第8章　ローカルコンサルタントにかかる調査

本件は、本格調査において、日本側コンサルタントの南ア国内での経験不足、南ア国の社会・歴史的背景の特殊性に鑑み、ローカルコンサルタントを多用する必要があると考えられる。このため、事前調査時に、ローカルコンサルタントの能力・実績等に関して確認を行った。なお、以下の9社は南ア政府から推薦されたコンサルタントでもある。

8－1　マネージメント・コンサルタント

1）PRICE WATERHOUSE

世界各地に約5万名の従業員を擁する多国籍企業である。マルティ、バイのドナーによる南ア周辺国での各種プロジェクトの経験が豊富で、主に財務、会計を担当している。給水分野ではレソト、スワジーランドでのプロジェクトを多く受注しており、主に財務、料金体系調査等を担当。調査地域関連では、北西部給水公社と、マハリース水道公社の境界問題で、4つのオプションが提出された際、それぞれのケースについての財務シミュレーションを行っている。本件調査団への参加に際しては、エンジニアリング・コンサルタントであるVAN WYK AND LOUW INC（後述）と提携して受注することも可能である。現在、わが国のOECFが発注した黒人社会のマクローエコノミー調査を実施中である。

2）SRK（STEFFEN, ROBERTSON AND KIRSTEN）

米国、カナダ、英国等数個国をベースとする多国籍企業である（南ア国での従業員数250名）。今回マネージメント・コンサルタントとして紹介されているが、南アフリカでの環境、地下水、ダム、土木、鉱山関係等エンジニアリング方面の経験も豊富である。旧ボプタツワナ等黒人居住区での給水分野の経験が深い。現在DANIDAプロジェクト（後述）のサブコンストラクターとして本年7月までの契約を結び、組織改革、ローカル水委員会設立支援、トレーニング等を担当している。北西部水道公社、マハリース水道公社の境界問題では、タスク・グループに参加し、問題解決に協力している。マハリース水道拡充計画の詳細なTORの作成に協力している。同社は黒人居住区での各種の活動を専門とするNGO（ウィットヲータース大学付属機関）であるCBDP（COMMUNITY BASED DEVELOPMENT PROGRAMME）（コンサルタント業務をも行っている）と提携している。

3）DELOITTE & TOUCHE

同社は100カ国に56,000名の従業員を擁する多国籍企業で、アフリカ14カ国に3,500名の従業員を抱え、南ア国での従業員は2,000名に及ぶ。財務管理・会計、民営化、地域開発、組織強化等を専門として、アフリカ各国でマルティ、バイドナーによるプロジェクトを受注し

ている。南ア国での給水分野では、ウンゲニ水道公社の組織改革、インフォーマル・セツルメント（スクヲッター状の黒人住宅密集地域、大都市周辺部に形成されている）への給水にともなう公社の役割等、ランド水道公社の組織強化、民営化対策等の経験を有する。また、北西プロヴィンスでのDANIDAプロジェクトにおいては、組織改革、受益者や関係者の意識調査等を担当している。DANIDAはこのコンサルタントを通じて、5名のORGANIZATION DEVELOPMENT OFFICER（社会学を専攻した黒人女性で、ローカル水委員会設立支援を担当）を1年契約で雇用している。

4） COOPERS & LYBRAND

世界各地を市場とする多国籍企業である。アフリカ各地においても給水関連プロジェクトに参加しているが、財務・会計分野の担当が主体である。南アにおける給水分野での業務経験はない。

5）所　見

マネージメント・コンサルタント4社のうち、水道公社の（国民居住区への給水拡張にともなう）組織改組、南ア黒人居住区での（給水プロジェクトにともなう）社会・経済調査活動等の経験を有するのは、SPKとDELOITTE & TOUCHEの2社のみである。北西部水道公社地域でのプロジェクトを実施しているDANIDAも、ローカルコンサルタントとしてはこの2社と契約している（DANIDAの主契約者であるCARL BROがローカルと契約）。CARL BROのプロジェク責任者は、財務、組織改組、受益者の組織化、及び人的資源開発等を担当するには2社以上が必要との意見である（これらすべての分野に経験の深い人材を抱えているコンサルはない）。南アのマネージメント・コンサルタントは、財務、会計、経営面では人材は豊富であるが、人的資源開発、COMMUNITY DEVELOPMENT等黒人社会に関する分野の人材は少ない。

8－2　エンジニアリング・コンサルタント

1） GOBA MOAHLOLI & ASSOCIATES

今回紹介を受けた9社のうち唯一の黒人企業である。1993年に設立された非常に若い会社で、学卒の技術者数は4名のみと少ない。エンジニアリング・コンサルタントであるが、住民参加を専門とする技術者を1名擁する。この会社のトップは、村落給水を専門とする全国的なNGO組織MVULA TRUSTのコンサルタントをしている。南アで最大のインフォーマルセツルメントである、ウィンタースヴェルトでのRDP住宅開発プロジェクトに従事した経験を有する。

2） STEWART SCOTT INC

南アのほかジンバブエ、ボツワナ、ナミビア、マラウィ等に同族企業を有し、域内で幅広

く活動している。南ア国内22カ所に支店を置き、上水・下水、環境、運輸、建設、土木、鉄道等幅広い分野をカバーしている。給水分野ではマハリース水道公社内でのリハビリ、拡張計画、増水計画等の経験を有するほか、各地の村落給水、都市給水等幅広い活動経験を有している。有力スタッフの1名は、北西給水公社とマハリース水道公社の境界問題のための「タスクグループ」に任命され、その解決に協力している。学卒の黒人スタッフは採用されていないが、黒人コンサルタントと提携し、インフォーマルセツルメンツから大都市への交通手段の開発等（個人所有の乗合タクシーの経営支援、組織化等）黒人居住区での活動経験を有する。

3） CONSULTBURO

北西部プロヴィンスの首都マバトに本拠を置き、地元に密着して活動している。黒人を交えた約70名のスタッフが国内6カ所の事務所で働いており、マハリース水道公社周辺に3カ所の事務所を有している。業務分野は給水・水源開発を中心に、環境、地域開発等である。北西部プロヴィンス内の黒人居住区での村落給水開発を多く手がけているため、住民参加、水委員会設立支援等の手法に長けており、黒人コミュニティーと深い信頼関係を結んでいる。マハリース水道公社内でも水需要調査、河川流量調査、ダムのリハビリ等を手がけている。わが国に対し円借款による実施の要請があるクワンデベレ増水計画のF／Sは、同社が実施している。

4） EVN CONSULTING ENGINEERS

南ア北部を中心に6カ所の事務所に129名のスタッフを擁している。マハリース給水公社拡張予定地域内やその周辺部で、多くの給水関連の調査実績があり、地下水ポテンシャル、河川流量、配管網やその他のインフラデータ等、マハリース水道公社拡張予定地域内の多くの情報を有している。これらの情報を総合して、同社はクワンデベレ地域を除いた、拡張予定地域内での拡張工事費を、一日当たり一人25リットル供給の標準では、190MR（約US $ 53M)、また80リットルの高い標準では、さらに約190MRが必要と見積もっている。

5） VAN WYK & LOUW

南ア全土に21カ所の事務所を有し、1,100名のスタッフを擁している有力企業である。マハリース公社地域での業務経験はないが、ランド水道公社、ヨハネスブルグ地域のM／P等、大規模な水源開発、浄水場設計等に多くの経験を有している。わが国のPCIと本案件に関して、予備的な接触を持っている。

6）所　見

南アのエンジニアリング・コンサルタントの技術レベルは非常に高いとの評判である。5社の中でマハリース水道公社及びその拡張予定地域内での、給水分野の業務経験を有するのは、STEWART SCOTT (SS)、CONSULTBURO (CON)、EVNの3社である。SS社は現マ

ハリース公社地域内での実績が豊富であり、他の2社は拡張予定地内の黒人居住区域内での業務経験が多い。CON社とEVN社の黒人居住区域内の業務経験を比較すれば、EVN社が勝っているし、同社は地域内の各種の重要な情報を保有している。いずれにしろ、企業としての業務経験だけでなく、それぞれの企業が抱えているスタッフの経験も重要である。本格調査開始時点での、これら有力企業からのプロポーザルを綿密に検討する必要があろう。

第9章　本格調査の実施方針

9－1　調査目的

「白書」に示された南アの給水及び衛生にかかる政策に沿って、主に黒人居住区等未給水地域への給水量拡大を目的として、水道公社と村落レベルの水供給における役割分担を定めた上で、

(1) 拡張給水区域

(2) マハリース水道公社の新規給水区域への給水及び関連事業拡張の可能性・組織上の受容可能性

(3) 同居住区での村落レベルの受水団体の設立及びこれに対する支援方法

(4) 上記を実施するために必要とされる妥当な投資計画

を検討し、長期的で持続性のあるM／P（目標年次：短期目標2002年、長期目標2015年）を策定する。なお、衛生にかかる調査及び計画については、給水計画を補完するものとして、一般的、定性的提言のとりまとめレベルにとどめるものとする。

9－2　調査対象地域

本調査の調査対象地域はプレトリア北部に位置する、マハリース水道公社の新規給水検討区域とする（S／W添付図参照）。ただし、調査の過程において、必要に応じ境界線縁辺部の村落についても調査する。

9－3　調査項目及び内容

本件は、

フェーズ1：マスタープランの策定

フェーズ2：優先プロジェクトのフィージビリティスタディ

フェーズ3：住民組織設立及び水道公社からの支援体制確立にかかるパイロットプロジェクト

を実施することとする。

フェーズ1：マスタープランの策定

1．南ア側調査実施体制の確立

調査の実施に当って、次のステアリング・コミッティ及びワーキンググループを形成する。

ア．ステアリング・コミッティ

少なくともワーキンググループ代表及び次の各代表者からなり、本案件の調査内容、調査結果を審議検討する機関と位置付ける。調査団は、原則としてレポート協議に際し、本ステアリング・コミッティとレポート内容を協議し、合意を形成するものとする。

(ア) 水資源林業省（DWAF）

(イ) マハリース水道公社（MW）

(ウ) 北西水道公社（NWWA）

(エ) 州政府（本件調査対象地域にまたがる4州）

(オ) 日本側調査団

(カ) 必要に応じJICA側作業監理委員会

イ．ワーキンググループ

少なくとも、

(ア) 水資源林業省（DWAF）

(イ) マハリース水道公社（MW）

(ウ) 北西水道公社（NWWA）

(エ) 州政府（本件調査対象地域にまたがる4州）

(オ) 日本側調査団

の各組織の専門家数名からなり、ステアリング・コミッティの分科会として、

2 nd.Tierのあり方検討グループ

2 nd.Tier財政・投資計画検討グループ

3 rd.Tier住民組織形成検討グループ

を形成する。レポート作成に至るまでの間、設定された目標ごとに調査内容、検討結果の妥当性を検討する機関として位置付けられる。

通常、レポートとレポートの間の中間協議として開かれるが、必要に応じ適宜召集される。

2 nd.Tierにかかる検討はマハリース水道公社を中心として組織される可能性が高いが、現段階では既存の2 nd.Tierの現状にこだわらず、広く検討することとする。

