

エジプト ナイルデルタ水管理改善計画 終了時評価調査団報告書

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04-48

序 文

独立行政法人国際協力機構は、エジプト・アラブ共和国（以下、「エジプト」）と締結した討議議事録（Record of Discussion：R/D）に基づき、技術協力方式プロジェクト「ナイルデルタ水管理改善計画」を、2000年3月1日から5年間の予定で実施しています。

このたび、プロジェクトの協力期間終了を約5カ月後に控え、協力期間中の活動実績などについて、エジプト側と合同で総合的な評価を行うとともに、今後の対応策などを協議するため、2004年（平成16年）9月24日から同年10月7日まで、当機構農村開発協力部第三グループ乾燥畑作地帯第一チーム長 佐藤 仁を団長とする終了時評価調査団を現地に派遣しました。

本報告書は、同調査団によるエジプト政府関係者との協議及び評価調査結果などを取りまとめたものであり、本プロジェクト並びに関連する国際協力の推進に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いただいた内外の関係各位に対し、心から感謝の意を表します。

2004年10月

独立行政法人国際協力機構
理 事 北 原 悦 男

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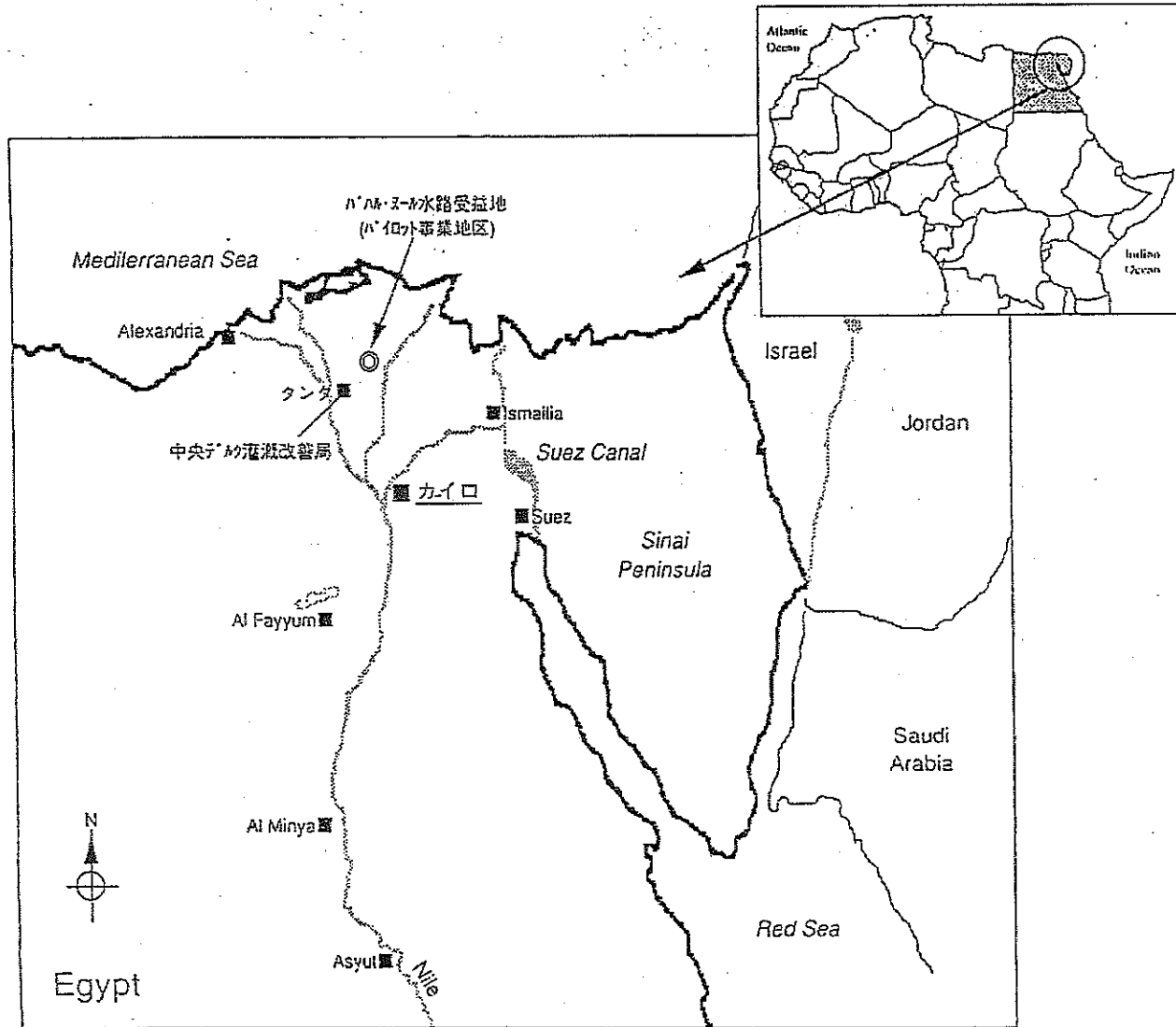
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エジプト・ナイルデルタ水管理改善計画 プロジェクト位置図



略 語 表

C.C.C.	Construction Coordination Committee	工事調整委員会
C/P	Counterpart	カウンターパート
dTSI	detail Tentative Schedule of Implementation	詳細暫定実施計画
GIS	Geographic Information System	地理情報システム
IAS	Irrigation Advisory Service	灌漑指導局（水資源灌漑省）
IIP	Irrigation Improvement Project	灌漑改善プロジェクト
IIS	Irrigation Improvement Sector	灌漑改善局（水資源灌漑省）
JICA	Japan International Cooperation Agency	国際協力機構
JSC	Joint Steering Committee	合同運営委員会
JSCC	Joint Site Coordinating Committee	合同サイト調整委員会 （事業連絡委員会）
M/M	Minutes of Meeting	議事録
MWRI	Ministry of Water Resources and Irrigation	水資源灌漑省
PCM	Project Cycle Management	プロジェクト・サイクル ・マネージメント
PDM	Project Design Matrix	プロジェクト・デザイン ・マトリックス
PO	Plan of Operation	詳細活動計画
R/D	Record of Discussion	討議議事録
TSI	Tentative Schedule of Implementation	暫定実施計画
WUA	Water Users' Association	農民水利組織（の単位）
WUF	Water Users' Federation	農民水利組織連合

評価調査結果要約表

1. 案件の概要	
国名：エジプト	案件名：ナイルデルタ水管理改善計画
分野：農業	援助形態：技術協力プロジェクト
所轄部署：農村開発部 第三グループ 乾燥畑作地帯第一チーム	協力金額（評価時点見込み）：5.80 億円
協力期間	(R/D)：2000/3/1-2005/2/28
	(延長)：
	(FAU)：
	(EN)(無償)：
	先方関係機関：水資源灌漑省灌漑改善局
	日本側協力機関：農林水産省
	他の関連協力：特になし
1 - 1 協力の背景と概要	
<p>エジプト・アラブ協和国（以下、「エジプト」）のナイル川水利用は、国際協定により年間 555 億トンに制限されている。近年大規模農業開発プロジェクトの進展により水需要が急速に増加していることから、効率的な水利用の実現が急務となっている。農村地域では従来の取水慣行に基づく灌漑形態にポンプが普及したことにより、農民管理の末端水路（メスカ）域内で、恒常的に水不足が生じている。一方で過剰灌漑に起因する無効放流の発生が顕著化する状況にある。</p> <p>このような状況の下、エジプト政府は、農民の費用負担によって農民管理の末端施設の近代化を進めることを決定し、関連法制度を整備した。その後、効率的な水利用を実現するための調査の実施を要請してきた。これを受けて我が国は開発調査「中央デルタ農村地域水環境改善計画」を実施し、その中で技術協力プロジェクトとしての基本構想等を検討してきた。その結果、2000 年 3 月から本プロジェクトが開始された。</p>	
1 - 2 協力内容	
(2002 年運営指導（中間評価）調査団との間で合意された修正計画による）	
(1) 上位目標	
<p>効率的かつ効果的に IIP 事業（Irrigation Improvement Project：灌漑改善事業）を実施するための改善手法がナイルデルタで普及され、それにともなって農業生産性や農家の実質所得が向上する。</p>	
(2) 中間目標	
<p>効率的かつ効果的に IIP 事業を実施するための改善手法がプロジェクトエリアで灌漑効率と農業の生産性を向上させる。</p>	
(3) プロジェクト目標	
<p>最大限の農民参加に基づいた IIP 事業の効率的かつ効果的な改善手法がプロジェクトエリア内で実証される。</p>	
(4) 成果	
<p><u>分野 1 灌漑施設の改善</u> 灌漑施設の改善のための実施手法が改善される</p>	
<p><u>分野 2 農民の水管理組織（WUA & WUF）</u> 農民の水管理組織設立のための手法が改善される Water Users' Association：WUA, Federation of WUAs：WUF</p>	
<p><u>分野 3 圃場レベルの水管理</u> 圃場レベルの適切な水管理が導入される</p>	

分野4 プロジェクト管理

プロジェクト活動や成果が政府職員に適切に紹介される

(5) 投入（評価時点実績）

日本側：

長期専門家派遣	11名	機材供与	0.80億円
短期専門家派遣	延べ25名	ローカルコスト負担	0.36億円
研修員受入	10名		

相手国側：

カウンターパート配置	37名
ローカルコスト負担	0.34億円

2. 評価調査団の概要

調査者	担当分野	氏名	職位
	総括	佐藤 仁	国際協力機構 農村開発部 第3グループ 乾燥畑作地帯第1チーム チーム長
	水管理 / 圃場水管理	中屋 俊満	農林水産省 東海農政局 整備部 設計課 事業調整室長
	農民水利組織	岡本 雅美	日本大学 生物資源科学部 顧問教授
	評価分析	夏田 照平	株式会社三・コンサルタンツ 海外事業本部 技術部 第1課 主幹
	評価管理	村上 真由美	国際協力機構 農村開発部 第3グループ 乾燥畑作地帯第1チーム 職員
	調査期間	2004年9月24日～2004年10月7日	

3. 評価結果の概要

3-1 実績の確認

(1) プロジェクト目標

今回行われた農民に対するアンケート調査の結果、全回答者の80%以上が本プロジェクトの手法を支持し、工事が完了ないし開始されたメスカの回答者の80%以上が施設及び実施された圃場管理の活動に満足していることが明らかになった。但し、工事の進捗は60メスカの内の20メスカ（計画の約1/3）である。なお、遅延の理由はエジプト側による公示契約手続きの不調及び農民の同意取り付けに予想以上の時間を要したことである。

水資源灌漑省の改善手法に対する支持については、カウンターパート（以下、「C/P」）が導入された改善手法を高く評価していること、また世界銀行地区において農民参加の要素が強化されてきていることから、導入された手法に対する支持は継続されるものと考えられる。

(2) 成果

成果1：灌漑施設の改善

- ・C/Pは、現況調査の重要性を認識し、農家の意見を十分に把握し、流量と水質の計測方法について十分理解し、それらの機材の使用方法を学んだ。
- ・灌漑施設の計画と設計は、ほぼ完了している。
- ・専門家とC/Pは60メスカのうち55メスカの実設計を実施した。
- ・現時点では施工管理マニュアルは完成していない。しかしながらプロジェクト終了時までには作成される予定である。
- ・現在までにプロジェクトエリア内で20メスカが工事契約を終えている。

成果2：農民水利組織

- ・プロジェクト対象地域60メスカのうち20メスカで工事調整委員会が、また、29メスカで2/3以上の農民の同意取得後、WUAが設立された。これらの組織運営のためのテキストの作成及びこれらの会計監査のモニタリング・評価について、達成度は32%であった。

成果3：圃場水管理

- ・活動はほぼ完了している。
- ・C/P は分析データの取扱い、分析データの適用方法、水利用効率の改善を学んだ。
- ・供与機材は圃場水管理に貢献している。
- ・圃場水管理に対するデータ収集をほぼ終え、プロジェクト終了時までには圃場水管理マニュアルの作成を了する予定である。

成果4：プロジェクト管理

- ・政府職員に対する研修の実施回数はほぼ指標を満足しているが、教材作成等の準備や研修の実施・運営に関しては、日本側の支援が必要な状態である。
- ・プロジェクトの効果的な実施のために開催されるべき各種委員会はほとんど実績がないため、プロジェクトの進捗や課題についての関係者間の共有化と打開のアクションは不十分であったが、現場レベルを中心としたプロジェクト運営は関係者の良好なコミュニケーションにより円滑に行われた。
- ・プロジェクトに必要なデータベースが構築され、プロジェクト関係者内での情報の共有が可能となった。

3 - 2 評価結果の要約

(1) 妥当性

プロジェクト目標は、限られた水資源の有効利用を目指すエジプトの第5次社会・経済開発5カ年計画（2002年～2007年）に示される国家政策と整合性が高い。また、適正な水分配を要望する支線用水路下流の農民のニーズに合致している。支線用水路上流の農民については、プロジェクト実施前には法に反して個人のポンプを用いた取水を行っており、プロジェクト実施によって自由な取水は不可能となるものの、個人ポンプにかかる費用の削減と、支線用水路の連続通水による計画的な適期灌漑が可能となることから、プロジェクト実施の妥当性は高い。プロジェクトサイトの選定に関しては、農民の農業に対する取り組み、関係機関との連携の容易性及び圃場の整備状況等を踏まえており、適切であった。

(2) 有効性

農民からの同意取得遅延及びそれに起因するWUA設立の遅れの結果として、成果のプロジェクト目標に対する有効性は低く抑えられている。しかしながら、プロジェクト期間の後半になるにつれて、これらにかかる時間は短縮されたことが実績より確認できたことから、有効性は徐々に向上していると言える。なお、特に圃場水管理分野において、活動がプロジェクト目標の達成に効果的に貢献したことが具体的な試験結果から明らかであった。

(3) 効率性

専門家及び供与機材等の投入は適切にかつほぼ計画通りに行われ、特に圃場水管理分野の機材供与は成果の達成に効率的に作用した。また、C/P配置については、プロジェクトの進捗に沿って柔軟にかつ適切に変更され、技術移転が効率よく実施された結果、成果に結びついたと言える。現場を管理する専属のC/Pが配属されなかった点及び活動に関連の深い灌漑局をプロジェクトの運営管理に十分巻き込むことができなかった点については、プロジェクト及び実施機関により今後の対応策が検討されることとなっている。

(4) インパクト

本プロジェクトは、本格的な農民参加に基づいた水管理への第一歩となり、C/P、農民及びIIP事業を実施・推進するエジプト政府に農民参加型アプローチの重要性を認識させた。本プロジェクトは、実施機関である灌漑改善局（以下、「IIS」）の職員が運営・管理している世銀の同種プロジェクトにも影響を与え、農民参加のアプローチがより重視され始め、農民のオーナーシップ確保を目的として積極的な参画を引き出す動きが強まった。

予期していなかった環境、社会/文化面の正のインパクトとして、WUF準備委員会の中に環境とジェンダーの小委員会が設置されたことが挙げられる。農民にとって、環境及びジェン

ダーは重要な観点であり、今後も活動が継続・発展していくことが望まれる。

組織面の正のインパクトとして、レーザーレベリング運営管理委員会が WUF 準備委員会の中に設置されたことが挙げられる。供与機材であるレーザーレベリングの利用方法を習得した C/P が農民に対して技術移転を行っており、将来は WUF 内で共同利用・管理される。これらの二つの委員会設置にかかる動きは、農民と C/P の活動の中から生じたものであり、彼らの主体性が向上したことも、本プロジェクトの正のインパクトと言える。

(5) 自立発展性

WUA 及び WUF による水管理は現時点では本格化するに至っていないため、自立発展の見込みを判断することは困難であるが、プロジェクト活動において C/P によって WUA 及び WUF のリーダーを対象とした研修がなされている。また、IIS は、灌漑改善手法をプロジェクト対象地域のメスカ全体に広げ、連続通水を実現して WUF の活動を軌道に乗せるために、農民と共に活動を続けていくとしている。以上より、本プロジェクトの自立発展性については、やや高いと判断される。

3 - 3 効果発現に貢献した要因

(1) 計画内容に関すること

灌漑改善手法として施設整備と同時に水利組織の設立を図ったことは、組織の活動目的を明確にし、農民のインセンティブを高めることに寄与した。また、水路の整備に加えて圃場水管理の分野を導入したことにより、灌漑効率を総合的に高めることが期待できる。

(2) 実施プロセスに関すること

十分な農民参加を基本理念として、農民に対する説明、同意の取得、水利組合の設立、工事設計の確認、施工管理への参画といった一連の活動が、実際に農民を中心に行われたことが、農民のプロジェクトに対する高い支持につながっている。

3 - 4 問題点及び問題を惹起した要因

(1) 計画内容に関すること

当初計画においては活動が 8 項目に分かれており、活動の実施及び活動状況の把握に支障をきたしていたが、中間評価において 4 項目に統合・整理された。

(2) 実施プロセスに関すること

エジプトの法律では、工事の実施に農民同意は必要なく、また、3 分の 1 以上の農民同意があれば WUA が設立できる。一方、本プロジェクトは、工事完了後の施設及びそれを維持管理する組織 (WUA 及び WUF) の継続的かつ自立発展的な活用を目的として、農民への十分な事業説明、3 分の 2 以上の同意の取得、WUA 及び WUF の設立、工事設計の確認及び施工管理などの各過程における農民参加を促している。よって、工事開始までに多大の時間と労力が必要となった結果、プロジェクト活動に遅延が生じた。しなしながら、実施機関、C/P 及び農民は本プロジェクトのプロセスが有効であり、農民水利組織が改善された施設を持続的かつ自立的に運営・維持管理することを確実にするためには必要不可欠であると評価していることから、本実施プロセスは適当であったと判断される。また、上述の遅延に対し、現場レベルの関係者間で解決策が講じられたが、実施機関の幹部レベルを含む検討は十分になされなかった。

3 - 5 結論

灌漑施設の改善、農民水利組織及び圃場水管理の各分野について、基礎的な技術移転がなされ、プロジェクト終了時までにはマニュアルが完成する。しかしながら、プロジェクト目標の達成のためには、C/P がこれらを用いて自立発展的に行う活動について、日本側と共同したモニタリング、評価及びそれに基づく見直しが必要である。

3 - 6 提言

プロジェクト期間内に達成が困難な成果に関して、その達成に向けて日本側の協力を継続する必要性及び妥当性を図るための判断材料として、以下の条件を設定する。

- ・計画に対する達成度が未達であり、かつエジプト側だけで成果達成が困難であること
- ・プロジェクト目標を達成するために不可欠であること
- ・成果達成による大きいインパクト及び成果の高い自立発展性が見込まれること

これら条件を満たす 灌漑施設の改善 農民水利組織の能力向上 政府職員の能力強化について協力を継続する。

ただし、上述の活動を継続する前提条件として、以下についてエジプト側が合意・実行することとする。

- ・当初のプロジェクト期間内における活動実施に集中する。
- ・JSC を定期的開催する。
- ・プロジェクトサイトにおいて会合を設ける。
- ・プロジェクトの阻害要因を解消し、活動を推進するための措置を取る。
- ・プロジェクトの活動及び成果について広報する。

3 - 7 教訓

- ・プロジェクトの効果的かつ効率的な実施のために、開始前のコンセプト作りに十分な時間をかけること、その際に法制度を含めてプロジェクトの実施及びその準備に必要な事項と阻害要因を抽出し、関係者間で共有の上必要な対策を執ることが肝要である。
- ・中間評価時点で日本・エジプト双方で再確認した実施スケジュールより大幅に遅れることとなった要因として、主に農民の同意取付が予想以上に難航したこと及びその後の契約手続きに時間を要したことが挙げられる。これらプロジェクトの遂行上の大きな問題が発生した際は、日本側を含めて関係者と迅速に計画修正の必要性を含めて協議を行うことが重要である。
- ・現場レベルだけでなく、実施機関の幹部レベルを交えた会合の定期的開催を通じて、プロジェクトの進捗状況、予定、課題を周知し、常に関係者として巻き込んで広報活動と当事者意識の醸成を図ることが必要である。

以 上

第1章 終了時評価調査の概要

1-1 調査団派遣の経緯と目的

エジプト・アラブ共和国（以下、「エジプト」）のナイル川水利用は国際協定により年間 555 億トンに制限されているが、近年大規模農業開発プロジェクトの進展等により水需要が急速に増加していることから、効率的な水利用の実現が急務となっている。他方、農村地域では従来の取水慣行による灌漑方式のままでポンプが普及したこと等により、農民管理の末端水路（メスカ）域内で、恒常的に水不足が生じる一方で、過剰灌漑が併存する等、末端施設からの無効放流の発生と共に、水配分効率の低下に起因する問題が顕著化する状況にある。

このような状況の下、エジプト政府は、水資源の逼迫と水環境の悪化に対して、農業用水管理技術の改善による水資源の有効利用、水質の改善を図り、農業生産性を向上することを目的としたプロジェクト方式技術協力「ナイル川流域水資源・水環境改善計画」を要請してきた。

上述の要請に基づき、国際協力事業団（現国際協力機構 以下、「JICA」）は 1997 年 4 月、基礎調査団を派遣し、現状の水利用、水利施設、水管理組織及び管理運営状況などを確認した。また、これに関連して開発調査「中央デルタ農村地域水環境改善計画」（1998 年 3 月～1999 年 3 月）を実施し、マスタープラン調査及びフィージビリティ調査が行われた。

これらの経緯を踏まえて、開発調査の提言を具体化する技術実証事業（パイロット事業）となるプロジェクトについて、事前調査（1999 年 5 月）、短期調査（1999 年 8 月）を重ねた上、1999 年 11 月に実施協議調査団を派遣して討議議事録及び暫定実施計画のミニッツ（以下、「M/M」）署名を取り交わし、2000 年 3 月 1 日から 5 年間にわたるプロジェクト方式技術協力を開始した。現在、長期専門家 5 名（チーフアドバイザー、水管理/灌漑施設、水利組織、圃場水管理、業務調整）を派遣し、協力を実施している。

今回の調査では、「JICA 事業評価ガイドライン改訂版」に基づき、R/D、PDM、PO を参照し、運営指導（中間評価）調査後のプロジェクトの進捗状況、計画の達成状況及び評価 5 項目について、各種プロジェクト報告書、プロジェクト作成事前資料、質問表、関係者へのインタビュー、現地視察等を通じて、日本側・エジプト側合同で評価委員会を結成の上、総合的に調査・評価することを目的として終了時評価を行った。

1-2 調査団の構成

担当分野	氏名	職位
総括	佐藤 仁	国際協力機構 農村開発部 第三グループ 乾燥畑作地帯第一チーム長
水管理/ 圃場水管理	中屋 俊満	農林水産省 東海農政局 整備部 設計課 事業調整室長
農民水利組織	岡本 雅美	日本大学 生物資源科学部 顧問教授
評価分析	夏田 照平	株式会社三・コンサルタンツ 海外事業本部 技術部 第一課 主幹
評価管理	村上 真由美	国際協力機構 農村開発部 第三グループ 乾燥畑作地帯第一チーム 職員

1 - 3 調査日程

2004年9月24日～同年10月7日(14日間)

*評価分析団員；2004年9月17日～同年10月7日(21日間)

月 日	団 員	
	総括 水管理/圃場水管理 農民水利組織 計画評価	評価分析
9/17(金)	/	成田 フランクフルト
9/18(土)		フランクフルト カイロ
9/19(日)		JICA 事務所打ち合わせ IIS 表敬 インタビュー調査【日本人専門家及びC/P】
9/20(月)		農家アンケート結果分析 専門家打合わせ
9/21(火)		合同評価委員打合せ【調査方針説明】 プロジェクトサイト現地調査
9/22(水)		インタビュー調査【C/P】 調査結果分析
9/23(木)		調査結果分析
9/24(金)		成田 フランクフルト
9/25(土)	フランクフルト カイロ	インタビュー調査【日本人専門家】
	団内打合せ(合流後)	
9/26(日)	JICA 事務所打合せ IIS 表敬 第1回合同評価委員会	
9/27(月)	IIS タンタ支局表敬 プロジェクトサイト現地調査 インタビュー調査【WUA 代表】	
9/28(火)	インタビュー調査【C/P】 専門家打ち合わせ	
9/29(水)	第2回合同評価委員会 MWRI 大臣表敬	
9/30(木)	合同評価報告書及びM/M ドラフト作成 JICA 事務所・大使館・専門家打ち合わせ	
10/1(金)	合同評価報告書及びM/M ドラフト作成	
10/2(土)	第3回合同評価委員会 MWRI 表敬 合同評価報告書及びM/M ドラフト作成	
10/3(日)	第4回合同評価委員会 合同評価報告書及びM/M ドラフト作成	
10/4(月)	プロジェクトダイレクター及びプロジェクトマネージャー打ち合わせ 第5回合同評価委員会 合同運営委員会(JSC) M/M 署名	
10/5(火)	JICA 事務所・大使館報告	
10/6(水)	カイロ フランクフルト フランクフルト	
10/7(木)	成田	

1 - 4 主要面談者

氏 名	役 職 名 等
<p>(エジプト側関係者)</p> <p>Mahmoud Abdel Halim Abu Zeid Mohamed Bahaa El Din (Project Director) Abd El Karder (Project Manager) Adel El-Madbouly (Project Site Manager)</p> <p>・合同運営委員会メンバー Hussein Elman Refki Bendary</p> <p>・カウンターパート Mohamed Koddossy El Mohamed Yasser Salah Ghaly Mohamed El Raggal Lotfy Bedir El Shawaf Adel Yousry Mohamed Orwa Adel Ibrahim El-Maradny Safaa Gabar</p> <p>(日本側関係者)</p> <p>・プロジェクト専門家 橋本 晃 香山 泰久 工藤 淳 吉井 健一郎 大竹 雅洋</p> <p>・在エジプト日本大使館 野口 哲秋</p> <p>・JICA エジプト事務所 岡本 茂 和田 康彦 東 太郎 アルフレッド</p>	<p>水資源灌漑省大臣 水資源灌漑省次官 (灌漑総局長) 水資源灌漑省灌漑改善局長 水資源灌漑省灌漑改善局中央デルタ支局長</p> <p>水資源灌漑省排水事業庁局長 水資源灌漑省灌漑局長</p> <p>Water Management Water Management Water Management Water Management Water Users Association Water Users Association Water Users Association Agronomy Agronomy</p> <p>チーフアドバイザー 水管理 / 灌漑施設 農民水利組織 圃場水管理 業務調整</p> <p>一等書記官</p> <p>所長 次長 所員 ナショナルスタッフ</p>

1 - 5 プロジェクトの概要

(1) 実施機関

水資源灌漑省 灌漑改善局

(2) プロジェクトサイト

カフル・シェイク県ピエラ地区 (パハル・ヌール水路受益地)

(3) 協力期間

2000年3月1日から2005年2月28日まで

(4) 上位目標

効率的かつ効果的に灌漑改善事業（以下「IIP 事業」）を実施するための改善手法がナイルデルタで普及され、それとともに農業生産性や農家の実質所得が向上する。

(5) 中間目標

効率的かつ効果的に IIP 事業を実施するための改善手法がプロジェクトエリアで灌漑効率と農業の生産性を向上させる。

(6) プロジェクト目標

プロジェクトエリアにおいて、最大限の農民参加に基づき効率的かつ効果的に IIP 事業を実施するための改善手法が実証される。

(7) 成果

- 1) 灌漑施設の改善のための実施手法が改善される。
- 2) 農民の水管理組織設立のための手法が改善される。
- 3) 圃場レベルの適切な水管理が導入される。
- 4) プロジェクト活動や成果が政府職員に適切に紹介される。

(8) 協力プロセス

これまでの各種調査は以下のとおりである。

1) 基礎調査（1997年4月7日～4月19日）

先に要請のあった、「ナイル川流域水資源・水環境管理改善計画」の背景調査及び実施可能性を検討するため派遣された。先方、公共事業水資源省灌漑局灌漑改善部（現 灌漑水資源省灌漑改善局）と協議し、技術協力の方向性等の合意が得られた。

2) 事前調査（1999年5月14日～5月25日）

プロジェクト計画地区の営農調査、灌漑施設の現状等を調査し、農業の現状を把握するとともに実施体制等について協議した。調査の結果、プロジェクトはエジプト側が実施している IIP 事業の効率的・効果的な実施のためのよりよい手法の実証を目標とすることを確認した。

3) 短期調査（1999年8月30日～9月24日）

プロジェクト目標の再確認、活動内容についての協議を行った。この結果、プロジェクトの開始から工事の開始までには最低1年半の時間をかけ、農家との対話を行いつつ、事業内容や事業によって生じるメリットと責任について十分な理解を得たうえで、農家が自らの意思により事業を望んだ段階で、土地利用や水利用計画の策定、水利組合の結成、組合による施設管理及び水管理を行っていくことを確認した。

4) 実施協議調査（1999年11月22日～12月4日）

本プロジェクトを開始するための最終協議並びに現地調査を行った。その結果、合意事項を討議議事録（Record of Discussions：R/D）、暫定実施計画（Tentative Schedule of Implementation：TSI）、M/Mに取りまとめ、2000年3月1日から5年間にわたってプロジェクトを実施することが確定した。

5) 運営指導（計画打合せ）（2000年9月3日～9月16日）

具体的なプロジェクト活動、運営計画をエジプト側と協議し、詳細暫定実施計画（detail Tentative Schedule of Implementation：dTSI）、詳細活動計画（Plan of Operation：PO）等を策定した。プロジェクト開始以降の活動進捗状況について調査・協議した結果、合意・勧告事項をM/Mに取りまとめて署名を取り交わした。この結果、これまで皆無だったフルタイムC/P 3名がパートタイムC/Pから配置換えされ、さらにカイロの灌漑改善局内に専門家の執務室が確保されること等の改善が図られた。

