことにより全国的な取組の普及に資することが有意義であると考えられる。

またマイメンシン以外の地域においても、全国的なものとすることが有効であると考えられる取組については、積極的に体系化・普及していくことが、今後の効率的な事業実施に、また国民経済的にも有効なものとして考えられる。

付　属　資　料

1．討議議事録（R/D）

2．ミニッツ（M/M）

3．LGED 組織図、RDEC 組織図

4．基礎調査団資料

5．第一次短期調査団資料

6．第二次短期調査団資料

付属資料 1

RECORD OF DISCUSSIONS BETWEEN JAPANESE IMPLEMENTATION STUDY TEAM AND AUTHORITIES CONCERNED OF THE GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH ON JAPANESE TECHNICAL COOPERATION FOR RURAL DEVELOPMENT ENGINEERING CENTER SETTING-UP PROJECT

The Japanese Implementation Study Team (hereinafter referred to as "the Team") organized by Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Kozo INADA, visited the People's Republic of Bangladesh from September 21 to 28, 2002 for the purpose of working out the details of the technical cooperation program concerning the Rural Development Engineering Center Setting-up Project in Bangladesh.

During its stay in Bangladesh, the Team exchanged views and had a series of discussions with the Government of Bangladesh authorities concerned with respect to desirable measures to be taken by both Governments for the successful implementation of the above-mentioned Project.

As a result of the discussions, the Team and the Government of Bangladesh authorities concerned agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

Dhaka, September 25, 2002

Mr. Kozo INADA
Leader,
Japanese Implementation Study Team,
Japan International Cooperation Agency,
Government of Japan

Mr. Iqbal Mahmood
Deputy Secretary,
Economic Relations Division,
Ministry of Finance,
Government of Bangladesh

Mr. Md. Shahidul Hassan
Chief Engineer,
Local Government Engineering
Department (LGED),
Ministry of Local Government,
Rural Development and Cooperatives,
Government of Bangladesh

25.09.2002
Mr. Syed Mamunul Alam
Senior Assistant Chief,
Local Government Division,
Ministry of Local Government,
Rural Development and Cooperatives,
Government of Bangladesh

THE ATTACHED DOCUMENT

I. COOPERATION BETWEEN BOTH GOVERNMENTS

1. The Government of the People's Republic of Bangladesh will implement the Rural Development Engineering Center Setting-up Project (hereinafter referred to as "the Project") in cooperation with the Government of Japan.

2. The Project will be implemented in accordance with the Master Plan which is given in Annex I.

II. MEASURES TO BE TAKEN BY THE GOVERNMENT OF JAPAN

In accordance with the laws and regulations in force in Japan, the Government of Japan will take, at its own expense, the following measures through JICA according to the normal procedures under the Colombo Plan Technical Cooperation Scheme.

1. DISPATCH OF JAPANESE EXPERTS

The Government of Japan will provide the services of the Japanese experts as listed in Annex II.

2. PROVISION OF MACHINERY AND EQUIPMENT

The Government of Japan will provide such machinery, equipment and other materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Project as listed in Annex III. The Equipment will become the property of the Government of Bangladesh upon being delivered C.I.F. (cost, insurance and freight) to the Government of Bangladesh authorities concerned at the ports and/or airports of disembarkation.

3. TRAINING OF BANGLADESH PERSONNEL IN JAPAN

The Government of Japan will receive the Bangladesh personnel connected with the Project for technical training in Japan.

III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF BANGLADESH

1. The Government of Bangladesh will take necessary measures to ensure that the self-reliant operation of the Project will be sustained during and after the period of

Japanese technical cooperation, through full and active involvement in the Project by all related authorities, beneficiary groups and institutions.

2. The Government of Bangladesh will ensure that the technologies and knowledge acquired by the Bangladesh nationals as a result of Japanese technical cooperation will contribute to the economic and social development of Bangladesh.

3. The Government of Bangladesh will grant in Bangladesh privileges, exemptions and benefits to the Japanese experts referred to in II-1 above and their families, which are no less favorable than those accorded to experts of third countries working in Bangladesh under the Colombo Plan Technical Cooperation Scheme.

4. The Government of Bangladesh will ensure that the Equipment referred to in II-2 above will be utilized effectively for the implementation of the Project in consultation with the Japanese experts referred to in Annex II.

5. The Government of Bangladesh will take necessary measures to ensure that the knowledge and experience acquired by the Bangladesh personnel from technical training in Japan will be utilized effectively in the implementation of the Project.

6. In accordance with the laws and regulations in force in Bangladesh, the Government of Bangladesh will take necessary measures to provide at its own expense:

   (1) Services of the Bangladesh counterpart personnel and administrative personnel as listed in Annex IV;

   (2) Land, buildings and facilities as listed in Annex V;

   (3) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the Equipment provided through JICA under II-2 above;

   (4) Means of transport and travel allowances for the Japanese experts for official travel within Bangladesh; and

   (5) Suitably furnished accommodation for the Japanese experts and their families.

7. In accordance with the laws and regulations in force in Bangladesh, the Government of Bangladesh will take necessary measures to meet:

(1) Expenses necessary for transportation within Bangladesh of the Equipment referred to in II-2 above as well as for the installation, operation and maintenance thereof;

(2) Customs duties, internal taxes and any other charges, imposed in Bangladesh on the Equipment referred to in II-2 above; and

(3) Running expenses necessary for the implementation of the Project.

IV. ADMINISTRATION OF THE PROJECT

1. Additional Chief Engineer, Local Government Engineering Department (hereinafter referred as "LGED"), as the Project Director, will bear overall responsibility for the administration and implementation of the Project.

2. One Superintending Engineer, LGED, as the Project Manager, will be responsible for the managerial and technical matters of the Project.

3. The Japanese Team Leader will provide necessary recommendations and advice to the Project Director and the Project Manager on any matters pertaining to the implementation of the Project.

4. The Japanese experts will give necessary technical guidance and advice to the Bangladesh counterpart personnel on technical matters pertaining to the implementation of the Project.

5. For the effective and successful implementation of technical cooperation for the Project, a Joint Coordinating Committee will be established whose functions and composition are described in Annex VI.

V. JOINT EVALUATION

Evaluation of the Project will be conducted jointly by the two Governments through JICA and the Bangladesh authorities concerned, at the middle and during the last six months of the cooperation term in order to examine the level of achievement.

VI. CLAIMS AGAINST JAPANESE EXPERTS

The Government of Bangladesh undertakes to bear claims, if any arises, against the Japanese experts engaged in technical cooperation for the Project resulting from, occurring in the course of, or otherwise connected with the discharge of their official functions in Bangladesh except for those arising from the willful misconduct or gross negligence of the Japanese experts.

VII. MUTUAL CONSULTATION

There will be mutual consultation between the two Governments on any major issues arising from, or in connection with this Attached Document.

VIII. MESURES TO PROMOTE UNDERSTANDING OF AND SUPPORT FOR THE PROJECT

For the purpose of promoting support for the Project among the people of Bangladesh, the Government of Bangladesh will take appropriate measures to make the Project widely known to the people of Bangladesh.

IX. TERM OF COOPERATION

The duration of the technical cooperation for the Project under this Attached Document will be three (3) years from January 10, 2003.

ANNEX I	MASTER PLAN
ANNEX II	LIST OF JAPANESE EXPERTS
ANNEX III	LIST OF MACHINERY AND EQUIPMENT
ANNEX IV	LIST OF BANGLADESH COUNTERPART AND ADMINISTRATIVE PERSONNEL
ANNEX V	LIST OF LAND, BUILDINGS AND FACILITIES
ANNEX VI	JOINT COORDINATING COMMITTEE

ANNEX I

MASTER PLAN

1. Overall Goal

Rural Development Engineering Center (hereinafter referred as "RDEC") is continuously capable of providing necessary technical service according to its Step-up plan.

2. Project Purpose

RDEC is all set to function as a technical core center in LGED.

3. Project Outputs

1) Technical knowledge and previous experiences obtained through implemented projects are accumulated in RDEC to be set for disseminating in LGED projects.
2) Directions for technical standard and management of the applied technology are prepared as manuals.
3) The LGED training system is activated, with offering training courses for insufficient technology.
4) Guidelines for technical management in RDEC are prepared as Step-up plan, referring to the output 1) to 3).

4. Activities

1-1. Establish Technical Library in RDEC.
1-2. Publicize the significance of RDEC establishment, delivering brochures on the Project to Set up the RDEC.

2-1. Execute assessment study of applied technology on implemented projects in LGED.
2-2. Identify differences and shared areas in technical methods, and points to be improved among technical methods and standard specifications of the implemented projects.
2-3. Evaluate and approve the basic concept, institutional authority and management plan of RDEC.
2-4. Specify needs for RDEC strengthening in procurement of equipment, technical material upgrading, and supplement of facilities.

3-1. Conduct TNA(Training Needs Assessment) among LGED engineers of implemented projects and analyze the results.
3-2. Prepare an improvement plan for the current training system.
3-3. Create some new training courses to complement technical subjects that are urgently required based on the results of 2-2 and 3-1.

ANNEX II

LIST OF JAPANESE EXPERTS

1. Long-term Expert
   (1) Team Leader/Rural Development Planning
   (2) Rural Infrastructure Design
   (3) Training
   (4) Coordinator

2. Short-term Expert
   Short-term expert(s) will be dispatched when necessity arises for the smooth implementation of the Project.

ANNEX III

LIST OF MACHINERY AND EQUIPMENT

The Equipment necessary for the activities described above in ANNEX I for the technical transfer will be provided by Japan.

(1) Personnel Computer(s)
(2) Photocopy machine(s)
(3) Vehicle(s)
(4) Audio and Visual Equipment(s)
(5) Other necessary Equipment(s)

Note: The use of the above-mentioned equipment is limited to the transfer of technology by the Japanese experts.

ANNEX IV

LIST OF BANGLADESH COUNTERPART AND ADMINISTRATIVE PERSONNEL

1. The Chief Engineer of LGED is supremely responsible for the management of the RDEC including its future's. The roles of Chief Engineer are described below,
   - To ensure the budget allocation for the activities of RDEC.
   - To have responsibility on the announcement of the mandate of RDEC with its significance as the technical core organization toward other related projects under the jurisdiction of LGED.
   - To give advice and support for the project as the member secretary of Joint Coordinating Committee.

2. The Additional Chief Engineer of LGED, as the Project Director, will bear overall responsibility of the administration and implementation of the project. The Additional Chief Engineer collaborates with Japanese experts (Team Leader / Rural Development Planning) as the full-time counterpart.

3. One Superintending Engineer of LGED, as the Project Manager, will be responsible for the managerial and technical matters of the Project. The Superintending Engineer, as the full-time counterpart of Japanese Coordinator, is responsible for the sound and smooth execution of the input from Bangladesh side.

4. At least two Superintending Engineers should be posted as the fulltime counterpart personnel for each long-term expert in Rural Infrastructure Design and Training respectively, and short-term expert(s) to be appointed from the full-time officials.

5. Administrative Personnel
   (1) Administrative personnel including secretaries, drivers and others
   (2) Accountant(s)

6. Other supporting staff in terms of technical affairs and administration.

ANNEX V

LIST OF LAND, BUILDINGS AND FACILITIES

1. Land, buildings and facilities necessary for the implementation of the Project

2. Office space and necessary facilities including electricity and communication facilities for the Japanese Team Leader, Coordinator and other Japanese Experts

3. Rooms or space necessary for installation and storage of the Equipment

4. Other land, buildings and facilities necessary for the implementation of the Project mutually agreed upon.

Note:

1. LGED make the utmost effort to complete the construction of the RDEC building by the commencement of the project.
2. In case LGED can not complete the RDEC building as to the schedule, LGED provide the alternative facilities suitable for the implementation of the project.

ANNEX VI

JOINT COORDINATING COMMITTEE

The Joint Coordinating Committee will meet at least once a year and whenever necessity arises.

1. Function

(1) To appraise the Annual Work Plan of the Project in line with the Tentative Overall Plan of Operation to be formulated under the framework of the Record of Discussion.

(2) To review the overall progress of the technical cooperation programme as well as achievements or the Annual Work Plan of the Project.

(3) To review those measures taken by the Government of Japan.
   i) Dispatch of Japanese Experts
   ii) Acceptance of Bangladesh counterpart personnel in Japan
   iii) Provision of machinery and equipment

(4) To review those measures taken by the Government of Bangladesh.
   1. Allocation of necessary budget (including local cost expenditures)
   2. Allocation of necessary counterpart personnel
   3. Utilization and administration of the Equipment provided by the Government of Japan

(5) To review and exchange views on major issues arising from or in connection with the Project.

(6) To provide the Project with necessary advice.

2. Committee Composition

The Joint Coordinating Committee will be composed of by the following members:

(1) Chairperson:

Secretary, Local Government Division, Ministry of Local Government, Rural Development and Cooperatives

(2) Member Secretary: Chief Engineer, LGED

(3) Members

i) Bangladesh side:

- Director General, Local Government Division, Ministry of Local Government, Rural Development and Cooperatives
- Representative of Economic Relations Division, Ministry of Finance
- Representative of Planning Commission
- Additional Chief Engineer, LGED
- Superintending Engineer (Administration), LGED
- Superintending Engineer (Planning), LGED
- Superintending Engineer (Design), LGED
- Superintending Engineer (Training), LGED

ii) Japanese side:

- Team leader
- Coordinator
- Other Japanese Experts in LGED
- Resident Representative, JICA Bangladesh Office

(4) Observer(s):

Official(s) of the Embassy of Japan

Chief Representative, JBIC Representative Office in Dhaka

Note: Persons who are nominated by Chief Engineer, LGED may also attend the Joint Coordinating Committee meeting.

付属資料 2

MINUTES OF MEETING
BETWEEN THE JAPANESE IMPLEMENTATION STUDY TEAM AND AUTHORITIES CONCERNED OF THE GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH ON JAPANESE TECHNICAL COOPERATION FOR RURAL DEVELOPMENT ENGINEERING CENTER SETTING-UP PROJECT

The Japanese Implementation Study Team (hereinafter referred to as "the Team") organized by Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Kozo INADA, visited the People's Republic of Bangladesh from September 21 to 28, 2002 for the purpose of working out the details of the technical cooperation program concerning the Rural Development Engineering Center Setting-up Project in Bangladesh.