2．一般現況の確認・把握

目　的

南ア国内全般及び調査対象地域の社会、経済、保健衛生の現況、今後の予測について、給水事業に関連する範囲において全体的な方向性を把握・分析する。

内　容

主に既存資料の収集・分析、関係者からヒアリングにより下記内容に関する調査対象地域の現状を把握する。また、必要に応じ現地踏査により前記において得られた情報につい

ての検証を行う。

[自然状況関連]

(a) 新規水源（表流水）

本調査対象地域を含む流域の境界をDWAFの5万分の1地形図から確認する。流域内の河川流量をDWAFのWRSM90を用いてモデル化する。

(b) 表流水計画－既存水源

既存浄水場・管路も拡張あるいはリハビリによって経済的に将来需要を満たすことができるのか見極める。

(c) 地下水計画

地質図（25万分の1）と立体航空写真（3万分の1）を参照し、対象区域内に存在する地層の水文学的特性は既存のボーリングデー（DWAF HYDROCOM Database）を利用して同地区内あるいは類似地層から考察する。

(d) 水　　質

[社会・経済関連]

ア．社会・経済現況及び将来の傾向

人口密度と分布、所得レベル、支出形態、家族と世帯規模等を把握する。

イ．都市及び地方開発

現在の土地利用状況・インフラ整備状況、都市郊外開発計画（長短期）、開発政策を把握する。

ウ．人口動態、経済成長

目標年次までの調査対象地域における水需要予測に関する必要な情報収集も含むものとする。

[保健衛生関連]

[自然環境関連]

3．既存・実施中のプロジェクトの現況把握

ア．RDP

イ．北西州おけるDANIDAプロジェクト

ウ．東及び北トランスバール州における英ODAプロジェクト

4．拡張給水区域の範囲検討

現北西水道公社及び現マハリース水道公社給水区域の南側と接するランド水道公社所掌範囲との境界線、給水コスト、安全な水の確実な供給等の諸要因を検討した後、将来の理想的な給水状況を想定して設定するためにヒアリング調査を実施する。

5．2 nd. Tierの役割と責任に関する政策の把握及び検討

2 nd. Tier 水供給の責任と役割に関する諸意見の整理を行い、不確定ないし未整理の内容、完全に見落とされている政策がないか確認、検討する。

6．2 nd.Tier の組織・運営・財務現況調査

目　的

ア．マハリース水道公社、北西水道公社の形成過程、暫定拡張給水区域内における機能の比較検討を行う。

イ．拡張給水区域に給水する 2 nd.Tier の分離・合併に起因する（あるいは拡大給水区域それ自体を分離・合併した場合の）問題を確認する。

内　容

ア．経営：機能、役割、責任分担、現在の操業形態、上部機関との関係、内部の機構間の関係等

イ．組織：人事制度、人材育成制度等

ウ．財務状況：原水費、用水供給受水費、コスト回収の構造（水道料金の設定、徴収体制、支払い状況）、収入と支出、長短期の金融債務

7．水道関連調査

ア．政策、法律、組織関連

RDP 及び関連する水道・環境衛生政策と法律

イ．水道施設（ハードウェア）関連

ダム、頭首工(取水堰等)、送配水管、配水管網、深井戸、ポンプ設備の容量と現況

ウ．経営・料金徴収体制関連

既存水道公社や水道局に関する給水量と無収水量、現行の料金政策、支払状況、現行補助金の程度と性格

8．利害関係者に関する調査

目　的

本案件では現在の水道公社の機能を拡張給水地域に広げる場合に既存の権利等の利害が顕著に対立することが予想されており、主に、

ア．既得権益者（主に従来既存水道により給水されている層）が新規給水区域拡大によりクロスサブシディ（Cross-Subsidy＝本件においては「富裕層の費用負担により貧困層へ補助金を出す制度」）の導入も含め不利益を被ることへの抵抗

イ．黒人と白人の社会的・歴史的関係に起因する相互不信

ウ．1 st. Tier から 3 rd. Tier に及ぶ各階層において、既存の枠組み（機能、役割）の変更に対する抵抗

エ．RDP 等新政権の政策への黒人層の期待と不安

を念頭に置き、

オ．2 nd. Tier のあり方

カ．1 st. Tier 及び3 rd. Tier との業務・責任分担

キ．各受益者の利益、不利益の内容、程度

ク．不利益を排除、軽減するに困難な状況、外部条件

等を明確にするためにヒアリング調査、質問等の提示により次の調査を行う。

内　容

ア．調査に含まれる利害関係者の確認。利害関係者は次のカテゴリーから選択されるものとする。

(ア) マハリース水道公社及び北西水道公社の管理層

(イ) 両水道公社の現在及び将来可能性のある顧客

(ウ) 水資源林業省及び州政府

(エ) 3 rd. Tier の給水事業を現在実施しているか、または、その可能性のある組織

イ．拡張給水地域での現存給水の機能の拡大について、その問題点についての意見を、少なくとも下記の項目につき関係者より調査する。

(ア) 2 nd. Tier 給水の組織内外での能力

(イ) 各給水の関係、これには2 nd. Tier 間、1 st. Tier と 2 nd. Tier、2 nd. Tier と 3 rd. Tier の関係、また、3 rd. Tier 内部の関係が含まれる

(ウ) 1 st. Tier、2 nd. Tier、3 rd. Tier 各レベルでの物質的な資源

(エ) すべてのレベルで拡張への期待と必要性

＜村落の受水能力に関する調査＞

9．村落現況データベース作成調査

調査対象地域の各村落の状況を調査し、新規給水計画の際、村落の開発優先度、受水団体設立の可能性、マハリース水道公社から給水を得られるレベルにあるか、住民による水管理・給水施設維持管理が可能であるか等を検討する基礎情報整備の観点から、対象全村落について村落現況データベース作成のためのアンケート等による調査を実施する。調査結果はデータベース化する。

ア．一般基礎情報

イ．給水にかかる情報

10．3 rd. Tier 実態の把握・分析

既に3 rd. Tier が形成されている村落において、3 rd. Tier 組織を正しく理解すると同時に、その構造、能力、組織の状況等を調査する。

ア．水部門への役割

イ．法律、財務、人的資源等に関する能力と権限

(ア) 政治的、組織的活性力

(イ) 法 制 度

(ウ) 運　　営

(オ) 適正技術と能力

(オ) 教育訓練適性と能力

(カ) 村落社会への受容可能性

11. 村落実態調査

1．村落現況データベース作成調査及び2．3 rd. Tier 実態の把握・分析の結果を踏まえ、3 rd. Tier の形成されていない村落から現在給水施設がないか、または非常に低レベルの給水の施設のみ設置されている村落を選定して、今後新たに3 rd. Tier を形成するに当っての可能性、問題点を調査する。本業務は村落の伝統的な習慣と価値観を十分配慮した上で実施しなければならない。

ア．給水の現況（施設状況、給水状態、問題点等）

イ．給水のサービスと料金のレベル

ウ．水道料金支払い能力及び支払いの意志

エ．現在及び将来の給水事業に影響を与える組織的、政治的な動き

オ．地方委員会の存在、役割と影響力、特に各種サービスの提供と経営に関する事項

カ．水に関する意識

キ．地方給水の維持管理に関する地域住民の人的資源（労働力、管理経営能力、技術水準等）

ク．地域水供給の配管、維持管理に関連して必要な訓練項目

なお、本調査はフェーズ3で実施予定のパイロットプロジェクトの実施計画作成の基礎資料とする。

12. 村落の現況評価

対象村落を給水事業実施の観点（人口、水需要、料金負担能力、組織形成能力等）からレベルごとに分類し、各村落の現況、特徴を分析する。

13. 現状評価及び問題点のとりまとめ

その評価と問題点・制約要因を抽出し、第二次現地作業でのギャップ分析の基礎資料とする。

ア．白書との整合性

イ．進行中の他プロジェクトとの整合性

ウ．上水道・村落給水の水量

エ．マハリース水道公社及び北西水道公社の組織・経営

オ．調査対象地域の社会・歴史的側面

カ．給水区域を拡張することによる利害の対立

14. 水需要予測

都市の周辺にペリアーバン（Peri-Urban）と称する合法・非合法の居住区が現在でも形成されており、都市化の動向には留意する。

15. 新規水源開発の必要性・可能性の概略評価

水需要予測等から、現在の給水状況では不十分と考えられる地域については、自然条件調査の結果を踏まえ、新規給水の開発可能性を概略検討する。

16. ギャップ分析及び組織のあり方検討

2 nd. Tier と 3 rd. Tier の組織活動に関して、拡張給水区域における給水事業に寄与する潜在的な能力、意向、権限等の両者のギャップを明らかにする。拡張給水地域における 2 nd. Tier、3 rd. Tier が効果的に給水事業を実施するために特に注意を払う必要がある問題点を抽出する。上記分析を踏まえ、拡張給水地域における水道供給事業実施機関のあるべき役割及び分担に関して、

(ア) 2 nd. Tier のあり方

(イ) 3 rd. Tier のあり方

それぞれについての戦略の代替案を作成し、ワーキンググループのメンバーを中心とするワークショップで検討する。

17. 新規施設計画のための技術的代替案検討

ア．既存水源利用計画（表流水）

イ．新規水源開発計画（表流水）

ウ．地下水開発計画

エ．水　質

オ．施設計画策定

取水、導水、浄水、配水施設の配置、設計の標準仕様を給水レベルに応じて計画する。考えられた技術案を以下の基準によって持続性を検討し、計画としてまとめる。

(ア) 技術的信頼性

(イ) 推定工事費、維持管理費

(ウ) 受益者一人当り工事費、損益分岐点となる水道料金

(エ) DCF 法（複数の割引率）による、計画の現在価値（将来の維持管理費も含む）

(オ) willingness to pay や将来需要の変化、住民移動、開発パターンといった諸要素を加味した感度分析

(カ) 環境への影響

(キ) 社会影響と影響の受容度

(ク) 3 rd. Tier 支援に必要な人員配置と能力開発

(ケ) 運営管理の効率

18. 最適組み合わせの選定

16. 17の検討を踏まえ、最もふさわしいあり方の組み合わせを検討する。

19. 戦略に関する提言と実施計画

ア. 人的資源開発

(ア) 2 nd. Tier の拡張される新しい役割に必要な能力、人材を設定する。

(イ) 人材配置経過計画を立案する。

(ウ) (ア)及び(イ)を実施するのに必要な研修計画を策定する。

3 rd. Tier における人的資源開発計画は、人材が 3 rd. Tier へ委譲するなど 2 nd. Tier の活動と重複する時には検討する。

イ. 経営、操業体制

2 nd. Tier が効率的に事業を実施するための組織強化計画を立案する。また、2 nd. Tier と 3 rd. Tier の連携方法についてもとりまとめる。