6) 運営指導調査（2002年10月25日～11月2日）

これまでの活動内容成果を確認するとともに、事務所と協議の上、プロジェクトが示す改善手法を整理した。

7) 運営指導（中間評価）調査（2002年12月7日～12月19日）

プロジェクト対象地域における灌漑施設の建設を進めること、農民水利組織連合設立に関する法規を整備すること、プロジェクト内部及びエジプト側関係機関とのコミュニケーションを密にすること、及びJSCやJSCCを定期的に行うことを提言した。また、活動内容を整理し、プロジェクト開始時より用いられてきたPDM（PDM1）を改訂し、PDM（PDM2）を策定した。現在、このPDM（PDM2）等に基づきプロジェクト活動を実施している。

第2章 終了時評価の方法

2-1 合同評価調査団の結成

日本側は本調査団、エジプト側は下表のメンバーにより合同評価調査団を構成して評価に当たった。客観的評価を行うため、エジプト側評価チームは C/P 等のプロジェクト関係者を避けて人選し、以下のメンバー8名となった。

氏名	担当	所属先 / 役職名
Mohamed Shaker Sennar	Leader	水資源灌漑省 カフルエルシェイク支局長
Said Hamisa	Water Management/ On Farm Water Management	水資源灌漑省 カフルエルシェイク配水局長
Ahmed Moustafa	Water Users' Association	水資源灌漑省 カフルエルシェイク中央局 技術部
Emam Moussa	Evaluation Analysis	水資源灌漑省 オランダ水管理プロジェクト担当
Ragab Abd El Aziem	Evaluation Management	水資源灌漑省 灌漑局
Mohsen El-Arabawy	Evaluation Management	水資源灌漑省 組織改革ユニット 次長
Hanan Mohamed Bashary	Evaluation Management	国際協力省 対アジア協力局
Adel Hashem	Advisor	水資源灌漑省 灌漑改善プロジェクト アドバイザー

2-2 主な調査項目と情報・データ収集方法

プロジェクト・サイクル・マネージメント (PCM) の評価手法を取り入れた。PCM を用いた評価は、(1)プロジェクト・デザイン・マトリックス (PDM) に基づいた評価のデザイン、(2)プロジェクト実績やプロセスを中心とした必要情報の収集、(3)評価5項目(妥当性、効率性、有効性、インパクト、自立発展性)という観点からの収集データの分析、(4)分析結果からの提言・教訓の導出及び報告という流れになっている。具体的には以下のとおり。

(1) 評価のデザイン

実施協議 (R/D)、PDM2、PO、事業進捗報告書、関連調査団報告書、終了時評価に係る事前資料、開発調査などの報告書等に基づき、終了時評価の実施項目と調査項目をまとめた評価グリッドを作成した。

(2) 情報収集

1) R/D、PDM2、PO 等のプロジェクト計画にかかる文書及び資料

2) プロジェクトの各種報告書

(事業進捗報告書、終了時評価に係る事前資料、専門家報告書、調査報告書等の資料)

3) ローカルコンサルタントによる農家アンケート調査報告書(以下、アンケート調査)

*注:対象地区全体の意見を調査するため、上流地区から6メスカ、中流地区から6メスカ、下流地区から8メスカ、計20メスカ(各メスカ6名)を選択し、標本抽出を行った。こ

の内、工事を開始もしくは完了したメスカは 8 メスカであり、該当する標本の数は 48 人である。

- 4) 日本人専門家及び C/P への質問表（以下、質問票）結果
- 5) 日本人専門家、C/P 及び WUA 代表へのインタビュー調査（以下、インタビュー調査）
- 6) プロジェクトサイトでの現地調査
- 7) 日本側及びエジプト側の投入に関する記録

(3) 情報分析

評価グリッドの主な調査項目について、上述の情報源から収集した情報に基に 5 項目評価の観点に沿って分析した。

上記の分析結果及びそれに基づく提言や教訓をエジプト側評価委員と確認の上、合同評価報告書に取りまとめ、両政府に対して提言を行った。また、評価報告書の提言を受け、両政府で今後取るべき措置について、M/M にまとめた後、署名・交換を行った。

第3章 プロジェクトの実績

プロジェクトの実績は評価調査団によって作成された評価グリッド（結果と過程）（付属資料）に沿って検討された。調査結果の概要は以下のとおりである。

3 - 1 投入

エジプト側	日本側
(1) C/P 37名 ・プロジェクトダイレクター ・プロジェクト（サイト）マネージャー ・副プロジェクトマネージャー ・コーディネーター ・各活動分野のC/P 2～3名 (2) 土地、建物及び施設 ・プロジェクトのための土地と施設 ・日本人専門家のための事務所とその他の施設 (3) ローカルコスト 合計 62,419 千円（1,879,885 LE）	(1) 専門家派遣 ア．長期専門家 11名 ・チーフアドバイザー ・業務調整 ・水管理/灌漑施設 ・水利組織 ・圃場水管理 イ．短期専門家 延べ25名 ・農家調査 ・農民水利組織 ・水管理システム ・灌漑施設（ポンプ、ゲート、パイプライン） ・圃場水管理 ・農村社会分析 ・土壌分析 ・施工管理 ・システム開発 ・農業機械 ・マーケティング ・GIS (2) 供与機材 合計 66,572 千円（2,639,307 LE） (3) 本邦研修 10名 (4) 現地業務費 合計 31,324 千円（1,233,260 LE）

3 - 2 各分野の実績

3 - 2 - 1 灌漑施設改善分野

成果 1	灌漑施設改善のための実施手法を改善する。
指標 1	灌漑施設改善計画が作成される。
指標 2	施工管理マニュアルが作成される。

水管理分野の活動はほぼ完了している。すなわち、C/Pは、現況調査の重要性を認識し、農家の意見を十分把握し、流量と水質の計測方法や機器の使用方法を習得した。

指標1については、灌漑施設の計画と設計（デリバリー水路とメスカ水路の改善計画、下流水位調節ゲートの設計）は以下の手順で行われた結果、ほぼ完了している。

- 1) 灌漑施設と水利用の現況調査
- 2) 農家の意見把握

- 3) すべての現況メスカ水路の事前設計の実施
- 4) WUA に事前設計を説明した上での設計改良の実施
- 5) 改良されるすべてのメスカの実施設設計の実施

専門家とカウンターパートはこれらのプロセスを共有しながら、60 メスカのうち 55 メスカ水路の設計を実施した。

灌漑施設の施工管理については、以下の手順で行った。

- 1) WUF の工事調整委員会 (C.C.C.) の設立
- 2) すべてのメスカで WUA の工事調整委員会の設立
- 3) メスカ水路の施工管理の実施
- 4) 施工管理マニュアルの作成

指標 2 については、2004 年 9 月時点では施工管理マニュアルは完成していないが、プロジェクト終了時 (2005 年 2 月) までには完成する予定である。

2004 年 9 月時点において、工事契約及び工事にかかる進捗状況は表 1 のとおりである。

表 1 対象メスカの進捗状況

農家同意取付	契約	工 事	該当メスカ数
			3
			8
		×	9
	×	×	9
×	×	×	31
合 計			60

○ : 済、 ◯ : 実施中、 × : 未了

(1) 活動実績及び達成状況

先述の現況調査及び流量と計測体制の確立についての活動実績及び達成状況は、以下のとおりとなっている。

現況調査は、1) 灌漑施設と水利用の現況調査と 2) 現在の状況と問題点についての農家意見の把握に区分され、それぞれの活動実績及び達成状況は、表 2、3 のとおり。

表 2 灌漑施設と水利用の現況調査の達成状況 (単位: %)

活 動 内 容	2004 年 9 月	2005 年 2 月 (見込み)
現況灌漑ネットワーク図の作成	100	-
現況暗渠排水マップの収集	100	-
バハルヌールエリアのデジタルマップの作成	100	-
GIS の構築	70	100
現在の配水と手続きの把握	100	-
バハルヌールエリアの灌漑施設調査	100	-
IIP 先進地区の改良施設の調査	100	-
IIP の設計から施設改良までの手順と WUF への施設引渡し手順	100	-

表3 現在の状況と問題点についての農家意見の把握の達成状況 (単位：%)

活動内容	2004年9月	2005年2月(見込み)
現況メスカ地区(PCMワークショップ)	100	-
直接灌漑地区(PCMワークショップ)	100	-

流量と水質の計測体制の確立は、1) 計測計画(案)と計測機器の準備、2) バハルヌールエリアの流量と水質計測、3) 灌漑効率(搬送効率)の測定に区分され、それぞれの活達成状況は、表4、5、6のとおり。

表4 計測計画(案)と計測機器の準備 (単位：%)

活動内容	2004年9月	2005年2月(見込み)
計測計画(案)の作成	100	-
計測機器の選定と導入	50	50

表5 バハルヌールエリアの流量と水質計測 (単位：%)

活動内容	2004年9月	2005年2月(見込み)
バハルヌールエリアの流量計測	40	40
バハルヌールエリアの水質計測	40	40

表6 灌漑効率(搬送効率)の測定 (単位：%)

活動内容	2004年9月	2005年2月(見込み)
灌漑効率(搬送効率)の測定	20	70
計測計画(案)の変更	0	100

(2) 残された課題と必要な取り組み

60メスカのうち55メスカの施設設計が完了しており、その内訳は表7のとおり。

表7 メスカ施設設計の状況

活動状況	メスカ数	備考
施設設計の農家への説明が終了	20	} 55
施設設計作成済み うち事前設計了解 1	20	
うち事前設計未了解 2	15	
施設設計が未実施	5	
合計	60	

1 事前設計了解とは、Walk through (WUAの仮リーダーと共に農民に実際の現場に必要な説明を行うもの)を実施した上で農家からの事前設計の確認を取ったのち、詳細設計を作成したもの。

2 事前設計未了解には、Walk throughをWUAの仮リーダーとではなく、地区の農家数人と行い、事前設計とともに詳細設計を行ったものを含む。

以上のとおり、施設設計が作成済みの 35 メスカについても、最終的な農家説明を了していないことから、工事契約の手続き前にこれらの作業を急ぐ必要がある。

(3) 留意点

1) 新メスカ設置にかかる諸問題

農家代表との打合せの際、以下の 3 つの問題が指摘された。

灌漑施設の工事費が高いこと

新メスカ設置にかかる土地問題が未解決であること

ポンプ容量が不足すると農家を感じていること

これらの課題のうち、及びについては、県の関与が必要であると判断されたため、プロジェクトからカフルシェイク県知事に要請した。今後県議会等での検討事項となっており、県議会等での早急な対応策が望まれる。

また、のポンプ容量不足と農家を感じている点については、メスカ内で配水計画を立てた上で、バルブ間で一気に給水することがない限り、各圃場に十分な水が供給できることをこれまでも農家には説明しているが、まだ理解不足の農家が存在しているため、今後、パンフレット等の説明資料を作ったり、工事を終えて給水を開始している地区をモデル地区として選定し、農家向けにプロジェクトの広報活動を実施することが必要と思われる。

2) メスカ間での水管理について

先述したように、メスカ内でのポンプ容量の妥当性については、工事に際して十分な農家理解が必要である。

今後、灌漑施設が整備され、地区全体が給水可能となった場合、各メスカに水供給するデリバリー水路の供給能力が議論となるが、デリバリー水路の年間通水の計画策定と、渇水年などにおける WUA 間の水配分調整の計画策定が必要である。

3 - 2 - 2 農民水利組織分野

成果 2	農民水利組織の設立手法が改善される。
指標 1	すべての WUA と WUF が 2/3 以上の同意によって設立される。
指標 2	合理的水利用と近代的農業に関する農民代表者のためのテキストが作成される。

指標 1 については、60 メスカのうち 29 メスカで、WUA が設立された。また、WUF については、準備委員会が設立された。当該活動は以下の手順により進められた。

- 1) 農民の灌漑施設の所有者意識の喚起
- 2) 農民に対する十分な説明
- 3) WUA 代表の選出
- 4) 2/3 以上の農民同意徴集

指標 2 については、基本テキストの草稿が作成された。これらは、農民代表者を対象とする研修に実際に試用され、改善が重ねられており、2005 年 2 月までに完成する見込みである。

(1) 活動実績及び達成状況

WUA 及び WUF の設立手法に関して必要な技術移転はほぼ終了したと考えられる。具体的には、事前調査による現況把握、各種活動への農民参加促進、農民代表者の研修やモニタリング・評価にかかる研修が行われた。

また、施設設計への農民参加の促進が成功裏に進められ、2/3 以上の関係農民の同意に基づいて、WUA が 29 のメスカで設立された。

なお、これらの活動を進めるにあたり、次のような障害があった。

- 1) 建設費・維持管理費の支払い、灌漑施設の容量及び土地所有に関する農民の不安
- 2) 取水や土地利用に関する従前の優位性を失うのではないかと上流部の農民の懸念
- 3) 上流部での不法な直接取水に対する下流部の農民の不満

WUA 及び WUF の代表者の研修については、以下の項目について、試作された基本テキストの草稿を用いて実施したが、2004 年 9 月時点での達成度は、全メスカ数に占める WUA の設立数は約 1/3 であった。

- 1) 灌漑施設の維持管理
- 2) 会議運営
- 3) 会計
- 4) 圃場レベルの水管理
- 5) 営農計画
- 6) WUA の規約作成

WUA 及び WUF のモニタリング・評価、特に円滑な組織運営のための会議開催及び会計については、WUA 設立見込みを踏まえ、2005 年 2 月時点の達成度は 1/3 に留まる見込みである。

(2) 残された課題と必要な取組み

WUA 設立の過程で習得したノウハウを活用して、他のメスカにおいても設立を進めていくことが必要である。また、WUF についても、WUF 設立準備委員会の活動を基盤として、将来の本格的な活動の準備を始める必要がある。

さらに WUA 設立を進めるためには、完成先行地区の見学等を積極的に行うことが有効であることから、WUA による施設運用の事例をさらに増やすことが望まれる。このような成功事例は、過去の体験からポンプやパイプ等の施設容量や実効性に疑念をもつ農民たちの不安を解消するための事例として有効であると考えられる。

また、テキストの作成とそれを用いた現場での研修を通じて、施工管理への農民参加の促進や、農民代表者を対象とした研修を更に進め、また、WUA や WUF のモニタリング・評価を定着させていく必要がある。

(3) 留意点

本プロジェクトと平行してエジプトで進められている世界銀行やオランダの方式による事業と対比される中で、本プロジェクトの特徴の一つである 2/3 の事前同意取付方式の困難

性を克服して成功例を着実に増やしつつある。今後とも適切な圃場レベルの水管理を可能にする施設の建設や改良と、それに対応する WUA の設立と運営こそがその成功の秘訣であることが広く認知されるような努力が必要であり、さらに、乾期を含めたより効果的・効率的で公平な圃場レベルの水管理を実現するための WUA の運営を確立することも含めて、事業の普及拡大に努めねばならない。

また、農民にとっての大きなインセンティブであるデリバリーチャンネルへの連続通水を今後も続行することが重要である。

WUA の設立と運営に関わる規約作成や会計監査等については、一般的な基本テキストだけでは対応しきれない場合は、追加的な配慮が必要である。

さらに、土地所有権や公平かつ確実な水配分、灌漑効率の改善などについては、検討の余地が残されている。

3 - 2 - 3 圃場水管理分野

成果 3	適切な圃場水管理方法が紹介される。
指標 1	圃場水管理マニュアルが作成される。

圃場水管理については、ほぼ活動を完了している。カウンターパートは分析データの取扱い、分析データの適用方法、水利用効率の改善を修得した。また、供与機材の活用により圃場の均平化が進められる等の圃場水管理の成果達成に大きく貢献している。

現在、圃場水管理に対するデータ収集をほぼ終え、プロジェクト終了時（2005 年 2 月）までに圃場水管理マニュアルが完成する予定である。

(1) 活動実績及び達成状況

1) 土地利用状況の研究

プロジェクト開始後の 3 年間でほぼ達成している。

本活動は、農地利用状況調査、土地利用要望調査、農業政策調査、市場システム及び農家経営状況調査、土壌調査に区分され、それぞれの活動実績及び達成状況は、表 8、9、10、11、12 のとおりとなっている。

表 8 農地利用状況調査

(単位：%)

活動内容	2004 年 9 月	2005 年 2 月 (見込み)
現況農業構造及び土地利用現況の調査	100	-

表 9 土地利用要望調査

(単位：%)

活動内容	2004 年 9 月	2005 年 2 月 (見込み)
農業構造調査	100	-
農家が要望する作物と作付け方法の調査	100	-

表 10 農業政策調査

(単位：%)

活動内容	2004年9月	2005年2月(見込み)
農業政策の調査	80	80

表 11 市場システム及び農家経営状況調査

(単位：%)

活動内容	2004年9月	2005年2月(見込み)
農家経営状況の調査	100	-
農産物の市場及び流通の調査	100	-

表 12 土壌調査

(単位：%)

活動内容	2004年9月	2005年2月(見込み)
土壌の物理特性調査	100	-
土壌の化学特性調査	100	-

2) モデル農地計画の作成

本活動は、節水を目的とした作物栽培計画の立案である。同計画によると、夏作については稲作と綿花が中心、冬作については小麦、ベルシーム、野菜を中心とする作付け計画が作成される予定である。

表 13 モデル農地計画の作成

(単位：%)

活動内容	2004年9月	2005年2月(見込み)
土地利用と作付け体系の研究	70	100
新適合作物の選択	70	100
モデル農地計画の作成	30	100

3) 水利用効率の改善

本活動は、水田における用水量調査、畑作物毎の水消費水量の研究、作物収量の調査、レーザーレベラーによるランドレベリングの改善、土壌浸透量のコントロール調査(地下水位)、作物毎の灌漑暦の改善を経て行われ、データ収集を終えている。

4) 圃場水管理方法の作成

本活動は、作物毎の灌漑方法の改善、圃場水管理マニュアルの作成を経て行われ、作物毎の灌漑方法などの試験が実施された。現在、圃場水管理に対するデータ収集を終え、プロジェクト終了時(2005年2月)までに圃場水管理マニュアルの作成を了する予定である。

(2) 残された課題と必要な取り組み

カウンターパートは、マニュアルを使用しての農家指導を推進すると共に、マニュアルを必要に応じて加筆修正することが必要である。

(3) 留意点

圃場水管理マニュアルでは、圃場内での理想的な灌漑方法や灌水量を定め、実際に農家レベルでの運用を実現し、バハルヌール地区での円滑な水管理に資することが最終目標であり、メスカ内（及びメスカ間）の水管理に密接に結びついていることから、今後農家レベルの圃場水管理運用方法についても灌漑施設改善分野と共同して農家指導を円滑に推進する必要がある。

3 - 2 - 4 プロジェクト管理分野

成果 4	プロジェクト活動や成果が政府職員に適切に紹介される。
指標 1	政府職員、特に灌漑局職員を対象とした研修が少なくとも年 2 回行われる。

研修は、プロジェクト開始から現在に至るまで計 23 回実施されており、指標を満たしている。研修の詳細は表 14 のとおり。

表 14 研修実績

研修分野	研修内容	研修参加者
水管理	参加型水管理の現状	全分野C/P
	工事開始後の設計変更方策検討	水管理分野、農民水利組織分野C/P
	施工管理	水管理分野C/P
	パイプライン設計法	IIS職員、IIS技官、世界銀行技官
	GIS技術の概要	水管理分野C/P
	GISデータベース作成法	水管理分野C/P、世界銀行技官
	GIS利用法	水管理分野C/P、世界銀行技官
	GISデータベースプレゼンテーション	水管理分野C/P、IIS技官、世界銀行技官
	GPS利用法	水管理分野C/P、世界銀行技官
農民水利組織	土地改良区の紹介	農民水利組織分野C/P
	水利組織の設立	農民水利組織分野C/P
	農民参加による灌漑の改善	全分野C/P、IIS技官
	PCMワークショップとその結果分析	農民水利組織分野C/P
	組織運営	IIS技官
	組織運営2	IIS技官
	農民水利組織のモニタリング計画	農民水利組織分野C/P、IIS技官、世界銀行技官
圃場水管理	配水計画	IIS職員、CD-IAS技官、世界銀行技官
プロジェクト	メリット・デメリット検討ワークショップ	全分野C/P
	上中流農家対策	水管理分野、農民水利組織分野C/P
	持続的なWUA運営、事業成果	灌漑局、排水事業庁、CD-IAS、IIS、農業省、農家代表
	持続的なWUA運営2	IIS技官、世界銀行技官
PCM	農家に対するワークショップの試行	全分野C/P
	ワークショップ	農民水利組織分野C/P

これらの研修は主に短期専門家が講師を務めたり、あるいはプロジェクト活動を通じて長期専門家から技術指導を受けた C/P によって実施されている。本プロジェクトの直接的な関係者のみならず、外部関係者を対象とした研修を通じて、活動内容が適切に紹介されたことは、本プロジェクトの広報と理解促進に有効であった。

(1) 活動実績及び達成状況

JSC 及び JSCC がプロジェクト開始からほとんど開催されておらず、意思決定権限を有するエジプト側関係者と、活動の進捗状況や問題点について共有化がなされなかった。したがって、プロジェクト活動の遅れやその対策について適宜、適切な対応が十分に取れたとは言いがたい。一方、実際の現場であるプロジェクトサイトにおいてはエジプト側との連携は密に取られ、十分な意思疎通がなされた。

また、プロジェクトに必要なデータベースの構築に関しては、ほぼ計画通り実施されており、C/P を加えたプロジェクト関係者内での技術の移転と情報の共有化が行われている。ただし、WUF の設立が当初計画より遅延しているため、WUF に関連するデータベースシステムについては、現在構築中である。

政府職員の能力向上のためのセミナーの実施については、上段表に示すとおり、IIS、排水庁及び農業省などのプロジェクト内外の関係部署の職員に対して実施された。また、カフル・シェイク県の研修施設及び設備が実用化のために整備された。

(2) 残された課題と必要な取組み

政府職員を対象とする研修に関して、その準備は現在においても日本人専門家が主となり、C/P が自主的かつ自立的な教材作成等の準備や研修の実施・運営を行うための能力は十分に移転されていない。また、研修終了後に参加者向けのアンケート調査や評価報告がほとんど実施されなかったため、研修の改善につなげる好材料の抽出と活用ができなかったことは、反省点として今後積極的に取り組むべきである。

一方、プロジェクトサイトにおいて、本プロジェクトが政府ではなく、民間により行われているとの風評が一部で広まっていることは、プロジェクトに関する広報が十分に徹底されていないことを示している。今後、プロジェクト対象地域の農家に対してパンフレットの配布やセミナーの実施などを通して広報を行うと同時に、政府職員に対してはプロジェクトの趣旨を説明し、農家向けの広報を推進するよう働きかける必要がある。

(3) 留意点

政府職員に対する研修について、対象者を本プロジェクトの C/P 機関に限らず、農業土地開拓省や排水庁といった関係各部署を積極的に巻き込むことが重要である。これにより、プロジェクト成果の持続的かつ自立的な発展の確保が可能となる。さらに灌漑分野で協力実施中の他ドナーとの情報交換や協調を促進することが、本プロジェクトを含め IIP 事業全体の効果的な実施に繋がる。

3 - 3 プロジェクト目標の達成状況

プロジェクト目標	最大限の農民参加に基づいた IIP 事業の効率的かつ効果的な改善手法がプロジェクトエリア内で実証される。
指標 1	プロジェクトの終了時まで、プロジェクトエリア内の 2/3 以上の農家が IIP 事業に満足する。
指標 2	プロジェクトの終了時まで、MWRI が改善手法を支持する。

指標 1 について、アンケート調査(標本数 = 120 人、本プロジェクト対象農家の 4%)において、本プロジェクトの手法に、80%の農民が満足している-と答え、11%の農民が不満足、9%がどちらとも言えないと答えている。不満足 of 11%の理由は、「農民間で IIP 事業への賛否に関する議論が様々であるから」が 5%、「明快な説明がないから」が 4%、「直接取水ができなくなるから」が 2%となっている。同アンケート調査の報告書より、4 つの質問の結果を表 15 に抜粋する。

表 15 プロジェクトに対する農民の満足度

質問項目	満足している	満足していない	どちらとも言えない	標本数
必要な情報を農民に伝えて工事開始前に農民の十分な同意を得るプロジェクトの手法	80%	11%	9%	120 人 (4%)
農民と一緒に現場を歩いて施設の設計を確認する手法	93%	4%	3%	120 人 (4%)
工事が開始された/完了した灌漑施設	81%	15%	4%	48 人 (2%)
プロジェクトで導入された圃場レベルの水管管理手法	88%	2%	10%	48 人 (2%)

*標本数の () 内の数字は本プロジェクト対象農家に占める割合を示す。

この表より、本プロジェクト対象農家の 80%以上が本プロジェクトの手法に満足していること、工事を開始もしくは完了したメスカの農民の 80%以上が灌漑施設及び導入された圃場レベルの水管管理手法に満足していることが分かる。よって、本プロジェクトが対象地域全体で実施されれば、「プロジェクトエリア内の 2/3 (66%) 以上の農家が IIP 事業に満足する」という指標 1 は満たされると推定される。

しかしながら、現時点で工事が完了したメスカの数は 3 (全体の 5%) であり、現在の見通しでは 2005 年 2 月までに工事が完了するのは 20 メスカ (全体の 33%) である。WUA による水管管理が適切に行われるか否かを実証するには半年以上を要することから、2005 年 2 月の時点で本プロジェクトに対する農民の満足度を確認することができるのは、現時点で工事が完了している 3 メスカ (全体の 5%) に留まる。

指標 2 については、質問票及びインタビュー調査から C/P が改善手法を高く評価していること、他地区で IIP 事業を推進している世界銀行のプロジェクトにおいて農民参加の取り組みが促進されたことから、MWRI は改善手法を支持しているものと判断される。

3 - 4 中間目標の達成見込

中間目標	効率的かつ効果的に IIP 事業を実施するための改善手法がプロジェクトエリアで灌漑効率と農業の生産性を向上させる。
指標 1	プロジェクト終了後 5 年以内に灌漑効率が增加する。
指標 2	プロジェクト終了後 5 年以内に公平な水配分が改善される。
指標 3	プロジェクト終了後 5 年以内に単位面積あたりの農業生産性の指標が増加する。

指標 1 について、灌漑効率は、本プロジェクトの当初計画どおりの増加が期待されている。現在、支線水路の搬送効率計算に用いられる流量観測機器の設置が進められており、設置が終わった地点では、プロジェクト実施前のデータを得るための観測が開始されている。

指標 2 について、公平な水配分は WUA における農民間の調整及び WUF における WUA 間の調整によって行われる。よって本指標は、WUA 及び WUF による水管理の実施とそのモニタリングを通して検証されるため、現時点では評価が困難である。

指標 3 について、現在十分な取水ができていない下流部において、本プロジェクトの実施により灌漑用水不足の解消と適期灌漑の導入により作物生産の増加が期待される。一方、現時点で十分な取水ができている上流部においては、単位面積あたりの水稻の生産性向上は見込めないが、適切な水管理による畑作の単位水量あたりの作物生産量の増加と、過剰灌漑の解消による作物品質の向上が期待される。さらに、圃場において水管理に費やす時間を節減することができるため、プロジェクトの対象全地域において営農経費の節減が期待される。

3 - 5 上位目標の達成見込

上位目標	効率的かつ効果的に IIP 事業を実施するための改善手法がナイルデルタで普及され、それに伴って農業の生産性と農家の実質所得が向上する。
指標 1	2017 年までにバハル・テラのある地区において IIP 事業の新たなアプローチが広がる。
指標 2	2017 年までにバハル・テラのある地区において農業の生産性に関する指標が向上する。
指標 3	2017 年までにバハル・テラのある地区において農家の生活状態が改善される。

本プロジェクトは、バハル・テラを含むナイルデルタ全域における IIP 事業実施のためのパイロットプロジェクトとして位置付けられていることから、その有効性や効率性が実証されれば、改善手法はバハル・テラの他地区に適用され、農業生産の増加を通じて農家の経済状態を向上させるものと考えられる。

第4章 結論

4 - 1 評価5項目の評価結果

4 - 1 - 1 妥当性

プロジェクト目標は、適正な水分配を要望する農民のニーズ及びエジプトの第5次社会・経済開発5カ年計画（2002年～2007年）に示される国家政策に合致していることから、本プロジェクトの妥当性は十分に高いと判断できる。当該計画においては、エジプト国内において110万 feddan（1 feddan=0.42ha）の灌漑事業を完成させることが目標とされており、ナイルデルタ地域のみならず上エジプト及びニューバレーの543千 feddan の開発が含まれている。エジプト政府は当該計画を基に、限られた水資源の有効利用を図るべく、灌漑施設の整備、灌漑システムの確立及び農民組織化に関するIIP事業を実施中である。以上より、プロジェクト目標の達成は国家政策の進展に大きく寄与するものである。また、質問票の結果より、C/P及び日本人専門家も、プロジェクト目標の妥当性は高いと判断している。

支線用水路の下流地域の農民が夏期に深刻な水不足に直面している一方、上流地域の農民の中には個人のポンプを用いて支線用水路から違法に直接取水している者もいる。支線用水路（本プロジェクト対象地域におけるバハル・ヌール）上流の少数の農民が公平な水分配を目指す本プロジェクト活動に対して反対活動を起こしたが、その理由は彼らの取水の有利性を守ろうとするものである。本プロジェクト活動の実施により、彼らは従来の自由な取水権を失う一方で、個人ポンプの利用にかかる経費を節減でき、更に連続通水の実現によって計画的な適期灌漑が可能となる。また、エジプト政府が既存灌漑地区の水利用量を節減し、新規の灌漑開発及び他部門への水供給の増加を計画していることから、将来的に本プロジェクトサイトを含めたバハル・ヌール地区への水供給が厳しくなることが予想され、その場合、上流地域においてさえも現状の取水量の維持が困難になる。以上より、本プロジェクトは、上流の農民にとっても必要不可欠なプロジェクトということができる。なお、本プロジェクトにおいては、上流農民に対して上述の事情について十分な説明を行っている。

プロジェクトサイトの選定に関しては、IIP事業未実施の地域の中で農民の農業に対する取り組み、関係機関との連携の容易性及び圃場の整備状況等を適正な選定であったと思われる。ただし、プロジェクトのアプローチについては、デモンストレーション効果を最大限に活かすために、より小規模な地区で成功事例を作ってから周囲に段階的に広げていくことも現実的な方法として考えられる。