During its stay in Bangladesh, the Team exchanged views and had a series of discussions with the Government of Bangladesh authorities concerned with respect to desirable measures to be taken by both Governments for the successful implementation of the above-mentioned Project.

As a result of the discussions, the Team and the Government of Bangladesh authorities concerned reached common understandings concerning the Project Document and the matters referred to ANNEX attached hereto. The Project Document will be revised or altered when deemed necessary on the process of the Project implementation by the Joint Coordinating Committee.

Dhaka, September 25, 2002

Mr. Kozo INADA
Leader,
Japanese Implementation Study Team,
Japan International Cooperation Agency,
Government of Japan

Mr.Iqbal Mahmood
Deputy Secretary,
Economic Relations Division,
Ministry of Finance,
Government of Bangladesh

Mr. Md. Shahidul Hassan
Chief Engineer,
Local Government Engineering
Department (LGED)
Ministry of Local Government,
Rural Development and Cooperatives,
Government of Bangladesh

S Alam 25-09-2002

Mr. Syed Mamunul Alam
Senior Assistant Chief,
Local Government Division,
Ministry of Local Government,
Rural Development and Cooperatives,
Government of Bangladesh

THE ATTACHED DOCUMENT

1. RDEC's mandate and its function.

Both Japanese study team and Local Government Engineering Department (hereinafter referred as "LGED") members have confirmed that the mandate of Rural Development Engineering Center (hereinafter referred as "RDEC") and its role are originally based on the part of official regulations of LGED. The composition of staff of RDEC is described as organizational chart (annex1). The LGED members confirmed that the Superintending Engineers (Project Monitoring and Evaluation, Design, and Training) are permanent staff of LGED.

2. Office space for the project implementation

LGED members confirmed the preparation of office space for the project implementation by the date of commencement described in Record of Discussion (R/D). LGED will make the utmost effort to complete the construction of the RDEC building. In case LGED can not complete the RDEC building as to the schedule, LGED provide the alternative facilities suitable for the implementation of the project.

3. Budgets to implement activities in Bangladesh

From the viewpoint that self-effort and sustainability are required for the establishment of the technical management system in LGED, each program implemented in Bangladesh is to be budgeted by the Government of Bangladesh, especially for training activities.

4. Necessity of procurement of vehicle

LGED members strongly requested two vehicles as the means of transportation for the project activities. Japanese team ensured to convey the needs to Japanese authorities concerned.

ANNEX

The Rural Development Engineering Center Setting-up Project in the Local Government Engineering Department of Bangladesh

Project Document

September, 2002

Japan International Cooperation Agency

CONTENTS

Abbreviation

ACE	Additional Chief Engineer
ADB	Asian Development Bank
BADC	Bangladesh Agricultural Development Corporation
BARD	Bangladesh Academy for Rural Development
BPDB	Bangladesh Power Development Board
BRDB	Bangladesh Rural Development Board
BWDB	Bangladesh Water Development Board
EPWAPDA	East Pakistan Water and Power Development Authority
FAP	Flood Action Plan
FCD/I	Flood Control, Drainage and Irrigation
FFW	Food for Works
FRA	Feeder Road Type-A
FRB	Feeder Road Type-B
GDP	Gross Domestic Product
GIS	Geographic Information System
GOB	Government of Bangladesh
GOJ	Government of Japan
HES	Household Expenditure Survey
HO	Head Office
ICBP	Institutional Capacity Building Project
IRDP	Integrated Rural Development Program
ISP	Institutional Support Project
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
LGED	Local Government Engineering Department
LGI	Local Government Institutes
MANCAPS	Management Capability Strengthening Project of LGED
MLGRD&C	Ministry of Local Government, Rural Development and Cooperatives
M/P	Master Plan
M/M	Minutes of Meeting
NGO	Non-Governmental Organization
NWMP	National Water Management Plan
PCM	Project Cycle Management
PEP	Production and Employment Programme
RDP	Rural Development Project
RD	Record of Discussion
RDEC	Rural Development Engineering Center

RD&I	Rural Development and Institutions
RDP-21	Rural Development Project – 21
REB	Rural Electrification Board
RESP	Rural Employment Sector Program
RWP	Rural Works Program
SE	Superintending Engineer
Sida	Swedish International Development Agency
SWOT	Strengths, Weaknesses, Opportunities and Threats Analysis
TAPP	Technical Assistance Project Proformma
TCCA	Thana Central Cooperative Association
TIP	Thana Irrigation Program
TNA	Training Needs Assessment
TSI	Tentative Schedule of Implementation
TTDC	Thana Training and Development Center
XEN	Executive Engineer

1. Introduction

Bangladesh is one of the most densely populated countries in the world, with a population of 133.02 million in an area of 147,570 square kilometers. More than 80 percent of the country's people live in rural areas, of which over 50 percent are "landless farmers" who don't have their own land at all or have only a few. Even farmers having their own farmland are badly off, of which over 50 percent can not make their living only by imcomes from farming sources. Under these circumstances, rural development and poverty alleviation are deemed to be the most important goals in Bangladesh, and agricultural and other sectorial industries have been targeted for activation so as to achieve them.

The Bangladeshi government attaches great importance to rural development in its Fifth Five-Year Development Plan (1997/98 - 2001/02), in which rural infrastructure is given the highest priority especially in impoverished rural areas.

Presently, Rural Development Project-21 (RDP-21) is being implemented by the Local Government Engineering Department (LGED) for northern Bangladesh (the poorest region in the country) as a part of Third Rural Development Project, which is jointly financed by JBIC (Japan Bank for International Cooperation), ADB (Asian Development Bank), and other related donors.

Besides these infrastructure projects, institutional strengthening endeavors such as the Institutional Support Project (ISP) have been made by SIDA cooperation as a part of RESP-III. ISP provided institutional support to the LGED Head Office by assigning a multitude of competent external technical staff members; nevertheless, the project, which aimed to strengthen the organic capacity of the LGED and to build individual technical capacity, fell short of expectations.

JBIC, which is a financial source of RDP-21, decided to support the LGED's construction of the Rural Development Engineering Center in November 1998. In addition to building construction, the LGED plans to commence a technical assistance program for the engineering center, which will partly function as a technical and institutional support project as a substitute for the already completed ISP.

Given this situation, the Government of Bangladesh (GOB) asked the Government of Japan (GOJ) to implement project-type technical cooperation for the Rural Development Engineering Center in April 1999. In response, the GOJ dispatched a Fact-finding Study Team on the requested project to Bangladesh in order to collect necessary information. Based upon analysis of the collected information, the GOJ dispatched the First Preparatory Study Team on the Project in December 2000. The team conducted a detailed investigation and held a Project Cycle Management (PCM) workshop. The GOJ concluded that the Project was relevant to the operations of the LGED, and decided to dispatch the Second Preparatory Study Team in order to formulate an agreement between the GOB and GOJ on the outline of the Project. The Second Preparatory Study Team was sent to Bangladesh during June and July 2001. This Project

Document on the Project to Set up the Rural Development Engineering Center was prepared based on all results and conclusions of these studies.

This Document consists of six (6) chapters. The second chapter describes circumstances surrounding the Project in terms of socio-economic context and sectorial aspects, and the third chapter explains problems and inconveniences inducing the Project. Afterward, the project strategy and project design are described in the fourth and the fifth chapter, respectively. At the close of the document, the results of project justification are provided in the sixth chapter.

2. Background

2-1 Socio-economic conditions in Bangladesh

Bangladesh is characterized as a country having a limited area of about 147,570 square kilometers, a large population of about 133 million, and scarcity of natural resources excluding natural gas (annual production of 7 billion cu.m). Because of these developmental constraints, agriculture has been the prominent industry of the country, making up around 30% of the GDP and employing about 66% of the total labor population. Geographical conditions in Bangladesh are favorable for cultivation, as alluvial lowlands extend over 90% of the country's territory. Nevertheless, agriculture suffers from spreading inundation over one-third of the country's area in rainy season, and from low availability of water for cultivation due to scarce of rainfall in dry season, contrarily. Low productivity of agriculture has a major impact on Bangladesh's national product, as the GDP per capita of Bangladesh is below US$390.

Bangladesh emerged as an independent and sovereign state on December 16, 1971. Since then, Sheikh Mujib, the country's first Prime Minister, was assassinated in 1975 during a period of crisis, and the country experienced famine followed by martial law, successive military coups and political assassinations. In 1991, the military dictator General Ershad was forced to resign under pressure from an unprecedented popular movement led by the Bangladesh Nationalist Party and the Awami League. Democracy was re-established and the economy ticked along at a high growth rate. In June 1996, Sheikh Hasina was sworn in as the Prime Minister of the Bangladeshi government. The Hasina government has promoted democratic governance that succeeds the fundamental economic development policy of previous political powers. The government has launched basic development strategies, namely, responsible governance with transparency, social order and elimination of terrorism, formation of a national consensus for poverty and corruption alleviation, liberalization of the economy, activation of the private sector, enticement of foreign capital investment, and stabilization of the country's financial foundation.

Keywords describing the present situation in Bangladesh are "poverty" and "excessive reliance on donor support". The present Government of Bangladesh has placed priority on poverty alleviation due to the unavoidable fact that the country is home to the largest impoverished population in the world. In terms of measures against poverty, small-scale agricultural development and rural development are deemed the most effective. Therefore, the LGED, which is a promoter of rural infrastructure development in Bangladesh, is contributing to the country's hopes for rural prosperity.

Because Bangladesh has faced a scarcity of financial, infrastructural, human, and natural resources, the country has received considerable support from foreign donors. However, this support was not that effective, which points to the need for improved efficiency in cooperation. In order to a) utilize outside support effectively, b) overcome the passive attitude of the Bangladeshi side to assistance, and c) sustain donors' support (which the majority of donors intend to reduce due to their own economic problems), a new

relationship concerning cooperation in development should be sought out.

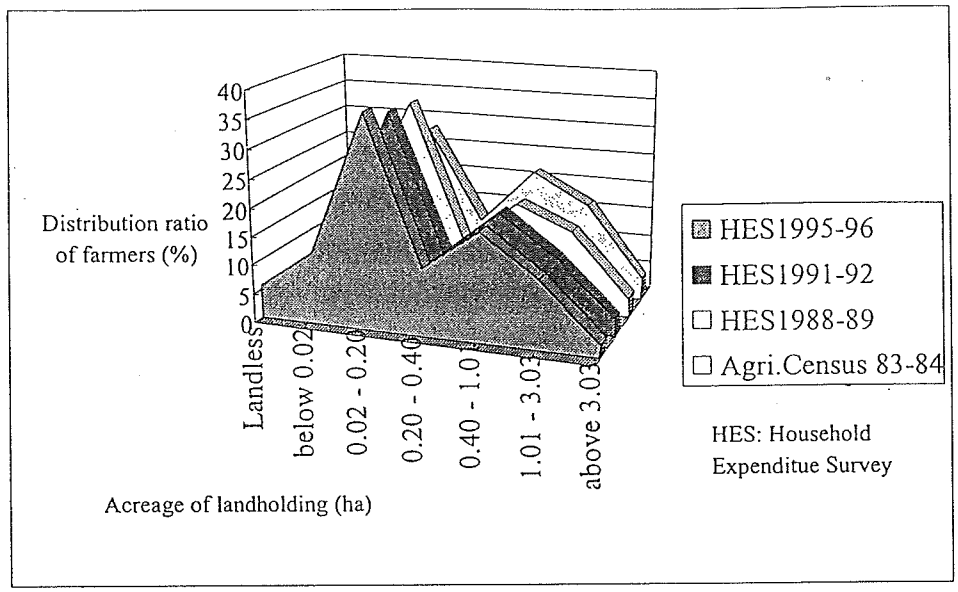
2-2 Description of the sector

Agriculture and rural development in Bangladesh are not progressing as hoped. Bangladesh s total land area of 147,570 sq. km can be classified as flat lands (81%), forest lands (13%), and rivers and watercourses (6%). Around 8.24 million hectares of the flat lands are cultivable, of which 7.85 million hectares are actually cultivated. General cropping intensity on these lands has been recorded at 175 % of average.

Major crops in Bangladesh are rice, wheat, barley, jute, pulse, sugar cane, cotton, tobacco, vegetables, fruits and tea. Rice is the principle crop, having production of 1.7 million tons for Aus rice, 10.3 million tons for Aman rice, and 10.6 million tons for Boro rice in 1999. Total production of cereals including wheat was recorded at 2.43 million tons in 1999. In comparison with the estimated annual national consumption of cereals (2.15 million tons), Bangladesh is close to self-sufficiency in terms of food supply. When considering the annual population growth rate of about 1.6 % to 1.8 %, the situation is far from reassuring. Under these circumstances, the GOB gives high priority in national development to increased agricultural outputs by means of irrigation development, introduction of new varieties having high yields, application of chemical inputs, increase of land use intensity, education of farmers in agricultural technology, improvement of market systems for agricultural products, and relief of landless farmers.

In Bangladesh, a farmer who holds less than 1.01 hectares of farmland, which is the minimum amount on which a farmer can survive through fulltime farming, is defined as a "small farmer". The following chart shows the apportionment of farmers in Bangladesh by owned land acreage. It shows a trend toward decreasing areas of owned land by splitting of landholding through the traditional inheritance process. In the chart, small farmers stood at 70.9% in 1983; however, this same classification grew to 85.8% in 1996. This fact evidences the necessity and importance of increasing productivity in rural areas where most small farmers settle, and of encouraging rural industries through rural development.