(ア) 必要な経営能力の設定

(イ) 制度及び組織のあり方

(ウ) 必要なスタッフレベル及び人材育成方針

(エ) 財務計画方針及び効率的な収入計画方針

(オ) サービスのあり方

ウ. 財　政

エ. 拡張給水区域の範囲決定

オ. ビジネス単位設定

カ. 3 rd. Tier 支援計画

(ア) 3 rd. Tier 技術者等に対する研修計画

(イ) 3 rd. Tier の必要性の広報活動計画

(ウ) 制度整備計画（地方水委員会の法的保護も含む）

(エ) 2 nd. Tier の 3 rd. Tier 指導者に対する研修計画

(オ) モニタリング計画

(カ) 2 nd. Tier の 3 rd. Tier に対する技術的、財政的支援計画

キ. 広報活動計画

各利害関係者に対する本戦略の主旨及び実施を理解、了承させるための広報活動計画

を立案する。

ク．環境衛生（Sanitation）計画

20. 優先順位の検討

21. 概略投資計画策定

ア．料金体系の検討

イ．資金調達計画

22. マスタープランの評価

ア．財務評価

特に、クロスサブシダィについては、各利害関係者に十分受け入れられる計画となっているか評価する。

イ．組織評価

ウ．技術評価

エ．経済・社会評価

オ．初期環境調査（IEE）の実施

当事業団作成の環境配慮ガイドライン（上水道編）及び南アにて1989年に作成されているガイドラインにより初期環境調査を実施し、環境影響評価の必要性を確認するとともにF／Sの環境影響評価（EIA）のT／Rを作成する。

23. 実施計画策定

フェーズ2：F／S

現段階ではF／S対象プロジェクトは明確でないが、

(1) 現在のマハリース水道公社の導水路を拡張し、未給水地域へ送水するプロジェクト

もしくは、

(2) 村落レベルの受水能力向上を図る間に、村落レベルの地下開発による村落給水型給水プロジェクト

が考えられる。マスタープランの結果の2 nd. Tier、3 rd. Tierそれぞれのあるべき姿により、いずれか、もしくは、その複合案件としての形成を検討するのが妥当であろう。

フェーズ3：住民組織設立及び水道公社からの支援体制確立にかかるパイロットプロジェクト

フェーズ3はRDPプロジェクトで実際に行われている通り、住民による組織を形成して、料金徴収、施設の維持管理等を自発的、継続的に行わせることを目的とする試験的調査である。F/S対象プロジェクトを目処として実際に住民組織をつくる際の技術的、社会的問題点を明確にする。また、受水能力を向上させ、運営を安定化させるために、政局レベル、マハリース水道公社レベルから、ある一定の期間、技術的、財政的支援を行う必

要もあることから、その体制づくりも試験的に行うこととする。なお、フェーズ３の実施に当っては、DANIDA、英ODAの同様調査内容を吟味し、整合性の取れた形とする必要がある。

9－4　調査工程

S／W　Appendix　2の通りである。

9－5　報告書作成

(1)　調査報告書

1）ドラフト・インセプション・レポート

英文　　30部

2）インセプション・レポート(1)

英文　　30部

3）プログレス・レポート

英文　　30部

4）インテリム・レポート

英文　　30部

5）インセプション・レポート(2)

英文　　30部

6）ドラフト・ファイナル・レポート

英文　　30部

7）ファイナル・レポート

英文　　50部

9－6　要員計画

総括、組織・人的資源開発、財務・投資計画、社会環境・住民組織形成、水道計画、水文・水理地質、水質・水処理、衛生改善計画が必要となる。

要員に関する留意点

本調査は主にローカルコンサルタントを用いて実査を行い、調査団は実査結果の分析・計画策定及び南ア側のステアリング・コミッティとの調整にあたるものとする。南アでは、利害関係者が一堂に会し、討論を通じてその場で意志決定を行っていく形式をとっている。このため、各団員は主に会議において計画内容を十分説明でき、技術的内容について英語で十分な技術経験を有し、かつ組織・経営改善の計画策定を行った実績があることが望ましい。また、本件は

南アの社会背景に合致した住民組織形成に関する計画策定も中心課題であることから、社会環境・住民組織形成分野担当が総括になることを妨げない。

イ．組織・人的資源開発：水道事業体の統合・分離、雇用調整、職員の訓練に関する提言を与えられる要員が望ましい。また、マハリース水道公社の経営に大きな影響を及ぼすような組織改革案にはマハリース側からの強い抵抗が予想されるため、現実的かつ具体的な組織改革立案能力と交渉能力が求められる。

ウ．社会環境・住民組織形成：アパルトヘイトの残した人種間の相互不信という社会背景を十分認識し、現地の社会事情、地域的特性に精通している必要がある。

エ．水道計画：水道施設から村落給水レベルの給水施設まで、幅広い施設計画を提案できる知識、経験を有することが望ましい。

オ．水質・水処理：水源の富栄養化対策、水源水質対策に経験を有し、水質基準策定の能力を有することが望ましい。

9－7　本格調査資機材リスト

ア．コピー機　　1台（A6～A3対応、50%～200%縮小拡大機能付き、CANON NP 1550相当品）

イ．パーソナルコンピューター（データベース用ソフトウェア付き）
　　プリンター　　2台

ウ．プロッター　　1台（NP Deskjet）

エ．車　　両　　5台

9－8　調査実施上の留意点

本件の本格調査を進めるに当っては、以下の諸点に留意することが望ましい。

ア．調査対象地域の経済、文化、社会の歴史的な背景と、ダイナミックな変容に十分留意し、関係者と公平な調整を図り、建設的、フレキシブルに調査を進めることが肝要である。

本調査は単なる水道供給計画を超えた、水道供給に名を借りた、地域社会の開発、ないしは統合計画の側面を有していることに留意する。

イ．S／Wではフェーズ1のM／P作成段階の対象地域の現状調査と分析のうち、受水団体（第3ティア）の現状と分析に重点が置かれ、マハリース水道公社のそれは比較的簡単な記載ぶりとなっている。しかしながら、このことが本調査におけるマハリース水道公社の役割が小さいことを意味するものではない。

本調査地域における水道供給機能の拡充にとって、第2ティアである水道公社そのものの機能拡充と第3ティアの確立は車の両輪である。

当初、事前調査団は、南ア国政府の要請を公社の機能拡充と理解し、ラインに沿ったS／W案を用意した。S／Wの協議は、水資源林業省だけでなく、マハリース水道公社、関係州政府、コンサルタント等が入りワークショップ形式で参加者全員が納得するまで、数回にわたり行った結果、最終的に合意に達した。マハリース水道公社はこれまで、独立採算で事業を運営してきた自信と誇りを持っており、我々の当初案（水資源林業省の案であるが）に対し、マハリース水道公社は、問題は公社にあるのでなく、国の政策と第3ティアにある、と激しく主張した。公社としても、時代の変化の中でその役割が大きく変わることを理解しつつも、できることならば、激変は緩和したいというのが本音のようであった。

一方、水資源林業省の方も公社幹部の任命権は国にあり、国の意向に沿わなければ、首をすげ替えるまでと言いつつ、移行期では白書にうたう理念は理念として、現実的な方策を求めており、最終的に合意に達したものである。その意味で「ア.」で触れたようにS／Wを金科玉条のものとせず、本格的調査においても関係者の真のニーズを聞き出しながらフレキシブルな対応が必要とされよう。

ウ. 先の項、ア.とイ.で、既に述べたように、本調査は結果重視というよりも、プロセスを大事にする、プロセスオリエンテッドなものと観念されるべきである。現地コンサルタントの活用とステアリング・コミッティ、ステアリンググループ（ワーキンググループ）の運営が本調査実施の上で、極めて重要であることに留意すべきである。

ローカルコンサルタントの活用については、いくつかのポイントがある。ひとつには、南ア国の社会が欧米系諸国と同じように、コンサルタントの社会であることである。政府にしろ、公社にしろ、プロフェッショナルな仕事はコンサルタントが担っている。今回の調査においても、コンサルタント同士がやりあう場面に何度も遭遇したが、そういった発言の場を与えられ、それぞれ実力を持ち、また尊敬されている。このような背景から、対象地域の基礎的な情報、資料はいずれかのコンサルタントが有しており、これを利用できるか否かが調査の効率性に大きな影響を与えよう。

また、調査を進める上で村落レベルまで入っていくには黒人の人を使うことになるが、こういったノウハウもローカルにしかない。さらに、ステアリング・コミッティを動かしていく上からも、ローカルコンサルタントの活用は欠かせない。

南ア国にとって緊急な課題は雇用の問題であり、調査においても可能な限り現地のリソースを使って欲しいというのが官民あげた願いであるように思える。調査をスムーズに実施する上からも、経験豊富な有能なローカルコンサルタントの活用は有益と考える。その際、相手を下請けとみず、イコールパートナーもしくは、相手からノウハウを学び取ろうとする、度量の広さがあって然るべきであると考える。

ステアリング・コミッティをかなり実質的なものとして考える必要がある。従来、白人が

一方的に物事を決め、進めてきたこの国にとって、関係者で協議し了解しないと物事を進めないという考え方は、新生南ア国にとっては国是に近い。まして、水供給という人権に近い問題をとりあげる、この調査では、日本人チームが勝手に物事を進める、ないしは、特定なグループの利益を代弁すると受け取られることは厳に慎み、一見時間がかかるようでも、ステアリング・コミッティをクリアしていくことが肝要である。

エ．同時に、日本の援助が目に見えるものとして具体化することにも十分意を用いるべきである。F／S調査の結果として資金協力あるいは他の技術協力につながるプロジェクトの掘り起こし、及び、この調査の中で実施するパイロットプロジェクトの選定について、調査開始とともに、関係者の意見を聞きながら十分に比較検討することが大切である。プロセスや方法論を重視しながら、ターゲットイヤーにおける整合性に富み、持続性に優れたマスタープランの策定を目指す必要がある。それと同時に、小規模でも、従来安全な飲料水の恩恵に浴しなかった人々が実際に水を手に入れることができるようになり、その施設を運営できる、目に見えるモデルを提示することも、また大切である。

添　付　書　類

A　要　請　書

B　S　／　W

C　M　／　M

D　収集資料リスト

【資料A】

要　　請　　書

REQUEST FOR JAPANESE TECHNICAL ASSISTANCE

EXPANDING THE CAPACITY OF MAGALIES WATER

PART 1: TEXT

SECTION 1: REQUEST FOR TECHNICAL ASSISTANCE

1.1 Title

The title of this study will be :
"Expanding the capacity of Magalies Water to achieve the objectives of the Reconstruction and Development Programme in the water supply and sanitation sector.

1.2 Location

The study area will cover parts of the Northwest Province to Eastern Transvaal (east-west axis), and of the Northern Transvaal to the Gauteng Province (north-south axis). See annexure D for the location of provincial borders.

1.3 Implementing Agency

Department of Water Affairs and Forestry, Republic of South Africa.

