

エチオピア国  
南部諸民族州給水技術改善計画  
プロジェクト  
終了時評価調査  
報告書

平成 23 年 5 月  
(2011 年)

独立行政法人 国際協力機構  
エチオピア事務所

エテ事
JR
11-004



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## 序 文

日本国政府はエチオピア連邦民主共和国からの技術協力の要請に基づき、同国において南部諸民族州給水技術改善計画プロジェクトを実施することを決定し、2007年12月19日から2011年12月18日までの4年間のプロジェクトとして実施しています。

今般、プロジェクト終了まで半年となったところ終了時評価調査団を派遣し、これまでの実績と実施プロセスを確認し、その情報に基づいて評価5項目（妥当性、有効性、効率性、インパクト、自立発展性）の観点から、日本国側・エチオピア国側合同で評価を行うことを目的として、当機構地球環境部水資源第二課長 涌井純二を団長とする終了時評価調査を実施しました。本報告書は、同調査団による協議結果、評価結果を取りまとめたものです。

本報告書が、当プロジェクト及び類似プロジェクトの実施にあたり広く活用されることを願います。

平成23年5月

独立行政法人国際協力機構  
エチオピア事務所  
所長 大田 孝治



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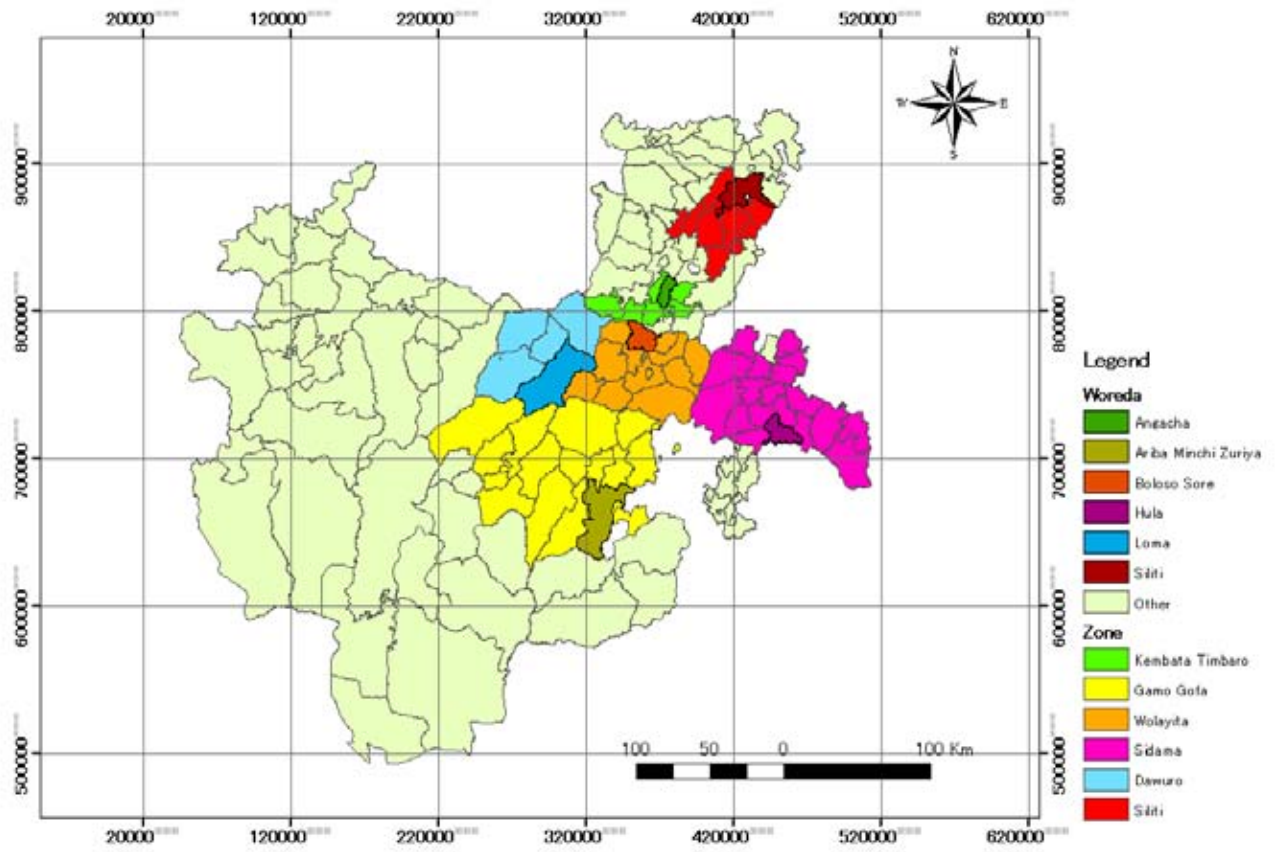
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1. Minutes of Meeting (Signed at Joint Coordinating Committee)
2. Evaluation Report