Apportionment of Farmers by Owned Acreages



Rural infrastructure development has played key roles in agricultural and rural development in Bangladesh. Improvement of rural infrastructure, which is a major subject in rural development, is described as follows:

(1) Rural roads

The Ministry of Communication governs national and regional highways and roads that are classified as Feeder Road Type-A (FRA), which are major connection roads in each district that connect Upazila with Zilas. The LGED oversees rural roads that are classified as Feeder Road Type-B (FRB), which serve as connection roads between growth centers to main roads and rural towns, and smaller roads. At the present time, less than one tenth of planned work in rural road improvement has been completed. Rural roads under the LGED's command are listed as follows:

Rural Roads under the LGED's Jurisdiction

Road type	Road length (km)	Non-metal roads		Simple paved roads (1)		Simple paved roads (2)		Asphalt-paved roads	
		Km	%	km	%	km	%	km	%
FRB	8,403	6,485	77.2	1,136	13.5	153	1.8	630	7.5
R1	32,674	30,673	93.9	1,221	3.7	215	0.7	565	1.7
R2	44,861	44,486	99.2	290	0.6	38	0.1	49	0.1
Total	85,938	81,644	95.0	2,647	3.1	406	0.5	1,244	1.4

Source: Rural Infrastructure Strategy Study 1996, World Bank

(2) Water supply and sanitation facilities

In Bangladesh, groundwater is a major water source for domestic use. There are more than 1,086,000 private deep and shallow wells (including those used for irrigation) used in the dry season. Groundwater use has caused some problems, such as the drying up shallow wells due to over-exploitation of deeper aquifers. Furthermore, issues connected with water quality, and in particular

arsenic contamination, have grown acute in almost all areas of Bangladesh.

During the 1980s, latrines were not commonly used in Bangladesh, with a usage rate of less than 10%. However, this figure improved to 42% in 1997 because the DPHE and the LGED, in cooperation with some NGOs, developed and implemented low-cost sanitation works. However, increased availability of latrines in urban and rural areas is required. In addition, medical care in Bangladesh has been improving at an exceptionally slow pace. Around 1,000 hospitals and dispensaries have been established, in which only 4,000 beds are available.

(3) Growth Centers

The Bangladeshi Government promotes Growth Center Development, through which markets as well as storage, processing and other related facilities are built in rural areas on the basis of an understanding that inadequate facilities of markets and poor transportation and trade systems are major causes of rural poverty. Growth Centers are being established in original bazaars or hatts, of which around 8,000 exist in rural areas. 2,100 Growth Centers have been identified by the Planning Commission. The LGED has developed 1,150 Growth Centers already and the remaining 900 should be developed by the end of 2007.

(4) Primary school

So far, 78,595 primary schools have been established at in Bangladesh. Keen needs still exist to improve primary school education in terms of number of schools, facilities, and number of teachers. The LGED has moved forward with primary school construction that allows school buildings to function as both flood and cyclone shelters as well.

(5) Drainage, flood control

Flooding is a part of everyday life in Bangladesh, as one-third of the country's land is inundated almost every year. Because of this serious problem, flood mitigation and flood proofing are important subjects in Bangladesh in the interest of protecting the lives and properties of its citizens, and of maintaining living and production systems. Since the FAP (Flood Action Plan) studies were conducted in the 1990s, small-scale drainage improvement and flood proofing has been emphasized over large-scale implementation. The LGED deals with small-scale drainage and flood protection works such as construction of embankments in combination with rural road construction, and construction of bridges, culverts, flood shelters, submergible roads and so on. Also, on the basis of the government policy, the LGED directs drainage works in areas of less than 1,000 hectares.

(6) Small-scale water resources development

Irrigation was introduced into Bangladesh in the beginning of the previous century for Rabi crop cultivation, such as Boro rice, millet, pulse, and oilseed. However, perennial irrigation is not widespread; as is shown in following table, the irrigated area in Kharif is only 5 to 8% of the total

cultivated area for Aus and Aman rice.

Cultivated and irrigated areas in Bangladesh (thousand ha)

Items	Acreage	Rice			Wheat	Potato	Sweet potato	Vegetables	Others
		Aus	Aman	Bolo					
Cultivated area	12,660	1,596	5,192	2,552	611	130	177	178	2,224
Irrigated area	3,250	128	260	2,296	269	87	12	87	111

Remarks : Data in 1993/94

Irrigated areas by water resource are shown in the table below:

Irrigated Areas by Water Recourses (thousand ha)

Item	Total acreage	Water Resources						
		Pumps	Deep wells	Shallow wells	Water courses	Don	Buckets	Others
Irrigated area	3,250	660	634	1,414	153	-	-	389

According to the above table, pumps and wells are major water sources for irrigation water supply, accounting for more than 80% of all irrigation water sources. This is why gravity irrigation through watercourses that cover long distances due to the very flat topographical conditions seems to be infeasible. The command area for each water source is limited to 0.8 to 2.4 hectares for pumps and deep wells, and 0.4 to 0.8 hectares for shallow wells. This is because almost all irrigation systems were privately prepared with insufficient individual finances. As promotion of irrigation is now given higher priority in Bangladesh, small-scale irrigation development in conformity with the natural and social environment is being taken very seriously. Small-scale irrigation development has been advanced in the framework of rural development in which local people's participation receives greater importance. Presently, the LGED is able to deal with small-scale water resources development for schemes having a scale of less than 1,000 hectares.

(7) Rural electrification

The electrification ratio in Bangladesh is only 14.6%: 54.3% in urban areas and 4.6 % in rural areas, respectively. Major domestic energy sources in rural areas in lieu of electricity are local products such as rice hulls, cow excrement, bacas, jute sticks, etc. The BPDB (Bangladesh Power Development Board) manages the electricity supply in urban areas, including Great Dhaka. The REB (Rural Electrification Board) directs electricity supply service in rural areas; however, around 95% of rural households are still without electricity.

(8) Rural housing

Housing conditions are poor in both urban and rural areas of the country, with the average housing space being only 10 to 15 sq.m per household. The LGED developed new models for rural housing in

rural areas. These new models have been extended by preparing micro-credit for the purpose of individual housing improvement. Moreover, flooding is a serious problem for rural housing in Bangladesh. Effectual measures against flooding, such as raising the floor of houses, must be considered when planning rural housing.

2-3 Host country strategy

The GOB's rural development program, which has its origin in the early 1960s, was conceptualized essentially as an instrument for providing support for increasing agricultural production. The rural development program evolved by the Bangladesh Academy for Rural Development (BARD) in the 1960s, known as the "Comilla Model", has the following four components:

- Two-tier Co-operative - Krishak Shamabaya Shamity (KSS), and Thana Central Cooperative Association (TCCA)
- Rural Works Program (RWP)
- Thana Irrigation Program (TIP)
- Thana Training and Development Center (TTDC), and Food for Works (FFW)

In line with these attempts in rural development, the Strategy for Rural Development Projects (A Sectoral Policy Paper entitled as RD) was prepared by the Bangladesh Planning Commission in 1984. It contains the following three components:

- Development of physical infrastructure including roads, storage and markets.
- Irrigated agriculture, minor drainage and flood control works.
- Production and employment program (PEP) for the rural poor (The rural poor will be landless persons and those having land up to 0.50 acres.)

The following agencies will be responsible for implementation of the three components of RD projects at the field level:

Responsible Agencies in RD

Sector	Responsible Agencies	Remarks
Rural Infrastructure	Local government bodies with technical assistance from LGED	Present LGED was reformed from previous LGEB in 1992.
Development of Irrigated Agriculture	BRDB and Ministry of Agriculture in association with the Thana/Upazila Parished	-
Production and Employment Programs	BRDB in collaboration with the Thana/Upazila Parished and other concerned agencies	NGOs will also take up activities in areas not covered by BRDB.

Furthermore, the GOB and the World Bank jointly conducted a study on the Bangladesh Rural Infrastructure Strategy in 1996. The main conclusions of the rural infrastructure strategy study are set as follows on the basis of an understanding that there is a huge amount of rural infrastructure that requires improvement:

- More emphasis on user/community participation in planning, implementation and monitoring,
- Improved use of local resources, such as local materials, and the continued use of labor intensive techniques with appropriate equipment,
- Coordination in the use of complementary modes of transportation, specifically waterways,
- Expansion of the role of the private sector and further strengthening of the capacity of contractors operating in rural areas who provide cost effective, labour intensive skills and resources enhancing the future sustainability of the rural infrastructure system,
- Institutional strengthening of the LGED and its wide network at local levels with a greater orientation towards community participation, and
- Greater selection of investments in keeping with priority needs and much greater emphasis on building and funding of a sustainable maintenance system.

Under the rural infrastructure development programs, the LGED takes up projects for development of Growth Centers as well as connecting roads to the Growth Centers, bridges and culverts on the one hand, and small-scale irrigation and flood control-related infrastructure projects on the other. Road maintenance programs, mostly rural roads, will be implemented employing rural poor women, who will eventually accumulate savings to undertake income generation activities by themselves.

2-4 Prior or on-going projects

Agricultural development in Bangladesh started in 1964 with the launching of the Flood Control, Drainage and Irrigation Project (FCD/I), which was a large-scale attempt to bring about irrigation development through mitigation of floods. It was composed of 58 large-scale projects divided into 305 sub-projects. The FCD/I was initiated by the EPWAPDA (East Pakistan Water and Power Development Authority), which became the BWDB (Bangladesh Water Development Board) after Bangladesh's independence. Although the FCD/I project was continued for more than 20 years with financing of about US$5 million, drainage problems have occurred throughout the country because embankments and related facilities in the project that were built based upon a policy of "stopping every flood" did not meet actual circumstances. Reflecting the FCD/I's examine, water management including irrigation and drainage development has been made better to NWMP (National water Management Plan) through planning FAP (Flood Action Plan) projects, in Bangladesh.

As mentioned above, agricultural development in Bangladesh had been promoted in a large-scale manner closely connected with flood control works. This policy then shifted to small-scale water management programs and rural development activities having a close connection with each other.

Rural development in Bangladesh has been promoted in line with the Integrated Rural Development Program (IRDP), which was fully based upon the Comilla Model mentioned above. The present situation of the 4 component activities of the Comilla Model is summarized as follows:

Present situation of the Comilla Model components

	Components in Comilla Model	Responsible Agency	Present Situation
1)	Two-tier Cooperatives	BRDB	Almost all TCCAs (Thana Central Cooperative Associations) have stopped their activities due to reduced credit financing and input support from the GOB. The BRDB has shifted its target to informal groups.
2)	TTDC (Thana Training and Development Center)	Thana/Upazila Parished, and Union Parished	Not functioning
3)	TIP (Thana Irrigation Program)	BADC (Bangladesh Agricultural Development Cooperation)	Substantial activities have stopped due to suspension of government long-term credit to farmers groups for procurement of pumps for irrigation water supply.
4)	RWP (Rural Works Program)	LGED	Rural infrastructure development has successfully progressed through LGED mobilization.

As rural infrastructure development raises its significance in rural development, the quantity and coverage of work handled by the LGED increases year by year. The status of of projects implemented by the LGED is shown in the table below:

Status of projects implemented by the LGED

Year	Project Sector (Nos. of projects)																Total Project Budget (M.Tk)
	RD&I		PPWS&H		Agricult.		Water Sector		Education		FFW		TA		Others		
	New	Cont	New	Cont	New	Cont	New	Cont	New	Cont	New	Cont	New	Cont	New	Cont	
90/91	8	8	1	1					3					4			2,044.2
91/92	2	14		2					3		1			4	1		3,274.3
92/93	4	14	2	1	1		2		2	3		1		4	1		6,789.6
93/94	7	15	1	3		1	1	2	3	5	1	2		4	2	2	11,575.2
94/95	5	20	1	3	1	1	1	2	3	5	1	2		4	1	2	14,035.3
95/96	8	22	4	4		2		3	2	6		3		4	2	2	13,107.9
96/97	3	25		4		2		3	1	7		2	1	4	1	3	15,296.9
97/98	11	22	2	4	3	3		2	1	4	2	1	1	3	1	2	13,277.8
98/99	11	26	4	3	3	6		1	2	5	1	3		2		2	18,364.3
99/00	4	37	2	6	2	4	2			6	1	3		1	2	2	23,819.3
00/01	9	32	7	2		6		2		7		4	1	1		4	27,431.5

Many foreign donors (more than 20) have assisted in rural development in Bangladesh, and recently most of these have concentrated their assistance on the LGED.

In terms of Japanese ODA for the rural development sector, the Model Rural Development project (MRDP), Cyclone Shelter Construction Project, and several other projects were implemented under Japan s grant aid scheme.

The LGED has expanded its organization to meet the increasing need for rural infrastructure development. Although its activities have received positive reviews, weaknesses in the LGED's organization have often been pointed out. With consideration for the organizational issues of the LGED, SIDA started an institutional strengthening venture for the LGED named the ISP under its sectoral support program of the Rural Employment Sector Programme (RESP). The ISP attempted to strengthen the institution and technical capabilities of the LGED by assigning about 140 external experts and supporting staff members to every post that required guidance. However assigning many external experts resulted in made effects to discourage LGED staff to depend on them excessively and discourage their initiatives. As a result, LGED staff depended on them excessively and their initiatives was discouraged. SIDA has shifted its support to strengthening of the LGI and will finish to provide support to LGED directly.

Although the ISP was phased out, a need for institutional improvement in the LGED still exists. Institutional assistance that uses an approach that is different to that of the ISP is required to settle remaining institutional issues. It is also important to effectively utilize the useful tools left by the ISP.

3. Problem to be addressed, the current situation

3-1 Institutional framework for the sector

Rural infrastructure development in Bangladesh is exclusively under the LGED's jurisdiction, especially construction of rural infrastructure. The LGED has undertaken rural infrastructure development throughout the country with in the institutional framework as an agency of the GOB. In other words, rural infrastructure development has been conducted mostly within the public works framework of the GOB. The LGED is a department organized under jurisdiction of the Local Government Division (LGD) of the Ministry of Local Government, Rural Development and Cooperatives (LGRD&C).

The LGD and LGRD&C govern the LGED's budgetary allocation, personal affairs, auditory affairs and so on, as its supervising authority. In addition, the LGED is under the direction of related agencies that are concerned with development activity. The ERD of the Ministry of Finance and (MRDP), Cyclone Shelter Construction Project and several other projects were implemented under Japan's grant aid scheme. Ministry of Planning also oversees the LGED's work, for instance, in approval of TAPP for donor-assisted and GOB projects.

The LGED's policy of attaching importance to efficiency in implementation is also threaded into its institutional structure. In addition to its Head Office situated in Dhaka, there are 64 district offices and 463 upazilaoffices operating throughout the country. Only 0.9 % of all LGED staff members (the total number is about 9,600) have been assigned to the Head Office. Major responsibilities for construction works in local areas have been transferred to the local offices. Consequently, the organization of the Head Office has been become very streamlined. Adopting a para-Matrix organization, the LGED actualizes flexible and organic operation of its duties mainly through local offices on a project-by-project basis, which is a special strength of the LGED as compared with other governmental organizations in Bangladesh. However, although the LGED's advanced organization style facilitates effective performance in the implementation of its activities, some negative effects resulting from the small size of the Head Office's organization have arisen, especially in engineering management. Presently, the LGED has submitted a restructuring plan for its organization to rectify this problem. Establishment of the Rural Development Engineering Center (RDEC) is serving as a core supporting program in the movement toward institutional improvement.