1.4 Justification of the Project

1.4.1 Background

Magalies Water is a parastatal agency accountable to the Minister of Water Affairs and Forestry and historically tasked with the provision of bulk water supplies to

large commercial and municipal consumers within its supply area. In contrast to this function, large populations of rural settlement dwellers within the Board's area of supply, and within the surrounding areas (largely comprising the former homelands) are without adequate water supply and sanitation services.

It is Government policy (as set out formally in the Government's recent White Paper on Water Supply and Sanitation Policy (annexure A) to promote actions that will provide water supplies and improved sanitation facilities to all South Africans. In the project area, what is required to achieve this is both organisational development and capital investment.

The policy of government is to expand both the scope and functions of the existing Water Boards in order to serve the needs of the broader community and especially in the interim phase during the establishment of representative local government. It is also government policy that Local Water Committees be established with statutory functions, and to this end legislation has recently been adopted. Although the scope and function of Water Boards will change it remains an important aim to maintain the financial autonomy and commercial *modus operandi* of the boards as an incentive in order to ensure effective management.

1.4.2 Project Outline

The project proposed will consist of three components:

a) An organisational and technical review of water supply and sanitation options within the project area (financial, institutional and technical), and of options for meeting the basic needs of the population of the area in an effective and sustainable manner;

b) An organisational development programme to implement the institutional and financial options chosen;

c) A capital development programme to implement or ensure implementation of the technical options chosen.

1.4.3 Purpose

The immediate short term objective of the project is to ensure a coherent approach to the provision of water supply and sanitation services within the project area through the mechanism of a Water Board with expanded scope and function.

1.4.4 Goal

The long term goal of the project is to contribute to the socio-economic development of the region by ensuring that all people in the project area have access to adequate and sustainable water supply and sanitation services thereby ensuring public health.

1.4.5 Prospective beneficiaries

The prospective beneficiaries are all the inhabitants, as well as commerce and industry within the project area as eventually determined. The project will place specific emphasis on the needs of the under-served population which has historically been excluded from access to services. The numbers affected will depend on the final physical scope of the project, but in any event will be at least 1.5 million persons.

1.4.6 Project priority

The provision of basic services to improve the standard of living and public health generally is a high priority in the overall Reconstruction and Development Programme.

The use of fiscally sustainable mechanisms such as (in the water sector) Water Boards is a high strategic priority.

1.4.7 Other relevant projects

ボツワナ / スワジランド Two RDP rural/peri-urban water projects have already been identified within the project area and approved for implementation. Substantial investments are planned within both the former Bophuthatswana and KwaNdebele areas.

A number of other related planning studies (eg Greater Rustenburg augmentation supply study) are proposed for completion within the coming financial year.

A general review of the scope and function of Water Boards within South Africa as a whole will be undertaken before the current project commences, and will provide a guiding framework for this study.

REQUEST FOR JAPANESE TECHNICAL ASSISTANCE

EXPANDING THE CAPACITY OF MAGALIES WATER

SECTION 2: TERMS OF REFERENCE OF THE PROPOSED STUDY

2.1 Justification for the study

The study area is one in which urgent attention is needed in order to improve basic water supply and sanitation services. The Department in its White Paper on Water Supply and Sanitation Policy (annexure A) identifies the need for improved and expanded institutional capacity in order to achieve the goals of the RDP that each South African should have an environment that is not detrimental to his or her health or well-being.

The rationalisation of the water supply institutions within the study region is a key first step leading to both an organisational development programme and a capital development programme.

2.2 Justification for Japanese technical assistance

The Japanese Government has generously offered of assistance to South Africa, and indicated its particular desire to collaborate in meeting basic service needs within the water supply and sanitation sector.

The present project will enable Japanese expertise to be applied in a manner which meets specific South African needs, ensures technology transfer, maximises local involvement, as well as building both local and Japanese capacity to understand the requirements of water and sanitation development within South Africa with a view to further co-operation in this field in future.

2.3 Objectives of the Study

The immediate short term objective of the project is to develop a coherent approach to the provision of water supply and sanitation services within the project area through the mechanism of a Water Board. This will include the design of organisational and capital development programmes.

2.4 Area to be covered by the Study

The existing Supply Area of Magalies Water, (see annexure E), as well as the surrounding areas (the northern parts of the Gauteng, eastern parts of the Northwest, western parts of the Eastern Transvaal and southern parts of the Northern Transvaal provinces, including various regions previously incorporated into self-governing states that were set up by the previous government) will be covered by the study. Due cognisance should be taken of regions not currently served by Water Boards, as well as of the current boundaries of surrounding Water Boards (see annexure D).

2.5 Scope

The study should cover the required aspects so as to produce the outputs specified.

2.6 Study schedule

a) The study should begin in early 1995.

b) A detailed programme for each of the subsequent phases should be determined as an output of the first phase, noting the extreme urgency for the implementation of a restructured Magalies Water in terms of published Government Policy.

2.7 Expected major outputs of the Study

The following outputs are required:

2.7.1 Rationalization of the supply area of Magalies Water

The extension of the supply area of Magalies Water to cover areas not currently served by a Water Board (or that cannot be served more economically by other Water Boards) should be investigated. In accordance with the stated objectives of the White Paper and of the Government's Reconstruction and Development Plan, people living within the proposed supply area should be supplied with pre-identified basic levels of service on a sustainable basis within a period not exceeding seven years.

The proposal for an extended supply area should meet the basic requirement that the restructured Board will be able to maintain financial autonomy, while providing an affordable service to the people it serves.

2.7.2 Restructuring of Magalies Water

The required output is a restructured, working and operational Magalies Water by July 1995 capable of managing different and additional duties and functions within its larger supply area as described above. It should be appreciated that even given the relative high degree of competence of the present structure, the restructured organisation will continue to require support for some initial time beyond its restructuring and expansion.

Actual development projects should also be addressed, identifying a medium to long term development programme. To ensure that the Water Board will be sustainable, a suitable tariff structure should be established in order to accommodate the diversity in types of consumers, and the varying ability of each type to pay for the service provided, all in terms of the principles laid down in the White Paper on Water Supply and Sanitation.

2.7.3 Establishment of Local Water Committees within the Supply Area of Magalies Water

This output consists of support with the establishment of LWC's within the supply area of Magalies Water. Local Water Committees will be established under legislation recently passed by Parliament (Water Laws Rationalisation and Amendment Act), and in terms of the principle of extending decision making powers to the actual communities affected by such decisions as identified in the Government's White Paper

on Water Supply and Sanitation Policy (annexure A) and in the document on Water and Sanitation for South Africa's Unserved (annexure C) prepared by UNICEF and WHO.

2.7.4 Ad-hoc support to develop a Sanitation Strategy

This output consists of advice given in support of national efforts in deriving a sanitation strategy. The need for such support will only arise on an ad-hoc basis and can therefore not be defined in advance. A separate comprehensive study on sanitation will be initiated by the Department.

The sanitation strategy should take cognisance of aspects such as health matters, planning norms, minimum standards, bulk service financing, tariffs and financing, environmental impact, waste handling and recycling, privatisation and education.

2.7.5 Development plan for capital projects

This output consists of two reports: an interim report after six months, followed by a final report after a further three months. The required capital projects to meet the need of the unserved should be identified, and a long-term investment plan proposed in terms of the principles of local control and empowerment as embodied in the White Paper on Water Supply and Sanitation Policy.

2.8 Estimated Costs

Before commencing with the study, a detailed cost estimate for the project should be submitted in order to enable the Department to budget accordingly. Before continuing with the further phases of the project, a detailed cost estimate of each phase should be tabled.

2.9 Other Information

A substantial amount of background information is available which would best be reviewed by a preparation team. The following is however regarded to be relevant at this stage:

Magalies Water

Magalies Water, formerly known as the Vaalkop Water Board, was established under the RSA Water Act (Act 54 of 1956) in January 1970 in order to supply purified water to the platinum mines in the Northam area, to the town of Northam, to Saulspoort and to the surrounding farming communities. In September 1983 the Board's area of supply was extended to include an area north of Pretoria stretching from Hartebeespoort to Hammanskraal and Bronkhorstspruit. The current supply area, which is shown on annexure F, is approximately 7 000 km² in extent. Magalies Water presently operates the Vaalkop, Wallmannsthal, Temba and Cullinan water treatment plants with a combined capacity of 153 000 m³ per day.

For further detail regarding the technical, financial and institutional capacities and structures of Magalies Water refer to Annexure B.

2.5.2 Consultation

In order to comply with the requirement of absolute transparency in all actions of the State and its agents, it is imperative that there should at all stages be close consultation and liaison with the parties involved. The parties to be consulted include, but are not limited to:

a) representatives of the Department of Water Affairs and Forestry;

b) representatives of the Provincial Governments involved;

c) representatives of the communities to be served, taking note of the diversity of cultural groups within the area;

d) representatives of Magalies Water;

e) representatives of adjacent Water Boards;

f) representatives of other groups conducting similar studies in adjacent Water Board Areas.

Local expertise

A thorough knowledge of all water demands and available water resources, as well as of other local circumstances will assist in producing a product suited to the local conditions. To achieve this it is essential to:

a) Effectively undertake all consultation listed in item 2.9.2 above.

b) Include suitable local expertise covering the various disciplines to be addressed by the study (financial, technical and institutional) in the study mission. The local expertise can be drawn from the public and/or private sectors and/or from NGO's, and should be identified in consultation/liaison with the Department during the initial stages of the project.

REQUEST FOR JAPANESE TECHNICAL ASSISTANCE

EXPANDING THE CAPACITY OF MAGALIES WATER

SECTION 3: ACTIVITIES AND PLAN OF IMPLEMENTATION

A number of general and output related activities are defined below:

3.1 Output 1: Rationalization of the Supply Area of Magalies Water

Main Activities:

- Confirm overall strategy
- Undertake local consultation
- Prepare a detailed implementation strategy and plan
- Support implementation of agreed detailed implementation plan
- Carry out support activities.

Guidelines:

- Give priority to serve the unserved
- Reconcile available water resources with the existing and projected demand
- Consult with the parties involved.

3.2 Restructuring of Magalies Water

3.2.1 Restructuring of Magalies Water

Main Activities:

- Confirm overall strategy

- Undertake local consultation

- Prepare detailed implementation strategy and plan including: appropriate budgeting and financial control systems; appropriate personnel management and human resource development strategies

- Support implementation of agreed detailed implementation plan

- Carry out support activities

Guidelines:

- Pay special attention to the need for cost recovery and longer term financial self sufficiency. Explore tariff and cross subsidisation options;

- Ensure that as much responsibility as possible is delegated to the Local Water Committees;

- Use Management-of-Change techniques such as: a clear, transparent and well communicated strategy; ensure that top management support is continuously present; take pragmatic account of political realities; support staff through process of denial, defence, discarding, adaption and internalisation; rebuild self-esteem; maintain momentum and commitment;

- Consult with the parties involved (government as well as communities). Transparency is paramount;

3.2.2 Establishment of Local Water Committees

Main Activities:

- Confirm overall strategy

- Undertake local consultation

- Prepare detailed implementation strategy and plan including: appropriate budgeting and financial control systems; appropriate personnel management and human resource development strategies

- Support implementation of agreed detailed implementation plan

- Carry out support activities

Guidelines:

- Ensure financial stability and independence by the adoption of suitable financial management policies. Consider tariff options in terms of the guidelines set by the White Paper;

- Consult with the parties involved (government as well as communities). Transparency is paramount;

- Use the pilot projects and the committees that exist to derive lessons on how to improve LWC's;

- Keep in mind the implications for future local government and ensure that duplication is minimised and that gaps are attended to;

- Issues such as ownership of water and sanitation infrastructure need to be addressed;

- Rules, procedures and training are required to ensure that training, planning and construction grants are wisely spent but not at the expense of removing them from the control of the LWC's and beneficiaries.