# プロジェクト対象地域



写真



水衛生管理委員会が運営する掲示板



スペアパーツアウトレットでの保管の様子



プロジェクトで設置したロープポンプ



水衛生管理委員会のメンバー



プロジェクトの啓蒙活動によって  
設置されたトイレ



JCCの様子

## 略 語 表

BPR	Business Process Re-Engineering	ビジネス・プロセス・リエンジニアリング (行政改革)
CP	Counterpart	カウンターパート
GIS	Geographical Information System	地理情報システム
GPS	Global Positioning System	全地球測位システム
HDW	Hand-dug well	手掘り井戸
HP	Hand Pump	ハンドポンプ
JCC	Joint Coordination Committee	合同調整委員会
JICA	Japan International Cooperation Agency	国際協力機構
M/M	Minutes of Meeting	合意文書
O&M	Operation and Maintenance	運営維持管理
OJT	On-the-Job Training	O J T
PDM	Project Design Matrix	プロジェクト・デザイン・マトリックス
PO	Plan of Operation	活動計画
RP	Rope Pump	ロープポンプ
SNNPR	South Nations and Nationalities People's Region	南部諸民族州
SNV	Netherlands Development Organization (NGO)	エス・エヌ・ヴィー (オランダ系 NGO)
TICAD	Tokyo International Conference on Africa Development	アフリカ開発会議
TOT	Training of Trainers	指導者研修
WAS-CAP	Water Sector Capacity Development Project	南部諸民族州給水技術改善計画プロジェクト
WASHCO	Water Sanitation and Hygiene Committee	水衛生管理委員会
WRB	Water Resource Bureau	水資源局
WWMEO	Woreda Water, Mining and Energy Office	フレダ水、鉱物エネルギー事務所
ZWMED	Zonal Water, Mining and Energy Department	県水、鉱物エネルギー事務所

## 評価調査結果要約表

<b>I. 案件の概要</b>									
国名：エチオピア連邦民主共和国	案件名：南部諸民族州給水技術改善計画								
分野：水資源開発	援助形態：技術協力（業務実施型）								
所轄部署：エチオピア事務所	協力金額（評価時点）：約 4.1 億円								
協力期間	2007 年 12 月～2011 年 12 月（4 年間）								
	先方実施機関：南部諸民族州水資源局								
	日本側協力機関：								
<p><b>1-1 協力の背景と概要</b></p> <p>エチオピア国（以下エチオピア）における安全な水のアクセス率は現状世界最低の水準にあり、村落給水率を上げることが急務となっている。特に地方行政の予算確保、人材育成が遅れており、各州政府が独自に給水事業を展開するためには技術者の育成と給水施設の建設が急務となっている。更に、多くの既存給水施設は故障したまま放置されており、水セクター戦略計画（UAP）達成のためには給水施設の維持管理・修理にかかる人材育成、体制整備が極めて重要となっている。特に村落においては、スペアパーツの入手が困難であるため、給水施設の維持管理のためにハンドポンプの標準化とスペアパーツの供給網の確立が持続性のある給水施設維持管理の鍵となっている。</p> <p>南部諸民族州はエチオピアの南部および南西部に位置し、人口約 14 百万人のうち（エチオピア 3 番目）、93%が村落住民である。同州の給水率は 34.1%（2004）であり、エチオピア平均 35%を下回っている。また既存施設の約 30%が故障したまま使用不能となっていると言われている。持続可能な給水率向上のためには、給水施設の持続的な運用および衛生改善活動等の責任を担うコミュニティレベルの水衛生組合の能力向上が不可欠となっている。またこれらの能力向上を行なう州水資源局の機能向上も重要である。このような状況を踏まえ、南部諸民族州政府は、わが国に対して持続的な給水管理メカニズムを構築し、これに係る必要な組織や人材の能力向上等を目的とした技術協力プロジェクトを要請した。</p>									
<p><b>1-2 協力内容</b></p> <p>本プロジェクトは南部諸民族州水資源局が、南部諸民族州における持続的な給水管理メカニズムの構築、これに係る必要な組織や人材の能力向上等を目的とした技術協力プロジェクトである。詳細は下記の通り。</p> <p>(1) 上位目標：「南部諸民族州において、給水システムの持続性が向上する」</p> <p>(2) プロジェクト目標：「南部諸民族州の給水システムの開発、持続管理能力が向上する」</p> <p>(3) アウトプット：</p> <ol style="list-style-type: none"> <li>1) 重点対象 6 郡において主題図に基づいた村落給水施設開発維持管理計画が策定される</li> <li>2) 重点対象 6 郡においてロープポンプ普及基盤が作られる</li> <li>3) 重点対象 6 郡において水供給施設の維持管理体制が改善する</li> </ol> <p>(4) 投入（評価当時）</p> <p>日本側（約 4.1 億円）：</p> <table style="width: 100%; border: none;"> <tr> <td style="padding: 5px;">専門家派遣</td> <td style="padding: 5px;">12 名（85.62M/M）</td> <td style="padding: 5px;">機材供与</td> <td style="padding: 5px;">約 6.6 百万円</td> </tr> <tr> <td style="padding: 5px;">研修員受入れ</td> <td style="padding: 5px;">0 名</td> <td style="padding: 5px;">ローカルコスト負担</td> <td style="padding: 5px;">約 65.7 百万円</td> </tr> </table>		専門家派遣	12 名（85.62M/M）	機材供与	約 6.6 百万円	研修員受入れ	0 名	ローカルコスト負担	約 65.7 百万円
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研修員受入れ	0 名	ローカルコスト負担	約 65.7 百万円						