Rural infrastructure development is closely related to the activities of several GOB agencies concerned with rural development. The BRDB (Bangladesh Rural Development Board), which is under the Rural Development and Cooperative Division in LGRD&C, is a focal agency that promotes rural development mainly focusing on activation of rural people through such activities as strengthening TCCA, expanding micro-credit to the local poor, and fostering rural communities through participatory approaches. There

are some areas of rural infrastructure development that are handled by the LGED within the BRDB's activities; however, no major disparity in rural development direction exists in the relationship between the two agencies

The LGED has expanded the scope of its work to water supply, housing and strengthening of the LGI in rural infrastructure development, although no essential concurrences with other related agencies in these new fields have been recognized.

3-2 Problems to be addressed and the current situation

As major rural infrastructure development in Bangladesh is carried out by the LGED exclusively, the problems of the LGED are directly reflected on the problems of rural infrastructure development in Bangladesh. The LGED has an advanced para-Matrix Organization that allows high mobility, however some improvements are required in its organization and methods of activity.

The ADB conducted a project to strengthen institutional management capacity in the LGED known as MANCAPS from 1994 to 1998. MANCAPS pointed out the following strengths and weaknesses in the LGED (the content of these findings coincide basically with the results of a PCM workshop conducted by the First Preparatory Study Team, dispatched by JICA in December 2000):

The LGED's Strengths and Weaknesses as analyzed by MANCAPS

Strengths	Weaknesses	Opportunities	Threats
· Field-oriented organization · Effective delivery channel for rural infrastructure development · Strong and alert leadership · Team work · Strong norms for hard work · Informal decision making · Emphasis on competence development · Dynamic organization · Management of external relationships · Physical mapping/GIS · Focus on rural development · Flexibility · Head Office building · Maintenance activities	· Over-dependence on ISP · Complexities in the HO organizational structure · Regional level · Management system · Inadequate delegation of administrative and financial power · Inter-project learning · Financial management system · Contracts management system · District-level organization · Mechanical maintenance management · Socio-economic monitoring and evaluation · Library · Engineering organization · Cadre services · GoB personnel management system · Un-updated GoB administrative rules	· Integrated MIS · Mapping/GIS · Improvements in the planning wing · International market for services · Induction training for expatriates · Small water resources schemes · Pourshavas · Communication network system · New public sector accounting system · Earnings · Demonstration model · Integrated rural development activities	· Emphasis on other areas of rural development · Reduction in donor funds · Diminishing image of LGED · Zila Parishads · Enlarged role for Pourashavas · Efficiency of other development organizations · Government rules and regulations

Source: Results of SWOT analysis on the LGED by MANCAPS

Among the weaknesses in above table, the following has attracted attention.

"HO of LGED is a temporary and weak organization with poor coordination competence and without function of accumulating their expenses and knowledge, despite showing high flexibility"

Although the LGED has implemented infrastructure construction work at about US$ 0.4 billion a year and with a staff of about 9,600, only 21 management officers are posted in the HO. The ISP, with assistance from SIDA, was an institutional improvement project to overcome this situation, however institutional innovation is still stagnant due to the ISP's approach of continuing reliance on external personnel. The above-mentioned weakness, "Over-dependence on ISP", relates particularity to the ISP.

Most of the LGED engineers are attached to local offices. In order to properly improve their capability, an adequate training system with sufficient functions is vital. The current central training system was established within the ISP, and it started its operations with the assistance of a large external training staff. At present, the training system faces increasing difficulty in continuing its undertakings due to the withdrawal of external manpower with phasing out of ISP.

Even using the current organizational structure of the LGED, proper performance can be attained through the implementation of a large number of projects. The functions of the LGED's HO can hardly be maintained by sharing its duties in every project implemented. The current organizational framework of the LGED has the advantage of having a streamlined central system, and it can easily provide necessary and competent manpower at the burden of implemented projects without complicated formalities to obtain commitments from GOB agencies.

Notwithstanding implemented projects provide the supports for the LGED's central function by their surplus capacities, those supports are fragmentary and not sustainable because they can be provided only within the scope of each project and can be interrupted with phasing out of each project. The ISP was an institutional renovation of the LGED that was an attempt to overcome "over-dependence on projects", and it is being phased out though important newly developed tools and systems have remained after its termination. The LGED is still "overly dependent on projects", and there are fears regarding consistent and unified technical management of the department throughout the LGED. Under these circumstances, the attempt to establish an RDEC meets the urgent need to create a central technical core organization independent from any implemented projects.

The core problem of the LGED, i.e., "inadequate organizational capacity of the LGED", was identified in a PCM workshop held during the study term of the First Preparatory Study Team dispatched by JICA. From the viewpoint of engineering, this means that the LGED cannot accumulate the experiences and knowledge it has obtained through project implementation, and it cannot utilize this experience in knowledge in other on-going projects and future projects.

4. Project strategy

4-1 Overall strategy

Problems with the LGED that must be urgently solved are summarized as follows:

- After closing the ISP project midway towards attainment of its target (the ICBP, which succeeded the ISP's objective, was also phased out in June 2001), there have been expectations that the LGED will take the initiative in completing institutional reform.
- In general, projects that have been implemented by the LGED have been carried out independently, with little interchange of information and little common utilization of facilities.
- Since the LGED is very project-oriented, coordination throughout all of the LGED will not easy while almost all of the LGED's staff members hold a certain identity with LGED.
- For the above reasons, trans-LGED activities, such as training, unification of applied technology, preparation of common information, are only occasionally tackled.
- The lack of a central core organization in engineering hampers introduction and fixation of new technology, as well as expansion of this technology to the entire LGED staff.

These same problems had already identified by MANCAPS, however no substantial measures have been taken. The ISP was a novel approach to remedy the LGED organization institutionally, but it did not succeed as intended. The disappointing outcome of the ISP can probably be attributed to reasons presented below:

- Because large amounts of external manpower were provided to the HO of the LGED using ISP finances, the LGED declined to operate the project independently, which was contrary to expectations.
- The LGED failed to appoint GOB staff members in adequate numbers and to the required positions because it was over-reliant on ISP support.
- The external staff members of the ISP became content in the LGED, and they lost the incentive to work toward the project purpose. They thus stayed in the LGED for many years.
- The ISP concentrated on managing routines rather than capacity building of GOB staff members, thus improvement to the institution and organization of the LGED did not progressed on schedule.
- The ISP did not deal with the project coordination system.
- The ISP was not in a position to coordinate implemented projects because it was only one of them.
- Donors concerned with LGED projects did not neglect the ISP, but they didn't gave passive cooperation.
- The scope of ISP responsibility expanded year by year, eventually growing beyond its financial means.

As analyzed in MANCAPS, of all Bangladeshi Government agencies, only the LGED utilizes an organic Matrix Organization, and it performed splendidly by giving full play to its characteristics. However, some problems arose from the adoption of this kind of organic management. The prominent issues related with this matter are identified as "no accumulation of project experiences and knowledge", "no extension of information to others", "interruption of inter-project information ", and "poor coordination of project activities".

Institutional issues in the LGED are related to such subjects as administration, personnel management, audit management, affairs management and so on. With consideration for the building of management systems in these sectors by the ISP, management of technology and the building of a technical management system are areas that require urgent improvement. Based upon this understanding, and also in the interest of promoting efficiency, this project, which is implemented under Japan s project-type cooperation scheme, aims at improving technical capability in the LGED. In order to strengthen technical capability in its organization, a central engineering center must be established and its functions maintained throughout all of the LGED. The central engineering center should play the following roles:

- unify technical guidelines and specifications, and provide technical texts as required.
- coordinate and manage applied techniques within implemented projects.
- accumulate technical experiences and knowledge, and to spread this experience and knowledge to all LGED engineers.
- supervise applied technology in the LGED for training purposes.
- introduce and spread new technology that will be effective in future LGED activities.

The above roles are practical tasks that involve coordinating and managing implemented projects with adequate leadership from the technical point of view as well as from an overall position.

The LGED prepared a Master Plan for the Rural Development Engineering Center Construction Project in October 1998, and it has started preparations for its implementation. The M/P emphasizes that the engineering coordination function of the LGED should be concentrated within the HO as a permanent base in, say, the Rural Development Engineering Center (RDEC). The M/P consists of the following phases, in which the strategies of the M/P correspond perfectly with awareness of the above-mentioned LGED issues.

Short-term objectives:

An engineering center will be established that will take over the relevant engineering functions developed at the HO with the support of the GOB, ISP and others in the fields of planning, design, quality control, and research and development. The Center will be closely linked with LGED field organizations and projects.

Medium-term objectives:

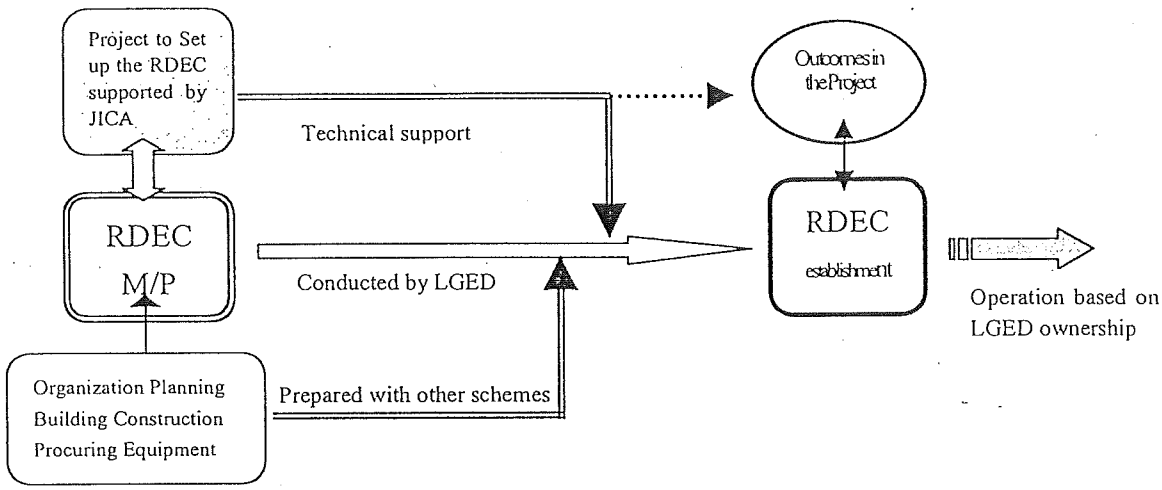
The Center will continue to strengthen the engineering capacity of LGED field organizations and Local Government Institutions (LGIs), not only in civil works but also in social, economic and environmental areas through the provision of a number of timely and effective technical supports.

Long-term objectives:

The LGED will be able to deal with ever-expanding rural development activities in a way that maximizes the positive impact of infrastructure development on rural economy and poverty alleviation.

As the circumstances currently surrounding the LGED have changed slightly since the time the M/P was prepared (e.g., the ISP and ICBP have been phased out), not all proposals in the M/P can be carried out exactly as is. However, understanding of and policy-making based on the framework of the M/P is still very appropriate as a means to deal with the issues facing the LGED in consideration of problem analysis carried out during the JICA Study. It has been announced that establishment of the RDEC will be an essential means toward institutional improvement of the LGED, and that the M/P is, in general, worth implementing. If the RDEC is established and functions successfully, it will undoubtedly help settle the above-mentioned institutional issues in the LGED. Based on this consideration, the overall strategy of the Project is "to establish the functions of the RDEC as soon as possible". Furthermore, following the instructions of the ISP, the Project should be based upon the self-reliant management and ownership of the LGED.

A schematic framework for the Project concerning establishment of the RDEC is shown in the figure below. Major stream to RDEC establishment is shown in the central part of the figure, from preparing the "RDEC M/P" by the LGED to completion of "RDEC establishment" through the activities of the LGED, and to "operation based on LGED ownership". The LGED will also make necessary arrangements, namely, planning of the new organization of the LGED to match with RDEC establishment, RDEC building construction, and procurement of necessary equipment. The Project, called "the Project to Set up the Rural Development Engineering Center", is to support LGED activities toward the successful establishment of the RDEC in terms of the engineering aspect.



Schematic Framework of RDEC Establishment

4-2 Project strategy

As mentioned above, the overall strategy of the Project is identified as establishment and functionalization of the RDEC as a remedy against institutional issues facing the LGED. To fulfill this objective, some arrangements to meet current circumstances are needed. Many technical subjects to be resolved properly were mentioned in the PCM problem tree that was formulated at the PCM workshop held during the visit of the First Preparatory Study Team dispatched by JICA. Some of these problems are to be solved through RDEC operations after it is completed, and others are issues to be improved during the preparatory stage prior to establishment of the RDEC.

It is believed that the LGED will assume ownership to operate the RDEC adequately. This belief is based on the capability the LGED has displayed so far and the fact that the LGED prepared the Master Plan (M/P) for RDEC establishment by itself. With this in mind, the Project shall aim at setting up the required technical circumstances in the LGED for RDEC establishment.

Technical issues facing the LGED can be categorized into the following: technological content and methods, formality and handling of technology (such as publications of manuals and/or guidelines), management system for technology, and the training system and its operation. Furthermore, in rearward of those physical problems in technology handling, an conventional mentality or consciousness hesitating to open their own information and experience prevails in projects' staffs and also LGED engineer themselves. First of all, the existing negative mentality should be corrected in order to make physical improvement effective. From these observations, the project strategy for setting up of the RDEC will take the following three approaches:

1) Improving conventional mentality in technology handling,
2) Improving utilized technology and its management system to meet requirements for RDEC management,
3) Activation of central training activities.

Regarding item 1) improving inappropriate mentality , two measures will be considered,

a) Breaking the negative mentality hesitating to open information that prevails in the LGED, especially among staff of the implemented projects,
b) Accumulation of technical knowledge that is scattered among the projects, making it available to all LGED engineers.