3.2.3 Ad-hoc support to develop a Sanitation Strategy

Main Activities:

- Respond to requests for assistance

3.3 Development Plan for Capital Projects

Main Activities:

- Confirm overall strategy
- Undertake local consultation
- Prepare detailed implementation strategy and plan
- Support implementation of agreed detailed implementation plan
- Carry out support activities.

Guidelines:

- Give priority to serve the unserved
- Reconcile available water resources with the existing and projected demand
- Consult with the parties involved.

[資料B]

Scope of Work

ORIGINAL COPY
JAPAN

AGREEMENT

STUDY ON THE

EXPANSION OF CAPACITY

OF MAGALIES WATER IN

THE REPUBLIC OF SOUTH AFRICA

AGREED BETWEEN

DEPARTMENT OF WATER AFFAIRS AND FORESTRY

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

Table of Contents

4 August 1995
Pretoria

SCOPE OF WORK

FOR

THE STUDY ON

EXPANSION OF THE CAPACITY OF MAGALIES WATER

IN THE REPUBLIC OF SOUTH AFRICA

AGREED UPON BETWEEN

DEPARTMENT OF WATER AFFAIRS AND FORESTRY

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

Pretoria,4th. August 1995

Mr. M. Muller
Deputy Director General,
Department of Water
Affairs and Forestry

Mr. Ryuzo Nishimaki
Leader, Preparatory Study Team
Japan International
Cooperation Agency

I. INTRODUCTION

In response to the request of the Government of the Republic of South Africa (hereinafter referred to as "the Government of South Africa"), the Government of Japan has decided to conduct the Study on Expansion of the capacity of Magalies Water in the Republic of South Africa(hereinafter referred to as "the Study") in accordance with the relevant laws and regulations in force in Japan.

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

This document sets forth the Scope of Work with regard to the Study which will become effective on the date of the exchange of diplomatic notes concerning the Study between the Government of Japan and the Government of the Republic of South Africa.

II. OBJECTIVES OF THE STUDY

The objectives of the Study are:

1.to formulate an overall and strategic framework/master plan for the appropriately phased, long-term , sustainable development of the water supply infrastructure and development of sanitation, including appropriate 2nd. and 3rd. tier support , in the extended supply area of Magalies Water(MW). A priority program up to the year 2002, and an extended program up to 2015 should be included .

2.to conduct a feasibility study for priority project(s) to be selected from the strategic framework/master plan to promote water supply services in the study area and to consider sanitation options ; and

3.to share technology on planning methods and skills with the counterpart personnel of Magalies Water and the Department of Water Affairs and Forestry (DWAF), and other participating organizations.

III. STUDY AREA

The study area will be as defined in Appendix 1. This area is described as the "extended supply area" (ESA) throughout this document. The ESA is the provisional core area for the study, but it is also acknowledged that the boundary might be adjusted to incorporate or exclude some peripheral areas.

IV. SCOPE OF THE STUDY

In order to achieve the above objectives, the Japanese study team (hereinafter referred to as "the Team") will conduct the Study which shall cover the following :

Background

In terms of South Africa's new water supply and sanitation policy, a specific challenge is to transform and empower institutions in the sector so that all communities in the country have access to water and sanitation services, and the support they need to sustain them. The basic elements of the water supply

and sanitation policy are presented in the White Paper on Water Supply and Sanitation, which in turn refers to the Reconstruction and Development Programme (RDP).

In terms of policy, Water Boards will play an important bulk supply role in the long term. During the transitional period, however, the Boards are expected to stimulate and support 3rd. tier water supply institutions and to ensure service delivery. They also have the potential to extend water supply networks to areas previously denied formal water provision.

Definitions Used in the Document

DWAF-Department of Water Affairs and Forestry
MW-Magalies Water
ESA- The extended supply area of the water board
NWWA-North-West Water Authority
JICA- Japan International Cooperation Agency
RDP- Reconstruction and Development Programme
ODA - Overseas Development Agency
DANIDA- Danish International Development Agency
NPV - Net Present Value
DCF- Discounted Cash Flow
PSC - Project Steering Committee
CAPEX- Capital Expenditure

Four Major Outputs

The study will produce four major outputs which will be recommendations on;

1 Confirmation of the extended supply area and the configuration of internal business unit ,
2 The organizational adaptation and extension of the 2nd. tier in the ESA , in relation to water supply and sanitation.
3 The establishment and / or reinforcement of effective 3rd.tier structures in the ESA,in relation to water supply and sanitation, and
4 The formulation of a capital investment plan

Phases of the Study

The first phase of the study will lead to the formulation of a strategic framework/master plan. Subsequent phases will focus on the selection and implementation of water supply and sanitation pilot projects.

The framework of the study is as follows :

Phase 1 - Formulation of a Master Plan

This phase can be sub-divided into four stages as follows :

Stage 1 - Situational analysis
Stage 2 - Formulation of policy and strategy,
Stage 3 - Water supply technical alternatives - pre-feasibility studies
Stage 4 - Recommendations for a quality assurance and control programme , and terms of reference for Phases 2 and 3.

Phase 2 - Feasibility study on priority projects

Phase 3 - Implementation of selected water supply and sanitation pilot initiatives

Project Management

The study will be managed by a Project Steering Committee (PSC). Representation must include MW (CEO); NWWA; DWAF; Provincial Governments; JICA and selected representatives of the technical assistance team. The PSC will meet at approximately three-month intervals, and timing will be based on major milestones, particularly the submission of major reports The PSC will not have executive powers with respect to MW and NWWA . The PSC will make recommendations to DWAF . These will also be referred to the management of MW and NWWA.

Three Project Working Groups (PWGs) will oversee activities in the 2nd. tier, 3rd. tier and capital investment plan contexts. Representation should reflect key stakeholders in each context, but must include MW, NWWA, DWAF and the Team.The purpose of the PWGs is ensure the effective implementation of the study in the most practical way .

Study framework

1 Phase 1:strategic framework/master plan

1.1 Stage 1 - Situational Analysis

The situational analysis will form a foundation for all four outputs.The essential components are as follows :

1.1.1 Investigation of peripheral areas

The peripheral areas to be included in the situational analysis will be identified and will be an input into the process design for the analysis.

1.1.2 Review of policy regarding 2nd.-tier roles and responsibilities

Review of policy relating to 2nd. tier organizations. Material consulted should include :

RDP documents
Water supply and sanitation white paper
Documentation on review of water laws
Draft report on scope and function of Water Boards
Legislation on local government functions
Consultation with relevant DWAF, RDP and provincial officials

1.1.3 Issue scoping with stakeholders

This task will involve interaction with stakeholders such as :

a) MW (management and staff)

b) NWWA
c) Selected customers
d) DWAF, Provincial Government
e) 3rd. tier structures

The purpose of the exercise is to obtain a broad spectrum of views regarding the problems and prospects of the study.

1.1.4 Profile of the 2nd. tier

Assemble a picture of how MW and NWWA (in the ESA) are configured with regard to the following :

a) present operational structures
b) functions, roles and responsibilities
c) operational systems, policies and procedures
d) costs of bulk water purchases
e) cost recovery structures
f) income vs. expenditure
g) short and long term financial obligations

This task will not require detailed research. However, the information will inform an analysis of the implications of serving an extended supply area in Stage 2.

1.1.5 Background study

Understanding of the present conditions in the study area through the collection and interpretation of existing data and documents, interviews and field observations on:

a) climate, topography, geology, hydrology, hydrogeology, etc.
b) social and economic conditions and trends
c) health and hygienic conditions of population
d) environmental conditions, legislation and policies
e) regional and urban development plans and policies
f) established land use plans

1.1.6 3rd. tier audit

a) Conduct an extensive evaluation of the capacity, roles and potential of the 3rd Tier. This study should aim at revealing the contribution that elements of this sector might make towards achieving an effective water supply and sanitation system in terms of the vision outlined in the White Paper.

b) Conduct an in depth analysis of the strengths and weaknesses of 3rd tier organizations with respect to water supply and sanitation issue. The organizations investigated will be selected from the full spectrum of 3rd. tier actors, with a view to determining the appropriate support action to be undertaken by the 2nd. tier.

The following issues should form part of the investigation of 3rd.

tier structures:

a) Political and organizational dynamics
b) Legal and institutional aspects
c) Management
d) Technical competence/ capacity
e) Training competence/ capacity
f) Community acceptability
g) Transitional issues

The list of such organizations should include:

a) Institutions replacing the present Regional Services Council system
b) Local authorities established under the provisions of the interim constitution
c) Tribal authorities
d) Development committees and other local structures
e) Non-government organizations
f) Training and capacity-building organizations
g) Local water committees
h) Others

1.1.7 Community case studies

Case studies of selected communities to determine :

a) Current water supply and sanitation status
b) Views on service levels and tariffs
c) Willingness and ability to pay
d) Organizational and political dynamics
e) Local human resource capacity
f) Local water initiatives

1.1.8 Water study

The water-related component of the background study should look at :

a) Existing water supply and sanitation services with regard to :
   i) policy frameworks
   ii) physical components, such as water sources (surface and groundwater)
   iii) physical status, operation and maintenance of facilities
   iv) legal and institutional issues
   v) social issues
   vi) cost recovery and economic issues (including collection agencies
   vii) environmental issues.

b) Water demand forecasts up to the year 2015 through projections on:
   i) population growth and urbanization
   ii) economic growth and changes in living conditions

c) Studies and on-going projects related to the water supply and sanitation sector including RDP, DANIDA, ODA projects.

1.1.9 Task allocation

Tasks 2.1 - 2.5 will be managed by the 2nd. Tier PWG. The 3rd. Tier PWG will manage 2.6 - 2.8, and the Capital Investment PWG 2.9.

1.2 Stage 2 - Policy Formulation and Strategy Definition by Means of Workshops

1.2.1 Gap analysis

Conduct a comprehensive gap analysis to determine which issues require attention if the 2nd. and 3rd. tiers in the ESA are to operate effectively. Inputs will be all the reports from Stage 1.

a) Review and process Stage 1 information.

b) Conduct workshops with key stakeholders including :
   i) MW
   ii) NWWA
   iii) DWAF
   iv) Provinces
   v) Regional bodies
   vi) Local authorities
   vii) Tribal authorities
   viii)Community organizations
   ix) Other relevant stakeholders

These workshops will generate a spectrum of views regarding the challenge to the 2nd. and 3rd. tiers in the ESA, and regarding what has to be done to meet these. The results are an input into 3.2.