エチオピア側：
カウンターパート配置      プロジェクト当初は 6 名、評価時点では 11 名
土地・施設提供              専門家執務室              ローカルコスト負担： 無

## II. 評価調査団の概要

調査者	団 長：涌井純二 JICA 地球環境部水資源・防災グループ水資源第二課長 評価企画：渡辺英樹 JICA エチオピア事務所所員 評価分析：渡邊恵子 (財)国際開発高等教育機構 (FASID) シニアコンサルタント 地方地下水開発：Ephrem Fufa JICA エチオピア事務所在外専門調査員 (Water Sector)
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調査期間	2011 年 5 月 6 日～2011 年 5 月 26 日	評価種類：終了時評価
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## III. 評価結果の概要

### 3-1 実績の確認

#### 3-1-1 プロジェクト目標の達成度

プロジェクト目標：「南部諸民族州の給水システムの開発、持続管理能力が向上する」  
評価時点での指標の達成度は下表のとおりであり、プロジェクト目標は達成する見込みである。

対象郡	給水施設の稼働率	
	目標	2011 年 3 月時点
Hula 郡	85 %	84 %
Silti 郡	88 %	86 %
Angacha 郡	88 %	88 %
Boloso sore 郡	82 %	80
Loma 郡	92 %	91 %
Arba Minch Zuria 郡	87 %	87 %
ロープポンプ設 地域	0 %	88 %

プロジェクトは州水資源局が州、県、郡、そして WASHCO (Water Sanitation and Hygiene Committee) の間の関係を強化する能力を向上させた。特にこれまであまり連携がなかった郡水事務所とコミュニティレベルの WASHCO の繋がりをつけ、「ボトムアップモニタリングシステム」により支援が強化されていった。また、郡水事務所は WASHCO からの毎月の報告により現場に行かずとも情報を得ることができ、修理の実施計画も効率的に実施されたことは、給水施設の稼働率を上昇させる上で効果的であった。プロジェクトにより、WASHCO、予防的維持管理、ロープポンプ普及、スペアパーツ供給網に関するそれぞれのモデルが構築され、維持管理能力の向上、稼働率の上昇が見られた。

#### 3-1-2 アウトプット 1: 重点対象 6 郡において主題図に基づいた村落給水施設開発維持管理計画が策定される (達成度→高い)

エチオピアが全国的に実施した組織改革 (BPR) で職員数が減少したことにより、GIS 担当 CP の仕事量が増加した。そのため、本プロジェクトへの参加度合いが下がり活動によっては多少遅れたものがあったが、アウトプットの指標である 2010 年版の主題図は予定どおり 2010 年 6 月に完成している。改訂版である 2011 年版については、すでに必要なインベントリーデータを収集しており、

計画どおり 2011 年 5 月末までには完成予定である。従って、アウトプット 1 の達成度は高い。

アウトプット 1 の達成を促進した要因として 2009 年から 2010 年にかけて全国レベルで給水施設のインベントリー調査が実施されたことが挙げられる。プロジェクトでは同調査結果を活用することでハンドポンプ井戸の維持管理の効率的な実施が可能となった。

### 3-1-3 アウトプット 2 : 重点対象 6 郡においてロープポンプ普及基盤が作られる (達成度→プロジェクト終了までに達成見込み)

アウトプットの以下 2 つの指標についてはこれまでの実績および今後の活動から判断して、プロジェクト終了までに達成できる見込みである。

対象郡	指標 1 (ロープポンプユーザーからの情報回収率: 目標値 80%)	指標 2 (ロープポンプの認知度: 目標値 70%)
Angacha	64 %	55 %
Bolo Sore	40 %	40 %
Arba Minch Zuria	100 %	75 %
Hula	1 %	75 %
Silti	100 %	75 %

\* Loma 郡は水理地質的にロープポンプのポテンシャルがないため設置していない。(2011 年 5 月時点)

プロジェクトでは家庭用に 50 台、コミュニティ用に 4 台のロープポンプを設置し、維持管理および地域に向けたデモンストレーションを実施した。中間レビュー以後プロジェクトでは、CP が異動しても今後のロープポンプ普及基盤を強固なものとするため、CP 以外の 4 人の職員から構成する「ロープポンプ作業部会」を組織し、CP と共に普及活動を実施した。ロープポンプ普及はエチオピア政府の方針として打ち出されている。実際の普及は郡レベルで実施されるが、普及基盤を固めるためにも州水資源局としては、郡が詳細な普及計画を立てられるような支援を行なう必要があり、プロジェクト終了までにその支援を行なうことが期待されている。