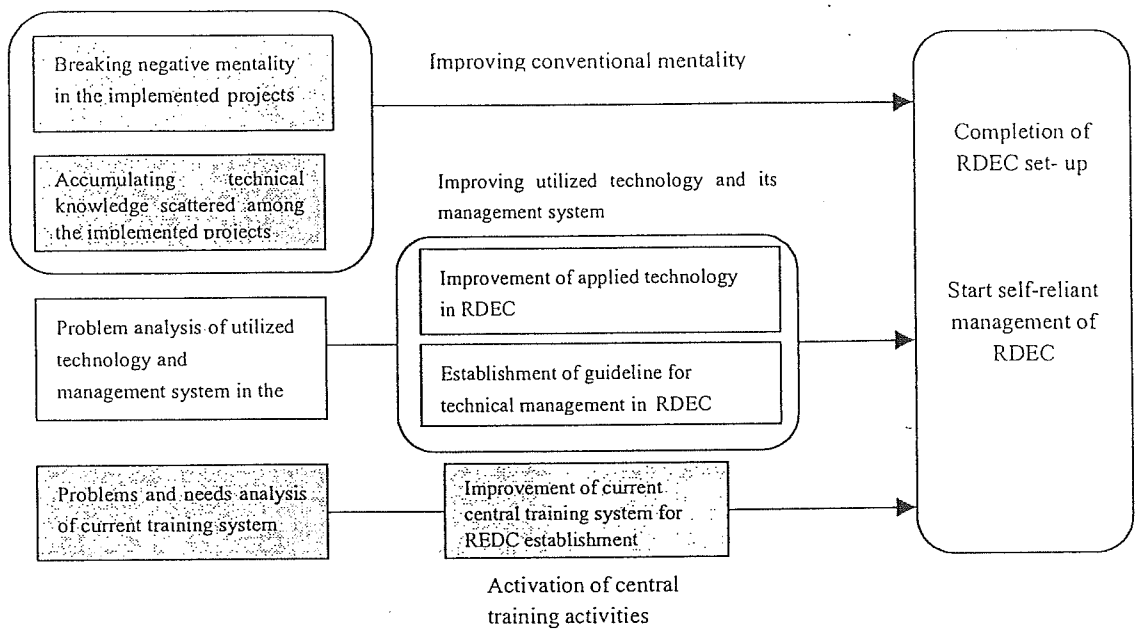
Measure a) will be successfully realized through the establishment of the RDEC itself. Once the RDEC is established, it can breach the invisible shells that cover projects through adequate coordination and enforcement. This is because the RDEC will be put in a coordinating position over the projects. Measure b) will be fulfilled by creating a facility to accumulate the technical materials of each project and making them readily available. The Technical Library proposed in the Project Inputs is intended for this purpose. In order to prepare the Technical Library, it is recommended that the RDEC's objectives should be brought to the attention of concerned project staff members and related donors.

Regarding item 2) improving utilized technology and its management system , the following measures are proposed which shall be completed on the basis of problem-analysis of utilized technology and the management system in the RDEC.

a) Improvement of applied technology in the RDEC,
b) Establishment of guidelines for technical management in the RDEC.

Technical subjects concerning the Project are not specified in detail, but are covered comprehensively and generally in terms of rural development planning and design.

In addition to technical transfer to counterpart personnel, indirect technical transfer to local office staff members is also expected if the Project is to include a component for strengthening training. The current central training system of the LGED, which was initiated by the ISP, are recognized a sign of degradation with phasing out of ISP. In order to secure and sustain the training activities of the RDEC, the current central training system should be supported so as not to worsen training performance once the ISP is created. Therefore, one important approach of the Project shall be item 3) activation of central training activities . Project strategy is composed of three approaches that are schematized as follows:



Project Strategy

Furthermore, the Project will not concern other detailed subjects which requires appropriate support, but focusing most important and comprehensive subjects. However, short-term experts and/or procurement of equipment on a number of specified subjects might be considered, if necessity is identified during the project term.

5. Project Design

5-1 Super goal and Overall goal

The super goal and overall goal of the Project are not directly connected with the Project's activities. Instead, they are extensive and long-term development targets that should be achieved or toward which substantial progress should be made through accomplishment of the project purpose. A long-term issue to be tackled by the Project is the "inadequate institutional (technical) capability of the LGED", which is the key-problem identified in the PCM workshop problem analysis. Therefore, the ultimate goal of the Project has been set as to strengthen "the institutional (technical) capability of the LGED" in correspondence with the key problem identified in the PCM workshop.

According to the problem tree analyzed in the PCM workshop, the key-problem is explained using three sub-problems:

- problems in the capability of the LGED staff,
- problems in organization of the LGED, and
- problems in facilities of the LGED and its utilization system.

The plan for RDEC establishment is an eminent idea to solve these sub-problems comprehensively or ultimately. Considering the fact that the M/P for RDEC establishment was prepared by the LGED itself, the overall purpose of the Project seems to be already clarified by the LGED. The results of the PCM problem analysis coincide with the overall purpose set by the LGED, and it has also been concluded that the establishment of the RDEC and its functions is appropriate for accomplishment of the ultimate goal. Therefore, the overall goal of the Project is set as "the RDEC continues as a technically sound center capable of providing services as needed".

5-2 Project objective

The Project objective should be a concrete target that can be accomplished through joint work by the LGED side and Japanese experts, and one that is in accordance with the policy of Japan's project-type technical cooperation scheme.

In correspondence with the above-mentioned overall goal, the project purpose should be the successful establishment of the RDEC. Therefore, it has been determined that the Project objective will be to establish the management framework for RDEC operations.

5-3 Outputs and Activities

5-3-1 Output 1 and its Activities

Output 1 is defined as "Preparations are completed for disseminating technical knowledge and previous experiences obtained through implemented projects", which is in accordance with the project strategy, i.e., "improving conventional mentality in technology handling". The activities intended to achieve this output are "to establish the RDEC Technical Library in the RDEC" and "to publicize the significance of the RDEC's establishment". In terms of activity for publicizing the significance of the RDEC's establishment, education will be provided to a) instill an awareness of the issues related to exclusive information management that prevail in the LGED, and b) promote understanding of and cooperation for the RDEC's establishment throughout the LGED staff.

Establishment of the RDEC s Technical Library includes not only establishment of library facilities but also gathering and arrangement of technical manuals, guidelines, and reports prepared by each implementing project.

5-3-2 Output 2 and its Activities

Output 2 is defined as "the RDEC Step-up Plan within related technical aspects of the Project is formulated", which is in accordance with the project strategy, i.e., "Improvement of utilized technology and its management system to meet requirements for the RDEC's management.

In consideration of proper linkage between the output and the project strategy, the output might be "a) Improvement of applied technology in the RDEC", and "b) Establishment of guidelines for technical management in the RDEC". However, at the moment, item a) cannot be clarified in terms of subject and quantity of work because this information will become available through the Project during the Project period. Furthermore, it is anticipated that some tasks concerning this item will be accomplished through the self-reliant efforts of the RDEC after complete establishment of its functions. Output 2 specifies the preparation of the Step-up Plan, in which guidelines for technical management in the RDEC will be presented. Even though some improvement of applied technology, such as revision of standard manuals and specification, may be expected, the Step-up Plan will also explain remaining tasks to be handled by the RDEC after completion of its establishment.

As mentioned above, the Step-up Plan will be prepared for the purpose of consultation on technically self-reliant RDEC management. The tentative table of contents for the Step-up Plan is proposed as follows:

Tentative Table of Contents of the Step-up Plan

Activities designed to bring about the outputs are divided into two stages. Expected activities in the first stage are:

- Conduct of a technical study on applied methodologies that reviews previous projects materials and interviews of concerned personnel of selected projects.
- Identification of differences and common areas in technical methods, as well as points to be improved among technical methods and standard specifications of implemented projects.

By carrying out the activities mentioned above, priorities will be also clarified in two areas: what should be urgently improved with the Project's support, and what might be improved by the RDEC alone after completion of its establishment. Expected activities in the second stage are:

- Work on a concept for technical coordination of the RDEC.
- Specification of the needs for RDEC strengthening within the related technical aspects of the Project: reinforcement in its organization, upgrade of its technical materials, and supplement of its facilities.
- Formulation of a RDEC Step-up Plan.

After revising technical standards of manuals and specifications when necessity is identified, preparation of the Step-up Plan will be completed.

5-3-3 Output 3 and its Activities

Output 3 is defined as "the LGED training system is improved so as to enable it to function in line with the RDEC Step-up Plan", which is in accordance with the project strategy "Activation of central training activities". Regarding strengthening of the training system, the Project will not cover all issues to be settled in the long run. However, it will assist in improvement of the training system so that it can be easily integrated into the RDEC's operation with other technical activities. The management system for training may be improved spirally because new needs for technical training will continue to occur as technology progresses . The following activities are intended to bring about the output:

- Conduct TNA (Training Needs Assessment) for LGED engineers and implemented projects.
- Review and evaluate the TNA results.
- Specify actual needs for training,, and reflect the outcomes on the current training system.

5-3-4 Output 4 and its Activities

The following output 4 is also expected to comprehensively support the effectiveness of the Project:

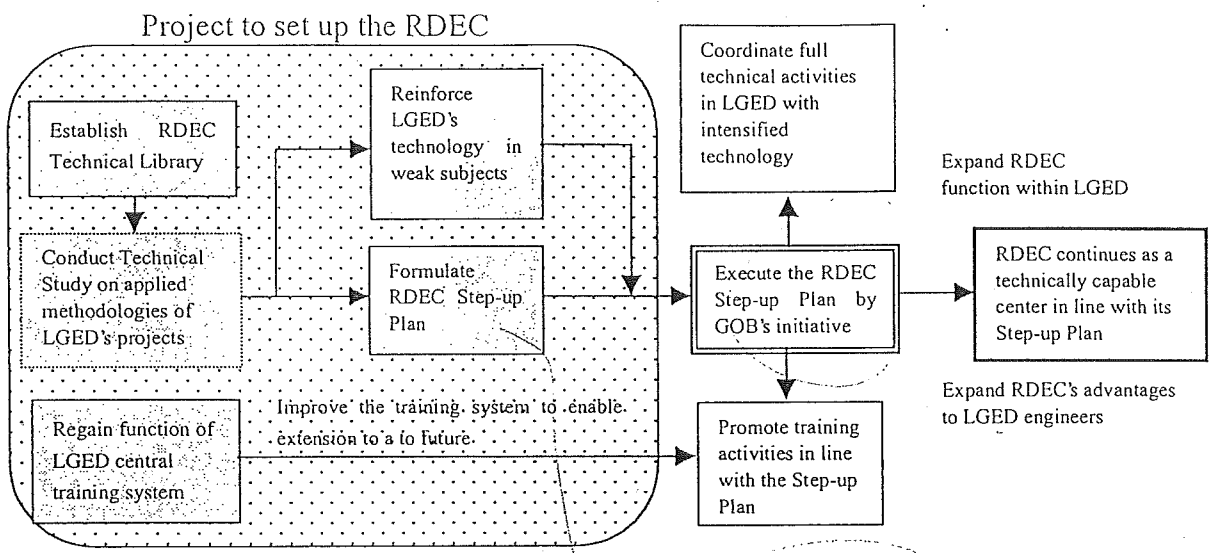
- LGED training covers new required subjects required

Activities to bring about the output will involve the actions below:

- Create new technical references and/or training courses for basic subjects recognized as weak through the TNA.

5-4 Implementation Arrangements of Activities

A series of activities for the Project have been planned as preparation for the RDEC's establishment and its functioning, as shown in the figure below. Within the series of activities of the Project, activities corresponding to the output 1 should commence first. The activities corresponding to output 3 should also commence from the beginning and proceed gradually while watching the progress of output 1. Its activities should advance with the activities corresponding to the output 4.



Implementation Framework of the Project

5-5 Commitment to the Project from the Counterpart Agency

The LGED, which is the counterpart agency of the Project, fully recognizes the importance, necessity and urgency of the RDEC's establishment and its functionalization, which is the overall goal of the Project. The following four commitments from the LGED are expected to help secure preparation of the Project:

1) to confirm the framework of the RDEC in the LGED,
2) to decide the organization of the RDEC within the HO of the LGED,
3) to confirm necessary arrangements for the Project's implementation, and
4) to confirm the operation and maintenance system of the RDEC after its set-up.

As to item 1) above, it was confirmed that the RDEC would be established as an Engineering Service Center within the LGED to review performances of the implemented project, as was agreed on in the M/M in the Second JICA Preparatory Study. As to item 2), the LGED has prepared a draft organizational plan, which is awaiting the GOB's approval of the LGED's proposal for its new organization.

And for item 3), the LGED has also agreed to prepare and submit a TAPP of the Project that reflects the items in this Project Document. Finally, regarding item 4), as per discussions held during a meeting with the Second JICA Preparatory Study Team, this item will be finally confirmed based on affirmation of proper handling of the RDEC Step-up Plan, which will be prepared during the Project period.

5-6 Inputs

5-6-1 Inputs by the Japanese Side

The proposed Japanese side's inputs are, namely, dispatch of long-term experts and short-term experts, procurement of equipment, payment of some expenditure for local activities, and training of counterparts in Japan.

1) Long-term experts:

Four (4) long-term experts in several specialties, namely, rural development planning, rural infrastructure design, training, and a coordinator, will be dispatched in order to advise and guide the counterparts. General outlines of the duties of these experts are as follows:

Rural Development Planning

Rural development planning in the LGED generally signifies physical planning, which mainly covers infrastructure planning, such as "design of new projects". Recently, as the LGED has paid greater attention to global issues, new planning methodologies that involve the participatory approach, gender issues, and environmental preservation have evolved. And, the LGED has been effectively using GIS techniques. Therefore, the subject of rural development planning shall focus on such activities in physical planning that are currently being carried out in the LGED.

Rural Infrastructure Design

This subject shall cover design technology concerning RD&I work in the LGED. Matters in the fields of construction and maintenance will not always be included; however some of these matters may be touched on if they relate significantly with design.

Training

This subject shall cover technical training activities that are presently dealt with by the LGED training cell.