1.2.2 Policy and strategy recommendations/plans

Based on the gap analysis, task groups will formulate policy and strategy recommendations and draft implementation plans regarding :

a) Human resources issues. These might include :
   i) human resources required for new roles
   ii) job descriptions for new roles
   iii) placement of staff
   iv) training requirements.

b) Managerial and operational issues. These might include :
   i) managerial capacity
   ii) institutional and organizational structure
   iii) staffing and manpower development
   iv) financial management and effective revenue collection

v) the nature and brief of extension services

c) Financial issues. These might include:
i) preliminary cost estimates (capital projects and operation and maintenance)
ii) cost recovery targets
iii) policy on mobilizing financial resources for investment
iv) tariff policy and billing system
v) financial assurance
vi) capital financing plan
vii) non-payment policy
viii) connection fee and subsidy policy

d) Pros and cons of business unit proposals.

e) Revised supply area boundary.

f) 3rd. tier support issues.
i) Formulate a strategic plan that would ensure that relevant and affordable support is provided to 3rd Tier urban, peri-urban and rural organizations, and that the necessary working relationships are formalized and developed.
ii) Determine what the new role and functions of the 2nd. tier is with regard to supporting the 3rd Tier.
iii) Formulate and implement a transition plan that is responsive to i) and ii) above.

The following issues should be included in these discussions:
i) training program
ii) communication program
iii) institutional program(including the legal establishment of Local Water Committees
iv) training program for trainers
v) monitoring
vi) nature and duration of support from 2nd. tier, eg. technical assistance, financial assistance
vii) auditing the needs/performance of local water committees, including organizational, legal, financial and technical issues.

g) Communication issues
i) Formulate a communication strategy for stakeholders
analysis of communication problems
assessment of available tools for communication
organizational context of communication
ii) Monitoring the quality of communication between 2nd. tier and first and 3rd. tier stakeholders
examination of communication tools

feedback from the audience groups
analysis of effectiveness
making improved alternatives

1.2.3 Task allocation

Tasks (a - e) will be the responsibility of the 2nd. Tier PWG; f) and g) will be managed by the 3rd. Tier PWG.

The combined product of Stage 2 will be a phased implementation or transition plan.

1.3 Stage 3 - Development of technical solutions - pre-feasibility studies for new and existing projects and facilities

1.3.1 Development of technical solutions

Outputs from the situational analysis will inform on which new areas need a potable supply of water and which existing facilities should be refurbished or upgraded. The activities necessary to develop the solutions during this stage are as follows :

a) Technical solutions will be developed for each identified deficient consumer group by considering :

i) source of water - existing surface or groundwater sources or potential new undeveloped sources. [Liaison with DWAF will be essential to verify the existing water supply planning framework for the ESA],

ii) capacity of existing treatment facilities within the existing supply area,

iii) bulk supply distribution arrangements in the present area of supply and the potential to extend these lines into the new areas of supply.

iv) the potential to supplement existing surface water resources by means of conjunctive use of groundwater.

b) The overall sustainability of the technical solutions developed will be evaluated using the following criteria :

i) technical soundness

ii) cost per capita supplied (CAPEX/number of consumers)

iii) estimated CAPEX, operational and maintenance costs

iv) NPV of the scheme using DCF techniques and varying discount rates.[Projected operational and maintenance costs are to be included as is the envisaged consumer demand]

v) the sensitivity of the success of a technical solution to factors such as willingness to pay, variations in demand and migratory and development patterns.

vi) environmental impacts (biophysical)

vii) social impact and acceptance towards the impact

viii) staffing and manpower development necessary to support and develop 3rd tier structures
ix) efficiency of the operational arrangement

Broad sanitation options will be considered against the background of the water supply solutions , and if feasible and appropriate might be included as an additional component of the pilot projects in one or more .

c) Preliminary prioritization of areas (to be supplied) or projects by means of workshops with the stakeholders.

1.3.2 Initial Capital investment plan

Once the technical alternatives are sufficiently developed an Initial Capital Investment Plan can be developed by means of the following tasks :

a) Assemble preliminary cost estimates of new capital projects and expansions or refurbishment of existing projects.

b) Extend financial assessment of the studies by the inclusion of:
i) Full cost of operation and maintenance
ii) Cost of investment-Capital Cost (debt interest and redemption)
iii) Cost of overheads
iv) Show preliminary cash flow statement on expected stream of income (based on tariffs) and expenditures (based on capital and O&M expenses).
v) Expected subsidies.

c) Evaluate financial viability of new and existing projects and the value of the asset base of existing infrastructure.

d) Formulation and differentiation of tariffs for the spectrum of consumers in the project area taking cognificance of:
i) existing bulk users (industries, established municipalities etc.)
ii) new communities requiring an amount of financial assistance,
iii) communities requiring full subsidization,
iv) connection fees,

e) Evaluate appropriate metering and billing procedures.

f). Prepare an Initial Capital Investment Plan which would include:
i) Listing of assets to secure financing of capital expenditure for alterations/extensions to existing water works.
ii) Mobilization of financial resources for short-term financing (for alterations /refurbishment to existing facilities) and long-term financing (for new capital projects).
iii)Evaluate use of available financial(debt) instruments

eg.Variable vs. fixed loans and internal loans vs. foreign aid and foreign denominated currency loans.

1.3.3 Pre-feasibility Report

a) A report will be prepared which will document the alternatives considered, the financial analysis and a review of the sustainability of the project based on funding and tariff alternatives .

b) make recommendations regarding actions to be implemented in stage 4 and Phase 2 and 3.

1.3.4 2nd. and 3rd. Tier Implementation Plans

The 2nd. and 3rd. tier implementation plans generated in Stage Two should inform the pre-feasibility deliberations of Stage Three. In addition, the recommendations should be submitted to DWAF and the management of MW and NWWA. If the recommendations imply significant organizational changes, various task groups will be required to obtain a mandate from the above organizations to develop terms of reference for the implementation of change management programmes where these are deemed necessary.

During Stage3, preliminary community training programmes and curricula should be prepared, and discussed with potential 3rd. tier training agents.

1.4 Stage 4 - Executive Summary and TOR for phase 2 and phase 3

1.4.1 Executive Summary

The findings of Phase 1 of the project will be summarized and presented to the PSC by way of an executive summary.

1.4.2 TOR for Phase 2 and 3

A detailed TOR will be developed for phase 2 and 3 of the project, including TOR for organizational change processes.The latter must be mandated in terms of 1.3.4 above.

2 Phase 2 : Feasibility studies on selected priority projects

2.1 Selection of priority projects

An output from Phase 1 stage 3 will be a number of identified projects and associated technical alternatives. Assuming that budget or cash flow constraints will preclude a number of these projects, a list of priority projects will need to be compiled. The compilation of projects that will be studied during Phase 2 will be evaluated using the following criteria.

i) sustainability of the project
ii) cost effectiveness of the project
iii)acceptability of the project by the envisaged consumer base
iv)acceptance by the PSC
v)complimentarity with development proposals in the area

2.2 Supplementary data collection

Supplementary data collection including detailed topographical, geological and hydrogeological surveys may be required during this phase of the project.

2.3 Population and Water demand surveys

a) Population estimates obtained in Phase 1 will be checked by means of field surveys and a statistical evaluation of the resultant data sets.

b) The water demand model used in phase 1 stage 2 and 3 of the project will be re-evaluated using data collected from field attitude, affordability and acceptance surveys. A demand model for each consumer group will be established.

2.4 Preliminary design

a) Safe yield evaluations based on risk of failures and aquifer recharge will be conducted for the proposed water sources.

b) Pipeline route surveys will be undertaken and the positioning of infrastructure will be determined.

c) Secondary reticulation routes will be determined and staked in consultation with local water committees.

d) Land acquisition for servitudes to pipeline routes will be initiated.Objections will be noted and possible alternative routes considered.

e) Design of pipelines, facilities and equipment.

f) A detailed cost estimate of the scheme will be carried out and the DCF analysis initiated in the phase 1 portion of the study will be recalculated with the new information derived from this phase of the project.

2.5 Final Capital Investment plan

a) Detailed cost estimates of new capital projects will be assembled and alterations and extensions to existing facilities will be evaluated

b) Final tariff settings will be evaluated in the light of the more

detailed capital expenditure, operational and maintenance costs.

c) A Final Capital Investment Plan will be prepared which will include:

i) List of assets
ii) Confirmation of financial resources for financing
iii) Finalize available financial (debt) instruments
iv) Recommendations regarding financing of the identified projects
v) A projected cash flow for the implementation of the identified projects.

2.6 Institutional, organizational and personnel requirements for the implementation of the project(s) will be developed

2.7 An Initial Environmental Impact Assessment (Initial EIA) will be carried out for the projects identified

2.8 Project implementation plans will be developed for use in Phase 3

2.9 A Feasibility report will be prepared documenting the work carried out and recommending pilot projects to be undertaken in Phase 3 of the study.

2.10 Implementation of Organizational Change

If mandated in terms of 1.3.4 , the organizational change tasks developed in Stage 3 should be implemented here, to be sure that capacity to implement pilot projects is in place.

3 Phase 3 - Implementation of selected Pilot Projects

3.1 Ratification of the selected pilot projects

The projects recommended for implementation as pilot projects will be implemented on the recommendation of the PSC in consultation with the DWAF.

3.2 Detailed design of the components of the selected pilot projects

Detailed design activities will include:

i) finalization of pipe classes and sizes
ii) treatment facilities and chemical processes required to obtain the required water quality.
iii) structural design of the associated facilities eg reservoirs, treatment plants etc.
iv) telemetry control (if required)

v) flow control and metering
vi) pump design and required electrical reticulation
vii) drilling of boreholes and the installation of pumps as required.
viii) production of detailed construction drawings.

3.3 Preparation of Tender Documentation

Tender documents for the projects will be developed which will include contractual arrangements, technical specifications and schedules of quantity.

3.4 Adjudication of Tenders and the award of Contracts

Adjudication of the tenders will be completed and recommendations made to the PSC for implementation.

Award of Contracts will be done on the recommendation of the PSC.

3.5 Financial Control

a) Control measures will be put in place during the construction phase to monitor the budget established in the Capital Investment Plan.

b) Financial reporting and monitoring during the implementation of the projects.

3.6 Contract Supervision

The implementation of the projects will be supervised by the project team.

3.7 Training

It is envisaged that during the implementation phase capacity building of local bodies will be undertaken. Once the schemes are commissioned further training will be undertaken and a monitoring phase will be initiated.

3.8 Commissioning and Hand over

The projects will be commissioned and handed over to the respective operating bodies.

A detailed set of as built drawings will be completed together with an operating manual and recommended maintenance procedures.

V. STUDY SCHEDULE

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

VI. REPORTS

JICA will prepare and submit the following reports in English to the Government of South Africa;

1.Draft Inception Report

Thirty (30) copies at the beginning of the first work in South Africa.