4 - 1 - 2 有効性

プロジェクト実施によって得られる成果のプロジェクト目標達成に対する貢献度は高いが、プロジェクト期間内の目標達成度は困難である。なぜなら、C/Pへの技術移転はほぼ順調に行われているものの、農民の同意取得とWUA設立に、当初計画より多くの時間を要しているためである。これは、C/Pと日本人専門家に対するインタビュー調査とプロジェクトサイトでの現地調査によっても確認された。2005年2月末までに工事が完了するメスカ数が全体の約1/3と見込まれる現時点では、「対象全メスカにおいて2/3以上の農家がプロジェクト活動に満足する」というプロジェクト目標に照らしてみると、本プロジェクトの有効性は低いと判断される。しか

しながら、プロジェクト期間の後半になるにつれて、農民の同意取得及び WUA 設立にかかる時間は短縮された実績が確認できたことから、有効性は徐々に向上していると言える。なお、圃場水管理分野においてはその活動がプロジェクト目標の達成に大きく貢献したと現場の C/P を中心に評価されているなど、有効性が認められる部分もある。具体的には、当該分野においてレーザーレベリングの試験により 25%、畝幅の拡幅により 19%の灌漑用水の節減が可能であるとの成果を確認できたことがこのような評価をもたらしている。

4 - 1 - 3 効率性

投入に関して特に問題は生じておらず、プロジェクト期間内における成果の達成が見込まれていることから、投入が活動を通して効率的に成果に転換されていると判断することができた。よって、本プロジェクトの効率性は高いと判断される。

(1) 専門家派遣

プロジェクト側より、短期専門家の派遣時期が遅れた事例や、要請に対して短期専門家の派遣期間が短い事例が指摘された。本調査時点までに派遣された短期専門家 25 名の平均派遣期間は 29 日（最短は 7 日）であったが、全体としてはほぼ計画とおり投入され、必要な技術移転は行われたものと考えられる。

(2) C/P

中間評価調査にて報告されているとおり、プロジェクト開始直後、各活動分野へフルタイムの C/P が配置されない時期があった。しかしながら、その後、C/P の適性を考慮して担当が変更された結果、活動を円滑に進めることができた。C/P には IIP 事業の従事経験を有する者が選出され、技術移転の成果は持続する見込みである。また、本プロジェクトの開始当初から 5 年間にわたって参画している C/P が 8 名おり、プロジェクトの中心的存在として活動を推進している。

現場の C/P 及びフィールド・エージェントの数については、本プロジェクトの対象地域及び目標を考えると十分とは言えないものの、長期専門家の人数に合わせて、最低限の人数は確保されていると言える。

(3) 供与機材

機材供与のタイミング及び内容（詳細は付属資料の M/M を参照）は概ね適切であった。特に、レーザーレベリング機材及び土壌水分計は、試験圃場における灌漑試験に用いられ、圃場水管理の改善に大きく貢献した。

(4) プロジェクト運営

インタビュー調査において、エジプト側のプロジェクトサイトマネージャーが世界銀行プロジェクトのマネージャーを兼務しているために多忙であり、本プロジェクトに十分な対処ができなかったことを理由に、専任のサイトマネージャーの設置による活動効率の向上を望む提案があった。これを受け、プロジェクトではサイトマネージャーと各分野の C/P との中間の職位を持つ C/P の登用を検討している。

また、中間評価調査までに開催実績がなかった JSC について、それ以降も JSC 及び JSCC が十分に機能しなかったことが明らかになった。さらに、プロジェクト管理体制に灌漑局が含まれておらず、専門家と灌漑局員とのコミュニケーションが不十分であった。本問題点については、本調査において十分に議論され、教訓（第 5 章参照）が導かれている。

4 - 1 - 4 インパクト

全農民の 2/3 の同意取得は、本格的な農民参加に基づいた水管理への第一歩という意味で C/P 及び農民に大きな影響を与えた。同意取得の困難さは本プロジェクトの開始前に予期されていたが、予想以上の時間を要し、前述した上流農民による反対活動が起きた。しかしながら、本プロジェクトは、エジプトが農民参加に基づいて IIP 事業を実施していく上で、その重要性を示すものになったと考えられる。

本プロジェクトは、世界銀行による同種のプロジェクトにも影響を与え、当該プロジェクトでは農民参加のアプローチをより重視し始め、農民のオーナーシップ確保を目的として積極的な参画を引き出そうとする動きが強まった。具体的には、工事完了後に行っていた WUA の設立時期を早め、より多くの農民の意見を工事に反映する、仮の WUF を地域の有力農民で立ち上げ、より自主性の高い WUA を設立する等の手法の変化が見られた。これらの手法は、本プロジェクトの中で培われてきたものであり、世界銀行プロジェクトが本プロジェクトと同様に IIS の職員によって実施されていることから、本プロジェクトが IIS の政策に影響を及ぼしたことによるものと考えられる。

予期していなかった環境、社会/文化面の正のインパクトとして、WUF の準備委員会の中に環境とジェンダーの小委員会が設置されたことが挙げられる。農民組織にとって、環境及びジェンダーは重要な観点であり、今後、活動が継続・発展していくことが望まれる。なお、環境への負の影響は見られなかった。また、現時点では女性による直接の水管理作業は行われていないが、水路の維持管理等の関連作業には女性が従事していることから、将来的には女性の関わりが重要であると考えられる。

組織面の正のインパクトとして、レーザーレベリング運営管理委員会が WUF 準備委員会の中に設置されたことが挙げられる。レーザーレベリングの機材は、圃場水管理分野の活動の一環として供与されたものであり、利用方法を学んだ C/P が農民に対して技術移転を行っており、将来は WUF 内で共同利用・管理される計画である。

なお、上述の二つの委員会設置にかかる動きは、農民と C/P の活動の中から生じたものであり、彼らの主体的な取り組みを示すものである。

4 - 1 - 5 自立発展性

IIS に対するインタビュー調査の結果、バハル・ヌール全体の工事が完了するまで本プロジェクトの継続が見込まれることから、プロジェクトの継続性は確保されている。しかしながら、WUA 及び WUF による水管理は未だ本格化するに至っていないため、自立発展の見込みを判断することは困難であるが、プロジェクト活動において C/P によって WUA 及び WUF のリーダーを対象とした研修がなされていることはプロジェクトの持続性の確保に貢献するものである。以上より、本プロジェクトの自立発展性については、やや高いと判断される。

(1) 組織面

IIS に対するインタビュー調査より、IIS は本プロジェクト活動実施に必要な人員を確保しており、C/P がプロジェクト期間終了後も IIP 事業を継続して担当する見込みである。よって、自立発展性は高いと判断される。

(2) 財政面

IIS に対するインタビュー調査より、IIS が本プロジェクト活動実施に必要な予算を確保していることから、自立発展性は高いと判断される。WUA 及び WUF については、その財源が組合員からの水利費であることから、プロジェクトの進捗に応じて適切な水管理を行い財源を確保する必要がある。

(3) 技術面

C/P は、本プロジェクトによって、最大限の農民参加に基づいた IIP 事業実施のための効率的かつ効果的な改善手法を普及させるために、農民の組織化、灌漑施設の改善・共同運営及び圃場水管理手法の改善等を計画し、実施する技術を修得した。現時点では、WUA 及び WUF が自立して水管理するに至っていないため、技術を修得した成果は表面化していないが、上述(1)のとおり、C/P は継続的に IIP 事業に従事する見込みであることから、自立発展性は高いと判断される。

4 - 1 - 6 障害・貢献要因の総合的検証

(1) 計画要因に関するもの

付属資料に記載のとおり、当初計画においては活動が 8 項目あり、活動の実施及び活動状況の把握が困難であったため、中間評価において 4 項目に統合・整理された。これにより、プロジェクト活動がより効率的に実施された。

灌漑改善手法として施設整備と同時に WUA の設立を図ったことは、組織の活動目的を明確にし、農民のインセンティブを高めることに寄与した。また、水路の整備に加えて圃場水管理の分野を導入したことにより、灌漑効率を総合的に高めることが期待できる。

(2) 実施のプロセスに関するもの

エジプトの法律では、工事の実施に農民同意は必要なく、また、3 分の 1 以上の農民同意があれば WUA が設立できる。一方、本プロジェクトは、工事完了後の施設及びそれを維持管理する組織 (WUA 及び WUF) の継続的かつ自立発展的な活用を目的として、「最大限の農民参加に基づき効果的、効率的に IIP 事業を実施するための改善手法を実証する」ことをプロジェクト目標とし、農民への十分な事業説明、3 分の 2 以上の同意の取得、WUA 及び WUF の設立、工事設計の確認及び施工管理などの各過程において農民参加を促している。よって、工事開始までに多大の時間と労力が要されており、プロジェクト活動に遅延が生じた。

また、C/P へのインタビュー調査において、農民参加の概念とその必要性は十分に理解しているものの、プロジェクトの進捗を制限しているという意見が聞かれた。

しかしながら、IIS 幹部は農民参加が本プロジェクトの基礎であり、IIP 事業を持続的に実

施するための有効な手段であることを認識し、C/P に対しても認識を共有するよう働きかけを行っている。

さらに、農民へのアンケート調査において、農民が本プロジェクトの概念と過程を、高く支持していることが明らかとなった。これは、プロジェクトサイトにおいて、フィールドエージェントや C/P が、農民の話を十分に聞いた上で同意を取り付ける方法を採用しているためであると考えられる。

以上より、実施機関、C/P 及び農民は本プロジェクトのプロセスが有効であり、農民水利組織が改善された施設を持続的かつ自立的に運営・維持管理することを確実にするためには必要不可欠であると評価していることから、本実施プロセスは適当であったと判断される。また、上述の遅延に対し、現場レベルの関係者間で解決策が講じられたが、実施機関の幹部レベルを含む検討は十分になされなかった。

4 - 2 結論

灌漑施設の改善、農民水利組織及び圃場水管理の各分野について、基礎的な技術移転がなされ、プロジェクト終了時までにはマニュアルが完成するが、C/P が自立的に活用するには至っていない。プロジェクト管理分野については、政府職員等に対する研修が実施されたものの、関係者間の情報共有や課題解決のための検討は十分になされなかった。

よって、プロジェクト目標の達成のためには、C/P がこれまでのプロジェクト活動の成果に基づいて自立発展的に行う活動について、日本側と共同したモニタリング、評価及びそれに基づく見直しが必要である。

なお、各分野の詳細な結論は以下のとおりである。

4 - 2 - 1 灌漑施設改善分野

施工管理マニュアルはプロジェクト終了時までには作成される予定であるが、同マニュアルを用いた水路工事を通してモニタリングと評価が必要であり、日本の更なる協力が必要と判断する。

また、デリバリー水路とメスカ水路での水管理については、水配分をどのように実施するかについての WUF 及び WUA 代表者に対する訓練をエジプト側だけで実施することは極めて困難であるため、この点に関しても引き続き日本の協力が必要と判断する。

4 - 2 - 2 農民水利組織分野

29 の WUA を設立した実績から、エジプト側の C/P や農民が自力で WUA を設立する手法やノウハウを修得したと考えられる。従って、残る 31 のメスカについて日本側の協力なしで WUA を設立することができると判断される。

しかし、合理的水利用と近代的農業に関する農民代表者の研修のためのテキスト作成とそれを用いた現地研修については、WUA ごとの個々に対応せざるをえない独自の問題を抱えているため、作成された基本テキストだけでは不十分であり、また、C/P も現在の能力ではまだこのような事情に対応する応用力が不足しているため、協力の継続が必要である。同様に、WUA や WUF のモニタリング・評価についても、日本の協力を継続する必要性が認められる。

4 - 2 - 3 圃場水管理分野

圃場水管理マニュアルはプロジェクト終了時までには完成される予定である。圃場水管理に関する農家へのトレーニングは、C/Pによる実施が可能と考えられるため、この分野に関して日本の更なる協力は必要ないと判断する。

4 - 2 - 4 プロジェクト管理分野

専門家と MWRI とのコミュニケーションが不十分であることから、プロジェクトの進捗や課題・問題点の共有化と打開策の検討及び実施が効果的になされていないことが進捗遅れの要因のひとつとなっている。特に、エジプト側による灌漑施設の改善工事が全体計画において中核を占め、その他の活動を進める上での前提となるため、プロジェクト関係者の密接かつ定期的な報告・連絡・相談は不可欠である。

以上より、本分野についてはプロジェクトの目標達成と自立発展との要となることから、政府職員を対象とした研修の実施とそれに必要な教材作成等の準備に関して日本側による継続的な協力が必要であると認められる。

第5章 提言と教訓

5 - 1 提言

5 - 1 - 1 日本側の協力継続の条件

本調査の結果、予定のプロジェクト期間内に達成が困難な成果に関して、その達成に向けて日本側が協力を継続する必要性及び妥当性を計る基準を以下の通りとした。

- 1) プロジェクト目標を達成するために不可欠であること
- 2) エジプト側だけで成果達成が困難であること
- 3) 成果達成による大きいインパクト及び成果の高い自立発展性が見込まれること

さらに、エジプト側が以下に記す条件に合意・確約することをもって協力継続の活動を抽出した。

- 1) 当初のプロジェクト期間内における活動実施に集中し、付属資料の Annex11 の実施スケジュールに基づき、活動を遂行すること。
- 2) 次官（プロジェクトダイレクター）を中心とする合同運営委員会（JSC）と灌漑局長を長とする合同サイト調整委員会を定期的開催し（6カ月に1度及び必要に応じて）、プロジェクトの進捗及び課題・問題点を共有し、必要な対策を取るための検討・確認の場とする。その際、WUA や WUF の設立及び機能を実効性あるものとするため、灌漑総局中央灌漑指導部及び灌漑改善局灌漑指導部を JSC メンバーに加えて連携を図ること。なお、JSC メンバーは付属資料のとおり。
- 3) プロジェクトサイトにおいても頻繁に会合を設け、日・エ双方の関係者による週単位での密なコミュニケーションをとり、進捗状況と今後の計画・スケジュールについて共有を図ること。
- 4) プロジェクトの阻害要因を解消し、活動を推進するため次の徹底を図る。
 - a. 本プロジェクトが国家開発計画に基づく国の事業であり、工事費の官民負担、ポンプ等の灌漑施設の設計仕様の妥当性について、積極的に広報を行う。
 - b. デリバリーチャンネルからの違法取水について定義とルールを確立し、違反者に対して必要な措置を執る。
 - c. 工事のロットを小分けして、現在の入札への競争性を出来るだけ維持しつつ、工期の短縮を図る。また、同意取り付け済みのメスカについて迅速に工事を着工する。
 - d. 同意取り付けに至っていないメスカ農民を対象に、改めてプロジェクトの目的、効果、国、地方自治体、農民の履行・負担事項について説明することにより不安や問題点を解消し、工事を含めたプロジェクト活動の促進を図る。
- 5) プロジェクトの活動及び成果について、水資源灌漑省をはじめ関係省庁、プロジェクト関係者、農民、他ドナー及びメディア関係者を対象に発表会を開催し、プロジェクトの広報と連携構築に役立てる。
- 6) デリバリーチャンネルの連続通水を保証する。

5 - 1 - 2 協力継続の活動

上述の条件を満たす以下の分野の活動について協力を継続することを勧告する。

(1) 灌漑施設の改善

- 1) WUF 内に工事調整委員会 (C.C.C.) の設立
- 2) 各メスカ内に工事調整委員会 (C.C.C.) の設立
- 3) メスカ工事の施工管理

(2) 農民水利組織

- 1) 農民のリーダーとの共同による WUA の規則策定
- 2) 工事調整委員会 (C.C.C.) による施工管理
- 3) WUA と WUF のリーダーに対する各種トレーニング
- 4) WUA と WUF のモニタリング及び評価

(3) プロジェクト運営管理

- 1) セミナーや研修のための教材の作成
- 2) セミナーや研修の実施
- 3) セミナーや研修の評価会の開催と報告書の提出

なお、提案する各活動の時期及び期間は付属資料のとおり。

5 - 2 教訓

(1) プロジェクト開始時の基本計画作りにあたって、円滑な実施のために法制度を含めて前提条件や阻害要因を詳細に抽出し、関係者間で共有し必要な対策を執ることが肝心である。たとえば、違法取水のルールや境界線の解釈等、あらかじめ想定されうる課題がプロジェクト終了時点まで積み残しされている点は、プロジェクト延長後においても引き続き大きな不安材料であり、早急にエジプト側によるルールの確立と徹底が望まれる。

(2) 運営指導及び中間評価において、設定された計画（目標、成果、活動、指標等）に合理性や実現性の点で問題が判明した場合は、早めに関係者と協議・調整の上、修正することが必要である。終了時評価時点で抽出される問題点の中には、それまでに前提、計画、スケジュールに無理があることが顕在化しているにも拘らず、適切な対応がとられなかったため、その後の軌道修正が困難な場合もある。

(3) 現場レベルだけでなく、実施機関の幹部レベルを交えた会合の定期的開催を通じて、プロジェクトの進捗状況、予定、課題を周知し、常に関係者として巻き込んで広報活動の促進と当事者意識の醸成を図ることが重要である。プロジェクトサイトにおいて C/P との良好な関係が構築され、技術移転も順調に行われていながら、法制度面などの施策上の意思決定を司る本省の関与がコミュニケーション不足により機能しなかったことが本プロジェクトにおいて活動の遅れを挽回できない大きな原因となっている。

付 属 資 料

ミニッツ

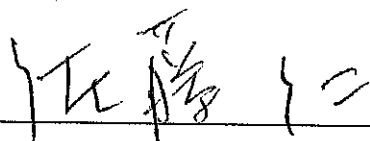
MINUTES OF MEETING
ON JOINT STEERING COMMITTEE
BETWEEN THE JAPANESE TERMINAL EVALUATION TEAM
AND THE AUTHORITIES CONCERNED OF THE GOVERNMENT
OF THE ARAB REPUBLIC OF EGYPT
ON JAPANESE TECHNICAL COOPERATION
FOR THE WATER MANAGEMENT IMPROVEMENT PROJECT
IN THE NILE DELTA

The Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Japanese Terminal Evaluation Team (hereinafter referred to as "the Japanese Team"), headed by Mr. Hitoshi SATO, to the Arab Republic of Egypt from September 24 to October 7, 2004, in order to conduct an overall review and evaluation of the technical cooperation for the Water Management Improvement Project in the Nile Delta (hereinafter referred to as "the Project").

During stay in the Arab Republic of Egypt, the Japanese Team and the authorities concerned of the Government of the Arab Republic of Egypt (hereinafter referred to as "the Egyptian Team") formulated the Joint Evaluation Team (hereinafter referred to as "the Evaluation Team") to conduct terminal evaluation of the Project by carrying out a field visit, exchanging views and holding a series of discussions in respect of desirable measures to be taken by both Governments for the successful implementation of the Project.

As the result of the evaluation, the Japanese Team and the Egyptian Team reached and agreed the conclusion that they would recommend to their respective Governments the matters referred to in the Joint Evaluation Report attached hereto.

Cairo, October 4, 2004



Mr. Hitoshi SATO

Leader

Japanese Terminal Evaluation Team

Japan International Cooperation Agency



Eng. Bahaa Eldin Saad

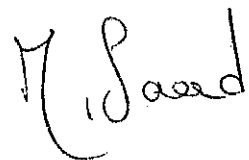
Undersecretary

Chairman of Irrigation Department

Ministry of Water Resources and Irrigation

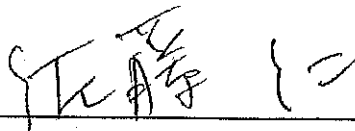
(Attachment)

1. The Evaluation Team has presented the Evaluation Report to the Joint Steering Committee (hereinafter referred to as "JSC") formulated by the parties concerned of both Japanese side and Egyptian side.
2. JSC has accepted the Report and taken notes of the recommendations proposed by the Evaluation Team for successfully sustaining and extending the achievement of the Project.
3. The Egyptian side has requested the Japanese side of further assistance of Japan to achieve the project purpose in the following three fields,
 - 1) Improvement of Water Management
 - 2) Enhancement of Water Users' Organizations (WUA&WUF)
 - 3) Empowerment of governmental staff
4. In accordance of above requests from the Egyptian side, the Japanese side has suggested that further assistance will be able to be accepted if the Egyptian side clear the conditions as follows;
 - 1) To promote to carry out of Egyptian side according to the revised schedule of activities until February 2005,
 - 2) To hold JSC and Joint Site Coordination Committee (JSCC) every 6 months and every 2 months, respectively, and whenever required,
 - 3) To hold the meeting in the project site on weekly base,
 - 4) To eliminate the obstruction on implementation of the project,
 - 5) To hold the seminar which aims to disseminate the activities and output to others,
 - 6) To guarantee for continuous flow of delivery canal.
5. The Egyptian side has agreed to execute the above 6 conditions certainly proposed by Japanese side for effective and efficient implementation of the Project.
6. JSC recognized the necessity of further cooperation of Japan for 2 years and the aim should be technical transfer to the Egyptian counterparts to secure the sustainability with their ownership. The tentative schedule is shown in ANNEX 1.
7. The Japanese Team is going to report the results of the joint evaluation and request from the Egypt side to the Japanese government.

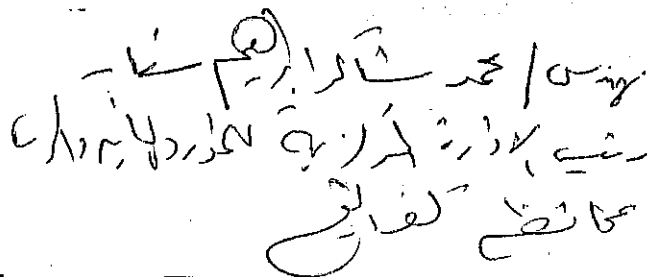


THE JOINT EVALUATION REPORT
ON
THE WATER MANAGEMENT IMPROVEMENT PROJECT
IN THE NILE DELTA

Cairo, October 4, 2004



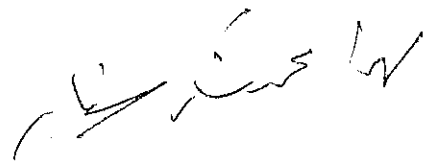
Mr. Hitoshi SATO
Leader,
Japanese Evaluation Team
Japan International Cooperation Agency



Eng. Mohamed Shaker Sennar
Leader,
Egyptian Evaluation Team
Ministry of Water Resources and
Irrigation

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ANNEX

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- 5-1. List of Japanese Long-term/Short-term Experts
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- 6-1. Equipment List Provided by the Government of Japan $\geq 1,000,000$ Yen
- 6-2. Equipment List Provided by the Government of Japan $\geq 100,000$ Yen
- 6-3. Equipment List Provided by the Government of Japan
(Hand - Carried) $\geq 20,000$ Yen
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1. Evaluation of the Project

1-1. Objectives of Evaluation

1) Evaluating degree of achievement based on the Record of Discussions, Project Design Matrix (hereinafter referred to as "the PDM") and the Plan of Operations (hereinafter referred to as "the PO").

2) To evaluate the Project in terms of the five evaluation criteria (Relevance, Effectiveness, Efficiency, Impact and Sustainability).

3) To make recommendations regarding the measures to be taken for improvement of the Project, as well as to draw the lessons for the improvement in planning and implementation of similar technical cooperation projects.

1-2. Methodology of Evaluation

For the purpose of the evaluation study, the Evaluation Team consisting of both the Egyptian side and the Japanese side has conducted the hearing of the presentation made by the counterparts of the Project, field visit to the project site and a series of discussion within the Evaluation Team. The evaluation was made based on the findings from the above activities.

1) The degree of achievement of the Project Plan was assessed, using the Evaluation Grid (Result and Process), which was attached in ANNEX 2.

2) Analysis was made for the Five Evaluation criteria described below, based on the Evaluation Grid attached in ANNEX 8.

a) Relevance

Relevance refers to the validity of the Project Purpose and the overall goal in connection with the development policy of the Arab of Republic of Egypt as well as the needs of beneficiaries.

b) Effectiveness

Effectiveness refers to the extent to which the expected benefits of the Project have been achieved as planned, and examines if the benefit was brought about as a result of the Project (not of external factors).

c) Efficiency

Efficiency refers to the productivity of the implementation process, examining if the input of the Project was efficiently convert into the output.



d) Impact

Impact refers to direct and indirect, positive and negative impacts caused by implementing the Project, including the extent to which the overall goal has been attained.

e) Sustainability

Sustainability refers to the extent to which the Project can be further developed by the recipient country, and the benefits generated by the Project can be sustained under the recipient country's policies, technology, systems, and financial state.

1-3. Members of the Team

1) The Japanese Team

Name	Assignment	Occupation
SATO Hitoshi	Leader	Team Director, Arid and Semi-Arid Farming Area Team I, Group III, Rural Development Department, JICA
NAKAYA Toshimitsu	Water Management/ On Farm Water Management	Project Coordinator, Design Division, Rural Infrastructure Department, Tokai Regional Agricultural Administration Office, Ministry of Agriculture, Forestry and Fisheries
OKAMOTO Masami	Water Users' Association	Senior Advisory Professor, Regional Research Institute of Agricultural Production College of Bioresource Sciences, Nihon University
NATSUDA Shohei	Evaluation Analysis	Project Operation Division, International Department, SANYU Consultants Inc.
MURAKAMI Mayumi	Evaluation Management	Staff, Arid and Semi-Arid Farming Area Team I, Group III, Rural Development Department, JICA

2) The Egyptian Team

Name	Job Title	Occupation
Mohamed Shaker Sennar	Leader	Regional Undersecretary in Kafr El Sheikh, Ministry of Water Resources and Irrigation
Said Hamisa	Water Management/ On Farm Water Management	Head of Water Distribution Sector in Kafr El Sheikh, Ministry of Water Resources and Irrigation

Ahmed Moustafa	Water Users' Association	Technical Office for Head of Central Dept. in Kafr El Sheikh
Emam Moussa	Evaluation Analysis	Water Board Project, Ministry of Water Resources and Irrigation
Ragab Abd El Azim	Evaluation Management	Irrigation Sector, Ministry of Water Resources and Irrigation
Mohsen El-Arabawy	Evaluation Management	Deputy Head, Institutional Reform Unit, Ministry of Water Resources and Irrigation
Hanan Mohamed Bashary	Evaluation Management	Central Department for Cooperation with Asia, Ministry of International Cooperation
Adel Hashem	Advisor	Advisor, Irrigation Improvement Project, Ministry of Water Resources and Irrigation

2. Outline of the Project

2-1 Background of the Project

Ministry of Water Resources and Irrigation (hereinafter referred to as "MWRI") has conducted the Irrigation Improvement Project (hereinafter referred to as "the IIP") for the purpose of efficient water resources usage and increasing of agricultural productivity in accordance with the Fourth Five-Year Plan of Economic and Social Development (1997/98 - 2001/02) and the Irrigation System Improvement Plan by MWRI.

In response to the request of the Egyptian Government, JICA has cooperated to formulate a master plan for the study area of about 800,000 fd (336,000 ha), and to conduct a feasibility study for the Upper Bahr Tera Command area of about 62,000 fd (26,000 ha) called "the Development Study for the Improvement of Irrigation Water Management and Environmental Conservation in the North-East Region of the Central Nile Delta (March, 1998 - March, 1999)". Upon examining the results of the above mentioned development study, it was proposed to the Egyptian Government an improvement plan targeting some main facilities, delivery canal facilities, mesqas, and an improved water management system with farmers' participation.

Furthermore, the Egyptian Government made a request to the Japanese Government for a technical cooperation program with the purpose of the verification of the improved water management system with farmers' participation and advancement of the engineers' capability required for the implementation of the improved IIP in the above

mentioned feasibility study area (the Upper Bahr Tera Command area).

Upon the above-mentioned proposal, JICA dispatched Preliminary Study Team, and Supplementary Study Team to confirm the need for assistance and to discuss the details of the Water Management Improvement Project in the Nile Delta (hereinafter referred to as "WMIP") with the Egyptian side. The Implementation Study Team signed the Record of Discussions on the Project on December 1, 1999. WMIP started in March 2000 will continue for five-year period until February 2005.

Nearly four and a half years have passed since the commencement of WMIP.

2-2 Summary of WMIP

WMIP purpose is 'Improved methods for the efficient and effective implementation of the IIP based on the full scale farmers' participation are verified in WMIP area (ANNEX 2). The Outputs of WMIP written in the present PDM (modified in the mid-term evaluation study, ANNEX 1) are as follows;

- 1) Implementation method for improvement of irrigation facilities is improved
- 2) Formulation method for farmers' water management organization is improved.
- 3) Appropriate methods of on-farm water management are introduced.
- 4) Project activities and results are introduced to governmental staff properly.

3. Achievement of the Project Plan

Achievement of the Project plan was examined in accordance with the Evaluation Grid (Result and Process) (ANNEX 3) prepared by the Team. The summary of the results is as follows.

3-1 Achievement of Inputs

Achievement of the project plan was examined in accordance with the Achievement of the Project Activities (ANNEX 4) prepared by the project team. The summary of the results is as follows.

1) Input from the Japanese Side

a) Dispatch of Experts

A total of eleven (11) long-term experts and a total of twenty-five (25) short-term experts have been dispatched and one (1) more short-term expert will be dispatched by the end of the project. The list of the experts is attached in ANNEX 5-1.

b) Training of Egypt Personnel in Japan

A total of ten (10) C/Ps has visited Japan. The list of trained personnel is attached in ANNEX 5-2.

c) Provision of Equipment, Machinery and Materials

A total amount of 66,572,000-yen (equivalent to LE 3,702,000) equipment, machinery materials were provided to carry out the activities effectively as shown in ANNEX 6-1, 6-2, 6-3 and 6-4.

d) Supplementary Funds to Cover Local Cost

The Japanese side bore a part of the project local cost to implement WMIP more effectively. The supplementary fund made by the Japanese side is shown in ANNEX 7.