2) Short-term experts:

A certain number of short-term experts will be dispatched to supplement the activities of the long-term experts, when necessity arises, for the smooth implementation of the Project. The fields of the short-term experts to be dispatched will be finalized based on the results of an investigation on weak areas of LGED technology during the Project term. Prior to the commencement of the Project, it is anticipated that the following fields will be included:

- participatory planning in rural development, and operational procedures,
- utilization of geographical information in rural development planning,
- modernized technology in GIS,

- managing technology for technical standards including handling and updating processes,
- effective new technology for future advancement of the LGED.

3) Procurement of Equipment:

Some equipment may be procured if it is deemed to have direct relevance to the Project activities of the Japanese experts. Major equipment for the RDEC's establishment that isn't directly related with the Japanese experts' activities shall be provided at the LGED's expense.

4) Expenditures in Local Activities:

Some expenses for local activities may be born by the Japanese side if it is deemed they have direct relevance to the Project activities of the Japanese experts. The following expenditures may be applicable at the beginning stage of the Project:

- photocopying of documents to be collected in the RDEC's Technical Library,
- translation of the above documents into English, if necessary, and
- preparation and execution of TNA.

5) Training in Japan:

When necessity is identified, some counterparts may be sent to Japan for technical training in line with Project objectives. Subjects of training in Japan and nomination of trainees will be finalized based on an analysis of the weak points of LGED counterparts during the Project term. A number of subjects are anticipated prior to the commencement of the Project, including rural development planning, rural infrastructure design, construction methods, and technical information management.

5-6-2 Inputs by GOB side

The GOB side's inputs will be, namely, assignment of counterparts, provision of facilities and equipment, and budget allocation.

1) Assignment of counterparts:

The LGED will assign the necessary number of qualified full-time counterparts who are dedicated to the Project. It will also assign at least one Superintending Engineer (SE) to each Japanese expert for the smooth implementation of the Project. A sufficient number of qualified administrative staff members and supporting staff members will be assigned for the smooth implementation of the Project.

2) Provision of facilities and equipment:

The LGED will provide office space and necessary facilities in the RDEC, including electricity, water supply and domestic telecommunication facilities, for the Japanese Team members. Also, room for the RDEC Technical Library will be secured within the RDEC building having the adequate floor space.

3) Budgetary allocation:

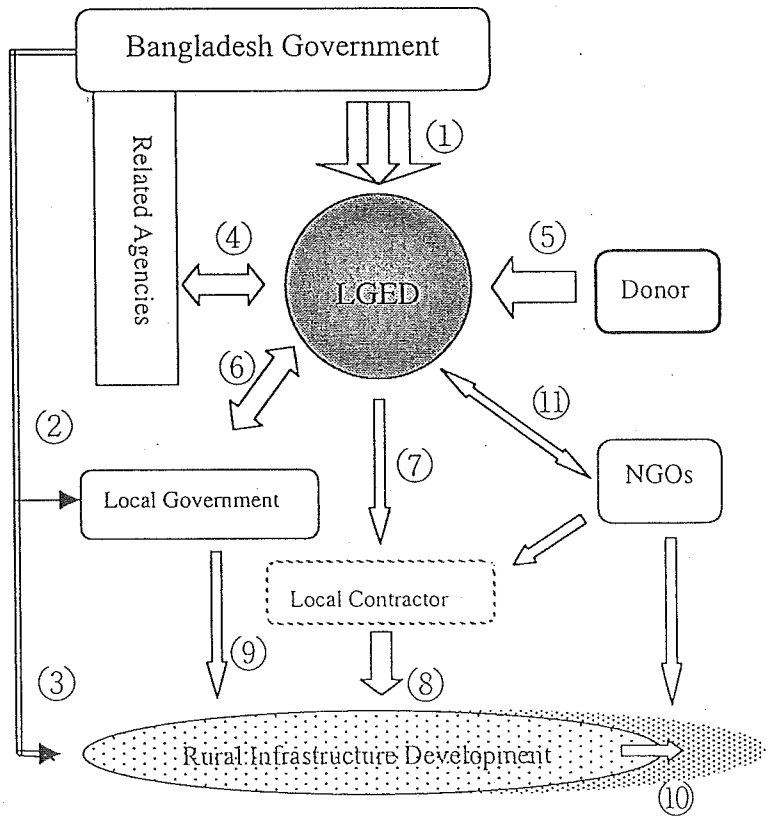
The GOB side shall allocate the necessary funds for the smooth commencement and successful implementation of the Project.

5-7 Important assumptions and risk analysis

5-7-1 Important assumptions

The Project is an attempt to promote internal institutional improvement of the LGED so that its organization and operations can be sustained into the future. There are two categories of important assumptions, namely, a series of assumptions directly related to the Project activities, and external assumptions which are not related directly to the Project activities.

The external assumptions for the LGED are schematically shown in the figure below. It is expected that the external assumptions surrounding the LGED will not influence the RDEC's establishment significantly. External assumptions ① to ⑩ in the figure below are identified as follows:



External Relations with Activities of LGED

No.	Related between and/or to	Present condition	Assumptions
①	Bangladesh Gov.(GOB) and LGED	LGED is a line agency of GOB, with resources provided by and governed by GOB.	Official position and political status of LGED within GOB is not altered significantly.
②	GOB and Local Gov.(LGI)	GOB has enhanced LGI in terms of rural development	LGI will be further empowered
③	GOB to Rural Infrastructure Development (R.I.D)	GOB has given high priority to R.I.D.	The high priority given to R.I.D. continues in the next decade.
④	LGED and Related Agencies	LGED has been allocated a portion of the ADP budget under the projects of related agencies.	LGED will be involved with related agencies projects to a similar or greater degree.
⑤	LGED and Donors	More than 20 donors are providing assistance for rural development projects of LGED.	Donors' assistance to LGED continues at a similar scale and in the same categories.
⑥	LGED and LGI	LGED encourages LGI in taking responsibility in R.I.D.	LGI will play a larger role in R.I.D..
⑦	LGED and Local Contractors (LC)	LC contracts implementation of R.I.D with LGED.	Basis for contract implementation with LC is continued in same manner.
⑧	LC to R.I.D	LC implements R.I.D. on contract basis.	R.I.D. will expand in number of categories based on LC contract.
⑨	LGI to R.I.D	LGI is partially connected with R.I.D.	LGI will take initiative in R.I.D in future.
⑩	Rural infrastructure of concern to LGED	R.I.D dealt by LGED is conducted as construction work.	Maintenance and other sector's projects will increase.
⑪	LGED to NGOs	NGO involvement in LGED is limited to participatory activities at the local level.	NGO involvement in R.I.D. related to LGED increases.

In addition to the above-mentioned external assumptions, internal assumptions directly related to the overall goal and project purpose are identified in following table:

Important Assumption of the Project

Goals, purposes	Important Assumption	Risk occurrence
Super goal	Implementation conditions for LGED activities do not change drastically. Keen motivation of LGED staff for success is sustained.	This is covered by the above-mentioned external assumptions; no significant change is expected.
Overall goal	Incentives for improving engineering are kept in RDEC.	Risks are avoidable through LGED measures.
Project purpose	RDEC step-up plan is executed on schedule	Risks are avoidable through LGED measures.
Project outputs	All LGED engineering sections and projects cooperate with the Project's activities. RDEC concept is not changed by the authorities of LGED. Training opportunities are evenly given to all LGED technical staff members. Necessary budget and systems are maintained at a level not lower than the current level.	Risks are avoidable through LGED measures.

	Major equipment required for RDEC activities is procured by LGED. There are no obstacles to Project implementation, financing, contracting procedures and RDEC management.	
Project activities	RDEC building is constructed on schedule, and utilized as an engineering center. RDEC is empowered for technical coordination within LGED. The Head Office organization of LGED is restructured in line with the M/P.	Risks are avoidable through LGED measures.
Project commencement	TAPP of the Project is prepared on time, and approved as required. Construction work of RDEC building is started.	Risks are avoidable through LGED measures. Prompt action is required to deal with delays in countermeasures.

5-7-2 Unavoidable risks

The Project handles man-made organization, in which uncertain factors such as natural phenomena do not figure in. Therefore, no unavoidable risks are identified by following the scope of the Project.

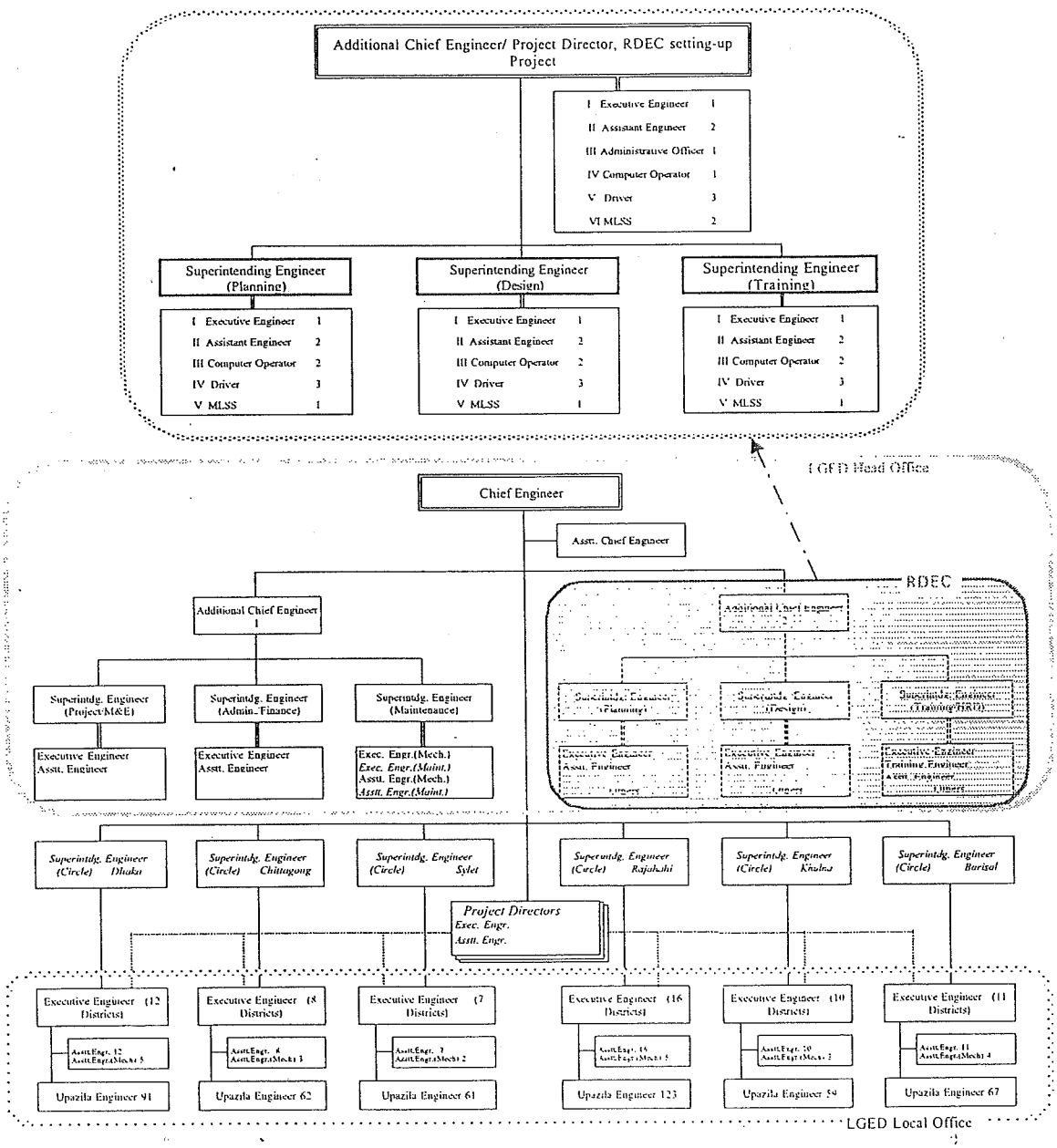
5-8 Project Implementation and Executing System

The Project Director is assigned to the RDEC Office in charge in order to maintain adequate authority for coordination with other implemented projects. Superintending Engineers (SE) of the RDEC in the related technical sections of each expert will be appointed as technical coordinators. This is in addition to assignment of full-time counterpart personnel under the Project.

The organization of the RDEC has been drafted by the LGED, and is as shown below. Regarding the draft of the organizational chart of the RDEC, it will be composed of three technical sections (planning, design and training), which will be headed by an Additional Chief Engineer (ACE) in the RDEC Office in charge. Since technical fields in the Project cooperated by Japan fully coincide with these three technical sections of the RDEC's organization, the RDEC's organization may also be accounted to be a Project implementation organization for the LGED side. During Project implementation, each SE will serve the important role of coordinating the achievements of the LGED with Japanese experts, when the necessity arises.

According to the draft of the RDEC's organization plan, technical staff members are: one Executive Engineer, two Assistant Engineers and two Computer Operators. Related support staff members such as drivers will be assigned to all technical sections in the RDEC. The technical staff members will be nominated from among GOB revenue personnel. This is because the technical staff members should be core personnel capable of permanently conducting technical coordination.

The Project, whose objective is to support the set up of the RDEC, shall be implemented with the LGED's ownership, with extensive attendance of all SEs and under the full responsibility of the ACE. Japanese long-term experts will provide support with the mutual consent of the ACE and with the reliable cooperation of the full-time counterparts. The Team Leader of the Japanese team will supervise all of the activities of all Japanese experts, and act as the official representative of the Project team.