2.Inception Report(1)

Thirty (30) copies within 1 month after the commencement of the first work in South Africa.

3.Progress Report

Thirty (30) copies at the end of the first work in South Africa.

4.Interim Report

Thirty (30) copies at the end of the 2nd. work in South Africa.

5.Inception Report(2)

Thirty (30) copies at the beginning of the 3rd. work in South Africa.

6.Draft Final Report

Thirty (30) copies at the beginning of the fourth work in South Africa. The Government of South Africa will submit their comments to JICA within thirty (30) days after receipt of the Draft Final Report.

7. Final Report

Fifty (50) copies within sixty (60) days, after JICA's receipt of comments on the Draft Final Report.

VII.UNDERTAKINGS OF DEPARTMENT OF WATER AFFAIRS AND FORESTRY (DWAF)

1.To facilitate the smooth conduct of the Study, DWAF shall take the following necessary measures:

(1) to secure permission for entry into private properties or restricted areas for the conduct of the Study,

(2) to secure permission for the Team to take all data and documents (including photographs and maps) related to the Study out of South Africa to Japan, and

(3) to provide medical services as needed. Its expenses will be chargeable on members of the Team.

2. DWAF shall bear claims, if any arises, against the members of the Team

resulting from, occurring in the course of, or otherwise connected with, discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Team.

3. DWAF shall act as the counterpart agency to the Team and also as the coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

4. DWAF shall, at its own expense, provide the Team with the following, in cooperation with other organizations concerned:

(1)available data and information related to the Study,

(2)necessary number of counterpart personnel,

(3)suitable office space with necessary equipment and clerical services in Pretoria,

(4)credentials or identification cards, and

(5) appropriate number of vehicles with drivers.

VIII. UNDERTAKINGS OF JICA

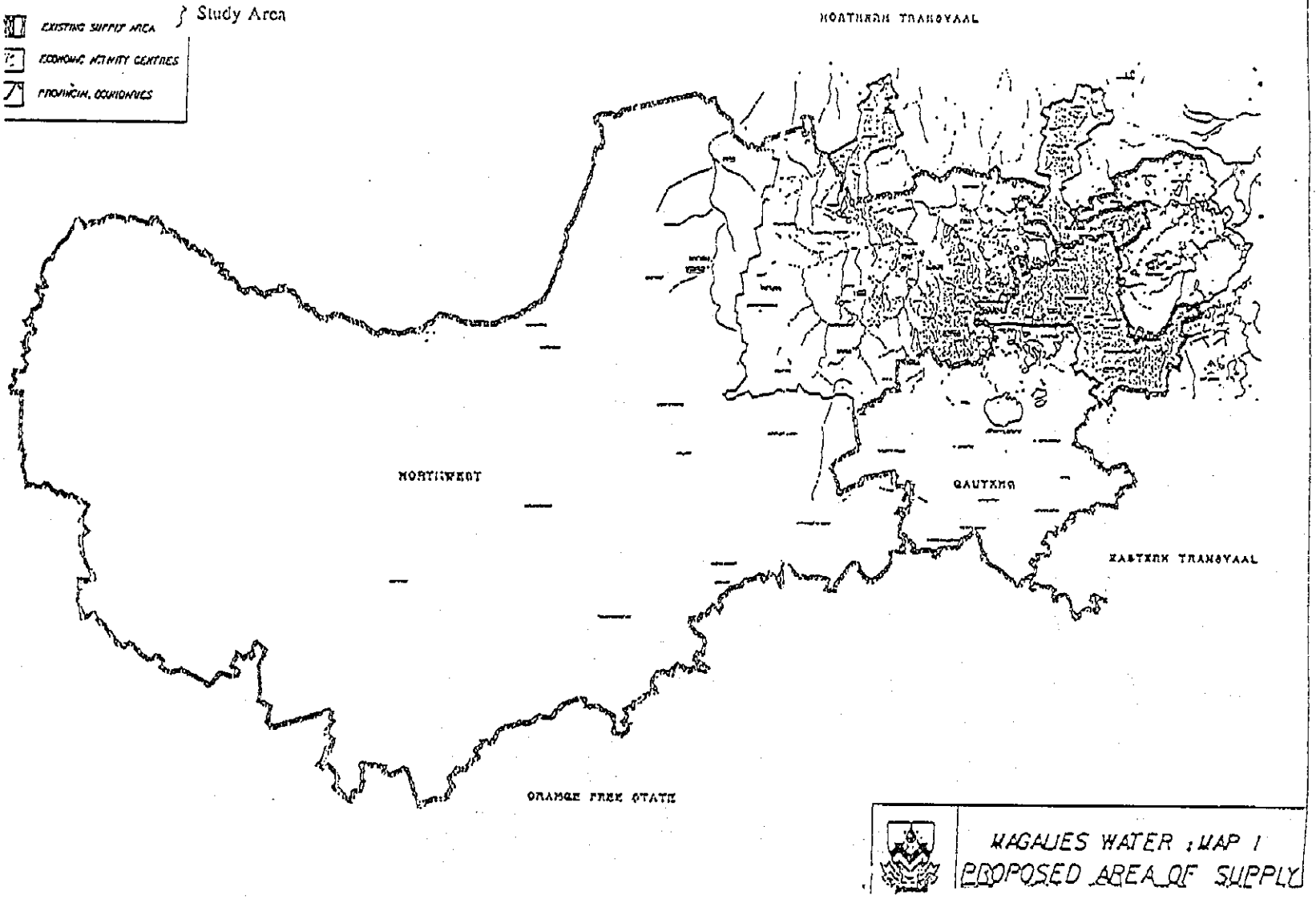
For the implementation of Study, JICA shall take the following measures:

1. to dispatch, at its own expense, the Study Team to South Africa.

2. to pursue technology transfer to the South Africa counterpart personnel in the course of the Study.

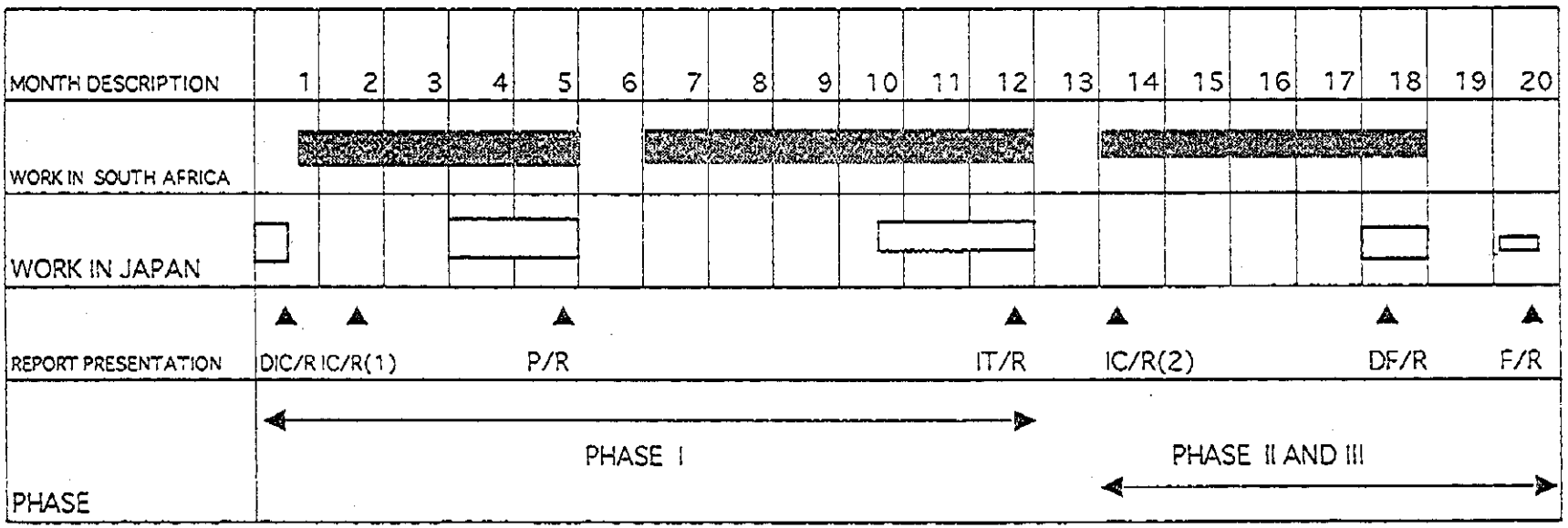
IX. RESOLUTION OF PROBLEMS

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


EXISTING SUPPLY AREA
ECONOMIC ACTIVITY CENTRES
PROVINCIAL BOUNDARIES
Study Area
NORTHERN TRANSVAAL
NORTH-WEST
GAUTENG
EASTERN TRANSVAAL
ORANGE FREE STATE
MAGALIES WATER : MAP 1
PROPOSED AREA OF SUPPLY

The Study on
Expansion of the capacity of Magalies Water
in the Republic of South Africa

TENTATIVE SCHEDULE



NOTE
- DIC/R : Draft Inception Report
- IC/R : Inception Report
- P/R : Progress Report
- IT/R : Interim Report
- DF/R : Draft Final Report
- F/R : Final Report

【資料C】

Minutes of Meeting

MINUTES OF MEETING

ON

SCOPE OF WORK

FOR

THE STUDY ON

EXPANSION OF THE CAPACITY OF MAGALIES WATER

IN THE REPUBLIC OF SOUTH AFRICA

AGREED UPON BETWEEN

DEPARTMENT OF WATER AFFAIRS AND FORESTRY

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

Pretoria, 4th. August 1995

Mr. M. Muller
Deputy Director General,
Department of Water
Affairs and Forestry

Mr. Ryuzo Nishimaki
Leader, Preparatory Study Team
Japan International
Cooperation Agency

In response to the request of the Government of Republic of South Africa (hereinafter referred to as "the Government of South Africa"), the Japanese Preparatory Study Team (hereinafter referred to as "the Team") was sent by Japan International Cooperation Agency (hereinafter referred to as "JICA") to discuss, with Department of Water Affairs and Forestry (DWAF), the Scope of Work (S/W) for the Study on the Expansion of the Capacity of Magalies Water (hereinafter referred to as "the Study").

The Team headed by Mr.Ryuzo Nishimaki stayed in South Africa from 18th July through 9th August 1995. During their stay in South Africa, the Team carried out preparatory field study in the Study Area, received information and held a series of interviews with officials of DWAF and other authorities concerned of the Government of South Africa. The list of participants is given in the Appendix 1.

The Team also had discussions with officials of DWAF and other authorities on the Scope of Work defining the Study to be undertaken by both the Government of South Africa and JICA for the successful execution of the Study.

The Team and the Government of South Africa confirmed among others, the following:

1." I. INTRODUCTION "of S/W

Both sides confirmed that the full scale study team which includes Japanese prime consultant (s) and also South African local consultant (s) shall respect and abide by all applicable laws and regulations in South Africa.

2." IV. SCOPE OF THE STUDY "of S/W.