### 3-1-4 アウトプット 3 : 重点対象 6 郡において水供給施設の維持管理体制が改善する (達成度→プロジェクト終了までに達成見込み)

アウトプット 3 は、①技術的な予防維持管理の適用、②WASHCO の強化を通じたコミュニティ開発、③スペアパーツ供給網の確立、の 3 つのコンポーネントから成る。PDM3 では、以下 4 つの指標でアウトプットの達成度を測っている。達成度は以下のとおりであり、これまでの実績、今後の活動などから判断して、プロジェクト終了後までに達成できる見込みである。

指標	達成度
3.1 各 WWMEO (Woreda Water, Mining and Energy Office) 事務所の規定の数の職員が修理/維持管理に関する試験にプロジェクト終了までに 70 ポイント以上獲得する	2010 年に実施した WWMEO 研修の後の平均点は 64.7 ポイントであった。今後フォローアップ研修も予定されており、プロジェクト終了までに目標を達成する見込みがある。

3.2	対象 21 箇所の水供給施設の WASHCO の管理者 (Caretaker) がプロジェクト終了までに修理・維持管理に関する訓練を受けた後、一定の頻度で予防的保守管理 (定期維持管理) を実施する	訪問した WASHCO では、Caretaker が毎朝始業前点検を実施していることを確認した。 2011 年 1 月にモニタリングしたデータによると、20 委員会のうち 18 が維持管理に関する月例報告書を郡水事務所に提出していることから、ほとんど全ての委員会によって定期点検が行なわれていることが判明した。
3.3	対象の水供給施設のすべての WASHCO が 2011 年 8 月 (2003 年エチオピア年) までにそれぞれ設定された維持管理コスト <sup>1</sup> を貯蓄する	全ての WASHCO で水料金が徴収され、銀行口座に貯蓄されている。終了時評価時点では、20 委員会のうち、16 が設定価格を上回っていた。設定価格に達していなかった理由は、コミュニティが水料金を支払っていないのではなく、モニタリング時期の前月に故障のためスペアパーツを購入して大きな支払いがあったことや、給水施設の利用者が少なく設定価格までに達するのに時間がかかっている、といった理由が判明した。どの WASHCO も料金徴収を始めており、これまでの実績や今後の活動から判断すると、プロジェクト終了時までに達成する見込みは高い。
3.4	21 箇所の WASHCO のそれぞれが、プロジェクト終了までに半年毎に必要なハンドポンプ (Afridev) のスペアパーツを維持管理できるようになる	21 委員会のうち Afridev ハンドポンプが設置されているのは 10 委員会のみである。評価時点では、そのうち 2 つしかスペアパーツを保管していなかった。スペアパーツを購入する資金がないのではなく、安全な保管場所の確保が難しいことも挙げられるが、プロジェクトとしては、指標達成への更なる努力が必要とされる。

\* なお、今回の終了時評価を機にスペアパーツ供給網の指標の追加 (3.5) を行なった。3.5 の指標は、「スペアパーツサプライチェーン・ガイドラインが準備されプロジェクト終了時までに州レベルで配布される」と設定された。

### 3-2 評価結果の要約

#### (1) 妥当性 (高い)

プロジェクト目標・上位目標ともに、エチオピアの 5 カ年開発計画であった PASDEP (Plan for Accelerated and Sustained Development to End Poverty)、UAP と整合している。また、ターゲットグループは県、郡、WASHCO であり、コミュニティにおける維持管理を推奨するエチオピアの政策および受益者のニーズと合致している。また、日本政府の対エチオピア援助計画、TICAD IV によるアフリカへの水分野への支援強化の方針にも整合している。従ってプロジェクトの妥当性は高い。

#### (2) 有効性 (高い)

プロジェクトは、①給水施設の位置や状態を示した GIS による地図の作成、②技術的な修理のみならず予防的な概念をもたらした維持管理技術の移転、③低コスト技術であるロープポンプを既存の井戸に設置しながら普及する基盤の確立、④農村給水の維持管理を行なうコミュニティベースの WASHCO の強化、⑤給水施設のスペアパーツ供給網のモデル構築、の 5 つのコン

<sup>1</sup> Afridev ポンプについては、500 ブル、Indian Mark II については 1,150 ブルを設定。

ポーネントを通じて、既存の給水施設の稼働率の向上を目指した。アウトプットは高い達成度を示しており、プロジェクト目標である対象6郡の稼働率はすでにほとんどの郡で目標を達成している。また、プロジェクトは上述したように、コミュニティから郡、県、州へと下からのモニタリングシステムを構築し、それぞれのコンポーネントにおけるモデルを構築し、そのことがプロジェクト目標にある維持管理能力の向上に繋がり、結果指標にある稼働率向上に貢献したと考えられる。従って、プロジェクトの有効性は高いと言える。