2) Input from the Egypt Side

a) Provision of Land, Buildings and Facilities

The land, buildings and facilities for the Project have been provided.

b) Allocation of Budget

The Egypt side bore expenses for technical equipment for staff, construction of pump and pipeline and other miscellaneous expenses, and the disbursement of counterparts fund was adequate as shown in ANNEX 8.

c) Assignment of Counterparts

Egypt counterparts have been assigned to the Project. The list of assigned counterparts is attached in ANNEX 5-2.

3-2. Achievement of Outputs

1) Output 1:

Implementation method for improvement of irrigation facilities is improved.

Indicators:

- Improvement plan of irrigation facilities is formulated.
- Manual for construction control is formulated.

Water management activities are almost completed, counterpart (hereinafter referred to as "C/P") understand the importance of surveying present condition and grasping the

farmers' opinion sufficiently, C/P sufficiently learned the method of measuring the water quantity and quality, the way of using measurement equipment.

Planning and Designing for irrigation facilities (to plan and design for the improvement delivery canal and mesqa canal, to draft the design for downstream control gate) are almost completed. Planning and Designing for irrigation facilities were implemented as follows ;

- a) to survey the present condition of the existing irrigation facilities and water use ,
- b) to grasp famers' opinion about the present condition and problems ,
- c) to draft preliminary design for every existing mesqa,
- d) to explain the preliminary design to Water Users' association (hereinafter referred to as "WUA") and modify them,
- e) to draft the detail design of every improved mesqa .

Experts and C/Ps shared those processes side by side. Planning and designing in 55 mesqas of 60 mesqas were done.

Construction control of irrigation facilities that implemented as follows;

- a) to establish the Construction Coordination Committee (hereinafter referred to as "C.C.C." in Federation of WUAs (hereinafter referred to as "WUF"),
- b) to establish the C.C.C. in every mesqa,
- c) to implement construction control of mesqa work,
- d) to make a construction control manual.

Construction control manual is not completed now. However, this manual will be done by February 2005.

Under the those procedure, until now 20 mesqa are contracted in IIP, present situation of each mesqa is as follows, and the site map is attached ANNEX 2;

Farmer agreed	Contracted	Construction	Number of mesqa
○	○	○	3
○	○	△	8
○	○	×	9
○	×	×	9
Subtotal			29
×	×	×	31
Total			60

* ○; completed, △; Under construction, ×; not yet completed

Construction control by photograph in each process adopted for effective construction works in the IIP for the first time.

2) Output 2:

Formulation method for farmers' water management organization is improved

Indicators:

- All WUAs and a WUF are established in accordance with more than 2/3 of agreements.
- Textbooks for leaders of farmers on rational water use and modernized farming are formulated.

In the field of assistance of management of WUAs and WUF, activities are almost completed. Activities for promotion for farmers' participation in planning and designing have successfully been done, resulting in establishment of 27 WUAs in accordance with more than 2/3 agreement, by

- a) awaking an awareness of farmers, ownership for facilities,
- b) sufficient explanation to farmers,
- c) election of interim leaders of WUAs,
- d) collecting farmers' agreements,

despite many obstacles as folloes;

- a) some farmers' anxiety about assessed association fee, i.e., high costs of construction and operation/maintenance,
- b) apprehension of farmers in upstream of delivery canals to lose their advantage,
- c) complain of farmers in downstream about existing illegal direct intakes in upstream,
- d) shortage of capacity of irrigation facilities, and
- e) "border (boundary of possession)" troubles.

For promotion of farmers' participation in supervision of construction, establishment of C.C.C. and their supervision of construction works are not enough in number, i.e., achievement ratio in February 2005 is 1/3.

Another deficit in related activities is making WUAs' regulation, achievement ratio of which is 1/3 in February 2005. As WUAs are individual each other and have many different problems in C.C.C. activities and regulations, to conduct these activities is still beyond C/Ps capacity. So, C/Ps still need assistance.

Training of leaders of WUAs and WUF has been conducted by making draft of text books for each subject, then using these materials for on-site training of leaders, and

revising the draft, achievement ratio of achievement of making textbook for both C.C.C. activities as follows;

- a) operation and maintenance of irrigation facilities,
- b) meeting,
- c) account,
- d) on-farm water management,
- e) farming plan,
- f) making of regulations of WUAs

is 1/3 in February 2005. But WUAs are individual organization and definitely have their own different problems. So, C/Ps still need capacity building to apply their skills to other cases, and assistance is still needed for these subjects.

Possible achievement ratio of monitoring and evaluation of WUAs activities, especially for meetings and account is 1/3 in February 2005. But C/Ps capacity to extend them to other cases is not enough, so assistance is still needed due to their own individuality of WUAs.

3) Output 3:

Appropriate method of on-farm water management are introduced.

Indicators:

- Manual for field water management is formulated.

On-farm water management activities are almost completed. C/P learned how to analyze, use and apply the data available as well as the improvement of water application efficiency. Provided equipment contribute to improvement of on-farm management.

On-farm water management composes of 4 activities and those achievement as follows;

- a) Study of present condition of farm land use;

That is almost finished in initial 3 years of the WMIP. Remaining activity is to update the governmental agriculture policy data.

- b) Formulation of a Model Farm Plan;

The aim is saving water by planning of cropping pattern. Rice and cotton will suitable in summer, wheat, berseem and vegetables winter as Model Farm plan.

- c) Improvement of water application efficiency. Those activities are listed as follows;

- to investigate paddy water requirement,
- to study on the amount of water consumption of each upland crop,

- to investigate crop yield,
- to improve land leveling by laser leveler,
- to survey the control percolation rate (ground water level),
- to improve irrigation calendar of each crop.

Now, those data are collected for making on-farm water management manual.

d) Formulation of the method of on-farm water management as follows;

- to improve irrigation method for each crop,
- to draw up the manual of field water management.

Irrigation method of each crop was tested in the experiment.

Now, collecting necessary data is almost finished. The manual for the field water management will be completed by February 2005.

4) Output 4:

Project activities and results are introduced to governmental staff properly.

Indicators:

- Training for governmental staff particularly of IIS are conducted at least two times a year.

Until now, 22 trainings have been conducted mainly by short-term experts on the themes of the process or issues on WMIP such as "Establish of WUA", "Training for farmers", "Construction control", "Water distribution plan on farm", and so on, and the number of participants has come up to about 400, including the counterparts. However the public relations activities have not been thorough, according to the reaction of some farmers. For instance, a bad reputation that WMIP is implemented not by the Egyptian government but by private enterprise spreads out by some farmers of an opposite group to WMIP when obtaining an agreement from farmer.

And the number of trainings carried out almost satisfies the indicators set at the beginning of WMIP, but preparations of training materials, conducting of training, and reviewing of training, which should be done by counterparts, are not enough to reach the setting level, and it will be difficult to achieve it by self-act effort.

a) To complete project organization and to formulate Annual Work Plan of the Project The committees for effective implementation of WMIP such as Joint Steering Committee (JSC) and Joint Site Coordination Committee (JSCC) have been rarely held,

and internal meetings only including project site manager and counterparts are held regularly. That is to say, WMIP is implemented as spot level at project site, and the role of JSC has not yet activated in spite of recommendation stated on mid-term evaluation report.

Therefore, appropriate correspondence and action were not taken against delay of activities. Consequently, it has not contributed the output to be achieved.

b) To conduct monitoring and evaluation of the Project activities and result regularly

c) To compose Data Base System required for the Project

Both activities in project site level were almost carried out based on the schedule. Accordingly, they have led the output to achievement.

3-3 Achievement of the Project Purpose

Project Purpose: Improved methods for the efficient and effective implementation of the IIP based on the full scale farmers' participation are verified in the project area.

Indicators: By the end of the project period,

- More than 2/3 of farmers in the project area are satisfied with the IIP implementation.
- MWRI supports the improved methods.

80 % of farmers are satisfied with the methodologies followed to give necessary information about WMIP to the member farmers and obtaining sufficient farmers' agreement before starting construction work, according to the questionnaire survey for farmers at the Terminal Evaluation (number of sample: 120 farmers, 6% of the target farmers). 11 % of farmers are not satisfied, and 9 % are not sure. Some results of the survey are excerpted in the next table.

Farmers' satisfaction for the Project

Component of the Project	Satisfied	Not satisfied	Not sure	Number of sample
The methodologies followed to give necessary information about WMIP and obtaining sufficient farmers' agreement before starting construction work	80 %	11 %	9 %	120 farmers (6%)
The methodology of walking through mesqua to decide on the construction of future irrigation facilities	93 %	4 %	3 %	120 farmers (6%)
The improved irrigation facilities	81 %	15 %	4 %	48 farmers (2%)

The on-farm water management	88 %	2 %	10 %	48 farmers (2%)
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This table says that more than 80 % of farmers in the target area are satisfied with the methodologies of WMIP, and more than 80 % of farmers in mesqa where the construction was started or completed are satisfied with the facilities and introduced method of on-farm water management in WMIP.

Therefore, the improved IIP is judged that more than two thirds (66%) of farmers will be satisfied with the implementation if each activity is carried out. But the activities are limited before the phase of water management by WUA, namely, obtaining of farmers' agreement, establishment of WUA, and implementation of the construction.

To our regret, number of mesqa where the construction was finished is three (5%), now. The current plan shows WMIP is going to be finished constructing in 20 mesqa (33%) up to February 2005, and transfer the facilities to the WUAs. Regarding water management by WUA, only three (5%) mesqa which have completed the construction will be verified as of February 2005 if the activities are well implemented since it takes over half a year to verify the effectiveness.

We can judge that MWRI supports the improved methods of WMIP because the counterparts have high opinion of the methods, and the approach of farmers' participation have enhanced in projects of the World Bank, which are carried out in other areas. With regard to the method of obtaining for two-thirds agreement, the staff of WMIP has made a lot of effort for the implementation, and they are planning to continue the effort.

3-4 Achievement of the Intermediate Goal (Prospect)

Intermediate Goal: Improved methods for the efficient and effective implementation of the IIP raise irrigation efficiency and agricultural productivity in the project area.

Indicators: In five years after the end of the Project,

- Irrigation efficiency increases.
- Fair water distribution is improved.
- Indicators of agricultural productivity per unit of land increase.

Regarding to irrigation efficiency, some increment of the efficiency is still expected in accordance with the original plan of WMIP. Now, installations of measurement equipment for calculation of the conveyance efficiency in the delivery canal are ongoing, and the measurement has started for getting data, which indicate the state before the

implementation of WMIP.

Fair distribution is strong expectation of the farmers. It depends on coordination between farmers at WUA, and between WUAs at WUF. The result of water distribution will be verified through monitoring of water management by WUA and WUF.

In the downstream, where farmers cannot take enough water, they can expect increase of crop yield through getting rid of shortage of irrigation water and installation of appropriate timing for irrigation. On the other hand, in the upstream, where farmers enjoy enough water, appropriate water management will increase crop production per unit of water, production in field, and production quality through getting rid of excessive irrigation though they cannot expect increase of rice yield per unit of land. In addition to above effect, they can expect reduction of farming cost in the whole target area since they will save time for water management on farm level.

3-5 Achievement of the Overall Goal (Prospect)

Overall Goal: Improved methods for the efficient and effective implementation of the IIP are disseminated in the Nile Delta, accompanied by an increase of agricultural productivity and the farmers' net income.

Indicators: By the year 2017 in a certain districts of Bahr Tera,

- New approaches of the IIP are disseminated.
- Indicators of agricultural productivity.
- Improvement of the farmers' living condition.

The improved methods of WMIP will apply other areas in Bahr Tera, and improve household economy of farmers through increase of agricultural productivity if the effectiveness is verified because WMIP is placed as a pilot project for implementation of IIP in the whole Nile Delta, which includes Bahr Tera.

4. Results of the Evaluation with Five Criteria

Based on the survey results regarding the achievement of the project plan, WMIP was evaluated in terms of the five criteria as follows.

4-1 Relevance

We can judge the relevance of WMIP is still high. According to questionnaire survey, which was carried out the Terminal Evaluation, the C/Ps and Japanese experts think the project purpose conform to the present needs of the beneficiaries, and the development

policy in Egypt.

Egyptian government tries to save water through increasing of efficiency of water use, which improves current unequal distribution of irrigation water. Farmers in downstream of the delivery canal are suffered from severe shortage of water in some periods in summer. On the other hand, farmers in upstream enjoy enough water, and not a few farmers are taking water by private pumps from the delivery canal directly, which is illegal way.

Serious opposite action against WMIP is caused by a few farmers' reaction of trying to keep their advantage for getting water. But they can also save cost of taking water by utilizing of the improved system in comparison with use of private pumps though they have to give up free taking of water. Situations of upstream and downstream are different in the delivery canal. Therefore, WMIP has to consider and treat each advantage carefully in order to match the contents of WMIP with farmers' need in the whole target mesqa.

4-2 Effectiveness

As a result, effectiveness of the outputs to the project purpose remains low due to delay of the progress of obtaining sufficient farmers' agreement. The C/Ps have been trained well but the process of establishment of WUA takes much longer time than the original plan of WMIP.

According to some interviews with the staff and observation in the field, it takes a lot of time to convince a farmer to agree with WMIP, which seems the main reason of the delay. Therefore, we can say that the effectiveness of WMIP is low, considering the performance with the time schedule and level of the project purpose.

The result of the questionnaire survey shows that the C/Ps and the experts evaluate WMIP partly achieves expected results of the project purpose though many activities are not completed as shown in the plan of operation. Verification of water management in each mesqa by the WUA will be possible after monitoring of their activities.

We can consider that the output could partly contribute to achieve the project purpose. Some C/Ps evaluate output of the on-farm water management could heavily contribute to achieve the project purpose, especially. One C/P mentions that the improvement of irrigation facilities performed same as a project of the WB.

4-3 Efficiency

Basically, we can judge that the activities were carried out efficiently and led to the output because the C/Ps were well trained and understood each method, which shows the introduced technology has transferred enough from the experts to the C/Ps. The input was well managed and fully utilized for achieving the output though the experts pointed out some transferring of the C/Ps affected smooth implementation of the project activities.

The C/Ps think that timing of receiving the Japanese experts, training in Japan, and

assignment of Egyptian C/Ps were appropriate, and timing of the equipment supplied under WMIP by Japan was mostly appropriate. In the experimental field, the provided equipment contributed enough to the improvement of the on-farm water management. Some C/Ps recommended that introduction of full-time Egyptian manager could accelerate the efficiency of the activities since the project site manager was too busy, as he has to manage many other projects.

The experts think shipments of some equipment were delayed. They also mentioned the timing to receive a few short-term experts was late; in the beginning of WMIP, all the C/Ps were part-time counterparts. In regard with the quality and quantity of the input, assigned periods of some short-term experts were short; number of full-time counterparts and field agents was insufficient; some C/Ps needed time to identify the difference between IIP and WMIP; introduced equipment for measurement of soil moisture had high level function, which was not used at the field.

Regarding communication problem in the staff of WMIP, the JSC was not held during the first two years. Also, it was monitored in this Terminal Evaluation that the communication between the experts and the Irrigation Dept. was insufficient because management system of WMIP did not include it. And at the beginning of WMIP, the general project management was not clear for Egyptian side.

4-4 Impact

Obtaining of two-thirds agreements of the all farmers affects great impact to the C/Ps and the farmers. This impact was expected before the beginning of WMIP but the degree was too strong to manage in WMIP. It was first time for farmers to consider their attitude to a national project. They were surprised, worried about it, and watched reaction of others in order to decide their own attitude, which was a big change and a good thing for them from long-term view of democracy.

On the other hand, the method causes negative impact to the C/Ps. Some C/Ps answered that the method of obtaining of two-thirds agreements made the construction delay, or the method allowed the farmers right of choice for WMIP. The C/Ps enough understand the concept and the need of farmers' participation but they think the method is not realistic because the method forced them to have too much burden. One C/P pointed out the signature of the farmers caused negative impact because they intended to misunderstand that the signature meant responsibility of the construction.

WMIP also affected the project of the WB. The project became to give more priority to the approach of farmers' participation. It tries to draw out farmers' incentive from hearing their opinion in order to secure their ownership. The movement shows that WMIP affected not small impact to the policy of IIS since staff of IIS carried out the project of the WB.

An unexpected impact was observed from environmental and social or cultural aspects. In the preparatory meeting for the WUF, a sub-committee for environment and gender has been formed. These activities are important for farmers' organizations, and

indicate farmers' voluntary movements though direct relation between women and irrigation work was not found in this survey.

4-5 Sustainability

IIS will continue WMIP with farmers after February 2005 in order to expand the improved methods to the whole target mesqa, start the continuous flow, and make the WUF get off the ground. IIS secure the budget and the staff, who were well trained and have the capability for implementation of WMIP.

The C/Ps are able to plan and prepare for a training program of the appropriate improved methods for the efficient and effective implementation of IIP based on the full-scale farmers' participation for extension in another area. But now, performance of WUA is not clear because the farmers have not experienced water management in the introduced system under management of WUA and WUF.

The WUAs do not have enough financial resources for continuing the activities if they fail to collect money from the members. All the cost of operation and maintenance for new mesqa will be charged to the farmers. They will have to pay the cost in addition to redemption of the construction cost, which will be a main issue of achievement for the project purpose in WMIP, and the dissemination to other areas.

5. Conclusion

5-1 Improvement of irrigation facilities

Manual for construction control will be completed by February 2005, however it is necessary to monitor and evaluate that the manual is used properly or not. Therefore it is necessary to continue the further cooperation by Japanese side.

Concerning the water management for delivery canal and mesqa canal, it is difficult to exercise to WUF and WUA leaders how to manage the distribute water between delivery and mesqa. Therefore, it is necessary to continue the further cooperation by Japanese side.

5-2 Farmers' Water Management Organization (WUA & WUF)

29 WUAs had been established. Egyptian side, C/Ps and farmers, could built their capacity enough for establishment of WUAs. So, the other 31 WUAs will be expected to be established by Egyptian effort without assistance.

Training of leaders of farmers on rational water use and modernized farming, or making perfect text book through trials of on-site training in other WUAs will require assistance, as some problems in each WUA are very individually different each other, but C/Ps capacity to extend their experience to other WUAs is still not enough.

Monitoring and evaluation of WUAs and WUF need assistance. Because meeting and account of a WUA is quite individual problems, capacity building in the field should be continues to develop Egyptian side capacity.

5-3 On-farm water management

Manual for field water management will be completed by February 2005. It is possible for C/Ps to train farmers' group how to manage the water on the field. Therefore, it is not necessary to continue the further cooperation by Japanese side.

5-4 General Project Management

The seminar and trainings for governmental staff shall be conducted effectively to satisfy the following objected.

a) To develop the capacity of staff intensively in technical knowledge and skill in addition to the field activities. And to skill up method and ability of training through the preparation of training materials.

b) To obtain farmers interest and cooperation to WMIP through public relations by the staff who participates in the training.

The communications between experts and Irrigation Dept. in Cairo should be strengthened to avoid the lack of sharing of progress, issues, problem and examining on countermeasures as well as taking actions for WMIP To overcome the delay of progress. It is a serious cause of delay of progress of some activities and non-achievement of output as well. Especially, periodic and frequent reports, communications, and consultation between both sides are needed in order to grasp the progress of activities, because the construction of irrigation facilities in the site by Egyptian side is a core in the total project and it affects the degree of progress of the further activities.

It is necessary to continue the cooperation of Japanese side on preparation of training materials and conducting of training in order to secure the achievement and sustainability of WMIP.

6. Recommendations

The following conditions are imposed for judgment of the necessity and relevance of further cooperation in order to achieve the output and project purpose among the output that will not be achieved in a scheduled project period.

• The achievement level be so high that it not be reached the setting one by February 2005, and the achievement of output and project purpose by Egyptian side only be difficult.

- Be indispensable to the project target achievement.
- Impact and sustainability being anticipated highly

As far as the above conditions are satisfied, the following activities as further cooperation of Japanese side are recommended.

- Improvement of water management
- Enhancement of water users' organizations (WUA & WUF)
- Empowerment of governmental staff

The timing and duration of each activity which are proposed is shown in ANNEX10.

However, Egyptian side shall be requested to accept and guarantee to execute the following preconditions for further cooperation in the activities described above.

1. To promote to carry out activities of Egyptian side according to the revised schedule of activities until February 2005. Revised schedule of activities is shown in ANNEX11.
2. To hold the JSC headed by Project director and JSCC headed by Project Manager shall be held every 6 months and every two months, respectively, and whenever required in order to share the progress, issues and problems and to take the necessary action. And CD-IAS (Central Department -Irrigation Advisory Service) and IIS-IAS (Irrigation Improvement Sector – Irrigation Advisory Service) shall be involved to secure and to facilitate the establishment and enhancement of WUA and WUF. The member of both committees is shown below which is referred to R/D (December 1999)

a) Joint Steering Committee (JSC)

- Chair person
Chairperson of Irrigation Department (Project Director)
- Egyptian side members
Head of IIS (Project Manger)
Head of Irrigation Sector
Undersecretary for lower Egypt (Deputy Project Manager)
Undersecretary of the Irrigation Advisory Service, MWRI
General Director. IIS Delta Directorate (Project Site Manager)
Representative of Egyptian Public Authority for Drainage Project
Representative of other Ministries and Agencies will be added

- Japanese side members
 - Chief advisor
 - Coordinator
 - Other Japanese Experts
 - Representative of the JICA Egypt Office

b) Joint Site Co-coordinating Committee (JSCC)

- Chair person
 - Undersecretary for lower Egypt (Deputy Project Manager)
- Vice chairperson
 - General Director, IIS Delta Directorate (Project Site Manager)
- Egyptian side members
 - General Director of the Kafr El Seikh ID Directorate
 - Inspector of the Biyala Irrigation Inspectorate
 - Engineer of the Biyala Irrigation District
 - Other Egyptian counterparts in Tanta and Cairo
- Japanese side members
 - Chief advisor
 - Coordinator
 - Other Japanese Experts
 - Representative of the JICA Egypt Office

3. To hold the meeting in the project site on weekly base in order to share the progress and the schedule of activities.

4. To eliminate the obstruction on implementation of the project, and to be thorough the followings:

a) To promote positively the public relations of the following:

- WMIP be national project based on national development plan,
- sufficient explanation of the construction cost of mesqa,
- Design and specifications of irrigation facilities be appropriate.

b) To define the illegal intake from the delivery canal, to establish the rule, and to take the necessary measure against illegal action.

c) To divide the bidding scope of construction into smaller portions to save the construction period while keeping the interest to bidding. And to facilitate the contract and the commencement of construction after obtaining agreement of farmers.

d) To explain the project purpose, output, obligation and coverage by government, local government and farmers respectively to the farmers who have not agreed in order

to eliminate anxiety and complain, and to facilitate the WMIP including the construction.

5. To hold the seminar which aims to disseminate the activities and output of WMIP to MWRI , other ministries, relevant parties including farmers, other donors, and media as well as to enhance the relationship.

6. To guarantee for continuous flow of delivery canal.

7. Lessons Learned from the Project

1. At the stage of making concept of project such as preliminary study, it is important that:

- a) to clarify the blocking factors and their degree of difficulty as much as possible,
- b) to share them with parties concerned, and
- c) to make a plan carefully and concretely to overcome them(who, when, what, how ?).

For example, to establish and to apply a rule against illegal intake of water and boundary dispute in mesqa are sequentially left as a serious and uneasiness problem.

2. At the stage of project consultation study or mid-term monitoring study, when a problem was found from the viewpoint of articulateness, rationality, or realization in an original plan (project purpose, output, activity, indicator), it is important to discuss with parties concerned promptly and to revise it , if necessary. Otherwise the problem may remain or become more serious up to the end of project.

3. In order to implement the project successfully and smoothly, it is effective that:

- a) to hold periodical meeting involving not only C/Ps on project site, but key-persons who have responsibility and authority in implementing organization,
- b) to share the progress, schedule, issues, etc with them,
- c) to create their ownership and to build relationship with them for taking a necessary action promptly and precisely in the case of trouble.

ANNEX1 Project Design Matrix

Project Name: The Water Management Improvement Project in the Nile Delta
 Project area: 4,000 FD (1,680 ha) of Bahr El Nour Command Area
 Target group: Farmers

Duration: March 1, 2000 - February 28, 2005

Modified on: December 17, 2002

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal Improved methods for the efficient and effective implementation of the IIP are disseminated in the Nile Delta, accompanied by an increase of agricultural productivity and the farmers' net income.	By the year 2017 in a certain districts of Bahr Tera, 1. New approaches of the IIP are disseminated. 2. Indicators of agricultural productivity. 3. Improvement of the farmers' living condition.	1. Survey conducted by MWRI 2. Statistics of MALR 3. Survey conducted by MWRI	
Intermediate Goal Improved methods for the efficient and effective implementation of the IIP raise irrigation efficiency and agricultural productivity in the project area.	In five years after the end of the Project, 1. Irrigation efficiency increases. 2. Fair water distribution is improved. 3. Indicators of agricultural productivity per unit of land increase.	1. Survey conducted by MWRI 2. Survey conducted by MWRI 3. Statistics of MARI and survey conducted by MWRI	1. General economic conditions in Egypt do not deteriorate.
Project Purpose Improved methods for the efficient and effective implementation of the IIP based on the full scale farmers' participation are verified in the project area.	By the end of the project period, 1. More than 2/3 of farmers in the project area are satisfied with the IIP implementation. 2. MWRI supports the improved methods.	1. Questionnaire survey during the final evaluation 2. Questionnaire survey during the final evaluation	1. MWRI applies the improved methods. 2. Situation of distribution, storage, prices and market of crops does not deteriorate.
Output Field 1. Improvement of irrigation facilities - Implementation method for improvement of irrigation facilities is improved Field 2. Farmers' Water Management Organization (WUA* & WUF*) - Formulation method for farmers' water management organization is improved Field 3. On-farm water management - Appropriate methods of on-farm water management are introduced Field 4. General Project Management - Project activities and results are introduced to governmental staff properly.	By the end of the project period, 1-1. Improvement plan of irrigation facilities is formulated. 1-2. Manual for construction control is formulated. 2-1 All WUAs and a WUF are established in accordance with more than 2/3 of agreements. 2-2 Textbooks for leaders of farmers on rational water use and modernized farming are formulated. 3-1 Manual for field water management is formulated. 4. Training for governmental staff, particularly of IIS, are conducted at least two times a year.	1-1, 1-2. Record of the Project 2-1, 2-2 Record of the Project 3-1 Record of the Project 4. Record of the Project	1. Enough Egyptian counterpart personnel remain in the sector related to water management or agriculture. 2. Irrigation facilities are constructed on schedule in the project area by the Egyptian side.

* Note: WUA: Water Users' Association,
WUF: Federation of WUAs

Activities

Field 1. Improvement of irrigation facilities
 1-1. Survey of present condition
 1-2. Formulation of monitoring system of water quantity and quality
 1-3. Planning and Designing of irrigation facilities
 1-4. Construction control of irrigation facilities

Field 2. Farmers' water management organization (WUA & WUF)

2-1. Survey of present condition
 2-2. Promotion for farmers' participation in planning and designing
 2-3. Establishment of WUAs and WUF
 2-4. Promotion of farmers' participation in supervision of construction
 2-5. Training of leaders of WUA & WUF
 2-6. Monitoring and evaluation of WUA & WUF

Field 3. On-farm water management

3-1. Study of present farming condition
 3-2. Formulation of a model farm plan
 3-3. Improvement of water application efficiency
 3-4. Formulation of the methods of on-farm water management

Field 4. General project management

4-1. Completing project management organization and formulating annual work plan of the Project
 4-2. Conducting monitoring and evaluation of the Project activities and result regularly
 4-3. Composing Data Base System required for the Project
 4-4. Conducting training to enhance practical abilities of governmental staff

Input

Japanese side

1. Dispatch of Japanese Experts
 1-1. Long-Term Experts
 - Chief Adviser
 - Coordinator
 - Water Management/Irrigation Facilities
 - Water Users' Association
 - On-farm Water Management
 1-2. Short-Term Experts
 - If necessary
 2. Provision of machinery and Equipment
 3. Training of Egyptian counterpart personnel in Japan

Egyptian Side

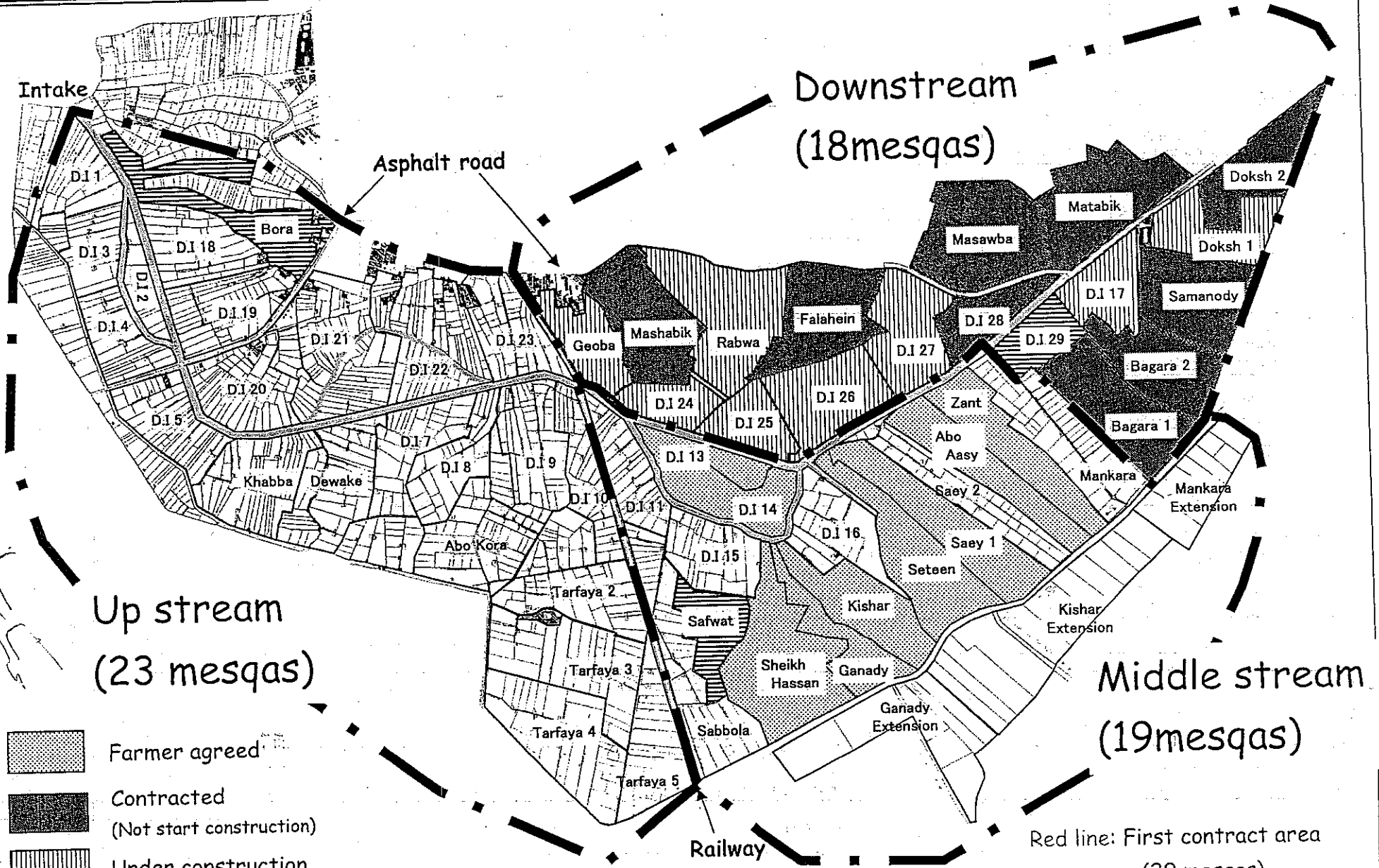
1. Assignment of counterpart personnel and administrative staff
 - Project Director
 - Project Manager
 - Deputy Project Manager
 - Project Site Manager
 - Counterpart personnel in the field of; Water Management/Irrigation Facilities; Water Users' Association;
 On-farm Water Management and Training
 - Administration staff including secretaries, drivers and others
 - Accountants
 - Other necessary supporting staff
 2. Provision of land, buildings and facilities such as project offices and related facilities, expert's room and so on.
 3. The supply or replacement of equipment, machinery, vehicles, instruments, tools, spare parts and any other materials other than that provided through JICA.
 4. Allocation of operating expenses for the Project
 1) Construction, operation and maintenance of irrigation facilities in the project area
 2) Personnel expenses of counterpart personnel and administration staff of the Project (including their official travel expenses)
 3) Operating expenses necessary for the implementation of the Project such as utilities





Equipment supplied from Japan for technical guidance and other activities is cleared at custom smoothly.