(1) " the Team " means the Japanese primary consultant, which may include South African consultants as members of Japanese primary consultant group.

(2) "local consultant" means the sub-consultant assigned to specific investigation(s) by Japanese primary consultant.

3." VII. UNDERTAKINGS OF DEPARTMENT OF WATER AFFAIRS AND FORESTRY "of S/W

(1) With respect to 2., DWAF will take action within its jurisdiction .

(2) With respect to 4.(2), DWAF will provide counterpart personnel within its limitation of human resources.

(3) With respect to 4.(3), DWAF will provide two equiped offices in Pretoria with limited secretarial services.

(4) With respect to 4.(5), Japanese side recognized that South African side does not have the capacity to provide any vehicles and drivers for " the Team."

4. Counterpart training

With respect to 2.of "VIII.UNDERTAKING OF JICA "of the S/W , DWAF requested that JICA accept counterpart personnel for training in Japan during the Study. The Team will convey the request to the JICA Headquarters.

5. Others

(1) The South African side requested that 50 percent of the contract is awarded to South African local consultants. Appointment of local consultants regarding the local contract will be done by JICA study team in close consultation with DWAF. The Japanese side underlook to convey this request to Japan..

(2) Societies in the study area are dynamically changing in political, social and administrative aspects these days. Given that all concerned personnel in this project should keep in their mind that constructive and flexible attitude is important to cope with such condition.

LIST OF PARTICIPANTS

SOUTH AFRICAN PARTICIPANTS

Department of Water Affairs and Forestry (DWAF)

Mr M. Muller	-	Deputy Director General
Mr Kalinga Pelpola	-	Director, Community Water Supply and Sanitation
Mr Peter Pyke	-	Deputy Chief Engineer

Department of Finance

Mr D. van Rensburg	-	Directorate: International Development Finance (IDCC)
Dr E. Links	-	Chairman: IDCC

Department of Foreign Affairs

Adv. Pieter Kruger	:	Senior State Law Advisor (International Law)

Magalies Water Board (MWB)

Mr D.H. Marks	-	Chairman
Mr N. Fenner	-	Chief Executive Officer (CEO)
Mr Roelf Strydom	-	Chief Engineer

North West Water Authority (NWWA)

Mr N. Letimela	-	Acting Chief Engineer Officer
Mr Johan Pansegrouw	-	Area Manager (East)

North West Provincial Government

Mr Z. P. Tolo	-	MEC for Public Works
Mr Darkie Africa	-	MEC Local Government, Housing, Planning and Development

JAPANESE PARTICIPANTS

JICA Preparatory Study Team

Mr Ryuzo Nishimaki	-	Leader
Dr Yuji Maruo	-	Water Resource Development
Mr Yoshiki Omura	-	Water Supply Planning
Mr Makoto Saito	-	Water Supply Administration
Mr Kazuchika Sato	-	Management, Finance, Human Resources Development, Social Analysis
Mr Kazuhiko Kikuchi	-	Study Planning

Embassy of Japan

Mr Koji Tahara	-	Development Attaché

【資料D】

収集資料リスト

1995/8/18

資料リスト（収集資料）

主管部長	文書管理課長	主管課長	情報管理室長	技術情報課長

地域		調査団名又は専門家氏名		調査の段階又は指導科目		作成部課	
国名		配送機関名		現地調査期間又は派遣期間	年 月 日～ 年 月 日	担当者氏名	

番号	資料の名称	版型	ページ数	オリジナル コピーの別	部数	収集先名称又は 発行機関	寄贈・購入（価格）の別	取扱区分	利用表示
1	DRFT COMMENT ON TARIFF PROPOSALS FROM NWWA	A4	40	copy	1	Ministry of Water Affairs and Forestry			
2	PROPOSAL ON THE REVISION OF TARIFF for the year 1995/96	A4	36	copy	1	HEAD OFFICE MMABATHO, NORTH WEST WATER SUPPLY AUTHORITY			
3	YOU AND YOUR WATER RIGHTS South African Law Review	A4	30	copy	1	Department of Water Affairs and Forestry			
4	Attitude and Aspirations Survey North West Province Volume1. Main Report	A4	14	copy	1	Ministry of Water Affairs and Forestry			
5	Attitude and Aspirations Survey North West Province Volume2. Working Papers	A4	62	copy	1	Ministry of Water Affairs and Forestry			
6	EVN GROUP OF COMPANIES	A4	7	original	1	EVN			
7	ENVIRONMENTAL MANAGEMENT DIVISION STATEMENT OF CAPABILITY	A4	34	original	1	Stewart Scott incorporated CONSULTING ENGINEERS			
8	African Engineering International Group of Companies	A4	38	original	2	African Engineering International Group of Companies			
9	JAPANESE TECHNICAL ASSISTANCE FOR EXPANDING THE CAPACITY OF MAGALIES WATER - LOCAL CONSULTANCY ASSISTANCE OUTLINE OF PRESENTATION	A4	24	original	1	STFFEN, ROBERTSON & KIRSTEN			
10	1993/1994 ANNUAL REPORT ほか			original	1式	COMMUNITY BASED DEVELOPMENT PROGRAMME			
11	International Landing Agency Services	A4	17	original	1	Deloitte & Touche			

12	DEPARTMENT OF WATER AFFAIRS AND FORESTRY, COMMUNITY WATER SUPPLY AND SANITATION, ORGANIZATIONAL DEVELOPMENT OFFICERS	A4	3	copy	1	ORGANIZATIONAL DEVELOPMENT OFFICERS			
13	Notes on Task Group Meeting on Water Boards Jurisdiction	A4	10	copy	1	不明			
14	RECOMMENDED TIME CHARGES FOR PRINCIPALS OF FIRMS AND OTHER STAFF AS FROM 1 JULY 1994	A4	1	copy	1	The South African Association of Consulting Engineers			
15	SOUTH AFRICA : A STRATEGY TO ASSIST THE RURAL WATER SUPPLY AND SANITATION SECTOR	A4	32	copy	1	British ODA			
16	TECHNICAL ASSISTANCE for EXPANDING THE CAPACITY OF MAGALIES WATER	A4	50	original	1	CONSUKTBURO			
17	PIPELINES AND OUTFALLS	A4	10	original	1	Stewart Scott CONSULTING ENGINEERS			
18	RESUME OF THE URBAN & RURAL DEVELOPMENT DIVISION	A4	24	original	1	Stewart Scott CONSULTING ENGINEERS			
19	JAPANESE TECHNICAL ASSISTANCE FOR EXPANDING THE CAPACITY OF MAGALIES WATER - LOCAL CONSULTANCY ASSISTANCE TO THE JAPANESE TEAM, STATEMENT OF INTEREST	A4	54	copy	1	Deloitte & Touche			
20	JAPANESE TECHNICAL ASSISTANCE FOR EXPANDING THE CAPACITY OF MAGALIES WATER - LOCAL CONSULTANCY ASSISTANCE TO THE JAPANESE TEAM	A4	10	original	1	GOBA MOAHLOLI & ASSOCIATES INCORPORATED			
21	PROVOSION OF FACILITATING SERVICES FOR LOCAL AUTHORITIES	A4	7	original	1	Stewart Scott CONSULTING ENGINEERS			
22	JAPANESE TECHNICAL ASSISTANCE FOR EXPANDING THE CAPACITY OF MAGALIES WATER - LOCAL CONSULTANCY ASSISTANCE	A4	80	original	1	Price Waterhouse			
23	PROPOSAL : MAGALIES WATER, STUDY INTO THE SCOPE AND FUNCTIONS OF MAGALIES WATER	A4	200	original	1	Stewart Scott CONSULTING ENGINEERS			
24	PRO AFRICON, CORPORATE SOCIAL INVESTMENT PROGRAMME	A4	10	original	1	Africon Engineering International			

25	EXPANDING THE CAPACITY of MAGALIES WATER - LOCAL CONSULTANCY ASSISTANCE	A4	200	original	1	EVN GROUP OF COMPANIES			
26	Magalies Water Proposal	A4	200	original	1	Coopers & Lybrand			
27	JAPANESE TECHNICAL ASSISTANCE FOR EXPANDING THE CAPACITY OF THE MAGALIES WATER BOARD TO ACHIEVE THE OBJECTIVES OF THE RECONSTRUCTION AND DEVELOPMENT PROGRAM IN THE WATER SUPPLY AND SANITATION SECTOR	A4	150	original	1	African Engineering International			
28	Form of Agreement for Consulting Services	B5	90	copy	1	South African Association of Consulting Engineers			
29	南部アフリカ地域援助研究会報告書	A4	100	copy	1	JICA			
30	南アフリカ	B5	7	copy	1	(財) 日本国際医療団			
31	The RDP	A4	23	copy	1	南ア政府			
32	The Five Year Investment Programme:Department of Water Affairs and Forestry(DWAF)	A4	23	copy	1	DWAF			
33	Social Development Handbook	A4	93	copy	1	British ODA			
34	Magalies Water Annual Report '94	A4	25	copy	1	Magalies Water			
35	Magalies Water Annual Report '95	A4	25	original	1	Magalies Water			
36	Water Supply and Sanitation Policy White Paper	A4	37	original	1	DWAF			
37	DWAF CAPACITY BUILDING (DRAFT)	A4	16	copy	1	DWAF			
38	KWANDEBELE Water Augmentation Feasibility Study Volume 1a	A4	80	copy	1	CONSULTBURO			
39	Country Profile - South Africa 94~95	A4	57	copy	1	Economist			
40	Country Report - 1st quarter'95	A4	34	copy	1	Economist			
41	Water Boards (地図)			original	1	DWAF			
42	South African Water Quality GuidelinesVolume1~3	A4	472	copy	1	DWAF			
43	Government Gazette No.16085 White Paper on RDP	A4	81	original	1	DWAF			
44	Government Gazette No.16134 Water Laws Rationalisation and Amendment Act '94	A4	37	copy	1	DWAF			

45	Morcicle 1 Water Supply Scheme RDP Project:Project Business Plan	A4	120	copy	1	Magalies Water Board			
46	Review of the Scope and Function of Water Boards (DRAFT)	A4	98	original	1	DWAF			
47	Government Gazette No.16534	A4	15	original	1	DWAF			
48	A～Z of South African Politics	A5	394	original	1				
49	Local Government Transformation in South Africa	B5	134	original	1				
50	地形図 1/250000（5冊）	-	-	original	5				
51	Annual report from 1991								
52	Annual report from 1992								
53	Annual report from 1993								
54	Project to supply water to Warmbaths and Nylstroom - A summary of a report from the Consultants, Liebenberg Jenkins & Partners,Inc.								
55	Upgrading Cullinan Water Treatment plant - A summary of a report from the Consultants, G F J Inc.								
56	Upgrading of the Temba Waterworks - A summary of the project is enclosed								
57	Upgrading or the Wallmannsthal Waterworks - A summary of the project								
58	Vaalkop Water Treatment Plant								
59	GUIDELINES FOR IMPLEMENTATION								


JICA