### (3) 効率性 (やや低い)

日本側の専門家および機材の投入は計画通り実施された。

プロジェクトは、開始後すぐにエチオピアにおいて全国的に実施された BPR の影響を受けた。局長はプロジェクト期間中に3回交代し、州水資源局の多くの CP および訓練した県および郡職員の異動や離職で、特に前半部分は進捗に大きな影響を受け、効率性が損なわれた。中間レビューで、プロジェクトは対象を78郡から6郡に絞り、また個々に動いていたアウトプット6つを3つに統合・整理することで、プロジェクトの内容が整理され効率性も高まり、また CP の新たな配置が促進した。しかしながら、BPR の影響は引き続いており、職員減による業務量の増加は CP のプロジェクト活動への積極的な参加を阻害している。

### (4) インパクト (正のインパクトが発現している、負のインパクトは発現していない)

本プロジェクトの上位目標は、「南部諸民族州において、給水システムの持続性が向上する」としているが、今回の終了時評価を通じた先方 CP との協議の結果、上位目標の達成指標を「WASCHO 強化、ロープポンプ普及、予防的維持管理活動のスケールアップのための活動が、対象県/郡において実施される」とし、精緻化を行なった。

本調査団では、プロジェクト対象郡や県により、プロジェクトで実施した予防的維持管理の活動やロープポンプの普及を限られた予算や制約の中でもすでに実施している動きがでていることを確認した。例えば、ダウロ県では対象以外の2箇所の WASHCO に WAS-CAP(Water Sector Capacity Development Project)で訓練した活動(水料金の徴収、会計、衛生に関する啓蒙活動の促進など)を広めている。また、NGO(SNV)が WAS-CAP が作った WASHCO から郡への月例報告フォーマットを採用するなど、南部諸民族州で WAS-CAP 活動の広まりの動きが見られる。従って、本上位目標の達成見込みは現時点で高いと見込まれる。

また、ロープポンプの普及も独自の予算で実施している県も確認された。さらに、プロジェクトを通じてコミュニティの衛生意識が高まり、各家庭へのトイレの普及の向上、石鹼もしくは灰を使った手洗い習慣の飛躍的な改善など、正のインパクトを示す多くの事例が観察された。なお、負のインパクトは発現していない。

### (5) 自立発展性 (WASHCO レベルではやや高いが、州、県、郡レベルにおいては中程度)

WASCHO レベルでは、組織強化および水料金の徴収を通じて財政的にも強化されている。すでに自発的な活動(事務所の設立、コミュニティへの衛生啓蒙活動など)も実施していることから、自立発展性は高い。また、プロジェクトでは村の行政組織(Kebele Administration)や保健普及員を研修に参加させることにより、彼らとの協力で持続性の確保および相乗効果を産出している。



一方、州、県、郡の水事務所では、財政不足により維持管理に必要な機材や交通手段が確保されていない。また、BPR および財政的な理由から必要職員数も確保されておらず、150 以上ある給水施設の維持管理を 2 人で実施している郡事務所もあり、財政、組織的な自立発展性が低い。しかしながら、少ない予算および限られた人数の中で、維持管理実施および活動の普及を続ける努力が多く確認されたところ、限られたレベルではあるがある程度の自立発展性が期待される。

また、CP の積極的な参加が望まれる一方、CP の業績評価シートには、本プロジェクトの活動が必ずしも明記されていないこと、計画・モニタリング・評価部からの定期会合への参加がないこと、プロジェクト終了後のロープポンプを担当する部署や担当者が明確に定まっていないことなどが、自立発展性に係る懸念事項として挙げられた。

なお、持続的な給水システムの向上は引き続きエチオピアの優先課題であり、政策的な自立発展性は確保されている。

### 3-3 効果発現に貢献した要因

#### (1) 計画内容に関すること

プロジェクトはコミュニティレベルの維持管理に焦点を当て、低コストで給水施設の持続性を確保する予防 O&M を導入し、また、行政の限られた予算の中で給水ポイントを頻繁にモニタリング・監督できない環境の中で、下からのボトムアップモニタリングシステムを導入したことが、プロジェクト目標の達成に貢献した。

また、中間レビューによるプロジェクトの内容整理および実施計画の変更は、プロジェクトの焦点が絞られ効果発現に大きく貢献した。

#### (2) 実施プロセスに関すること

プロジェクト開始当初は、アウトプットが多岐に亘りそれぞれの活動が多く、長期で常駐する専門家もいなかったため、先方政府とのコミュニケーションに支障が生じるケースもあった。中間レビュー以降、日本人コーディネーターがほぼ長期で常駐することにより、先方政府とのコミュニケーションが向上し、かつ様々なロジスティック調整が円滑になった。