Preconditions

1. Farmers are cooperative to the Project.
 2. Necessary support is given to the Project from both governments.

ANNEX 2 Bahr El Nour Map



-  Farmer agreed
-  Contracted (Not start construction)
-  Under construction
-  Constructed

Red line: First contract area
(20 mesqas)
(About 1,040 Feddan)

Criteria	Evaluation Questions		Information / Data	Data Sources	Data Collection Methods	Result of Survey	
	Items	Subitems					
Performance		Are training for governmental staff, particularly of IIS, conducted at least two times a year?	Progress of Training for Staff of IIS on Improved Methods for Water Management	Data of study for the terminal evaluation by the experts, p9	Document review	1st & 2nd year: preparation, 3rd year: 3 times, 4th year: 5 times, 5th year: 2 times	
	Implementation of the Input	Implementation of the input by Japanese side	Implementation of Dispatch of Japanese Experts	Implementation of Dispatch of Japanese Experts	Data of study for the terminal evaluation by the experts, p12	Document review	11 log-term Experts, 25 short-term experts
			Implementation of Provision of Machinery and Equipment	Implementation of Provision of Machinery and Equipment	Data of study for the terminal evaluation by the experts, Annex 2-3	Document review	Over 8,000\$/unit: 13 times, Over 800\$/unit: 150 times, Over 160\$/unit: 99 times
			Implementation of Training of Egyptian Counterpart Personnel in Japan	Implementation of Training of Egyptian Counterpart Personnel in Japan	Data of study for the terminal evaluation by the experts, p12	Document review	11 counterparts has trained in Japan.
		Implementation of the input by Egyptian side	Implementation of Assignment of Counterpart Personnel and Administrative Staff	Implementation of Assignment of Counterpart Personnel and Administrative Staff	Data of study for the terminal evaluation by the experts, p12	Document review	At the beginning of the Project, full-time C/P were not assigned, which delayed progress of the activities. Current situation: 8 full-time counterparts in Cairo, 14 full-time counterparts in Tanta
			Implementation of Provision of Land, Buildings and Facilities	Implementation of Provision of Land, Buildings and Facilities	Coordinator	Interview	4 Project offices in Cairo, Tanta, Kafrsake,
			Implementation of Supply and Maintenance of the Provided Machinery and Equipment	Implementation of Supply and Maintenance of the Provided Machinery and Equipment	Data of study for the terminal evaluation by the experts, p13	Document review	The equipment is managed properly by Egyptian staff, using a register.
			Implementation of Allocation of Operating Expenses for the Project	Implementation of Allocation of Operating Expenses for the Project	Data of study for the terminal evaluation by the experts, Annex 2-5	Document review	Egyptian government paid amount of 1.88 million L.E for the local cost up to fiscal 2002.
	Progress of Activities	Each activity	Report of the experts	Experts	Hearing	See Annex 3 Achievement of the Project Activities.	
	Implementation Process	Farmers' Participation in the Project	Farmers' Participation in Activities	Farmers' Participation in Activities of WUAs	Water Users' Association Expert (Eng. Jun KUDO)	Interview	Farmers who recognize necessity of the Project act voluntarily.
				Material of the domestic supporting committee of study for the terminal evaluation, Annex-7	Document review	Farmers recognized problems of irrigation water and facilities, and understand design of facilities.	
Farmers' Participation in Activities of On-farm Water Management			On-farm Water Management Expert (Eng. Kenichiro YOSHII)	Interview	Relationship among stakeholders is good except a few oppositional farmers.		

ANNEX 3 Evaluation Grid (Result and Process)

Criteria	Evaluation Questions		Information / Data	Data Sources	Data Collection Methods	Result of Survey
	Items	Subitems				
Performance	Achievement Level of the Overall Goal (By the year 2017 in a certain districts of Bahr Tera)	Are new approaches of the IIP disseminated?	Implementation situation of IIP	Project Site Manager / General Director, IIS Central Delta (Eng. Adel El Madbouly)	Interview	The Project in Bahr Nour is the first project in Bahr Tera. There is no concrete plan to expand IIP in Bahr Tera.
		Are indicators of agricultural productivity increase?	Crops yields per unit water	Result of survey for crops yields per unit water	Document review	
		Is farmers' living condition improved?	Farmers' net income	Result of survey for farmers' household economy	Document review	
	Achievement Level of the Intermediate Goal (In five years after the end of the Project)	Is irrigation efficiency increased?	Irrigation Efficiency	Result of discharge measurement	Document review	
				Material of the domestic supporting committee for WMIP, Jun 2001	Document review	10 % incremental of total irrigation efficiency is expected, from 0.56 to 0.66.
		Is fair water distribution improved?	Farmers' satisfaction level with the water distribution	Result of questionnaire survey for farmers	Document review	Farmers' opinion on the improved irrigation facilities (8 mesqa): Satisfied 81%, Not satisfied 15%. Not sure 4%
		Is indicators of agricultural productivity per unit of land increased?	Crops yields per unit water	Result of survey for crops yields per unit water	Document review	
	Achievement Level of the Project Purpose	Are more than 2/3 of farmers in the project area satisfied with the IIP implementation?	Farmers' satisfaction level with the IIP Implementation	Result of questionnaire survey for farmers	Document review	Farmers' satisfaction with IIP Methodology: Satisfied 80%, Not satisfied 11%, Not sure 9%
		Does MWRI support the improved methods?	Opinions of IIS on the Improved methods	Project Manager / Head of IIS (Eng. Abdel Kader)	Interview	IIS consider that the improved method of the Project is good way, and they support them except for taking of 2/3 agreement of farmers.
				Project Site Manager / General Director, IIS Central Delta (Eng. Adel El Madbouly)	Interview	ditto
Achievement Level of the Output	Is improvement plan of irrigation facilities formulated?	Improvement Plan of Irrigation Facilities	Experts	Hearing	The plan is shown in drawings and calculation sheets of each mesqa.	
	Is manual for construction control formulated?	Methods for Construction Control	Manual for construction control	Document review	It is a draft and planned to be completed before the end of the Project.	
	Are all WUAs and a WUF established in accordance with more than 2/3 of agreements?	Progress of Establishment of WUAs	Experts	Hearing	27 in 60 mesqa have established WUA. (45%)	
	Are textbooks for leaders of farmers on rational water use and modernized farming formulated?	Methods for Rational Water Use and Modernized Farming	Experts	Hearing	It is a draft and planned to be completed before the end of the Project.	
	Is manual for on-farm water management formulated?	Methods for Field Water Management	Experts	Hearing	ditto	

Annex 4-1 Achievement of the Project Activities of the Irrigation Improvement Project in the Nile Delta (Water management / irrigation facilities)

Output 1: Implementation method for improvement of irrigation facilities is improved

(As of Sep 2004)

Main activities mentioned in the PO						Progress of the Project		Final target level (%)	Result of Survey	Level of achievement AW	Perspective achievement at Feb 2005	
Activities	Period					In-charge (s)	Activities					Results/Outputs (A)
	00	01	02	03	04							
1 Improvement of irrigation facilities							Some irrigation facilities (downstream control gate, lower Bahr El Nour canal and 20mesqas) were improved with farmer's participation.	Irrigation facilities are improved with farmers' participation				
1.1 Survey of present conditions							The present conditions and its problems were brought out.	The present conditions and its problems are brought out.				
1.1.1 To survey the present conditions of irrigation facilities and water use						Eng.Koddosy, Eng.Ragal	The present conditions and its problems were brought out.	The present conditions and its problems are brought out.				
1.1.1.1 To make the existing irrigation network maps						Eng.Koddosy, Eng.Ragal	Surveyed existing irrigation network from Bahr El Nour to marwa.	The existing irrigation network maps in Bahr El Nour area were made properly.	Completed	100%	100%	
1.1.1.2 To collect the existing subsurface drainage maps						Eng.Koddosy	Collected the existing subsurface drainage maps from the Drainage Section.	The existing subsurface drainage maps were collected.	ditto	100%	100%	
1.1.1.3 To make the digital map in Bahr El Nour area						Eng.Ragal Eng.Koddosy	Collected the digital maps in Bahr El Nour area from the Survey Authority. Digitized some small areas in Bahr El Nour by scanner.	The digital maps in Bahr El Nour area were produced.	ditto	100%	100%	
1.1.1.4 To formulate a geographic information system						Eng.Ragal	Made a database in Bahr El Nour area from the data which was collected by all sections. Made a using manual for GIS in order that everyone can use GIS.	The GIS database in Bahr El Nour area was organized.	The GIS database in Bahr El Nour area is organized.	This activity will be completed by Feb 2005.	70%	100%
1.1.1.5 To grasp existing water distribution rules and its procedure						Eng.Koddosy	Collected water table data at Bahr El Nour intake from the Biyala district office. Collected the procedure for water distribution from the Distribution Directorate in Kafr El Sheik.	The existing water distribution rules and its procedure were clarified.	The existing water distribution rules and its procedure are clarified.	Completed	100%	100%
1.1.1.6 To survey irrigation facilities in Bahr El Nour command area (project site)						Eng.Koddosy	Surveyed mesqa intake locations, Bahr El Nour canal intake's dimension, level and condition and bank condition along Bahr El Nour canal.	The existing condition in Bahr El Nour area was clarified.	The existing condition in Bahr El Nour area is clarified.	ditto	100%	100%
1.1.1.7 To survey improved facilities in Advanced IIP area (USAID, WB and KFW)						Eng.Koddosy	Held three workshops with IAS staffs, construction engineers and farmers in World Bank project areas. Made a problem tree by the result of these workshops.	The problems in advanced IIP area were clarified.	The problems in advanced IIP area are clarified.	ditto	100%	100%

Main activities mentioned in the PO						Progress of the Project		Final target level (B)	Result of Survey	Level of achievement A/B	Perspective achievement at Feb 2005	
Activities	Period					In-charge (s)	Activities					Results/Outputs (A)
	00	01	02	03	04							
1.1.1.8 To grasp the IIP's procedure from the design to ending of the construction and deliver facilities to the WUF						Eng.Koddosy	Got the IIP's procedure from design engineers and construction engineers in World Bank area.	The present IIP procedure and its problems were clarified.	The present IIP procedure and its problems are clarified.	ditto	100%	100%
1.1.2 To grasp farmers' opinion about the present condition and problems						WUA section		The problems concerning IIP, irrigation water and so on, which the farmers have, were clarified.	The problems concerning IIP, irrigation water and so on, which the farmers have, are clarified			
1.1.2.1 Existing mesqa area (based on PCM workshop)						WUA section	Held PCM workshops at existing mesqa areas. Grasped farmer's opinions and analyzed the problems.	The farmers' opinions were clarified.	The farmers' opinions are clarified.	Completed	100%	100%
1.1.2.2 Direct irrigation area (based on PCM workshop)						WUA section	Held PCM workshops at direct irrigation areas. Grasped farmer's opinions and analyzed the problems.	The farmers' opinions were clarified.	The farmers' opinions are clarified.	ditto	100%	100%
1.2 Formulation of monitoring system of water quantity and quality								The monitoring and evaluation plan of IIP was developed.	The monitoring and evaluation plan of IIP is developed.			
1.2.1 To prepare a draft monitoring plan and its equipment						Eng.Koddosy		The draft monitoring plan was made up and some measurement equipment was installed.	The draft monitoring plan is made up and the measurement equipment is installed.			
1.2.1.1 To make a draft monitoring plan						Eng.Koddosy	Made a draft monitoring plan with a short term expert	The draft monitoring plan was made up.	The draft monitoring plan is made up.	Completed	100%	100%
1.2.1.2 To select and install the measurement equipment						Eng.Koddosy	Selected the measurement equipment in accordance with the draft monitoring plan. Installed some of them at Bahr El Nour area. One of our counterparts was selected as a member of monitoring equipment selection committee in World Bank and supported to insta	Some of these measurement equipment was installed.	The measurement equipment is installed.	About half of the equipment will not be installed due to delay of the construction	50%	50%
1.2.2 To monitor the water quantity and quality in Bahr El Nour area						Eng.Koddosy			The water quantity and quality in Bahr El Nour is monitored and evaluated before and after IIP.			
1.2.2.1 To monitor the water quantity in Bahr El Nour area						Eng.Koddosy	Monitored successive water quantity at Bahr El Nour intake for a while. Monitored the water quantity and so on before IIP at some points in Bahr El Nour area periodically	The water quantity in Bahr El Nour was monitored for a while and the data was collected before IIP.	The water quantity in Bahr El Nour is monitored and evaluated before and after IIP.	Measurement before WNIIP will be completed by Feb 2005 but measurement after WNIIP will not be implemented due to delay of the construction.	40%	40%

Main activities mentioned in the PO						Progress of the Project		Final target level (B)	Result of Survey	Level of achievement AB	Perspective achievement at Feb 2005	
Activities	Period					In-charge (s)	Activities					Results/Outputs (A)
	00	01	02	03	04							
1.2.2.2 To monitor the water quality in Bahr El Nour area			---		---	Eng.Koddosy	Monitored the water quality before IIP by Tanta Environment Office.	The water quality in Bahr El Nour was monitored and the data was collected before IIP.	The water quality in Bahr El Nour is monitored and evaluated before and after IIP.	ditto	40%	40%
1.2.3 To measure the irrigation efficiency (conveyance efficiency)			-----		---	Eng.Koddosy			The conveyance efficiency is measured and evaluated before and after IIP.			
1.2.3.1 To measure the irrigation efficiency (conveyance efficiency)			-----		---	Eng.Koddosy	Transferred the method of measuring conveyance efficiency. Measured the conveyance efficiency before IIP in Bahr El Nour canal by the Distribution Office in Tanta. Measured the conveyance efficiency before and after IIP in some mesqas.	The conveyance efficiency before IIP in Bahr EL Nour canal and some mesqas was measured. The conveyance efficiency before and after IIP in some mesqas was evaluated.	The conveyance efficiency is measured and evaluated before and after IIP.	Measurement before WMIP will be completed by Feb 2005 but measurement after WMIP will not be implemented due to delay of the construction.	20%	70%
1.2.3.2 To modify the monitoring plan					---	Eng.Koddosy	Modified the draft monitoring plan on the basis of actual monitoring	The monitoring plan of IIP was developed.	The monitoring plan of IIP is developed.	This activity will be completed by Feb 2005	0%	100%
1.3 Planning and Designing for irrigation facilities			-----		---	Eng.Koddosy Eng.Ragal		The improvement plans for mesqas and delivery canal were completed.	The improvement plans for mesqas and delivery canal are completed.			
1.3.1 To plan and design for the improvement of delivery canal (Bahr El Nour)			-----		---	Eng.Koddosy Eng.Ragal		The improvement plan for Bahr El Nour canal was completed.	The improvement plan for Bahr El Nour canal is completed.			
1.3.1.1 To carry out the existing cross section survey			..			Eng.Ragal, Eng.Koddosy	Carried out the training for using auto level to field agent. Carried out the existing cross section survey.	The existing cross sections of Bahr El Nour canal were clarified.	The existing cross sections of Bahr El Nour canal are clarified.	Completed	100%	100%
1.3.1.2 To draw the present profile and cross sections			..			Eng.Ragal	Drew the present profile and cross sections by CAD software.	The existing cross sections of Bahr El Nour canal were clarified.	The existing cross sections of Bahr El Nour canal are clarified.	ditto	100%	100%
1.3.1.3 To collect the data which is needed to analyze water line			..			Eng.Koddosy	Collected the data of water level from the Biyala District Office for 5years (1998 to 2002). Collected the data, such as location of mesqas intake, area of all mesqas and cross section of Bahr El Nour.	The data which is needed for water line analysis was collected.	The data which is needed for water line analysis is collected.	ditto	100%	100%
1.3.1.4 To make data sheets and input the data to analyze water line			..			Eng.Koddosy	Inputted the data which is needed for water line analysis and made data sheets.	The data which is needed for water line analysis was inputted.	The data which is needed for water line analysis is inputted.	ditto	100%	100%

Main activities mentioned in the PO						Progress of the Project		Final target level (E)	Result of Survey	Level of achievement A/B	Perspective achievement at Feb 2005	
Activities	Period					In-charge (s)	Activities					Results/Outputs (A)
	00	01	02	03	04							
1.3.1.5 To analyze the water line in Bahr El Nour			..			Eng.Koddosy	Analyzed the water line in Bahr El Nour by IIP's unsteady flow simulation program.	Unsteady flow simulation was completed.	Unsteady flow simulation is completed.	ditto	100% _a	100% _a
1.3.1.6 To draft the design for improved delivery canal			..			Eng.Ragal	Drafted the design for improved delivery canal, such as pitching.	The design of improved delivery canal was completed.	The design of improved delivery canal is completed.	This activity will be completed by Feb 2005.	70% _a	100% _a
1.3.1.7 To draft the design for downstream control gate			..			Eng.Ragal	Decided the type of down stream control gate by the result of unsteady flow simulation. Drafted the design for downstream control gate.	The design of improved downstream control gate was completed.	The design of improved downstream control gate is completed.	Completed	100% _a	100% _a
1.3.1.8 To explain the designs to WUF			..			Eng.Koddosy	Explained the concept of down stream control gate at farmers' preparatory committee. Decided the location of pitching by walk through with farmers.	Farmers' preparatory committee had no objection to designs of delivery canal.	WUF accepts the designs of delivery canal.	This activity will be completed by Feb 2005.	70% _a	100% _a
1.3.1.9 To modify and fix the designs			..			Eng.Ragal	Fixed the designs.	The designs were completed.	The designs are modified and completed.	Completed	100% _a	100% _a
1.3.1.10 To determine the quantity of the delivery canal and downstream control gate works			..			Eng.Koddosy	Calculated the quantity of the delivery canal and downstream control gate works.	The quantities of the construction were estimated.	The quantities of the construction are estimated.	This activity will be completed by Feb 2005.	70% _a	100% _a
1.3.2 To plan and design for the improvement of mesqa					Eng.Koddosy Eng.Ragal		The improvement plans for 60 mesqas were completed.	The improvement plans for 56 mesqas are completed.			
1.3.2.1 To carry out the existing cross section survey					Eng.Ragal, Eng.Koddosy	Carried out the training for using auto level to field agent. Carried out the existing cross section survey.	The existing cross sections of 25 mesqas are clarified	The existing cross sections of 25 mesqas are clarified.	Completed	100% _a	100% _a
1.3.2.2 To draw the present profile and cross sections					Eng.Ragal	Drew the present profile and cross sections by CAD software.	The existing cross sections of 25 mesqas are clarified	The existing cross sections of 25 mesqas are clarified.	ditto	100% _a	100% _a
1.3.2.3 To walk through every new mesqa (area) with its WUA leaders					Eng.Koddosy	Carried out walk through every new mesqa (area) with its WUA interim leaders.	The mesqa type, its place of valves and pumpstations were decided at 60 mesqas	The mesqa type, its place of valves and pumpstations are decided at 56 mesqas.	This activity will be completed by Feb 2005.	50% _a	100% _a
1.3.2.4 To decide the type of improved mesqa, its place of valves and pumpstations					Eng.Koddosy	Decided the type of improved mesqa, its place of valves and pumpstations by the result of walk through.	The mesqa type, its place of valves and pumpstations were decided at 60 mesqas	The mesqa type, its place of valves and pumpstations are decided at 56 mesqas	ditto	90% _a	100% _a

Main activities mentioned in the PO						Progress of the Project		Final target level (B)	Result of Survey	Level of achievement A/B	Perspective achievement at Feb 2005	
Activities	Period					In-charge (s)	Activities					Results/Outputs (A)
	00	01	02	03	04							
1.3.2.5 To draft preliminary designs for every existing mesqa (area)					Eng.Koddosy	Make the preliminary designs for every existing mesqa by the result of walk through.	60 preliminary designs of improved mesqa were made.	56 preliminary designs of improved mesqa are made.	ditto	90% _a	100% _a
1.3.2.6 To explain the preliminary designs to WUAs and modify them					Eng.Koddosy	Showed the preliminary designs for every existing mesqa to WUA interim leaders.	WUA interim leaders accepted the preliminary designs.	WUAs accept the preliminary designs. The designs are modified and completed.	ditto	50% _a	100% _a
1.3.2.7 To draft the detail design of every improved mesqa					Eng.Ragal	Made the detail designs of every improved mesqa by CAD software.	60 detail designs were drawn.	56 detail designs are drawn.	ditto	90% _a	100% _a
1.3.2.8 To explain the detail designs to WUAs and modify them					Eng.Koddosy	Explained the detail designs to WUAs' representatives.	WUAs accepted the detail designs. The designs were completed.	WUAs accept the detail designs. The designs are modified and completed.	ditto	30% _a	100% _a
1.3.2.9 To determine the quantity of improved mesqa			..			Eng.Ragal	Calculated the quantities of improved mesqa.	The quantities of the construction were estimated.	The quantities of the construction are estimated.	ditto	30% _a	100% _a
1.3.3 To draw up a contract document and its bidding					Eng.Koddosy		Three contract documents were prepared and three of two contracts were made.	The contract document is prepared and its contract is made.			
1.3.3.1 To prepare the bidding document			..			Eng.Koddosy	Collected World bank's bidding documents of civil work, pumpset and gate and modified them for our project.	Three bidding documents were prepared.	The bidding document is prepared.	This activity will be completed by Feb 2005.	30% _a	100% _a
1.3.3.2 Bidding procedure			..			Eng.Koddosy	One of our counterparts were selected the member of bid evaluation committee and joined it. Decided three of two contractors.	Three of two contracts were made.	The contract is made.	The activity will not be completed due to delay of obtaining of farmers' agreement.	30% _a	70% _a
1.4 Construction control of irrigation facilities							Downstream control gate, lower Bahr El Nour canal and 20 mesqas in the first contract were improved.	Bahr El Nour canal and its mesqas are improved.			
1.4.1 Construction control of delivery canal and downstream control gate works					Eng.Yasser, Eng.Salah, Eng.Hamad, Eng.Koddosy		Downstream control gate and lower Bahr El Nour canal were improved.	Bahr El Nour canal is improved.			

Main activities mentioned in the PO						Progress of the Project		Final target level (B)	Result of Survey	Level of achievement A/B	Perspective achievement at Feb 2005	
Activities	Period					In-charge (s)	Activities					Results/Outputs (A)
	00	01	02	03	04							
1.4.1.1 Establishment of construction coordination committee in WUF				..		Eng. Yasser, Eng. Salah, Eng. Hamad, Eng. Koddosy	Established delivery canal level construction coordination committee in all the first contract area at March 2004 after explaining the concept and role of construction coordination committee.	The delivery canal level construction coordination committee was established.	The construction coordination committee is established.	The activity will not be completed due to delay of the construction.	30% _a	70% _a
1.4.1.2 Construction control					Eng. Yasser, Eng. Salah, Eng. Hamad, Eng. Koddosy	Transferred the methods of construction control by photograph. Conducted the contractor.	The counterparts could understand the point of construction control for canal works.	The construction control for Bahr El Nour canal works is carried out properly.	ditto	10% _a	50% _a
1.4.2 Construction control of mesqa works					Eng. Yasser, Eng. Salah, Eng. Hamad, Eng. Koddosy		20 mesqas were improved.	56 mesqas are improved.			
1.4.2.1 Establishment of construction coordination committee in every mesqa					Eng. Yasser, Eng. Salah, Eng. Hamad, Eng. Koddosy	Decided the farmers' representatives of construction coordination committees in every mesqa. Established mesqa level construction coordination committees in the first contract area before the construction work of its mesqa started.	The mesqa level construction coordination committees in the first contract area were established.	The construction coordination committee is established.	The activity will not be completed due to delay of establishment of WUA.	15% _a	30% _a
1.4.2.2 Construction control					Eng. Yasser, Eng. Salah, Eng. Hamad, Eng. Koddosy	The methods of construction control by photograph was transferred. Recorded the result of dimension control in the recording sheets. Conducted the contractor.	The counterparts could understand the point of construction control for mesqa works.	The construction control for mesqa works is carried out properly.	ditto	10% _a	30% _a
1.4.3 To make a construction control manual					Eng. Yasser, Eng. Salah, Eng. Hamad, Eng. Koddosy	Made the guidance of construction control by photograph. Made the dimension control record sheets for the mesqa concrete structures and pipeline.	The construction control manual was made.	The construction control manual is made.	This activity will be completed by Feb 2005.	60% _a	100% _a

Prospect of Sustainability

1.1 Survey of present conditions	- Counterparts understood the importance of surveying the present condition and grasping the farmers' opinions sufficiently, so they aggressively visited the site. It seems that the same methods will be done at the other areas when our project's methods
1.2 Formulation of monitoring system of water quantity and quality	- Counterparts sufficiently learned the methods of measuring the water quantity and quality, and the way of using measurement equipment. At the same time they understood the necessity of cooperation with the other authorities. But there are financial diff
1.3 Planning and Designing for irrigation facilities	- Counterparts understood the importance of farmer's participation at the plan and design stages and drafted the designs in consideration of farmers' opinions. It seems that the same methods will be done at the other areas when our project's methods are e
1.4 Construction control of irrigation facilities	- Counterparts understood the methods of construction control by photograph, and conducted the contractors. It seems that the construction control manual that our project made will be used at the other areas.