Proposed RDEC Organization in LGED System

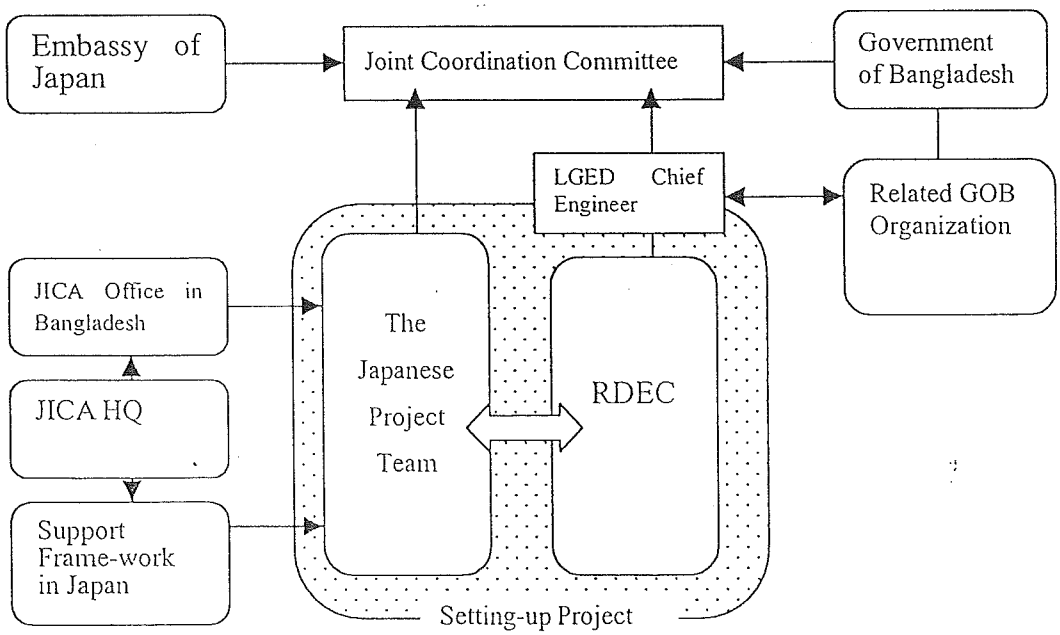
Furthermore, the overall Project implementation system is proposed as shown in the following figure. In terms of project operation, the Joint Coordination Committee, which is to be established prior to the

commencement of the Project, will supervise project performance. The Committee will act to 1) approve the Annual Work Plan of the Project in line with the Tentative Schedule of Implementation to be formulated under the framework of the Record of Discussion, 2) take necessary measures for budgetary allocation to the Project, 3) review the overall progress of the Annual Work Plan, 4) review and exchange views on major issues arising from or in connection with the Project, and 5) give necessary advice to the Project.

The composition of the Committee will be:

Chairperson:	Secretary, Local Government Division, MLGRD&C
Member Secretary:	Chief Engineer, LGED
Members:	Director General, Local Government Division, MLGRD&C
	Representative of the ERD, Ministry of Finance
	Representative of the Planning Commission
	Project Director, LGED
	Team Leader, JICA
	Experts, JICA
	Coordinator, JICA
	Resident Representative of the JICA Bangladesh Office
	Official(s) of the Embassy of Japan, as observer(s)

As the LGED will be supported in Project implementation by related agencies of the GOB, JICA will assist the Japanese Project team through the JICA Bangladesh Office. In Japan, a number of support frameworks will be used to strengthen Project activities as required.



Overall Project Implementation System of the Project

5-9 Pre-conditions and prerequisites

The pre-conditions and prerequisites of the Project correspond to the important assumptions for project commencement. As the Project cannot start if the pre-conditions are not satisfied, satisfaction of the pre-conditions is a prerequisite. Progress in preparation of TAPP and construction work of the RDEC building will be carefully monitored in the manner discussed in the M/M of the Second JICA Preparatory Study.

6. Project Justification

6-1 Expected effects of the Project

Category	Impacts	Expected effects of the Project
Impact of Project implementation	Policy Impact	Rural development and rural infrastructure development are given highest priority in the GOB's national policy. Raising the capability of LGED through adequate functioning of RDEC will help advance implementation of the policy.
	Institutional Impact	LGED is the only GOB governmental organization that uses a modernized Para-Matrix Organization. The LGED organization is expected to promote further advancement through the completion of RDEC's establishment and function. This is a typical "Demonstration Model" for all GOB governmental agencies.
	Socio-cultural Impact	No direct socio-cultural impacts are identified.
	Technical Impact	Direct impact on improvement of technical capability will be expected for the counterpart personnel through on-the-job-training. Furthermore, indirect positive impacts for all LGED staff members who participate in LGED training courses are anticipated through the training system improvement activities of the Project.
	Economic Impact	Several projects prepared their own technical specifications and guidelines etc. without utilizing those already prepared by previous projects. If RDEC coordinates the proper utilization of unified standard specifications and so on, the resources of all projects appropriated so far for such preparation could be saved. This is estimated to equal around 3% of the total project budget. [1]
Impact on the Environment	It is essential that there be no negative impacts on the environment	Indirect positive impact on the environment and socio-economics.
Accomplishment of the overall goal	Confirmation of fulfillment of the important assumptions when the overall goal is accomplished through the successful achievement of the project purpose.	There is strong logical consistency between the overall goal and the project purpose. Providing that a suitable Step-up Plan will be prepared as planned, the overall goal will be attained through satisfaction of the assumption "RDEC Step-up Plan is executed on schedule" under the condition that the project purpose has been fulfilled.

6-2 Possibilities for Accomplishment

Items for accomplishment	Possibilities for Accomplishment
Logic of project planning	The Project process is sound in terms of (Activities) —(Outputs) —(Project purpose) —(Overall goal) —(Ultimate goal) as shown in the PDM. Considering the sound logical consistency of the Project framework, no substantial risks in the possibilities are identified.
Feasibility of the project purpose	The project purpose ("Directorial circumstances of RDEC operation are put in order") contains no areas of excess within the Project framework, and high effectiveness is expected in the Project implementation. However, careful consideration is required in the selection of indicators for the satisfaction of the Project purpose.

[1] The figure of 3% was arrived at multiplying the ratio of the number of implemented projects that have a project component of arranging technical standards (60%), and the ratio of the budget allocated for the component to the total budget of each project on average (5%).

Superiority of the concerned technology in Japan	The technology required for project implementation is advanced rural development and rural infrastructure development technology and technical management skills for its utilization. Japan has effectively and systematically promoted rural development. This kind of experience and knowledge is superior to that found in Bangladesh given the current situation.

6-3 Effectiveness

Project effectiveness in terms of cost and effect is concluded to be significant and relatively high in comparison with the (Project cost) and (Project effect):

(Project cost): Proposed inputs of the Project during the Project period of three years, mainly covering the assignment of 4 long-term experts, short-term expert(s) etc.

(Project effect): Implementation efficiency of the LGED, which has implemented operations at about US$400million annually, increased by about 3%.

Furthermore, no substantial risks are expected in operation and maintenance of the equipment and facilities after the implementation of the Project, based on consideration of the fact that LAN, several databases and the GIS system are currently performing and being maintained well.

It is difficult to evaluate the Project's effectiveness on basis of EIRR or FIRR. However, the fact that ISP input is about 140 persons annually, which fulfills the purpose of institutional improvement of the LGED as well as the Project's purpose, shows higher effectiveness of the Project from the viewpoint of input magnitude.

6-4 Relevance

Categories	Items of relevance	Relevancy
Relevance of the Project in public enterprise and ODA	Public goods	RDEC handles rural infrastructure. Such infrastructure is regarded as a form of public goods.
	External economy	Improvement of the LGED's functions through RDEC functioning will raise local contractors' capabilities. This is the Project's contribution to the external economy.
	Monopolistic tendency	Because the LGED handles public works, project implementation in the LGED cannot be classified as a monopoly.
	Market failure	Because the LGED handles public works, project implementation in the LGED cannot be classified as market failure.
	Civil minimum	Rural infrastructure development is a national priority. This project, which is concerned with rural infrastructure development, has the proper civil minimum.

Consistency with JICA's basic implementation strategy in Bangladesh	JICA gives "the strategy for agriculture and rural development and increase in production" top priority in its basic implementation strategy in Bangladesh. JICA also decided that technical cooperation should receive higher priority than other forms of cooperation. The Project, which involves technical cooperation for rural development, properly corresponds to JICA's cooperation policy.
Consistency with the recipient's needs	The project is in direct accordance with the key-objectives of "promotion of poverty alleviation through rural development and rural infrastructure development", as stated in the 5th Five-Year Development Plan in Bangladesh.
Participation	The Project will be implemented in line with the Master Plan (M/P), which was prepared by the LGED itself. Rather than saying it is participatory, the Project has been promoted on the LGED's initiative.
Adequate executive organization	The final executive organizational plan for the RDEC is under preparation.
Evaluation and monitoring system	Japanese missions will conduct an evaluation and monitoring of the Project in cooperation with the Bangladesh side periodically per the schedule shown in the attached sheet entitled "Overall Plan of Operation". Furthermore, the IMED (Implementation Monitoring and Evaluation Division) of the Ministry of Planning in Bangladesh will evaluate and monitor the Project before starting and termination of the Project period.

6-5 Sustainability

Items	Sustainability
Institutional capability	The LGED modernized its organization, exhibiting its high institutional capability. And, the institutional activity of the Project is not a new creation, but an improvement on the existing organization. Therefore, no difficulty is recognized for the institutional capability.
Financial capability	Considering the present scale of the annual budget of the LGED (Revenue budget: 3,222.7 million Tk, ADP 21.2 billion Tk), the LGED has maintained adequate financial capability. Financial issues relate with the priority of the expenditures. Implementation of the Project may deserve high priority in financial disbursal, because the RDEC's establishment is linked with the future prospects of the LGED.
Social, environmental and technical capability	As referred to in Expected effects of the Project , no problems are expected in sociological and environmental aspects. As for technical capability, adequate sustainability can be expected because the Project intends to improve the present technology of the LGED rather than drastically introducing new technology .

6-6 Conclusion of Pre-evaluation

According to the results of the pre-evaluation of the Project described above, it is concluded that feasibility of the Project is sufficiently adequate for its implementation.

The Project will have significant and positive effects in the political, institutional, technical and economical aspects. The Project shows high possibilities for accomplishment in terms of the logic of project planning, feasibility of the project purpose, and superiority of technologies applied in the Project. Although proper indicators for judging of project achievement still need to be considered, Project

implementation is expected to have the desired effectiveness. Furthermore, Project relevance will conform superbly with related circumstances, and the Project will be sustainable from the institutional, financial, social, environmental and technical viewpoints. Considering this favorable evaluation, it is proposed to commence the Project.

In order to successfully commence the Project, the plan of executive organization should be finalized in correspondence with the GOB's final decision and submitted as the LGED's new organizational plan.

7. Annexes

PDM of Rural Development Engineering Center Setting-up Project

Project Name: Rural Development Engineering Center Setting-up Project Duration: January 10, 2003 – January 9, 2006 (3 years)

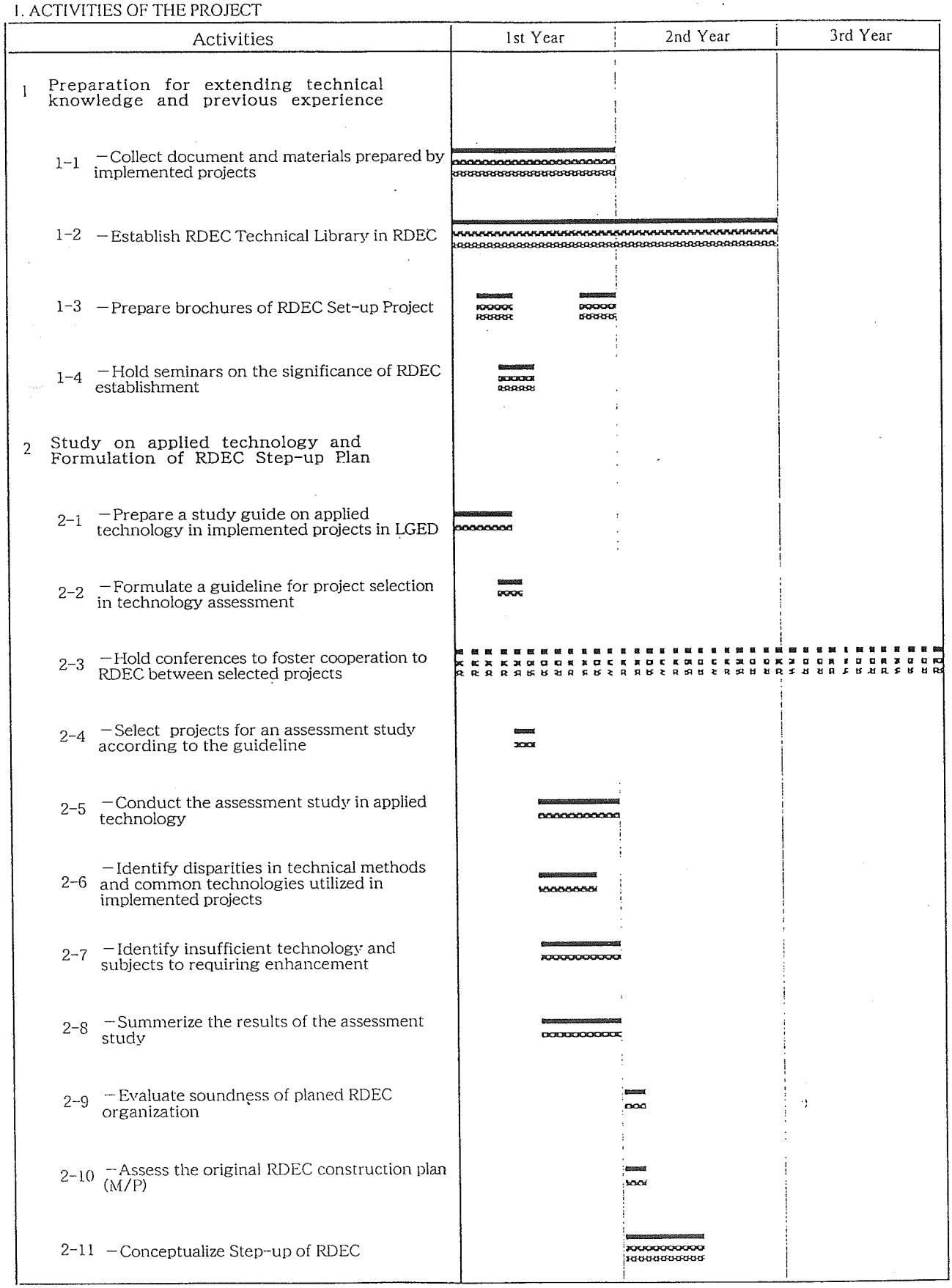
Project Area: Bangladesh Target Agency: LGED Date:September, 2002