またアウトプット 1 の達成を促進した要因として 2009 年から 2010 年にかけて全国レベルで給水施設のインベントリ調査が実施されたことが挙げられる。プロジェクトでは同調査結果を活用することでハンドポンプ井戸の維持管理の効率的な実施が可能となった。

### 3-4 問題点および問題を惹起した要因

#### (1) 計画内容に関すること

本プロジェクトは計画段階において、プロジェクトが何を目標にし、それに必要な手段（アウトプット）は何か、といった論理性で立案されたものではなく、数あるニーズ（アウトプット）を集めて何が達成されるかといった方法で計画されたものであった。対象も 78 郡と広く、またアウトプットも 6 つから成っていた。さらに当初の PDM では、「それぞれのアウトプットを産出するための活動が、州、県、郡、コミュニティにおいて誰を対象にどの程度実施するのが曖昧である」と中間レビューでも指摘されており、プロジェクト全体としての能力向上戦略が不明確であった。更に、中間レビュー前の PDM2 に至るまでアウトプットの効果を示す指標に目標値が設定されておらず、

プロジェクトをモニタリングするためのデータが必ずしも収集されていなかった。中間レビュー時に PDM を大幅に変更し、対象県、対象ワレダをそれぞれ6つに集中するなど、効率的なプロジェクト運営を心がけた。

## (2) 実施プロセスに関すること

エチオピア政府の BPR の実施とプロジェクト期間の大部分が重なったことで、CP の異動や離職が頻繁に起こり、CP とのコミュニケーションに支障をきたした。

## 3-5 結論

3つのアウトプットの達成度は高く、プロジェクトは目標を達成すると見込まれる。5段階評価において、妥当性は高く、有効性も高い。効率性はやや低くなっている。インパクトを示す正のインパクトの発現も生じている。他方、負のインパクトは確認していない。自立発展性については、WASHCO（水衛生委員会）活動を通じてコミュニティレベルではやや高いと認められるが、州、県、郡レベルでは政策的な要素以外の要素に関しては認められなかった。しかし、限られた制約の中でのある程度の自立発展性が認められることから中程度であると判断した。

以上の結果から、本プロジェクトは予定通り終了する予定である。

## 3-6 提言

次の4項目がプロジェクト終了までに実施されるべきと提言された。

- (1) プロジェクト効果の普及のために、プロジェクト終了までに州水資源局は JICA 専門家と協力して普及のための詳細な実施計画を策定する。
- (2) CP の積極的なプロジェクトへの参加を促進するため、CP 各自の「業務評価シート (Performance Evaluation Sheet)」に WAS-CAP 活動をエチオピア新年度が始まる 2011 年 7 月から追記する。
- (3) エチオピア側の CP の積極的な参加促進、今後の州水資源局における自立発展性の確保など、プロジェクト運営の質の向上のために、州水資源局内の計画・モニタリング・評価部から、定例会合や現地調査などに参加する。
- (4) ロープポンプ普及は国レベルの方針である。実際の実施は郡レベルであるが、州水資源局は、郡水事務所が詳細な実施計画を策定する支援を行なう必要がある。そのためには、現在州水資源局内にロープポンプを担当する部署や担当者がいないことから、担当の配置など早急に対応する必要がある。

次の項目は、長期的に実施されるべき提言である。

- (5) 維持管理に関し適切な予算配分を促進する必要がある。特に郡水事務所は予算、交通手段、維持管理工具が限られている。州水資源局は、郡の予算を外部リソースからも確保できるように、ドナー、国際機関、NGO、CBO、マイクロファイナンスなど外部リソースへの働きかけを行なう努力が必要である。また、州および県においても、持続可能な給水システムの確保のために維持管理に関する適切な予算の配分が期待される。

## 3-7 教訓

本プロジェクトより以下の教訓が得られた。

- (1) 本プロジェクトのように、アウトプットが様々な分野にまたがり、またそれぞれの活動が多く、そのため日本人専門家や CP の数が多いようなプロジェクトにおいては、少なくとも 1 人は日本人専門家（コーディネーター）の長期的な常駐が必要である。長期的な投入により先方政府との信頼関係を醸成することが可能である。
- (2) エチオピアの公務員の評価システムでは、公務員は各自「業務評価シート（Performance Evaluation Sheet）」に書かれてある業務内容によって評価されている。JICA プロジェクトの活動が CP の評価シートに記載されていれば、CP の積極的な参加も促されるどころ、エチオピアで公務員を CP としたプロジェクトを実施する場合は、プロジェクト開始時より JICA プロジェクトの活動内容を上記業績評価シートの業務内容に記載するべきである。
- (3) プロジェクト立案において、効果的かつ効率的なプロジェクト実施のためには、ニーズを集めてプロジェクトにするのではなく、プロジェクトによって何を達成させたいのかをまず決め、それからその方法を選択するという論理性に基づいて行なうことが望ましい。また、各指標はできるだけ客観的に測定できるものを設定し、プロジェクト開始時からモニタリングを行なうべきである。