Notes: Plan Actual —

Annex 4-2 Achievement of the Project Activities of Water Management Improvement Project in the Nile Delta (Water Users' Association Section)

Output 2: Formulation method for farmers' water management organization is improved

(As of Sep 2004)

Main activities mentioned in the Plan of Operation						Progress of the Project		Final target level (B)	Result of Survey	Level of achievement At	Perspective achievement at Feb 2005
Activities	Period					In-charge (s)	Activities				
	00	01	02	03	04						
2 Farmers' water management organization (WUA & WUF)						CP-WUA & WM Supported by EX-WUA & WM		Some improved formulation method for farmers' water management organization have been implemented.	Formulation method for farmers' water management organization is improved		
2.1 Survey of present condition						CP-WUA	- Examined and determined the improved methods of IIP based on the present condition	The improved methods of IIP based on the present condition have been formulated.	Improved methods which consider the present condition are established		
2.1.1 Sufficient study in advance						CP-WUA	- Studied the project area - Collected most of necessary information of the project area	Most of necessary information about the project has been got.	To understand the project area		
2.1.1.1 Reconnaissance of project site						CP-WUA	- Collected general map of the project area - Looked over all the project area	Map "General map of the project area"	The present condition in project area is realized	Completed	100% 100%
2.1.1.2 Study of existing mesqas						CP-WUA	- Collected list of owners in each mesqa	Report "List of owner of mesqas"	Contents of study	ditto	100% 100%
2.1.1.3 Study of existing organization						CP-WUA	- Investigated the farmers' sense of organizations by questionnaire	Report "Survey report" by Dr. Takahashi, short-term expert	Contents of study	ditto	100% 100%
2.1.1.4 Determination of project area						CP-WUA	- Studied beneficial area of mesqas and direct irrigation in the field - Determined borders between WUAs in the field - Determined the deal of extension areas	Map "Map of mesqa and direct irrigation area"	Project area map is made	ditto	100% 100%
2.1.1.5 To make the farmers' lists						CP-WM & WUA	- Investigated names of owner and planter in each plot - Made farmers' lists	Report "List of name of owners and planters, and area of each plot"	Farmers' lists are made	This activity will be completed by Feb 2005.	95% 100%
2.1.1.6 To make the farmlands' lists						CP-WM & WUA	- Investigated area of each plot - Made farmlands' lists	Report "List of name of owners and planters, and area of each plot"	Farmlands' lists are made	ditto	95% 100%
2.1.2 Examination of improved methods						CP-WUA	- Examined and determined the improved methods	The improved methods of IIP have been formulated.	Improved methods are established		
2.1.2.1 Study of Irrigation Improvement Project (IIP)						CP-WUA	- Collected the information about IIP	Material "Law and decrees about the Ministry of Water Resources and Irrigation"	Contents of study	Completed	100% 100%

Main activities mentioned in the Plan of Operation						Progress of the Project		Final target level (B)	Result of Survey	Level of achievement AB	Perspective achievement as Feb 2005	
Activities	Period					In-charge (s)	Activities					Results/Outputs (A)
	00	01	02	03	04							
2.1.2.2 Study of projects by USAID and World Bank						CP-WUA	- Collected the information about the projects by the USAID and the World Bank	Material "Final report of USAID" "Problem analysis of the World Bank project"	Contents of study	ditto	100%	100%
2.1.2.3 Study of great sized projects by government						CP-WUA	- Investigated Toshuka project and Aswan high dam	Report "Investigation of Toshuka project and Aswan high dam"	Contents of study	ditto	100%	100%
2.1.2.4 To select some pilot mesqas						CP-WUA	- Compared the WUAs in the project area - Selected 5 pilot mesqas	Report "Selection of pilot mesqas" "Map of pilot mesqas"	Contents of selection	ditto	100%	100%
2.1.2.5 To make some trial at pilot mesqas						CP-WUA	- Made trial of greeting meetings and workshops	Report "Record of greeting meetings in pilot mesqa" "Report by Ms. S. S. short-term expert" "Report by Dr. Mase, short-term expert"	Record of the trial	ditto	100%	100%
2.1.2.6 To fix a total schedule						CP-WUA	- Determined total schedule to establish WUAs and WUF	Schedule Table "Establishment of WUAs and WUF"	Total schedule is made	ditto	100%	100%
2.1.2.7 Training for C/P about operation of each steps for establishment of WUAs						CP-WUA	- Trained C/P about farmers' participation, improved method of our project and Microsoft Word - Held seminars with short-term expert	Material of training and seminar "Project Cycle Management" "Farmers' participation" "Improved method of our project" "Training of Microsoft Word" "Report by Dr. Sato, short-term expert" "Report by Mr. Nagasaki, short-term expert"	Contents of training	ditto	100%	100%
2.1.2.8 Training for field agents						CP-WUA	- Trained field agents about improved method of our project - Held seminars with short-term expert	Material of training and seminar "Improved method of our project" "Report by Dr. Sato, short-term expert"	Contents of training	ditto	100%	100%
2.2 Promotion for farmers' participation in planning and designing						CP-WUA	- Promoted farmers' participation in planning and designing	Motivation to participate IIP has grown up in the farmers' mind	Motivation to participate IIP grow up in the farmers' mind			
2.2.1 To raise an awareness of farmers' ownership for facilities						CP-WUA	- Investigated farmers' problems and need of irrigation water, facilities and themselves	Attendance has realized their problems of irrigation water, facilities and themselves	Farmers realize their problems of irrigation water, facilities and themselves			
2.2.1.1 To grasp the farmers' problem (Greeting meeting)						CP-WUA	- Grasped the farmers' problem at the greeting meetings in 51 WUAs	Report "Record of greeting meetings in WUAs" "Record of workshop for upstream area"	Record of the greeting meetings	This activity will be completed by Feb 2005	87%	100%

Main activities mentioned in the Plan of Operation						Progress of the Project		Final target level (B)	Result of Survey	Level of achievement A/B	Perspective achievement at Feb 2005	
Activities	Period					In-charge (s)	Activities					Results/Outputs (A)
	00	01	02	03	04							
2.2.1.2 To hold workshops using PCM methodology (Problem analysis)						CP-WUA	- Analysed the problems at PCM workshops in 51 WUAs	Report "Record of PCM workshop in WUAs"	Problem trees of workshops	ditto	87%	100%
2.2.2 Sufficient explanation for farmers						CP-WUA	- Explained the necessity of IIP and what is IIP	Farmers who participate workshop and visit have understood necessity and what is IIP.	Farmers understand IIP			
2.2.2.1 To hold workshops using PCM methodology (Objectives analysis) and explanation of IIP						CP-WUA	- Analysed the objectives of IIP at PCM workshops in 34 WUAs	Report "Record of PCM workshop in WUAs"	Objectives trees of workshops	Completed	100%	100%
2.2.2.2 To visit to advanced area						CP-WUA	- Visited advanced area to show improved facilities and WUAs to farmers of 52 WUAs	Report "Record of visit to advanced area"	Record of visit to advanced area	This activity will be completed by Feb 2005.	83%	100%
2.2.3 Election of interim leaders of WUAs						CP-WUA	- Held election meetings and training for interim leaders of WUAs	Interim leaders of WUAs have been elected and trained.	Interim leaders are elected by most of farmers			
2.2.3.1 To elect interim leaders of WUAs						CP-WUA	- held election meetings at 60 WUAs	Report "Record of election meetings" "List of leaders at WUAs"	Interim leaders' lists	This activity will be completed by Feb 2005.	50%	100%
2.2.3.2 To walk through mesqas with interim leaders and get opinions about design of facilities						CP-WM & WUA	- Walked through mesqas with interim leaders and get opinions about design of facilities at 60 WUAs	Map "Design of each WUA"	Contents of walk through	ditto	50%	100%
2.2.3.3 Discussion with farmers in advanced area about organization						CP-WUA	- Visited advanced area to make interim leaders of 45 WUAs discuss with leaders in advanced area	Report "Record of visit to advanced area"	Record of visit to advanced area	ditto	36%	100%
2.2.3.4 Training for interim leaders about roles of leaders and way to water management						CP-WUA	- Trained interim leaders of 45 WUAs about roles of leaders and way to water management	Training material "The role of leaders (published in World Bank Area)" "Q&A about WMIP"	Materials to training	ditto	36%	100%
2.2.4 To design facilities with farmers						CP-WM WUA	- Made sure the designs of their facilities to activate WUA	Farmers have been understood the design of their facilities.	Designs of facilities are made with farmers' agreement			

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Main activities mentioned in the Plan of Operation						Progress of the Project		Final target level (B)	Result of Survey	Level of achievement at Feb 2005	Perspective achievement at Feb 2005	
Activities	Period					In-charge (s)	Activities					Results/Outputs (A)
	00	01	02	03	04							
2.2.4.1 Discussion with farmers about design of facilities and to correct the design				----- -----		CP-WM WUA	- Made sure the designs of facilities to 60 WUAs - Walked through with 60 WUAs to check the designs - Get agreement with 60 WUAs about the designs - Made sure exact place of pump station and valves at 38 WUAs	Report "Agreement with WUAs about designs" "Sketch of exact place of pump station and valves" "Record of workshop for decreasing modifications of the designs"	Designs of facilities agreed	This activity will be completed by Feb 2005	33%	100%
2.2.4.2 To make WUA's regulation with leaders				----- -----		CP-WUA	- Made 20 WUAs' regulations about distribution of irrigation water	Report "regulations of WUAs"	WUAs' regulations	The activity will not be completed due to delay of establishment of WUA	2%	33%
2.3 Establishment of WUAs & WUF				----- -----		CP-WUA	WUAs & WUF are established with farmers' agreement from more than 2/3 farmers		WUAs & WUF are established with farmers' agreement from more than 2/3 farmers			
2.3.1 To collect farmers' agreements				----- -----		CP-WUA	- Collected agreements from more than 2/3 farmers in Bahr El Nour area	The majority of the farmers in the project area need the project.	Farmers' agreements are collected			
2.3.1.1 To collect the agreements from more than 2/3 farmers about establishment of WUAs and WUF, and plan of construction				----- -----		CP-WUA	- Collected agreements from more than 2/3 farmers in Bahr El Nour area	Report "Agreements with farmers about WUAs, WUF and construction"	Agreements from more than 2/3 farmers	The activity will not be completed because it takes a lot of time to convince the farmers	45%	67%
2.3.2 To establish WUAs & WUF				----- -----		CP-WUA	- Made WUAs and WUF registered	WUAs & WUF have been registered.	WUAs & WUF are established			
2.3.2.1 To establish WUAs and register WUA				----- -----		CP-WUA	- Established and registered the more than 53 WUAs	Report "Applications to register WUAs" "Certification of registration of WUAs"	Submissions about establishment of WUAs	The activity will not be completed because it takes a lot of time to convince the farmers.	57%	88%
2.3.2.2 To elect leaders of WUF				----- -----		CP-WUA	- Held an election meeting of WUF in Bahr El Nour	Report "Record of election meeting" "List of leaders at WUF in Bahr El Nour"	Leaders' lists of WUF	This activity will be completed by Feb 2005.	0%	100%
2.3.2.3 To establish WUF				----- -----		CP-WUA	- Established and registered the WUF in Bahr El Nour	Report "Applications to register the WUF" "Certification of registration of the WUF" "Memorandum of understanding between IIS and the WUF"	Record of WUF's 1st general meeting	ditto	0%	100%
2.4 Promotion of farmers' participation in supervision of construction				----- -----		CP-WM & WUA	- Activated C.C.C. members to participate to supervision of the construction	Farmers have noticed the ownership of the facilities	Farmers participate in supervision of construction			

Main activities mentioned in the Plan of Operation						Progress of the Project		Final target level (B)	Result of Survey	Level of achievement AB	Perspective achievement at Feb 2005	
Activities	Period					In-charge (s)	Activities					Results/Outputs (A)
	00	01	02	03	04							
2.4.1 To supervise the construction by Construction Coordination Committee						CP-WM & WUA	- Activated C.C.C. members to participate to supervision of the construction	C.C.C. members have been participating to supervision of the construction	C.C.C. supervise the construction			
2.4.1.1 To establish Construction Coordination Committee						CP-WM & WUA	- Established C.C.C. of 33 WUAs	Report "Record of C.C.C.'s the first meetings"	Record of C.C.C.'s meeting	The activity will not be completed due to delay of obtaining of farmers' agreement.	33%	33%
2.4.1.2 To supervise the construction by Construction Coordination Committee						CP-WM & WUA	- Activated C.C.C. members to participate to supervision of the construction	Training material "Training for construction control"	Record of C.C.C.'s activities	The activity will not be completed due to delay of establishment of C.C.C.	33%	33%
2.5 Training of leaders of WUA & WUF						CP-WUA	- Train the leaders of WUAs and WUF about the project after the construction	The leaders of WUAs and WUF have understood their roles.	Leaders understand their roles			
2.5.1 To train leaders of WUAs & WUF for water management						CP-WM	- Train the leaders of WUAs and WUF about water management	The leaders of WUAs and WUF have understood the maintenance and water management.	Leaders understand water management			
2.5.1.1 Training about maintenance						CP-WM	- Train the leaders of WUAs and WUF about maintenance	Training material "Service spare parts manual"	Textbook of training	The activity will not be completed due to delay of establishment of WUA.	5%	33%
2.5.1.2 Training about water management						CP-WM	- Train the leaders of WUAs and WUF about water management	Training material "OMI for Pump & Gate manual"	Textbook of training	ditto	5%	33%
2.5.2 To train leaders of WUAs & WUF for water users' association						CP-WUA	- Train the leaders of WUAs and WUF about WUAs and WUF	The leaders of WUAs and WUF have understood the WUAs and WUF.	Leaders understand water uses' association			
2.5.2.1 Training about administration of WUAs & WUF						CP-WUA	- Train the leaders of WUAs and WUF about administration of WUAs and WUF	Training material "WUAs and WUF" "The record of WUA"	Textbook of training	The activity will not be completed due to delay of establishment of WUA.	0%	33%
2.5.2.2 Training about account of WUAs & WUF						CP-WUA	- Train the leaders of WUAs and WUF about account of WUAs and WUF	Training material "WUAs and WUF" "The record of WUA"	Textbook of training	ditto	0%	33%
2.5.3 To train leaders of WUAs for on-farm water management						CP-OWM	- Train the leaders of WUAs and WUF about on-farm water management	The leaders of WUAs and WUF have understood on-farm water management.	Leaders understand on-farm water management			
2.5.3.1 Training about on-farm-level water management						CP-OWM	- Train the leaders of WUAs and WUF about on-farm level water management	Training material "on-farm water management manual"	Textbook of training	The activity will not be completed due to delay of establishment of WUA.	2%	33%

Main activities mentioned in the Plan of Operation						Progress of the Project		Final target level (B)	Result of Survey	Level of achievement AB	Perspective achievement at Feb 2005
Activities	Period					In-charge (s)	Activities				
	00	01	02	03	04						
2.5.3.2 To show the model farm plan						CP-OWM	- Train the leaders of WUAs and WUF about model farm plan	Training material "Farming plan manual"	Textbook of training	ditto	0% 33%
2.6 Monitoring and evaluation of WUA & WUF						CP-WUA	- Monitored and evaluated the activities of WUAs and WUF	The administration of 15 WUAs are going on well	The administration of some WUAs are going on well		
2.6.1 To follow up the administration of some WUAs						CP-WUA	- Followed up the administration of 15 WUAs and WUF	The administration of 15 WUAs are going on well	The administration of some WUAs are going on well		
2.6.1.1 To train to make meetings						CP-WUA	- Trained 20 WUAs and WUF to make periodical meetings	Training material "WUA and WUF manual" "Check list for supervision of administration of WUA" "Record of following up"	Record of training	The activity will not be completed due to delay of establishment of WUA.	2% 33%
2.6.1.2 To check WUA's account						CP-WUA	- Checked accounts of 15 WUAs	Training material "WUA and WUF manual" "Check list for supervision of administration of WUA" "Record of following up"	Record of check	ditto	0% 25%

Prospect of Sustainability

2.1 Survey of present condition	- C/Ps have understood sufficient study in advance, the method for it and importance of farmers' participation in Irrigation Improvement Project(IIP). The experience of them will be applied in implementation of another IIP area. - C/Ps have succeeded in
2.2 Promotion for farmers' participation in planning and designing	- C/Ps have understood the improved methods which is motivating farmers by problem analysis and making them participate from planning and designing phase. In addition to it, they have made texts such as checklist for the meetings and Q&A of the project. T
2.3 Establishment of WUAs & WUF	- C/Ps have succeeded in a lot of farmers' participation with participation and suggestion by the farmers of influence so as to motivate the farmers' participation effectively. As they achieved it by themselves, it is expected to be sustainable.
2.4 Promotion of farmers' participation in supervision of construction	- C/P and farmers support the method that the construction coordination committee supervise the construction. The experiences in the project area is expected to be sustainable.
2.5 Training of leaders of WUA & WUF	- Training texts of each section were made. As farmers are keen on sufficient training, continuous trainings are anticipated.
2.6 Monitoring and evaluation of WUA & WUF	- Sufficient monitoring and evaluation during the project period is difficult. However, as C/P tend to satisfy with superficial establishment of WUA, proper monitoring and evaluation is necessary. - If project cycle methodology by monitoring and evaluation

Notes: Plan Actual -

Annex 4-3 Achievement of the Project Activities of the Water Management Improvement Project in Nile Delta (On-Farm Water Management Section)

Output 3: Appropriate methods of on-farm water management are introduced

(As of Sep 2004)

Detail Schedule of Implementation	Period					In-charge(s)	Progress of the Project		Final target level (B)	Result of Survey	Level of achievement A/B	Perspective achievement at Feb 2005
	00	01	02	03	04		Activities	Results/Outputs (A)				
3 On-farm water management section							- Six reports with a short term expert, three experiments and data collection were done about the on-farm water management section. - Two survey were done about the womens' activity section.	- The manual for water management was made.	Appropriate methods of on-farm water management are introduced.			
3.1 Study of present condition of farm land use	•••••	•••••	•••••	•••••	•••••							
3.1.1 To conduct survey of present agricultural land use	•••••	•••••	•••••	•••••	•••••	Adel Maradny	- The survey was done and data of the farming system and land use was analyzed in the report.	- Present condition of farming system and farm land use were clarified.	Present condition of farm land use is clarified.			
3.1.1.1 Survey of present farming system and land use	•••••	•••••	•••••	•••••	•••••	Adel Maradny	- The survey was done with a short term expert in five mesquas.	- "Survey report on the actual condition of farmer" was made.	Data collection of present farming system.	Completed	100% 100%	
3.1.2 To conduct survey of demands on farm land use.	•••••	•••••	•••••	•••••	•••••	Adel Maradny	- The survey was done and data of desirous farming system was collected, crop and cropping pattern was collected.	- Data of desirous land use was analyzed.	Demands of farmers on land use are clarified.			
3.1.2.1 Survey of farming system.	•••••	•••••	•••••	•••••	•••••	Adel Maradny	- The survey was done in five mesquas.	- Data of desirous farming system was collected.	Data collection of desirous farming system.	Completed	100% 100%	
3.1.2.2 Survey of desirous crops and cropping pattern	•••••	•••••	•••••	•••••	•••••	Adel Maradny	- The survey was done in five mesquas.	- Data of desirous crops and cropping pattern was collected.	Data collection of desirous crops and cropping pattern.	ditto	100% 100%	
3.1.3 To investigate agricultural policy of the government	•••••	•••••	•••••	•••••	•••••	Adel Maradny	- Materials concerning the agricultural policy were collected.	- The data of the governmental agricultural policy was arranged.	Governmental agricultural policy is clarified.	The activity will not be completed since information of the governmental agricultural policy is hard to obtain.	80% 80%	
	•••••	•••••	•••••	•••••	•••••	Adel Maradny	- Materials concerning the agricultural policy were collected.	- The agricultural policy and plan were surveyed.	Investigation of the agricultural policy and plan of the Government.	The activity will not be completed since information of the agricultural policy and plan is hard to obtain.	80% 80%	
3.1.4 To carry out marketing system and household survey	•••••	•••••	•••••	•••••	•••••	Adel Maradny	- The survey was done and the report was made.	- The actual conditions of farmers in the marketing system and household were analyzed.	Actual condition of farmers are clarified.			
3.1.4.1 Investigation into present farm management	•••••	•••••	•••••	•••••	•••••	Adel Maradny	- The survey of present farm management was done with a short term expert.	- "Prior investigation report on the introduction of horticultural crops into the area of the Bahr El Nour" was made. Then actual farmers' condition was analyzed.	Data collection and analysis of actual farmers' condition. (Farming area, Labor forces, family structure, etc.)	Completed	100% 100%	

Detail Schedule of Implementation		Period				In-charge(s)	Progress of the Project		Final target level (B)	Result of Survey	Level of achievement A/B	Perspective achievement at Feb 2005	
Project Activities		00	01	02	03		04	Activities					Results/Outputs (A)
	3.1.4.2 Conduct survey of market and distribution system of agricultural products.						Adel Maradny	- The survey of present farm management was done with a short term expert.	- "Prior investigation report on the introduction of horticultural crops into the area of the Bahr El Nour" was made. Then marketing and crop distribution system was analysed.	Data collection and analysis of marketing and crop distribution system.	ditto	100%	100%
	3.1.5 To conduct soil survey						Lotfy El-Shwaf	- The survey was done and the report was made.	- Soil characteristics in the project area was verified.	Soil characteristics in the project area is verified.			
	3.1.5.1 Soil survey of physical characteristics.						Lotfy El-Shwaf	- The survey was done with a short term expert.	- "Report of soil survey" was made. Then physical characteristics of the soil were analyzed.	Data collection and analysis.	Completed	100%	100%
	3.1.5.2 Soil survey of chemical characteristics.						Lotfy El-Shwaf	- The survey was done with a short term expert.	- "Report of soil survey" was made. Then chemical characteristics of the soil were analyzed.	Data collection and analysis.	ditto	100%	100%
	3.2 Formulation of a Model Farm Plan												
	3.2.1 To study on farm land use and cropping system.						Adel Maradny	- Materials concerning water consumption of each crop were collected.	- Less water consumption crops were clarified and a profitable cropping system was proposed.	Less water consumption and profitable cropping system are clarified.	This activity will be completed by Feb 2005	70%	100%
	3.2.2 To select adaptable new crop.						Adel Maradny	- Materials concerning less water consumption of crops were collected.	- Less water consumption crops were clarified and a profitable crops were proposed.	Recommendation of profitable and less water consumption crops.	ditto	70%	100%
	3.2.3 To draw up model farm plan						Adel Maradny	- Materials collected were analyzed.	- The model farm plan was proposed.	Appropriate farming system is made as model farm plan.	ditto	30%	100%
	3.3 Improvement of water application efficiency.							- Survey and experiments were done.	- Water application efficiency was improved in the experimental field and the effect was put in the manual.	Water application efficiency is improved.			
	3.3.1 To investigate paddy water requirement						Adel Maradny Mohammed El-Kodosy	- Survey on paddy water requirement and percolation rate were done with two short term experts.	- "Report on on-farm water management" and "Report on on-farm water management 2" were made.	Basic data is collected and analyzed.	Completed	100%	100%
	3.3.2 To study on the amount of water consumption of each upland crops.						Adel Maradny Mohammed El-Kodosy	- Training on the survey equipment of percolation rate. - Data of water consumption of each upland crops was collected.	- Basic data was collected.	Basic data is collected and analyzed.	ditto	100%	100%
	3.3.3 To investigate crop yield.						Adel Maradny	- Survey on crop yield per area was done in five mesquas.	- Crop yield per unit area was collected.	Data is collected for each crop yield per unit area.	ditto	100%	100%
							Adel Maradny	- Survey on crop yield per unit of water was done.	- Crop yield per unit of water was collected.	Data is collected for each crop yield per unit of water.	The activity will not be completed since technology transfer of the survey needed time.	70%	70%

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Detail Schedule of Implementation		Period				In-charge(s)	Progress of the Project		Final target level (B)	Result of Survey	Level of achievement A/B	Perspective achievement at Feb 2005
Project Activities		00	01	02	03		04	Activities				
3.3.4 To improve land leveling by laser leveler.				■	■	■	Adel Maradny - Experiment on the effect of laser land leveling was done.	- A saving of 25% on water was proved	Data collection and its analysis	Completed	100%	100%
3.3.5 To control percolation rate (ground water level)				■	■	■	Adel Maradny - Two experiments were operated.	- Improved methods were introduced in the manual.	Improved methods are studied.			
3.3.5.1 To investigate plowing method				■	■	■	Adel Maradny - Experiment on the comparison of depth of plowing was done.	- The percolation rate in the deep plowing site was higher than the shallow plowing site.	Data collection from trial	This activity will be completed by Feb 2005.	80%	100%
3.3.5.2 To investigate subsurface drainage				■	■	■	Adel Maradny - Experiment on the control of sub-surface drainage was done.	- The percolation rate was decreased by closing the sub-surface drainage.	Data collection from trial	ditto	80%	100%
3.3.6 To improve irrigation calendar of each crop				■	■	■	Adel Maradny - The irrigation schedule was made with a short term expert. - Data of water requirement of each crop was collected.	- The irrigation calendar was proposed.	Irrigation calendar is made as a manual for trianing.	The activity will not be completed since technology transfer of the survey needed time.	50%	70%
3.4 Formulation of the methods of on-farm water management.				■	■	■	Adel Maradny - Two surveys and one experiment were done.	- Appropriate water use at the on-farm level was introduced in the manual.	Appropriate water use at the on-farm level is formulated.			
3.4.1 To improve irrigation method of each crop.				■	■	■	Adel Maradny, Safa Gabar - Irrigation method was studied in the experiment. - Relation between women and irrigation was surveyed.	- The result of the experiment and recommendation from two surveys was introduced in the manual.	Irrigation methods are studied.			
3.4.1.1 To study of women's participation in field water management				■	■	■	Saffa Gabar - Baseline survey among Women in Bahr El Nour was done. - Survey on Women, Agriculture and Irrigation was done.	- Each results of two survey were explained in the work-shop and were introduced in the manual.	Making suggestion report	This activity will be completed by Feb 2005.	90%	100%
3.4.2 To draw up the manual of field water management.				■	■	■	Adel Maradny - Experiment on the comparison of ridge width was done.	- Wide ridge site saved 18% of water and the yield of the site was more than the narrow ridge site. - The manual was made.	Mnual for field water management is made.	ditto	30%	100%
Prospects of sustainability		The counter part learned how to make the questionnaire, how to interview and how to analyze data collected throught the study. So, if the same kind of study was to be done in another site he would be able to operate the study by using these techniques.										
3.1 Study of present condition of farm land use												
3.2 Formulation of a Model Farm Plan		The counter part knows what kind of material exist concerning the water requirement of the crops after the formulation. He also understands how to use the data available and apply it to his situation.										
3.3 Improvement of water application efficiency.		The counter part learned to operate some apparatus, the materials needed experiments and how to design on depending the object or situation. He also developed his ability to apply his knowledge to his situation. It seems theat improvement of water effic										
3.4 Formulation of the methods of on-farm water management.		The counter part of on-farm water management had a experience of planing experiment, collecting data and how to combine them.					The counter part of the women's activities learned how to make a questionnaire, how to interview and how t					

Notes Plan..... Actual

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Annex 4-4 Achievement of the Project Activities of Water Management Improvement Project in the Nile Delta (General Project Management)

(As of Sep 2004)

Output 4: Project activities and results are introduced to governmental staff properly.

Activities	Project Period					Person in Charge	Progress of the Project Activities		Final Target Level	Result of Survey	Level of achievement %/1	Perspective achievement at Feb 2005
	00	01	02	03	04		Activities	Results/Outputs (A)				
4 General Project Management						Supported by EX-CA			The Project is implemented successfully with efficient management actions.			
4.1 To complete project organization and to formulate Annual Work Plan of the Project												
4.1.1 To hold the Joint Steering Committee meeting						Project Director	The JSC meetings were held four times within the Project period.	Since the third year of the Project, the JSC meetings were held at least once a year, and the both sides shared the same views on the Project.	The JSC meeting is held at least once a year.	The meeting is not held enough time.	60%	75%
4.1.2 To hold the Joint Site Coordinating Committee meeting						Project Manager	Instead of the JSCC meetings, Quarterly Meetings with the Project Manager and Monthly Meetings with the Project Site Manager were held regularly.	Regular Quarterly Meetings and Monthly Meetings	The JSCC meeting is held at least once every three months.	ditto	50%	50%
4.1.3 To complete the Project organization						Project Director	The Project organization was strengthened year by year.	The Number of C/Ps: 22. Field Agents: 7. Supporting staff: 8 (cf. 2000/3/1: C/Ps: 13 only)	The Project organization is strengthened and maintained.	The project organization is not enough to complete WMIP.	60%	60%
4.1.4 To formulate Annual Work Plan						Project Manager	Instead of Annual Work Plan, Plan of Operations has been used for it, and based on the PO. Annual Input Plans were prepared.	Plan of Operations and Annual Input Plans	The Work Plan is formulated every year.	The plan is not practical.	50%	50%
4.1.5 To control implementation schedules						Project Site Manager	Network diagram (using MS-Project software) of the Project was prepared and the schedule of the Project was analyzed.	Network diagram of the Project	Schedule of the Work Plan is controlled logically.	The progress of WMIP is delayed so much	50%	50%
4.2 To conduct monitoring and evaluation of the Project activities and result regularly												
4.2.1 To formulate Monitoring and Evaluation Plan						Project Director	Monitoring and Evaluation Plan was formulated.	Monitoring and Evaluation Plan	Monitoring and Evaluation Plan is formulated.	Completed	100%	100%
4.2.2 To hold regular monitoring meeting and to submit Monitoring Report						Project Manager	Monitoring meetings were held in Monthly Meetings and monitoring reports were prepared and submitted to the both sides.	Monitoring reports were submitted six times.	Monitoring Reports are submitted (6 times).	This activity will be completed by Feb 2005.	80%	100%
4.2.3 To hold joint evaluation meeting and to submit Evaluation Report						Project Director	Mid-term joint evaluation and terminal joint evaluation were carried out.	Two evaluation reports (mid-term and terminal)	Evaluation Reports are submitted (2 times).	Completed	100%	100%
4.3 To compose Data Base System required for the Project												

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Activities	Project Period					Person in Charge	Progress of the Project Activities		Final Target Level	Result of Survey	Level of achievement A-B	Perspective achievement at Feb 2005
	00	01	02	03	04		Activities	Results/Outputs (A)				
4.3.1 To prepare Data Base System	-----		-		Counterparts	An AutoCAD and an Arc View were installed on PCs.	CAD and GIS systems	The Data Base System for the Project is prepared.	The activity will not be completed due to delay of WMMP.	95%	95%
4.3.2 To store data and information (data entry)	-----	-----			Counterparts	Necessary data for WUA were collected and were inputted on PCs using GIS. Digital maps of the Project site were also installed on PCs.	Digital Maps and necessary data were prepared, not only for the operation and maintenance of facilities but also for the management of WUA.	Required data and information are stored.	ditto	90%	90%
4.3.3 To prepare sub system for WUF training				-----	Counterparts	Database system for WUF had been prepared but WUF trainings have not been conducted.	The English version Database System was prepared.	The Data Base System for WUF is prepared	The activity will not be completed due to delay of establishment of WUF.	40%	40%
4.4 To conduct seminars to enhance practical abilities of the governmental staff	-----	-----	-----	-----							
4.4.1 To prepare training facilities for seminars and training courses	-----				Counterparts	A training facility in Biyala was built and the training center in Kafr el-Sheikh was renovated at the expense of JICA.	Training Centers in Biyala and Kafr el Shakh.	Some training facilities are prepared for the Project.	Completed	100%	100%
4.4.2 To prepare materials for each seminar and training course			-----		Counterparts	Training materials for engineers and farmers were prepared.	Training materials for some training courses.	Training materials for each course are prepared.	The activity will not be completed due to delay of WMMP.	65%	80%
4.4.3 To conduct each seminar and training course			-----		Dép. Project Manager, CP	Seminars, presentations and trainings courses were hold several times.	Records of seminar, presentation and trainings.	Seminars and training courses are conducted.	ditto	40%	50%
4.4.4 To hold evaluation meeting and to submit Training Report				-	-	Counterparts	Evaluation meetings for trainings were held after the trainings	Records of evaluation meetings for trainings	Training Reports are submitted annually.	ditto	30%	40%