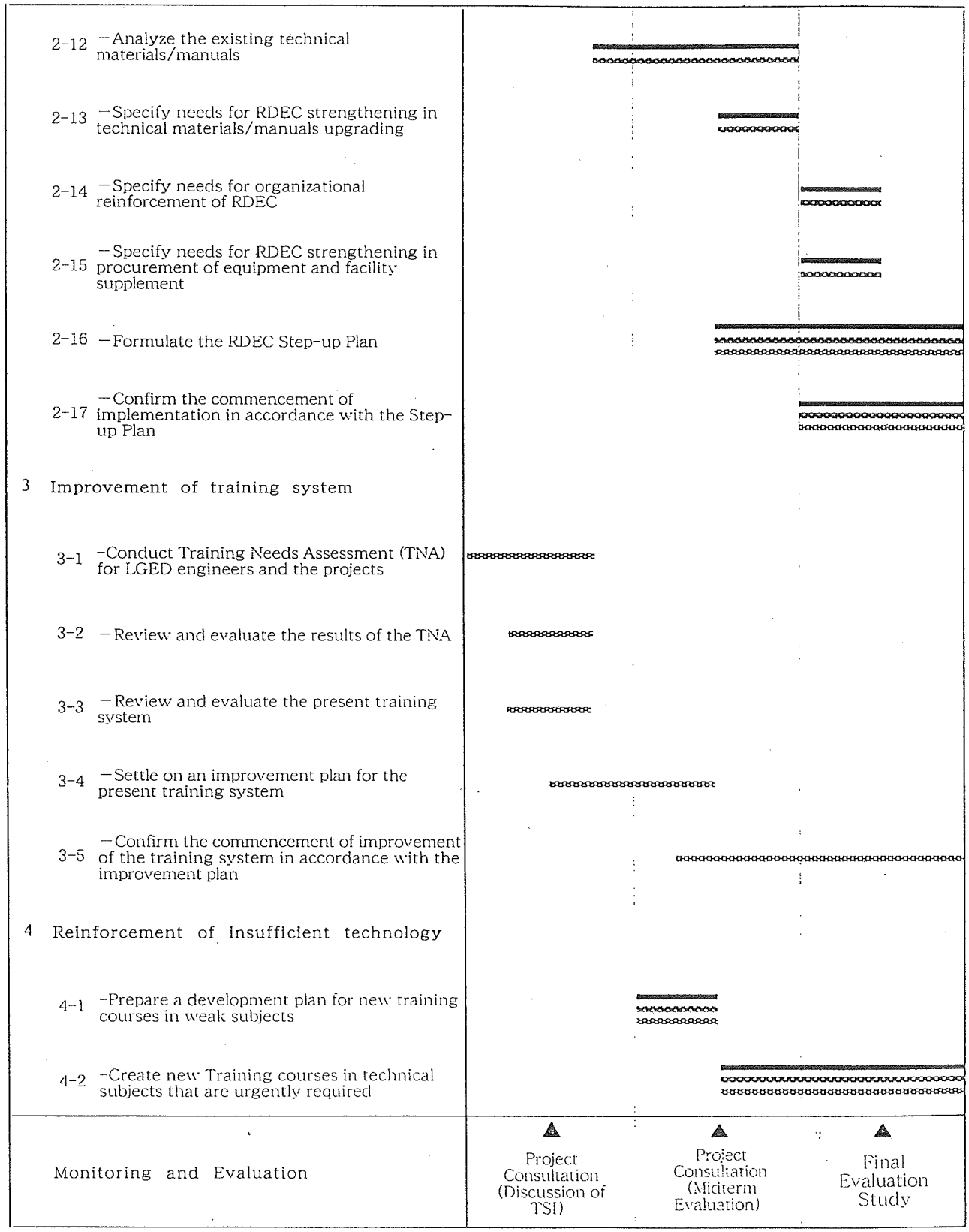
Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
Super Goal Institutional (technical) capability of LGED is strengthened	—	—	—
Overall Goal RDEC is continuously capable of providing necessary technical service according to its Step-up plan.	RDEC is supremely clarified as a technical core center in LGED's organization framework.	RDEC Progress Report	Incentives for grading up in engineering are kept in RDEC. Apportionment of consultants in LGED technical staff members decrease. Training opportunities are evenly given to all LGED technical staff members.
Project Purpose RDEC is all set to function as a technical core center in LGED.	Step-up plan is authorized and budgeted. Training scheme is established and budgeted.	LGED budget document LGED decision document	RDEC Step-up Plan is executed on schedule. RDEC 's budget become permanent.
Outputs 1. Technical knowledge and previous experiences obtained through implemented projects are accumulated in RDEC to be set for disseminating in LGED project. 2. Directions for technical standard and management of the applied technology are prepared as manuals 3. The LGED training system is activated, with offering training courses for insufficient technology. 4. Guidelines for technical management in RDEC are prepared as Step-up plan, referring to the output 1 to 3.	1. By 2003, existing technical documents and materials are collected and made available in the library. 2. Number of standard manuals revised and created by the end of the project 3-1. Training curriculums are newly created that were highly requested by LGED staff. 3-2. Half of training curriculums are newly created that were requested by half of LGED staff. 3-3. Number of training instructor and training materials 3-4. Manual for arranging training curriculums and syllabus	Periodic project survey report. Periodic project survey report. Annual Training Report of LGED Training Cell.	Each LGED project recognize the RDEC's role and affirmative and cooperative for the project activity. High request for training continues among LGED staff Some training programs are tried for improvement and the result is feed-backed.
Activities 1-1. Establish Technical Library in RDEC. 1-2. Publicize the significance of RDEC establishment, delivering brochures on the Project to Set up the RDEC. 2-1. Execute assessment study of applied technology on implemented projects in LGED. 2-2. Identify differences and shared areas in technical methods, and points to be improved among technical methods and standard specifications of the implemented projects. 2-3. Evaluate and approve the basic concept, institutional authority and management plan of RDEC. 2-4. Specify needs for RDEC strengthening in procurement of equipment, technical material upgrading, and supplement of facilities. 3-1. Conduct TNA(Training Needs Assessment) among LGED engineers of implemented projects and analyze the results. 3-2. Prepare an improvement plan for the current training system. 3-3. Create some new training courses to complement technical subjects that are urgently required based on the results of 2-2 and 3-1.	**Inputs** **Japanese side** Long-term Expert 1) Leader/Rural Development Planning 3 years 2) Rural Infrastructure3 years 3) Training 3 years 4) Coordinator 3 years Short-term Experts * Equipment 1) Computer 2) Vehicle(s) 3) Audio and visual equipment for training 4) Other necessary equipment Budget A portion of expenditures for local activities related to the Project. Training in Japan Training opportunities in Japan for counterparts in related subjects.	GOB (LGED) Personnel 1) Four (4) fulltime counterparts against each Japanese Long-term Expert 3 years 2) LGED engineers necessary to execute project activities 3) Counterparts for short term Experts 4) Computer operators, Drivers, and Secretaries for LGED staff Equipment 1) Office 2) Furniture 3) Telecommunication tools and business equipment. Budget 1) Salaries and necessary expenses for counterparts 2) Allowances and expenses of trainees 3) T raining costs	Materials and technical standard of each project are submitted to RDEC timely. Each project are supportive for assessments executed in project activities.(2-1 and 3-1) Significance, objective and scope of Step-up plan are shared among LGED Engineers. Budget for training and lecturer are properly available. **Pre-conditions** Significance of the project spreads among LGED engineers. TAPP is approved and necessary inputs in terms of personnel and budget are executed properly. Construction of RDEC building finishes before the commencement of the project Equipment and facilities are procured by JBIC loan and maintained properly by GOB.

* : A certain number of short-term expert(s) will be dispatched to supplement the activities of the long-term experts, when necessity arises, for the smooth implementation of the Project.

Tentative Overall Plan of Operation (OPO)

I. ACTIVITIES OF THE PROJECT




2-12 −Analyze the existing technical materials/manuals
2-13 −Specify needs for RDEC strengthening in technical materials/manuals upgrading
2-14 −Specify needs for organizational reinforcement of RDEC
2-15 −Specify needs for RDEC strengthening in procurement of equipment and facility supplement
2-16 −Formulate the RDEC Step-up Plan
2-17 −Confirm the commencement of implementation in accordance with the Step-up Plan
3 Improvement of training system
3-1 -Conduct Training Needs Assessment (TNA) for LGED engineers and the projects
3-2 −Review and evaluate the results of the TNA
3-3 −Review and evaluate the present training system
3-4 −Settle on an improvement plan for the present training system
3-5 −Confirm the commencement of improvement of the training system in accordance with the improvement plan
4 Reinforcement of insufficient technology
4-1 -Prepare a development plan for new training courses in weak subjects
4-2 -Create new Training courses in technical subjects that are urgently required
Monitoring and Evaluation
Project Consultation (Discussion of TSI)
Project Consultation (Midterm Evaluation)
Final Evaluation Study
: Rural Development Planning
: Rural infrastructure Design
: Training

2. INPUT INTO THE TECHNICAL COOPERATION PROGRAM

ITEM	1st Year	2nd Year	3rd Year
A. Japanese Side :			
1 Dispatch of Expert			
(1) Long-term Experts			
a Team Leader/Rural Development Planning			
b Rural Infrastructure Designing			
c Training			
d Coordinator			
(2) Short-term Experts	If the need arises		
2 Supply of equipment			
3 Counterparts training in Japan			
4 Dispatch of Study team	▲	▲	▲
B. Bangladeshi Side :			
1 Assignment of Counterparts and Administrative Personnel			
(1) Project Director (ACE)			
(2) Technical Coordinator (SE)			
a Planning Section			
b Design Section			
c Training Section			
(3) Project Coordinator			
(4) Counterparts (XEN, AEN)			
a Rural Development Planning			
b Rural Infrastructure Designing			
c Training			
(5) Typist and Driver			
(6) Personal Secretary			
(7) Other Necessary Supporting Staff	If the need arises		
2 Office Space and Furniture			
3 Supply of Equipment except that supplied by the Japanese side			
4 Allocation of Running Cost of the Project			

Terms of Reference for the Long-term Experts

Specialty	Terms of Reference
Rural Development Planning	To advise the counterparts, when they conduct the following: - review previous and on-going planning methodologies applied in related projects by examining the projects documents collected in the RDEC Technical Library and interviewing personnel concerned. - study planning strategies, methods, and reports to consider differences in regional characteristics and development purposes. - select typical model projects that can serve as a reference for others involved in rural development planning. - reflect reviews on existing overall LGED planning guidelines and the training activities, if both sides agreed this is needed. - prepare an explanatory book including executing samples on application of the Upazila Plan Book and Union Plan Book, for explanation to recipients. - evaluate guidelines of scheme approval for application in their Plan Books. - review participatory planning methods by examining on-going projects. - participate in preparation of related aspects of RDEC Step-up Plan.
Rural Infrastructure Designing	To advise to counterparts, when the they conduct the following: - manage work for establishment of the RDEC Technical Library. - review previous and on-going design and construction methodologies applied in related projects by examining the projects documents collected in the RDEC Technical Library and interviewing personnel concerned. - study design and construction methods to consider differences in regional characteristics and development purposes. - select typical model projects that can serve as reference for others involved in rural infrastructure development. - reflect reviews on existing overall LGED planning guidelines and the training activities, if both sides agreed this is needed. - make plans for a supervisory system for extension and utilization of updated standard specifications. - participate in preparation of related aspects of the RDEC Step-up Plan.
Training	To advise the counterparts, when they conduct the following: - carry out a Training Needs Assessment (TNA) on the basis of analyzed subjects, purposes and methods. - review and evaluate the TNA results. - improve present training courses on the basis of reviews and to create new training courses, if both sides agree this is needed. - conduct a TNA for the project officials to inquire the project needs for the LGED training cell. - analyze projects needs in training. - improve current training courses on the basis of the TNA results. - improve criteria for assessing effectiveness of training. - make efforts to improve the technical capacity of the LGED staff, and to enable projects to join LGED training. - to participate in preparation of related aspects of the RDEC Step-up Plan .

Terms of Reference for the Counterparts

Specialty	Terms of Reference
Rural Development Planning	<Qualifications> Counterparts should be regular engineering staff members having a college degree, and hopefully posted as an Executive Engineer or Assistant Engineer in the Planning Section, LGED. <Terms of Reference> Counterparts will: - fulfill all project tasks on rural development planning as scheduled in the Overall Plan of Operation (PO), - employ him(her)self to the Project to accomplish the Project purpose, cooperating with the Japanese experts, - enlighten all LGED engineers on the technical outcomes of the Project as a part of the project s activities, with the authority of his (her) supervising SE, - conduct field surveys with Japanese experts when needed, and arrange the schedule of these surveys, - prepare an explanatory book including executing samples on application of the Upazila Plan Book and Union Plan Book, for explanation to recipients, - become accustomed to practice of participatory planning methods, and introduction of on-going projects, - execute related aspects of the RDEC Step-up Plan.
Rural Infrastructure Designing	<Qualifications> Counterparts should be regular engineering staff members having a college degree, and hopefully posted as an Executive Engineer or Assistant Engineer in the Designing Section, LGED. <Terms of Reference> Counterparts will: - fulfill all project tasks on rural infrastructure designing as scheduled in the Overall Plan of Operation (PO), - employ him(her)self to the Project to accomplish the Project purpose, cooperating with the Japanese expert, - enlighten all LGED engineers on the technical outcomes of the Project as a part of the project s activities, with the authority of his (her) supervising SE, - conduct field surveys with Japanese experts when needed, and arrange the schedule of these surveys, - carry out establishment of the RDEC Technical Library, - revise existing overall LGED designing and construction guidelines (if needed), - establish a supervisory system for extension and utilization of the updated standard specifications, and operate the related systems appropriately, - execute related aspects of the RDEC Step-up Plan.
Training	<Qualifications> Counterparts should be regular engineering staff members having a college degree, and hopefully posted as an Executive Engineer or Assistant Engineer in the Training Cell, LGED. <Terms of Reference> Counterparts will: - fulfill all project tasks on rural infrastructure training as scheduled in the Overall Plan of Operation (PO), - employ him(her)self to the Project to accomplish the Project purpose, cooperating with the Japanese expert, - take charge of ordinary training operations, with the authority of his (her) supervising SE, - conduct training inspection with Japanese experts when needed, and arrange the schedule of these inspections, - carry out a Training Needs Assessment (TNA) by exploring previous problems on the current training method, together with experts - improve present training courses on the basis of the reviewed outcomes of the TNA, - execute related aspects of the RDEC Step-up Plan.