# 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

エチオピア国における安全な水へのアクセス率の現状は世界最低の水準にあり、エチオピア政府は戦略プラン Universal Access Program (UAP) (現在改訂中) において 2012 年までに村落給水率を 35% (2004 年) から 98% とする計画を立てている。またエチオピアにおける地方給水事業は各州及び郡レベルの水事務所が事業実施主体となっているが、地方行政の予算確保、人材育成は遅れており、各州政府が独自に給水事業を展開するためには技術者の育成と給水施設の建設が急務となっている。更に多くの既存給水施設は故障したまま放置されているのが現状であり、UAP 達成のためには給水施設の維持管理・修理にかかる人材育成、体制整備が極めて重要となっている。特に村落においては、スペアパーツの入手が困難であるため、給水施設の維持管理のためにハンドポンプの標準化とスペアパーツの供給網の確立が持続性のある給水施設維持管理の鍵となっている。

南部諸民族州は、「エ」国の南部及び南西部に位置し、人口約 14 百万人のうち (エチオピア国内 3 番目)、93% が村落住民である。同州の給水率は 34.1% (2004 年) であり、エチオピア平均 35% を下回っており、また既存施設の約 30% が、故障したまま使用不能となっていると言われている。南部諸民族州では 2005 年から我が国の無償資金協力により村落部における給水施設の建設を行っているが (南部諸民族州給水計画)、給水施設の維持管理能力は十分とはいえない。特に持続的な給水率向上を図るためには、給水衛生事業を直接担う郡水事務所の能力強化、給水施設の修理職人等の技術レベルの向上のほか、給水施設の持続的な運用及び衛生改善活動等の責任を担うコミュニティレベルの水衛生組合の能力向上が不可欠となっている。またこれら能力向上を担う州水資源局の機能向上も重要である。このような状況を踏まえ、南部諸民族州政府は、我が国の無償資金協力とも積極的に連携を図りながら、持続的な給水管理メカニズムを構築し、これに係る必要な組織や人材の能力向上等を目的とした技術協力プロジェクトを我が国に要請した。

今般、当該プロジェクトの協力期間 (4 年間) の終了 6 ヶ月前の地点を迎え、プロジェクトが順調に効果発現に向けて実施されているかどうかを検証し、プロジェクト 6 ヶ月間で実施すべき課題を整理することを目的とし調査団を派遣することとした。

## 1-2 調査団の構成と期間

### 1-2-1 調査団の構成

担当	氏名	所属
1. 団長	涌井 純二	JICA 地球環境部 水資源第二課長
2. 評価企画	渡辺 英樹	JICA エチオピア事務所
3. 評価分析	渡邊 恵子	FASID
4. 地方地下水開発	Ephrem Fufa	在外専門調査員 (Water Sector) , JICA エチオピア事務所
Evaluator from Ethiopian Side	Mr. Mulugeta Asfaw	Planning, Monitoring and Evaluation Officer, Development Plan Preparation, Monitoring, Evaluation and Feedback Supportive Process

1-2-2 調査期間

		渡邊恵子団員 評価企画	Ephrem 団員 地方地下水開発	渡辺英樹団員 評価企画	涌井純二団長
5月5日	木	東京→ドバイ			
5月6日	金	アディスアババ着、JICA 事務所打合せ			
5月7日	土	8:30	アワサへの移動		
		14:30	JICA 専門家との打合せ		
5月8日	日	8:30	JICA 専門家との打合せ		
		11:00	アルバミンチへ移動		
5月9日	月	8:30	アルバミンチ・フレダ事務所での打合せ		
		11:00	水衛生管理委員会との打合せ		
		15:00	スペアパーツアウトレットでの打合せ		
5月10日	火	8:30	ガモ・ゴファ県事務所での打合せ		
		AM	アルバミンチ→ソド		
		14:30	ワライタ県オフィスとの打合せ		
5月11日	水	8:30	ボロソソレ郡での打合せ		
		11:00	ボロソソレ水衛生管理委員会との打合せ		
		13:30	ロープポンプサイト視察		
		15:00	スペアパーツアウトレットでの打合せ (市水道局)		
5月12日	木	9:00	ロマ フレダでの打合せ		
		11:00	ロマ水衛生管理委員会での打合せ		
		13:00	ダウロ県での打合せ		
		PM	ロマ→ソド		
5月13日	金	AM	ソド→アワサ		
		PM	南部諸民族州水資源局との打合せ		
		PM	SNV との打合せ		
5月14日	土	資料整理			
5月15日	日	資料整理			東京→ドバイ
5月16日	月	9:00	シルティフレダ事務所との打合せ		ドバイ→ アディスアババ アワサへ移動
		12:30	シルティ水衛生管理委員会との打合せ		
		13:00	シルティ県水事務所との打合せ		
5月17日	火	8:30	南部諸民族州水資源局長表敬		
		9:00	CP との打合せ		
		8:30	シダマ県水資源事務所との打ち合わせ		
5月18日	水	12:00	アンガチャフレダ事務所での打合せ		
		14:00	アンガチャ水衛生管理委員会での打合せ		
		15:00	K.T 県での打合せ		
5月19日	木	9:00	フラフレダでの打合せ		
		11:30	フラ水衛生管理委員会での打合せ		
		14:00	ロープポンプサイト視察		
5月20日	金	11:00	団内打合せ		
		PM	南部諸民族州水資源局員とのレポートに関する打合せ		
5月21日	土	資料整理			
5月22日	日	資料整理			
5月23日	月	南部諸民族州水資源局員とのレポートに関する打合せ (継続)			
5月24日	火	資料準備			
5月25日	水	合同調整委員会 (終了時評価レポートサイン)			
5月26日	木	アワサ→アディスアババ			
		14:00	EWTEC 視察		
5月27日	金	9:00	事務所報告		
		11:30	大使館報告		
		17:30	アディスアババ→ドバイ		
5月28日	土	ドバイ → 東京			