Notes. Plan..... Actual

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Annex 5-1 List of Japanese Long-term/Short-term Experts

1. Long - Term Experts

No.	Name	Field	Period	2000	2001	2002	2003	2004	2005
1	KAJWARA Thikanobu	Chief Adviser	01 Mar. 00 - 31 May 03						
2	HONMA Hajime	Coordinator	01 Mar. 00 - 30 Apr. 02						
3	KIYONO Norio	Water Management/Irrigation Facility	01 Mar. 00 - 31 May 03						
4	TAKAHASHI Atsushi	Water Users' Association	01 Mar. 00 - 28 Feb. 02						
5	URAYAMA Hisashi	Agronomy	01 Mar. 00 - 31 Mar. 03						
6	KUDO Jun	Water Users' Association	15 Feb. 02 - 28 Feb. 05						
7	NAKAGAWA Takashi	Coordinator	17 Apr. 02 - 16 Apr. 04						
8	HASHIMOTO Akira	Chief Adviser	25 May 03 - 28 Feb. 05						
9	KAYAMA Yasuhisa	Water Management/Irrigation Facility	22 May 03 - 28 Feb. 05						
10	YOSHII Ken'ichiro	Farm Level Water Management	22 May 03 - 28 Feb. 05						
11	OTAKE Masahiro	Coordinator	28 Feb. 04 - 28 Feb. 05						

2. Short - Term Experts

No.	Name	Field	Period	2000	2001	2002	2003	2004	2005
1	MIYATAKE Kyouichi	Household Research	23 Oct. 00 - 06 Dec. 00						
2	OOGATA Izumi	Water Users' Association	07 Nov. 00 - 08 Dec. 00						
3	HASHIGUCHI Yukimasa	Water Management System	19 Dec. 00 - 08 Jan. 01						
4	MASE Toru	Water Users' Association	23 Mar. 01 - 03 Apr. 01						
5	MIKI Satoru	Irrigation Facility (Pump)	05 Apr. 01 - 04 May 01						
6	SATO Katsumasa	On Farm Water Management	09 Apr. 01 - 07 May 01						
7	TAKAHASHI Akio	Analysis of Farm Area	12 May 01 - 13 Jun 01						
8	SATO Masayoshi	Water Users' Association	22 Dec. 01 - 06 Jan. 02						
9	YOSHIMUTA Mataji	Irrigation Facility (Gate)	08 Jan. 02 - 07 Feb. 02						
10	WATANABE Haruo	Soil Analysis	11 Feb. 02 - 11 Mar. 02						
11	OGURO Osamu	Construction Control Planning	10 Mar 02 - 28 Mar. 02						
12	NAGASAKI Sukehide	Water Users' Association	04 Apr. 02 - 26 Apr. 02						
13	GOMI Yoshitaka	System Development	05 Aug. 02 - 11 Aug. 02						
14	NARUOKA Michio	On Farm Level Water Management	10 Sep. 02 - 31 Oct. 02						
15	OZAWA Yoshio	Laser Farm Machinery	27 Sep. 02 - 12 Oct. 02						
16	ITO Yotsugu	Construction Control	05 Jan. 03 - 10 Feb. 03						
17	FURUKAWA Yoshishige	Market & Distribution System of Agricultural Products	01 Mar. 03 - 29 Mar. 03						
18	SATO Masayoshi	Water Users' Association (Administration of Organization)	26 Mar. 03 - 04 Apr. 03						
19	GOMI Yoshitaka	Geographic Information System	31 Jul. 03 - 30 Aug. 03						
20	SAKAMOTA Nobuyoshi	Water Users' Association	18 Oct. 03 - 18 Nov. 03						
21	SATO Masayoshi	Water Users' Association (Administration of Organization)	04 Mar. 04 - 15 Mar. 04						
22	OKUMURA Nobuhiro	Construction Control	20 May 04 - 19 Jun. 04						
23	NAKANO Toshinobu	Pipeline System	20 May 04 - 28 Jun. 04						
24	SAKAKI Michihiko	On Farm Water Distribution Plan	23 Jul. 04 - 03 Sep. 04						
25	OUE Yasusada	Water User's Association	26 Aug. 04 - 25 Sep. 04						

Annex S-2 List of C/P Assignment and Training in Japan

No	Name	Specific Field	Position	Remarks	Period of Assignment						Training in Japan					
					From	To	2000	2001	2002	2003	2004	2005	Year	Name of Training Course	Duration	
1	Eng. Ali Morsi Bat	Project Director	First Undersecretary, Chairman of Irrigation Department	Retired	2000/3/1	2001/10/4										
2	Eng. Mohamed El Amir Osman	Project Director	First Undersecretary, Chairman of Irrigation Department	Retired	2001/10/15	2004/7/31										
3	Dr. Mohamed Bahaa El Din	Project Director	First Undersecretary, Chairman of Irrigation Department		2004/8/1	Present										
4	Eng. Ramsis Bakhourm	Project Manager	Undersecretary, Head of IIS	Retired	2000/3/1	2001/11/1										
5	Eng. Adel Hashem Saleh	Project Manager	First Undersecretary, Head of IIS		2000/11/28	2003/3/1										
6	Eng. Kamal Mohamed Enani	Project Manager	First Undersecretary, Head of IIS	Transferred to Chairman of Planning Sector	2003/3/1	2004/7/31						2004	Project Management		12 May 04 - 21 May 04	
7	Eng. Abd El Karder	Project Manager	First Undersecretary, Head of IIS		2004/8/1	Present										
8	Eng. Adel Hashem Saleh	Deputy Project Manager	Undersecretary for Lower Egypt, IIP/Delta IIS	Promoted	2000/3/1	2001/11/27						2001	Project Management		10 Sep. 01 - 18 Sep. 01	
9	Eng. Shokry El Gamal	Deputy Project Manager	Undersecretary for Lower Egypt, IIP/Delta IIS		2002/2/13	2003/12/4										
10	Eng. Aly Mohamed Abd El Razik	Deputy Project Manager	Undersecretary for Lower Egypt, IIP/Delta IIS		2003/12/4	Present						2004	Joint Training Program in the field of Irrigation and Dr		19 Jul. 04 - 03 Aug. 04	
11	Eng. Abdel Sakim Mohamed El-Deib	Project Site Manager	General Director, IIS Central Delta Directorate	Transferred	2000/3/1	2000/8/23										
12	Eng. Adel El-Madbouly	Project Site Manager	General Director, IIS Central Delta Directorate		2000/10/1	Present						2002	Project Management		14 Jul. 02 - 27 Jul. 02	
13	Eng. Alaa Ismail Aly	(Cairo) Coordinator	Director of Works, Technical Office		2000/3/1	Present										
14	Eng. George Fouad	(Cairo) Water Management	Director of Works, Design Section	Dead	2000/3/1	2000/3/7										
15	Eng. Khaled Mohamed Rashad	(Cairo) Water Management	Civil Eng., Design Section		2000/3/1	Present										
16	Eng. Tarek Kamal EL-Din Mahmoud Aly	(Cairo) Water Management	Civil Eng., Design Section		2000/3/8	Present						2000	Water Management		06 Nov. 00 - 02 Dec. 00	
17	Eng. Tarek Farouk El-Tayeb	(Cairo) WUA	Civil Eng., IAS Section		2000/3/1	Present						2002	Farmer's Water Management Organization		18 Jun. 02 - 09 Aug. 02	
18	Eng. El-Shinawy Abd El-Atty	(Cairo) Agronomy	Director of Monitoring & Evaluation	Retired	2000/3/1	2002/6/9										
19	Eng. Ahmed El Garnoci	(Cairo) Agronomy	Director of Monitoring & Evaluation		2002/6/10	Present										
20	Eng. Ahmed Bayornie	(Tanta) Chief Adviser	Director of Works, Construction Section	Transferred	2000/3/1	2000/5/15										
21	Eng. Mohamed El-Fetany	(Tanta) Coordinator	Civil Eng., Technical Office		2000/3/1	Present										
22	Eng. Mohamed Samir Hassan El-Koddosy	(Tanta) Water Management	Civil Eng., (Full-time C/P)	Agronomy: 2000/3/1 - 2002/7/14	2000/3/1	Present						2001 2003	Water Management & Improvement of Irrigation Facilities World Water Forum3		09 Jul. 01 - 14 Aug. 01 15 Mar. 03 - 24 Mar. 04	
23	Eng. Mohamed El Raggal	(Tanta) Water Management	Civil Eng., (Full-time C/P)		2002/7/14	Present										
24	Eng. El Mohamed Yasser	(Tanta) Water Management	Civil Eng.		2003/10/1	Present						2004	Integrated Agriculture and Rural Development through the Participation of Local Farmers II		21 Jun. 04 - 15 Aug. 04	
25	Eng. Salah Ghaly	(Tanta) Water Management	Civil Eng.		2004.5.1	Present										
26	Eng. Mohamed Hammed	(Tanta) Water Management	Civil Eng.		2004.5.1	Present										
27	Eng. Ahmad Hassen	(Tanta) Water Management	Technician		2004.5.1	Present										
28	Eng. Ahmed Ebraheem Ahamed	(Tanta) Water Management	Deputy General Director, IIS Central Delta Directorate		2000/5/15	2000/7/30										
29	Eng. Lotfy Bedir El Shawaf	(Tanta) WUA	Civil Eng., (Full-time C/P)	Agronomy: 2001/10/1 - 2002/7/13	2001/10/1	Present						2003	World Water Forum3		15 Mar 03 - 24 Mar 03	

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Annex 5-2 List of C/P Assignment and Training in Japan

No	Name	Specific Field	Position	Remarks	Period of Assignment						Training in Japan					
					From	To	2000	2001	2002	2003	2004	2005	Year	Name of Training Course	Duration	
30	Eng. Adel Yousry	(Tanta) WUA	Agriculture Eng., (Full-time C/P)	Agronomy: 2002/6/1-2002/7/14	2002/6/1	Present										
31	Eng. Mohamed Orwa	(Tanta) WUA	Agriculture Eng., (Full-time C/P)		2002/10/1	Present										
32	Eng. Abd El-Rhman Mohamed Slam	(Tanta) WUA	Agriculture Eng., (Full-time C/P)		2004/5/22	Present										
33	Eng. Mohamed Ezat El-Shafie	(Tanta) WUA	Director of works, Director of IAS Tanta	Transferred	2000/3/1	2000/7/30										
34	Eng. Gamal Mostafa Shahin	(Tanta) WUA	Civil Eng., (Full-time C/P)	Transferred	2000/7/31	2002/7/21										
35	Eng. Wesam	(Tanta) WUA	Agriculture Eng., (Full-time C/P)	Transfer to World Bank Project	2002/9/1	2004/1/27										
36	Eng. Adel Ibrahim El-Maradny	(Tanta) Agronomy	Agriculture Eng., (Full-time C/P)		2000/5/23	Present							2002	Irrigation, Drainage and Rural Development	11 Feb. 02 - 09 Aug. 02	
37	Eng. Safaa Gabar	(Tanta) Agronomy	Agriculture Eng., (Full-time C/P)	WUA: 2001/10/1 - 2002/7/13	2001/10/1	Present										

Annex 6-1 Equipment List Provided by the Government of JAPAN $\geq 1,000,000$ Yen

Frequency of Use: A: Daily B: Weekly, Monthly C: Use in Specific Period D: Nil

Condition : A: Good Condition B: Fair Condition C: Condition for Repair D: Unable to Use

No.	Date (Received)	Name of Item	Specification	Price	Currency	frequency of use	Condi on	Inventory Location	Remarks	Equip code	
A	1	2000/8/29	4WD Vehicle	ISUZU Rodeo UCS25 3200cc	138,770	LE	A	A	IT	Car No.1	4001001
A	2	2000/8/29	4WD Vehicle	ISUZU Rodeo UCS25 3200cc	138,770	LE	A	A	IT	Car No.2	4001002
A	3	2000/8/29	4WD Vehicle	ISUZU Rodeo UCS25 3200cc	138,770	LE	A	A	IC	Car No.3	4001003
A	4	2001/3/14	4WD Vehicle	ISUZU Rodeo UCS25 3200cc	138,950	LE	A	A	IC	Car No.4	4001004
A	5	2002/1/16	Mini Bus	Mitsubishi 29 pax.	133,975	LE	B	B	IT		4002001
A	6	2002/8/13	Tractor (Crawler type)	YANMAR CT950 with Laser	7,980,000	YEN	A	C	IT	Under repair	4501001
A	7	2002/8/13	Laser Leveler	LL4000	2,486,150	YEN	C	A	IT		4601001
A	8	2001/9/23	Multi Projector	MP-400E	1,465,000	YEN	C	B	IT		3001001
A	9	2001/9/23	Color Plotter main unit	HP Design Jet 800PS (1067mm B0 Type)	1,100,000	YEN	A	A	IT		1161001
A	10	2001/9/23	Total Station main unit	TOPCON GTS-225	1,070,000	YEN	C	A	IT		2001001
A	11	2002/8/13	Moisture Point	MP-917	1,018,600	YEN	C	A	IT		1812101
A	12	2004/3/3	Tractor	Belarus 90L(MTZ90 4x2)	13,300	\$	D	A	IT	Under Preparation	Local15001
A	13	2004/3/16	Pick Up Truck	Chevrolet, TFS55 4x4	164,810	LE	A	A	IT		Local15003

Annex 6-2 Equipment List Provided by the Government of JAPAN $\geq 100,000$ Yen

Frequency of Use: A: Daily B: Weekly, Monthly C: Use in Specific Period D: Nil

Condition : A: Good Condition B: Fair Condition C: Condition for Repair D: Unable to Use

No.	Date (Received)	Name of Item	Specification	Price	Currency	frequency of use	Condition	Inventory Location	Remarks	Equip code
A 151	2003/3/20	Desk Top Computer/Display	Samusung, ATX P4/551V	1,400	\$	A	A	IT		Local14001
A 152	2003/3/20	Desk Top Computer/Display	Samusung, ATX P4/551V	1,400	\$	A	A	IT		Local14002
A 153	2003/3/20	Computer Software	AutoCAD 2000	2,575	\$	D	A	IT		Local14003
A 154	2003/3/20	Computer Software	AutoCAD 2000	2,575	\$	D	A	IT		Local14006
A 155	2003/3/20	Computer Software	ArcView 3.2a	2,600	\$	D	A	IT		Local14007
A 156	2003/3/20	Computer Software	ArcView 3.2a	2,600	\$	D	A	IT		Local14008
A 157	2003/12/30	Tool Set (High Mechanic Set)	SK90AX	168,000	YEN	D	A	IT		供与15001
A 158	2003/12/30	Tool Set (High Mechanic Set)	SK90AX	168,000	YEN	D	A	IT		供与15002
A 159	2003/12/30	Personal Computer	DELL Optiplex GX270	250,000	YEN	A	A	IT		供与15003
A 160	2003/12/30	Personal Computer	DELL Optiplex GX270	250,000	YEN	A	A	IT		供与15004
A 161	2003/12/30	Personal Computer	DELL Optiplex GX270	250,000	YEN	A	A	IT		供与15005
A 162	2003/12/30	Projector + Document Camera	MP-700E	909,500	YEN	C	A	IT		供与15009
A 163	2003/12/30	Projector + Document Camera	MP-700E	909,500	YEN	C	A	IT		供与15010
A 164	2004/3/15	Sensor	Polisonic PX20	2,500	\$	A	A	IT	Under Preparation	Local15002
A 165	2004/3/29	Trailer		1,975	\$	C	A	IT		Local15004

Annex 6-3 Equipment List Provided by the Government of JAPAN (Hand - Carried) $\geq 20,000$ Yen

Frequency of Use: A: Daily B: Weekly, Monthly C: Use in Specific Period D: Nil

Condition : A: Good Condition B: Fair Condition C: Condition for Repair D: Unable to Use

No.	Date (Received)	Name of Item	Specification	Price	Currency	frequency of use	Condition	Inventory Location	Remarks	Equip code
B 1	2000/5/4	Current Meter	San-ei PW type-1 & type-2	434,000	YEN	C	B	IT		1711001
B 2	2000/5/4	PC Notebook Computer	IBM TP600X 2645-4GJ	369,000	YEN	A	A	IT	Pentium III, 500MHz	1101003
B 3	2000/5/4	PC Notebook Computer	IBM TP600X 2645-4GJ	369,000	YEN	A	A	IT	Pentium III, 500MHz	1101005
B 4	2000/5/4	PC Software	MS-Office Premium (J)	68,700	YEN	A	A	IT		1121003
B 5	2000/5/4	PC Software	MS-Office Premium (J)	68,700	YEN	A	A	IT		1121005
B 6	2000/5/4	PC Software	MS-Project 98 (J)	62,400	YEN	C	B	IT		1123001
B 7	2000/5/4	Digital Camera	CANON Power Shot S10	67,500	YEN			IT	Not Found	1301003
B 8	2000/5/4	PRINTER	CANON BJ F-850	42,700	YEN	A	A	IT		1131003
B 9	2000/5/4	IC Recorder	SONY ICD-R200	24,000	YEN	A	A	IT		1641001
B 10	2000/5/4	PC Option Ultraslim Battery	IBM 02K6504	22,900	YEN	A	A	IT		1104001
B 11	2000/5/4	PC Option Ultraslim Battery	IBM 02K6504	22,900	YEN	A	A	IT		1104002
B 12	2000/5/4	Hydro-Thermograph	Fuso S-300	64,800	YEN	C	B	IT		1801001
B 13	2000/5/18	PC Notebook Computer	IBM TP600X 2645-4GJ	424,000	YEN	A	A	IT	Pentium III, 500MHz	1101004
B 14	2000/5/18	Digital Camera	SONY MVC-FD88K	99,500	YEN	B	A	IT		1301002
B 15	2000/5/18	SCANNER	EPSON ES-2000	83,000	YEN	C	B	IT		1171002
B 16	2000/5/18	PC Software	MS-Office Premium (J)	68,000	YEN	A	A	IT		1121004
B 17	2000/5/18	PRINTER	BROTHER MP-21C	51,000	YEN	C	C	IC		1131002
B 18	2000/5/18	Automatic Voltage Regulator	Matsunaga SVC-1500NDII	40,000	YEN	A	A	IT		1401005
B 19	2000/5/18	PC Option Ultraslim Battery	IBM 02K6504	26,000	YEN	A	A	IT		1104004
B 20	2000/5/18	PC Option Extension Memory	IBM 20L0254	22,000	YEN	A	A	IT		1105003
B 21	2000/6/11	PC Notebook Computer	IBM TP600X 2645-4GJ	389,000	YEN	A	A	IC	Pentium III, 500MHz	1101002
B 22	2000/6/11	SCANNER	EPSON ES-2000	89,800	YEN	C	B	IC		1171001
B 23	2000/6/11	Electric Blackboard	Panasonic mini UB-900	84,700	YEN	C	B	IT		1601001
B 24	2000/6/11	Digital Camera	Kodak DC280J Zoom	76,400	YEN			IT	2001/09 Stolen	1301001
B 25	2000/6/11	PC Software	MS-Office Premium (J)	68,500	YEN	A	A	IC		1121002
B 26	2000/6/11	PRINTER	CANON BJ F-6100	59,300	YEN	A	A	IC		1131001
B 27	2000/6/11	Automatic Voltage Regulator	Matsunaga SVC-1000NDII	29,000	YEN	A	A	IC		1401004
B 28	2000/6/11	PC Option Ultraslim Battery	IBM 02K6504	22,100	YEN	A	A	IC		1104003
B 29	2000/6/11	PC Option Extension Memory	IBM 20L0254	21,800	YEN	A	A	IC		1105001
B 30	2000/7/19	PC Notebook Computer	IBM TP600X 2645-4GJ	383,400	YEN	A	A	IC	Pentium III, 500MHz	1101001
B 31	2000/7/19	PC Software	MS-Office Premium (J)	66,900	YEN	A	A	IC		1121001
B 32	2000/7/19	PC Option Portable CD-R/RW	Panasonic KXL-RW10AN	65,900	YEN	C	B	IT		1107002
B 33	2000/7/19	PC Option Ultraslim HDD (6GB)	IBM 05K9199	44,900	YEN	A	A	IT		1103001
B 34	2000/7/19	LAN Dial-up Router	Net Genesis Dual	26,900	YEN	A	A	IC		1502001
B 35	2000/7/19	LAN Dial-up Router	Net Genesis Dual	26,900	YEN	A	A	IT		1502002

Annex 6-3 Equipment List Provided by the Government of JAPAN (Hand - Carried) $\geq 20,000$ Yen

Frequency of Use: A: Daily B: Weekly, Monthly C: Use in Specific Period D: Nil

Condition : A: Good Condition B: Fair Condition C: Condition for Repair D: Unable to Use

No.	Date (Received)	Name of Item	Specification	Price	Currency	frequency of use	Condition	Inventory Location	Remarks	Equip code
B 36	2000/7/19	LAN Print Server for BJJ-6100	JetLAN3100	26,300	YEN	A	A	IC		1505002
B 37	2000/7/19	LAN Print Server for BJJ-850	JetLAN3100	26,300	YEN	A	A	IT		1505001
B 38	2000/7/19	Automatic Voltage Regulator	Matsunaga SVC-1000NDII	24,000	YEN	A	A	IT		1401003
B 39	2000/7/19	Automatic Voltage Regulator	Matsunaga SVC- 600NDII	21,800	YEN	A	A	IC		1401001
B 40	2000/7/19	Automatic Voltage Regulator	Matsunaga SVC- 600NDII	21,800	YEN	A	A	IC		1401002
B 41	2000/8/2	Water Quality Checker	HORIBA U-10	322,000	YEN	C	B	IT		1931001
B 42	2000/12/16	Soil Moisture Meter	FUJIWARA SPAD PF-33	195,000	YEN	C	B	IT		1812001
B 43	2000/12/16	Digital Video Camera	Panasonic NV-C7	178,600	YEN			IT	2001/09 Stolen	1311001
B 44	2000/12/16	PRINTER (LASER)	CANON LBP-910N(JC)	135,000	YEN	A	B	IC		1131004
B 45	2000/12/16	PRINTER (LASER)	CANON LBP-910N(JC)	135,000	YEN	A	A	IT		1131005
B 46	2000/12/16	PRT Paper Feeder for LBP-910N	CANON PF-64K	44,000	YEN	A	A	IT		1132002
B 47	2000/12/16	PRT Paper Feeder for LBP-910N	CANON PF-64K	44,000	YEN	A	A	IC		1132003
B 48	2000/12/16	Compact Camera	OLYMPUS Myuu Zoom 140VF	33,000	YEN	C	B	IC		1702002
B 49	2000/12/16	Compact Camera	OLYMPUS Myuu Zoom 140VF	33,000	YEN	C	B	IT		1702001
B 50	2000/12/16	Automatic Voltage Regulator	Matsunaga SVC-1000NDII	24,000	YEN	A	A	IT		1401006
B 51	2000/12/24	Current Meter (Electro-Magnetic)	KENEK LP1300	1,102,000	YEN	B	A	IT		1711101
B 52	2001/12/11	Monitoring probe	MiniTROLL standard T 2.5m cable	204,500	YEN	C	B	IT		1781101
B 53	2001/12/11	Monitoring probe	MiniTROLL standard T 2m cable	203,500	YEN	C	B	IT		1781001
B 54	2001/12/11	Monitoring probe	MiniTROLL standard T 2m cable	203,500	YEN	C	B	IT		1781003
B 55	2001/12/11	Monitoring probe	MiniTROLL standard T 2m cable	203,500	YEN	C	B	IT		1781002
B 56	2001/12/11	pH meter	HORIBA D-24SE	96,000	YEN	C	B	IT		1932001
B 57	2001/12/11	SCANNER Transparency unit	EPSON ESA4FLU	41,200	YEN	B	B	IT		1174001
B 58	2001/12/11	Rain Gauge		37,800	YEN	D	B	IT		1891002
B 59	2001/12/11	Rain Gauge		37,800	YEN	D	B	IT		1891001
B 60	2002/3/2	PRINTER	CANON BJ-M40	50,800	YEN	C	A	IT		1131008
B 61	2002/3/2	Bookbinding Machine	SEKI-GTS1500	26,200	YEN	C	A	IC		1331001
B 62	2002/3/2	Paper Reinforcement Machine	TZ-4090	31,500	YEN	C	A	IT		1341001
B 63	2002/3/2	PC Software	Adobe Acrobat 5.0	33,500	YEN	B	B	IT		1126401
B 64	2002/3/11	PC Option Internal HDD(30GB)	CERES Action Disk VA300	113,000	YEN	C	B	IT		1103002
B 65	2002/3/12	Memorymeter (temp x 2channel)	SATO SK-L200T	20,460	YEN	A	A	IT		1791005
B 66	2002/3/12	Memorymeter (temp x 2channel)	SATO SK-L200T	20,460	YEN	A	A	IT		1791001
B 67	2002/3/12	Memorymeter (temp x 2channel)	SATO SK-L200T	20,460	YEN	A	A	IT		1791002
B 68	2002/3/12	Memorymeter (temp x 2channel)	SATO SK-L200T	20,460	YEN	A	A	IT		1791004
B 69	2002/3/12	Memorymeter (temp x 2channel)	SATO SK-L200T	20,460	YEN	A	A	IT		1791006
B 70	2002/3/12	Memorymeter (temp x 2channel)	SATO SK-L200T	20,460	YEN	A	A	IT		1791003

Annex 6-3 Equipment List Provided by the Government of JAPAN (Hand - Carried) $\geq 20,000$ Yen

Frequency of Use: A: Daily B: Weekly, Monthly C: Use in Specific Period D: Nil

Condition : A: Good Condition B: Fair Condition C: Condition for Repair D: Unable to Use

No.	Date (Received)	Name of Item	Specification	Price	Currency	frequency of use	Condition	Inventory Location	Remarks	Equip code
B 71	2002/3/12	Memorymeter (temp & hygro)	SATO SK-L200TH	24,600	YEN	A	A	IT		1792001
B 72	2002/3/12	Memorymeter (temp & hygro)	SATO SK-L200TH	24,600	YEN	A	A	IT		1792002
B 73	2002/3/12	Memorymeter (temp & hygro)	SATO SK-L200TH	24,600	YEN	A	A	IT		1792003
B 74	2002/3/12	Memorymeter (temp & hygro)	SATO SK-L200TH	24,600	YEN	A	A	IT		1792004
B 75	2002/3/12	Memorymeter (temp & hygro)	SATO SK-L200TH	24,600	YEN	A	A	IT		1792005
B 76	2002/3/12	Memorymeter (temp & hygro)	SATO SK-L200TH	24,600	YEN	A	A	IT		1792006
B 77	2002/3/12	Thermometer	SATO SK-1250MCH	23,000	YEN	C	B	IT		1794101
B 78	2002/5/29	PC Option Portable CD-R/RW	Panasonic KXL-RW32AN	29,200	YEN	A	A	IC		1107003
B 79	2002/8/17	ESLON Reel Case 30m	120E2 50M	54,200	YEN	A	A	IT		2032291
B 80	2002/8/17	ESLON Reel Case 30m	120E2 50M	54,200	YEN	A	A	IT		2032292
B 81	2002/8/17	Water Level Measure	RWL-50M	43,000	YEN	D	A	IT		1713001
B 82	2002/8/17	Water Level Measure	RWL-50M	43,000	YEN	D	A	IT		1713002
B 83	2002/8/17	Super Plate (Spray set for survey)	122941	40,900	YEN			IT	Not Found	2033102
B 84	2002/8/17	Super Plate (Spray set for survey)	122941	40,900	YEN			IT	Not Found	2033101
B 85	2002/8/17	Level	Smart Tool 610	29,000	YEN	D	A	IT		2032342
B 86	2002/8/17	Level	Smart Tool 610	29,000	YEN	D	A	IT		2032341
B 87	2002/8/17	SHIRAI Water Channel Weir		37,200	YEN	D	A	IT		8011202
B 88	2002/8/17	SHIRAI Water Channel Weir		37,200	YEN	D	A	IT		8011201
B 89	2002/8/17	SHIRAI Plug		36,900	YEN	D	A	IT		8011701
B 90	2002/8/17	SHIRAI Water Regulator	Type-B VU250	34,000	YEN	D	A	IT		8001101
B 91	2002/8/17	SHIRAI Water Regulator	Type-B VU250	34,000	YEN	D	A	IT		8011102
B 92	2002/8/18	Soil Moisture Meter	DIK-311A	379,000	YEN	C	A	IT		4901101
B 93	2002/8/18	Testing Sieve 5pcs set	DIK-2400SN	106,500	YEN	C	A	IT		4901201
B 94	2002/8/18	Push-cone Soil Hardness Meter	DIK-5553	43,500	YEN	C	A	IT		4901301
B 95	2003/3/29	Hard Disk Drive	IOData,HAD-I160G/Lan	60,500	YEN	A	A	IT		Sato14001
B 96	2003/3/29	Hard Disk Drive	IO Data,HAD-I160G/Lan	60,500	YEN	A	A	IT		Sato14002
B 97	2003/3/29	Memory Card	EXDP-256M	20,500	YEN	A	A	IT		Sato14003
B 98	2003/3/29	Memory Card	EXDP-256M	20,500	YEN	A	A	IT		Sato14004
B 99	2004/6/16	Digital Camere	Rico CaplioG4 Wide	26,180	YEN	A	A	IT		Okumura16001

Annex 6-4 Equipment List Provided by the Government of JAPAN (Purchased by Local Cost) $\geq 20,000$ Yen

Frequency of Use: A: Daily B: Weekly, Monthly C: Use in Specific Period D: Nil
 Condition : A: Good Condition B: Fair Condition C: Condition for Repair D: Unable to Use

No.	Date (Received)	Name of Item	Specification	Price	Currency	frequency of use	Condition	Inventory Location	Remarks	Equip code
C 1	2000/3/23	Mobile Phone	NOKIA 6150 EN	1,899	LE	A	C	EX		1001101
C 2	2000/3/23	Mobile Phone	NOKIA 6150 EN	1,899	LE	A	C	EX		1001102
C 3	2000/3/23	Mobile Phone	NOKIA 6150 EN	1,899	LE	A	C	EX		1001103
C 4	2000/3/23	Mobile Phone	NOKIA 6150 EN	1,899	LE	A	C	EX		1001104
C 5	2000/3/23	Mobile Phone	NOKIA 6150 EN	1,899	LE	A	C	EX		1001105
C 6	2000/4/1	PC Desktop Computer	Pentium II with HITACHI Monitor	7,855	LE	A	A	IC		1100101
C 7	2001/8/27	Television	Panasonic TC-20 A1	1,650	LE	C	A	IT		1317001
C 8	2001/8/27	VHS Video Deck	Panasonic	1,650	LE	C	A	IT		1318001
C 9	2004/5/19	Mobile Connect Caed	Vodafone	1,700	LE	A	A	IT		

Annex 7 Local Cost implementation/Japan

No.	Description	FY.1999		FY.2000		FY.2001		FY.2002		FY.2003		FY.2004(Plan)		Total	
		1,000Yen	LE	1,000Yen	LE	1,000Yen	LE	1,000Yen	LE	1,000Yen	LE	1,000Yen	LE	1,000Yen	LE
1	General Local Cost	959	31,942	7,025	232,672	6,401	218,743	66,480	237,827	3,578	211,206	4,625	231,270	89,068	1,163,660
2	Field Applicable Cost	0	0	2,088	69,600	0	0	0	0	0	0	0	0	2,088	69,600
	Total Expenditure	959	31,942	9,113	302,272	6,401	218,743	66,480	237,827	3,578	211,206	4,625	231,270	91,156	1,233,260

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Annex 8 Allocation of Budget and Expenditure/ EGYPT (IIS CAIRO)

Unit : L.E

No.	Description	FY.99/2000	FY.00/01	FY.01/02	FY.02/03	FY03/04	FY.04/05	Total
1	Temporary Employment	160,205	185,465	202,655	232,150			780,475
2	Utilities (Electricity, Water, Telephone)	31,200	38,650	48,163	37,545			155,558
3	Others (Fuel, Equipment, Consumable Item etc.)	252,000	271,180	273,511	304,552			849,243
4	Duty and Tax (equipment from Japan)	26,000	1,010	2,000	12,669			41,679
5	Construction	16,675	15,092	5,118	16,045			52,930
	Total Expenditure	486,080	511,397	531,447	602,961	0	0	1,879,885

Not yet prepared

ANNEX 9 Evaluation Grid (Five Criteria)

Criteria	Evaluation Questions		Information / Data	Data Sources	Data Collection Methods	Result of Survey
	Items	Subitems				
Relevance	Was selection of project site appropriate?	How was the project site selected?	Process of the selection of the project site	Report of ex-ante study team, p9	Document review	Five points were mainly considered; 1) expectation of farmers, 2) effect of demonstration, 3) convenience of cooperation with relative organizations, 4) farmers' motivation for agriculture, 5) agricultural infrastructure.
		Why was the current project Site selected?	Reason for the selection of the project site	① Report of ex-ante study team, p9 ② Report of ex-ante study team, p13	Document review	① There are three offices of relative organizations around this site. Some advanced farmers raise garden products in a greenhouse. All fields are underdrained. ② We will have to grasp farmers' need through workshops in the next short-term study because it was not clear in the development study.
	Does the project purpose still conform to the present needs of the beneficiaries?	Have farmers agreed with implementation of the Project?	Earning rate of farmers' agreement	Experts	Hearing	Number of mesqa which has set up WUA: 27/60 (establishment rate: 45%)
		Does the project purpose conform to the farmers' needs?	Opinion of farmers	Results of questionnaire survey for farmers	Document review	Farmers' satisfaction with IIP Methodology with regards giving necessary information about the Project: Satisfied 80%, Not satisfied 11%, Not sure 9%
			Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	Totally relevant 9/11, Partly relevant 1/11, Less relevant 1/11
				Counterparts	Interviews	Most farmers welcome the Project.
	Opinion of experts	Results of questionnaire survey for experts	Document review	Totally relevant		
	Does the project purpose conform to development policy in Egypt?	How is irrigation project located in national development plan?	National development plan in Egypt Policy of agriculture	① Data of the Study for the terminal evaluation by the experts, p3 ② Data of the Study for the terminal evaluation by the experts, p6	Document review	① Completion of irrigation project for 1.1 million feddan is purpose of the fifth socioeconomic development plan, 2002-2007. ② MWRI recognizes that the most important subject of IIP is construction of "high-quality facilities, inexpensively and quickly".
		Can we consider that the project purpose conforms to the development policy?	Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	Totally relevant 9/11, Partly relevant 1/11, Less relevant 1/11
			Opinion of experts	Results of questionnaire survey for experts	Document review	Totally relevant
	Does the Project conform to Japanese policy of ODA?	How is Egypt located in Japanese policy of ODA	Japanese policy of ODA for Egypt	Report of basic development study, p.10 Project Implementation Plan in Egypt, JICA, chapter 1	Document review	Japan regard aid to Egypt as an important assistance traditionally. Program for partnership between Egypt and Japan was adopted in 1999.
		How is irrigation project located in Japanese policy of ODA	Japanese policy of ODA for irrigation project	Report of intermediate evaluation Project Implementation Plan in Egypt, JICA, chapter 1	Document review	"Expansion of agricultural production" is stated as one of five important assistance fields, established in Japanese policy of ODA to Egypt. In the important field, "Effective use of limited water resource" is placed in "Expand of agricultural product", which is established in a measurement of poverty reduction.
	Is approach of the Project appropriate?	Was approach of the Project appropriate?	Opinion of counterparts	Counterparts	Interviews	Enough explanation to farmers before construction is necessary but it is no need to request agreement on implementation of the construction.
			Opinion of experts	Ex-ante material of the Study for the terminal evaluation, p14	Document review	This approach is a way Egyptian farmers and government have to face though it takes a lot of time until making of a successful example.

Criteria	Evaluation Questions		Information / Data	Data Sources	Data Collection Methods	Result of Survey
	Items	Subitems				
Relevance		Is there any more proper approach for achievement of the project purpose?	Opinion of counterparts	Counterparts	Interviews	Establishment of a pilot site in less than ten mesqa is useful for showing successful example.
			Opinion of experts	Experts	Interviews	Number of the target mesqa is too much as a model project. It is better to take agreements for contents of projects on condition that the construction is implemented, not for implementation of the construction.
	Is the Japanese technology better in comparison to ..	How is situation of the introduced method in Japan?	Method of irrigation project in Japan recently	Report of basic development study, p50	Document review	WUAs in Japan have many experiences to implement irrigation projects and manage the facilities, using a lot of medium or small rivers.
			Method of irrigation project in Egypt these days	Report of the intermediate evaluation, p9	Document review	Low understanding of farmers for WUA and insufficient agreement for projects cause problems; low participation to projects, nonpayment of O&M cost, illegal intake of water, no delivery of water to downstream, etc.
	Are benefit and cost shared impartially in farmers?	How is different of the effect of the Project between up and downstream?	Effect of the Project in up and downstream	Material of the domestic supporting committee of the Study for the terminal evaluation, Additional 1-4(2)②	Document review	They can expect enough increase of productivity in upstream but farmers in mid and downstream cannot expect increase of productivity per unit land.
				Experts	Interviews	ditto
	Will the cost be shared equally?	Cost sharing plan	Experts	Interviews	Cost of the construction and O&M will be shared in each WUA based on land size.	
Effectiveness	Does the Project achieve expected results of the project purpose?	How do the stakeholders evaluate the progress of the Project?	Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	Fully achieved 2/10, Partly achieved 8/10
			Counterparts	Counterparts	Interviews	Effect of the Project have not been verified because almost all constructions are not completed.
			Opinion of experts	Results of questionnaire survey for experts	Document review	Partly achieved
			Experts	Experts	Interviews	We have to go ahead with activities of WUA in mesqa where the construction is finished.
	Have the outputs contributed to the realization of the project purpose?	How do the stakeholders evaluate contribution of each output to achieve the project purpose?	Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	Improvement irrigation facilities: Partly contributed 10/10 Farmers' Water Management Organization: Heavily contributed 1/11, Partly contributed 8/11, Less Contributed 2/11 On-farm water management: Heavily contributed 6/11, Partly contributed 4/11, Less Contributed 1/11 General Project Management: Heavily contributed 3/11, Partly contributed 7/11, Less Contributed 1/11
				Counterparts	Counterparts	Interviews

Criteria	Evaluation Questions		Information / Data	Data Sources	Data Collection Methods	Result of Survey
	Items	Subitems				
Effectiveness			Opinion of experts	Results of questionnaire survey for experts	Document review	Partly contributed
				Experts	Interviews	Introduced technology will work well as improved methods of IIP. Laser-level can save 25 % of the working hours.
	Have the important assumptions affected for process to achieve the project purpose?	Will necessary counterparts to continue the Project remain in relative post in water management or agriculture?	Current posts of ex-counterparts	Counterparts	Interviews	Almost all ex-counterparts have returned to work in relative fields in IIS.
			Future posts of counterparts	Counterparts	Interviews	We can expect that C/Ps continue to work in relative fields since they are going to return to IIS.
Was the input well managed and fully utilized for achieving the output?	Was there any problem in management or application of the input?	Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	Staffs assigned: Appropriate 9/11, Mostly appropriate 2/11 Facilities: Appropriate 10/11, Mostly appropriate 1/11 Equipment: Appropriate 10/11, Mostly appropriate 1/11 Operation costs: Appropriate 10/11, Mostly appropriate 1/11	
		Opinion of experts	Results of questionnaire survey for experts	Document review	Staffs assigned: Mostly appropriate Facilities: Appropriate Equipment: Appropriate Operation costs: Appropriate	
Efficiency	Was timing of the input appropriate?	Was there any problem in timing of the input conducted by Japanese side?	Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	Long-term experts: Appropriate 10/11, Mostly appropriate 1/11 Short-term experts: Appropriate 9/11, Mostly appropriate 2/11 Equipment: Appropriate 6/11, Mostly appropriate 6/11 Training in Japan: Appropriate 6/7, Mostly appropriate 1/7
			Opinion of experts	Results of questionnaire survey for experts	Document review	Long-term experts: Appropriate Short-term experts: Mostly appropriate Equipment: Mostly appropriate
	Was there any problem in timing of the input conducted by Egyptian side?	Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	Counterparts: Appropriate 8/11, Mostly appropriate 3/11	
		Opinion of experts	Results of questionnaire survey for experts	Document review	Counterparts: Mostly appropriate	

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Criteria	Evaluation Questions		Information / Data	Data Sources	Data Collection Methods	Result of Survey
	Items	Subitems				
Efficiency	Were the quality, quantity, and cost of inputs appropriate?	Was there any problem about quantity, quality, or cost of the input conducted by Japanese side?	Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	Man-months allocated for the long-term experts: Appropriate 11/11 Man-months allocated for the short-term experts: Appropriate 11/11 Specialty and career of the long-term experts: Appropriate 7/11, Mostly appropriate 4/11 Specialty and career of the short-term experts: Appropriate 9/11, Mostly appropriate 2/11 Communication skill of the long-term experts: Appropriate 7/11, Mostly appropriate 4/11 Communication skill of the short-term experts: Appropriate 5/11, Mostly appropriate 6/11 Specifications of the equipment: Appropriate 11/11 Quantities of the equipment: Appropriate 11/11 Period of training in Japan: Appropriate 5/7, Mostly appropriate 2/7 Training curriculum in Japan: Appropriate 6/7, Mostly appropriate 1/7
			Opinion of experts	Results of questionnaire survey for experts	Document review	Man-months allocated for the long-term experts: Appropriate Man-months allocated for the short-term experts: Mostly appropriate Specialty and career of the long-term experts: Appropriate Specialty and career of the short-term experts: Appropriate Communication skill of the long-term experts: Appropriate Communication skill of the short-term experts: Appropriate Specifications of the equipment: Appropriate Quantities of the equipment: Appropriate
			Experts		Interviews	Function of a measuring instrument for soil moisture is too high. Some equipment needed to prepare English manual.
	Was there any problem about quantity, quality, or cost of the input conducted by Egyptian side?		Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	Numbers of the counterparts: Appropriate 9/11, Mostly appropriate 2/11 Expertise and skills of the counterparts: Appropriate 9/11, Mostly appropriate 2/11 Facilities: Appropriate 7/8, Mostly appropriate 1/8 Equipment: Appropriate 7/8, Mostly appropriate 1/8 Availability of operation costs: Appropriate 3/4, Mostly appropriate 1/4
			Opinion of experts	Results of questionnaire survey for experts	Document review	Numbers of the counterparts: Mostly appropriate Expertise and skills of the counterparts: Mostly appropriate Facilities: Appropriate Equipment: Mostly appropriate Availability of operation costs: Mostly appropriate
	Was there any communication problem in stakeholders?	Has JSC worked appropriately?		Opinion of counterparts	Results of questionnaire survey for counterparts	Document review
			Opinion of experts	Results of questionnaire survey for experts	Document review	Problem solving: Mostly appropriate Decision making: Mostly appropriate

Criteria	Evaluation Questions		Information / Data	Data Sources	Data Collection Methods	Result of Survey
	Items	Subitems				
Efficiency	Were progress or problems of the activities dealt well through proper sharing in stakeholders? Was there any problem in other occasions?	Opinion of counterparts	Counterparts	Interviews	Egyptian side sometimes needed long time to understand what Japanese side mentioned.	
		Opinion of experts	Experts	Interviews	Relationship between C/P and farmers, or farmers' leader and ordinary farmers are good except opposite farmers.	
		Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	Extension services: Appropriate 5/10, Mostly appropriate 5/10 Other organizations: Appropriate 5/10, Mostly appropriate 5/10	
		Opinion of experts	Results of questionnaire survey for experts	Document review	Extension services: Mostly appropriate Other organizations: Appropriate	
	Is the total cost appropriate compared with similar projects?	How much are total costs of similar projects?	Costs of similar projects	Experts	Interviews	Cost of a project of the WB is much higher than the cost of the Project because the project of the WB includes implementation of construction.
		How much is the total cost?	Total cost of the Project	Reports of the Project	Document review	Total: 66,572,000 -yen (equivalent to E.L 3,440,000)
	Have not preconditions affected for the input or the output?	Have farmers been cooperative to the Project?	Opinion of counterparts	Counterparts	Interviews	Only a few farmers are against the Project but they have strong power.
			Opinion of experts	Experts	Interviews	Measurement of experiment for on-farm water management was carried out on cooperative farmers' field. We recognized opposite farmers through implementation of the Project.
Impact	Can we estimate to achieve the overall goal?	Opinion of farmers	Farmers	Interviews	It is possible to expand the improved methods to other sites if conditions are satisfied.	
		Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	Was the overall goal achieved? Partly achieved 3/10, Not achieved so much 7/10	
			Counterparts	Interviews	C/P understand this Project is a pilot project, and they want to expand the improved methods to other sites.	
		Opinion of experts	Results of questionnaire survey for experts	Document review	Was the overall goal achieved? Not achieved so much	
	Experts		Interviews	It is possible to expand the improved methods to other sites if conditions are satisfied.		
	Can we expect to achieve the intermediate goal?	How do the stakeholders consider achievement of the intermediate goal?	Opinion of farmers	Results of questionnaire survey for farmers	Document review	57 % of farmers answered "Fair distribution" as reasons of expectation. 26 % of farmers answered "Less irrigation time" as reasons of expectation. 6 % of farmers answered "Yield increase" as reasons of expectation.
Farmers				Interviews	If relative conditions are satisfied, we will be able to obtain it.	
Opinion of counterparts			Counterparts	Interviews	We can expect the effect of the Project after completion of the construction.	
Opinion of experts			Experts	Interviews	ditto	

Criteria	Evaluation Questions		Information / Data	Data Sources	Data Collection Methods	Result of Survey
	Items	Subitems				
Impact	Is any unexpected impact observed from policy aspects?	(Positive and Negative Impact)	Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	Greatly arose 7/11, Partly arose 2/11, Less arose 2/11
			Opinion of experts	Results of questionnaire survey for experts	Document review	Less arose
				Ex-ante data of study for the terminal evaluation, p13	Document review	In project of the WB, the policy have been changed that IIS make agreement with WIJF at the beginning of construction in order to carry out some parts of the activities with WUF. MWRJ try to integrate use/management of water resources; therefore they want to make WUA, which manage not only irrigation but drainage simultaneously.
	Is any unexpected impact observed from economic or financial aspects?	(Positive and Negative Impact)	Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	Greatly arose 1/8, Partly arose 4/8, Less arose 3/8
			Opinion of experts	Results of questionnaire survey for experts	Document review	Less arose
	Is any unexpected impact observed from organizational or institutional aspects?	(Positive and Negative Impact)	Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	Greatly arose 2/11, Partly arose 7/11, Less arose 2/11
				Opinion of experts	Results of questionnaire survey for experts	Document review
			Ex-ante data of study for the terminal evaluation, p14		Document review	With operation and maintenance committee of laser-level was established in preparation committee of WUA, IIS is going to operate and manage with the O&M committee. C/P is going to teach staff of the committee by OJT, and shift the O&M of the equipment to the committee, gradually.
			Experts	Interviews	Not a few farmers continue to take water illegally, and no regulation is working.	
	Is any unexpected impact observed from technical aspects?	(Positive and Negative Impact)	Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	Greatly arose 6/11, Partly arose 4/11, Less arose 1/11
				Opinion of experts	Results of questionnaire survey for experts	Document review
			Ex-ante data of study for the terminal evaluation, p13		Document review	IIS was interested in effectiveness of GIS, and introduced the system to a project of the WB experimentally. From now on, GIS is expected to be applied to projects of IIS, gradually.
Experts			Interviews	We requested a criminal investigation and guard of the construction to the police because serious oppositional activities had occurred.		

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Criteria	Evaluation Questions		Information / Data	Data Sources	Data Collection Methods	Result of Survey	
	Items	Subitems					
Impact	Is any unexpected impact observed from social or cultural aspects?	(Positive and Negative Impact)	Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	Greatly arose 4/8, Partly arose 3/8, Less arose 1/8	
			Opinion of experts	Results of questionnaire survey for experts	Document review	Less arose	
			Experts	Experts	Interviews	It was first time to request agreement of IIP to farmers, which caused argument in farmers.	
	Was there any unexpected affect for gender issue or poor bracket?	(Positive and Negative Impact)	Opinion of farmers	Farmers	Interviews	Not especially.	
			Opinion of counterparts	Counterparts	Interviews	Women's activity is important for this Project because they participate in works of irrigation as good as men.	
			Opinion of experts	Experts	Interviews	Women's activity is not bad for this Project because most of them do not participate in works of irrigation directly.	
				Ex-ante data of study for the terminal evaluation, p14	Document review	With gender study committee was established in preparation committee of WUA, movement for establishment of women's organization has occurred.	
	Is any unexpected impact observed from environmental aspects?	(Positive and Negative Impact)	Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	Greatly arose 2/8, Partly arose 2/8, Less arose 4/8	
			Opinion of experts	Results of questionnaire survey for experts	Document review	Less arose	
			Ex-ante data of study for the terminal evaluation, p14	Document review	With environment and gender study committee was established in preparation committee of WUA, movement for grappling with environmental/hygienic problem has occurred in WUA.		
	Sustainability	Will relative development policy continue in Egypt?	Will the improved methods of the Project be applied for future IIP?	Opinion of MWRI	Staff of MWRI	Interviews	
				Opinion of IIS	Project Manager / Head of IIS (Eng. Abdel Kader)	Interview	IIS is going to apply the improved method except 2/3 agreement of farmers.
Opinion of counterparts				Counterparts	Interviews	ditto	
Opinion of experts				Experts	Interviews	ditto	
Ex-ante data of study for the terminal evaluation, p14				Document review	MWRI recognizes that the most important subject of IIP is construction of "high-quality facilities, inexpensively and quickly", which means they do not evaluate the Project as the best way for IIP.		
Have the implementing organizations	Was necessary staff for the activities trained, and are the person in charge decided in	Opinion of farmers	Farmers	Interviews	Farmers in mesqua where the construction was completed answered that the trainings were carried out more than five times, and they were trained enough.		

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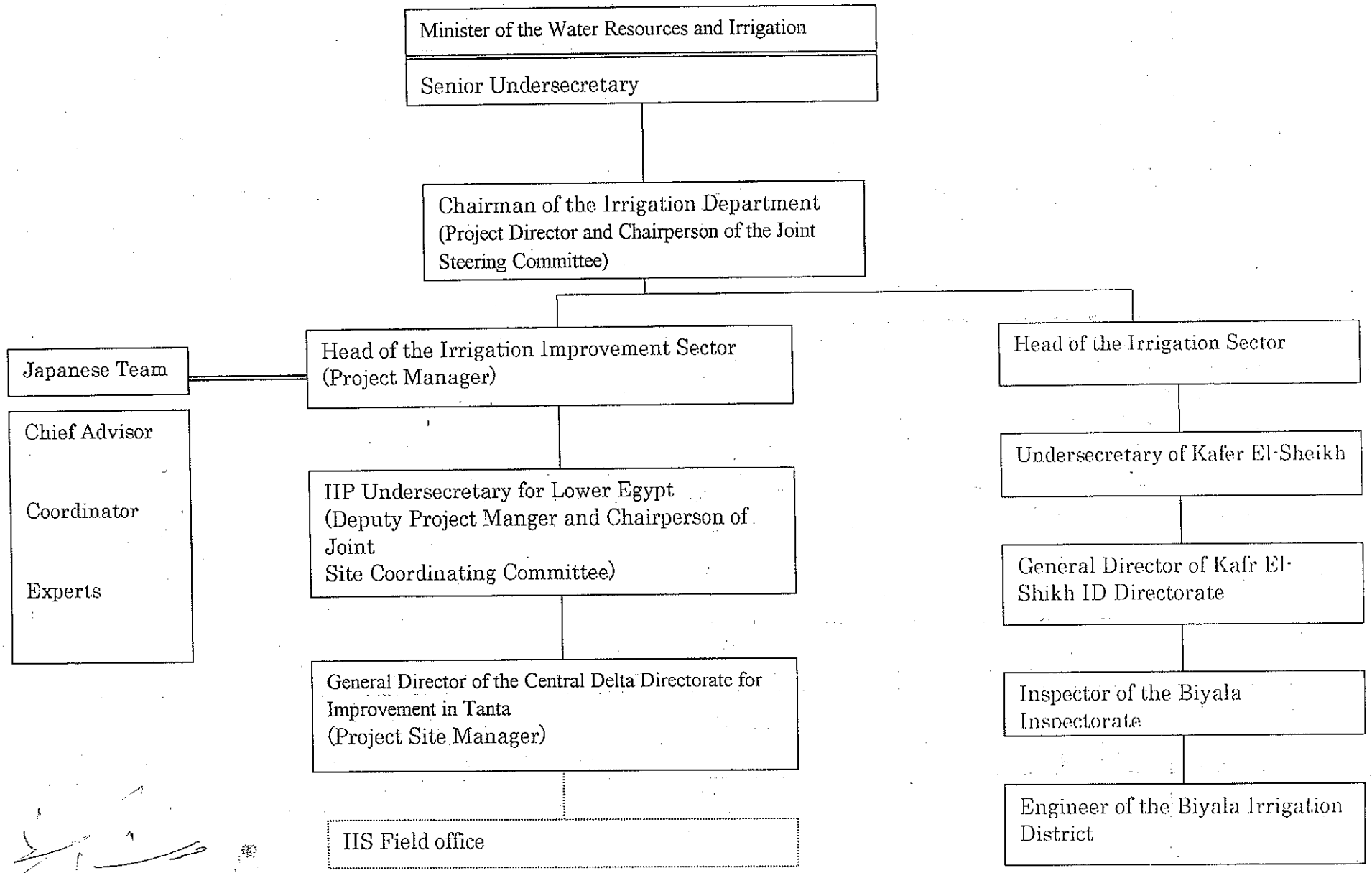
Criteria	Evaluation Questions		Information / Data	Data Sources	Data Collection Methods	Result of Survey
	Items	Subitems				
Sustainability	secured management capability for continuing the activities?	relative departments?	Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	Can you plan and prepare for a training program? Mostly provable 7/11, Partly provable 4/11
				Counterparts	Interviews	Though IIS have no concrete plan in future, they have prepared necessary staff.
			Opinion of experts	Results of questionnaire survey for experts	Document review	Can you plan and prepare for a training program? Mostly provable
				Experts	Interviews	Though IIS have no concrete plan in future, they have prepared necessary staff.
	Have the implementing organizations secured necessary institutional capability for continuing the activities?	Is there any institutional problem in intake of water, water users' organization, implementation of construction, operation and maintenance of facilities and equipment?	Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	How the improved methods of IIP can be sustained by improving institutional capabilities of IIS? Mostly provable 5/11, Partly provable 3/11, Less provable 3/11
				Counterparts	Interviews	Relative organizations should keep illegal intake of water under strict control.
			Opinion of experts	Results of questionnaire survey for experts	Document review	How the improved methods of IIP can be sustained by improving institutional capabilities of IIS? Mostly provable
				Experts	Interviews	Relative organizations should keep illegal intake of water under strict control.
	Have the implementing organizations secured necessary financial resources for continuing the activities?	Does the department in charge of budget secure necessary financial resources?	Opinion of farmers	Farmers	Interviews	They are worried about collection of water use fee in their WUA.
			Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	How the improved methods of IIP can be sustained by improving financial capabilities of IIS? Mostly provable 5/11, Partly provable 3/11, Less provable 3/11 How the improved methods of IIP can be sustained by providing farmers with financial assistance? Mostly provable 2/11, Partly provable 5/11, Less provable 4/11
				Counterparts	Interviews	IIS have no concrete plan in future.
			Opinion of experts	Results of questionnaire survey for experts	Document review	How the improved methods of IIP can be sustained by improving financial capabilities of IIS? Mostly provable How the improved methods of IIP can be sustained by providing farmers with financial assistance? Mostly provable
			Experts	Interviews	IIS have no concrete plan in future.	
Is necessary technology for continuing the activities disseminated in the farmers?	Is there any technical problem?	Opinion of farmers	Farmers	Interviews	They are worried about capacity of the facilities.	
		Opinion of counterparts	Results of questionnaire survey for counterparts	Document review	How the improved methods of IIP can be sustained by building more technical and management capabilities of farmers? Mostly provable 9/11, Partly provable 2/11	
			Counterparts	Interviews	There is no technical problem.	
		Opinion of experts	Results of questionnaire survey for experts	Document review	How the improved methods of IIP can be sustained by building more technical and management capabilities of farmers? Mostly provable	

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Criteria	Evaluation Questions		Information / Data	Data Sources	Data Collection Methods	Result of Survey	
	Items	Subitems					
Sustainability				Experts	Interviews	There is no technical problem.	
				Ex-ante data of the Study for the terminal evaluation, p15	Document review	C/P understand and support farmers' participation approach of the Project, which is a great result from view point of technical transfer. It is expected that they will make full use of their experiences when similar project is implemented. Regarding on-farm water management, C/P made an experimental plan, measured and collected necessary data, and understood/acquire a method for analysis and study of the result. They can carry out a similar survey by themselves from now on.	
			Are necessary system and plan for the extension work prepared?	Opinion of farmers	Farmers	Interviews	They have not yet prepared extension system in their WUA.
				Opinion of counterparts	Counterparts	Interviews	Farmers need more practice.
				Opinion of experts	Experts	Interviews	Farmers need more practice.
			Ex-ante data of the Study for the terminal evaluation, p15	Document review	Though farmers well understand concept of farmers' participation approach, the practice seem to be difficult since some parts of them depend on capability or mobility of farmers who become a coordinator. As for organizing of WUA, a method was established from farmers' suggestion, which accelerates participation of ordinary farmers, using cooperation of influential farmers in communities. This method was formulated by C/P, and we can anticipate more development of the way.		
	Have the implementing organizations secured necessary facilities or equipment for continuing the activities?	Are the stakeholders considering the action plan?	Opinion of farmers	Farmers	Interviews	They are worried about a spare pump and spare parts for pumps.	
			Opinion of counterparts	Result of questionnaire survey for counterparts	Document review	How the improved methods of IIP can be sustained by providing farmers with enough facilities and equipment ? Mostly provable 2/11, Partly provable 6/11, Less provable 3/11	
				Counterparts	Interviews	Field agents need more motorbikes.	
			Opinion of experts	Results of questionnaire survey for experts	Document review	How the improved methods of IIP can be sustained by providing farmers with enough facilities and equipment ? Partly provable	
Experts			Interviews	They secured necessary facilities and equipment.			

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Annex 10 Project Organization Chart



ANNEX 11 Schedule of activities until February 2005 (Revised)

As of Oct.2, 2004

Activities	Year	2003												2004										2005			
	Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.
	Season	Winter Cropping				Summer Cropping				Winter Cropping				Summer Cropping				Winter Cropping									
Organizing WUAs, WUF	Downstream (18 mesqas)	Meetings, workshops				Collecting agreement				Training for water management, management of organizations, etc.																	
	Midstream (19 mesqas)	Meetings, workshops								Collecting agreement				Training													
	Upstream (23 mesqas)	Meetings, workshops								Collecting agreement				Training													
	WUF (60 mesqas)					Preparatory meetings for establishing WUF				Establishment of WUF																	
Bidding & Contract	Downstream					Preparation of tender				Making a contract																	
	Midstream									Preparation of tender				Making a contract													
	Upstream													Preparation of tender				Making a contract									
Construction	Downstream									(10 months)																	
	Midstream																	(~ Oct, 2005)									
	Upstream																	(~ Mar, 2006)									
Monitoring & Evaluation	Water Management Downstream													(Winter cropping)													
	Water Management Midstream																										
	Water Management Upstream																										
	Self-sustainability of WUAs, WUF																										
On-farm Water management	60 mesqas					Experiment on farm										Preparation of manuals											
Continuous Flow (temporary)																											