### 1-3 対象プロジェクト概要

プロジェクト名	南部諸民族州給水技術改善計画プロジェクト The Water Sector Capacity Development Project in Southern Nations, Nationalities and People's Region
対象地域	エチオピア国南部諸民族州（重点 6 郡）
協力期間	2007 年 12 月 19 日～2011 年 12 月 18 日
上位目標	南部諸民族州において給水システムの持続性が向上する。
プロジェクト目標	南部諸民族州の給水システムの開発・維持管理能力が向上する。
成 果	成果 1 重点対象 6 郡において、主題図に基づいた村落給水施設開発維持管理計画が策定される。 成果 2 重点対象 6 郡において、ロープポンプ普及基盤が作られる。 成果 3 重点対象 6 郡において、水供給施設の維持管理体制が改善される。
投 入	投入（評価当時） 日本側： 専門家派遣 : 12 名（85.62M/M） 機材供与 : 約 6.6 百万円 研修員受入れ : 0 名 ローカルコスト負担 : 約 65.7 百万 エチオピア側： カウンターパート配置 : 11 名 土地・施設提供 : 専門家執務室 ローカルコスト負担 : 無





## 第2章 終了時評価のプロセスと方法

### 2-1 終了時評価のプロセス

本調査は、(1) プロジェクト実施機関による質問票回答、(2) 関係組織への現場インタビュー、(3) 関係者による合同調整委員会会議などの実施を経て行われた。

### 2-2 終了時評価の方法

JICA のプロジェクト評価ガイドライン（改訂版）に基づいて、終了時評価を実施した。評価の方法は次のとおりである。

- PDM と評価グリッド（付属資料）の観点から見た進捗状況と達成実績の確認
- 実施プロセスの検討
- 評価 5 項目によるプロジェクトの評価
- プロジェクトの実施内容を改善し、また終了時までにはプロジェクト目標の達成を可能にするための提言の抽出

### 2-3 情報収集の方法

#### 2-3-1 情報収集の方法

評価調査の実施に当たり、以下の方法を通じてデータと情報を収集した。

- 関連文書のレビュー
- エチオピアのプロジェクトスタッフ（本プロジェクトのエチオピア側カウンターパート等）、日本人専門家及びその他関係者
- 水衛生管理委員会メンバーへのインタビュー

#### 2-3-2 分析のための評価の基準

##### (1) 妥当性

プロジェクト目標や上位目標がエチオピア政府の開発政策、受益者のニーズおよび JICA の援助方針に合致しているかレビューし、プロジェクトの整合性や必要性を検討した。またプロジェクト設計の整合性を確認した。

##### (2) 有効性

プロジェクト期間終了時までにはプロジェクト目標が達成される見込みと調査時点における実績達成の程度を評価した。またプロジェクトデザインが有効か検討した。

##### (3) 効率性

投入のプロセス、時機、品質および量を検討した。本プロジェクトと類似する分野を持つ他の開発プロジェクトとの協調や重複についてレビューした。投入が成果達成のためにどのように貢献しているか分析を試みた。

##### (4) インパクト

上位目標の達成見込みおよびその達成への本プロジェクトの寄与を評価した。また本プロジェクトの実施で生じる正負および直接間接の波及効果を特定するための調査を行った。調査対象に

は当初想定していなかったインパクトも含め調査を実施した。

(5) 自立発展性

協力期間終了後の段階でどの程度本プロジェクトの達成成果が維持・拡大されるか、組織、財務、技術、社会・環境の各面で、自立発展性の評価を行った。

## 第3章 プロジェクトの達成実績

### 3-1 投入

#### 3-1-1 日本側

##### (1) 日本人専門家

業務実施型技術協力プロジェクトとして、以下 12 分野の日本人専門家 12 名がそれぞれの期間に応じ派遣された。業務量は 2011 年 5 月時点で合計 85.62 人月であった。専門分野は、(1) チーフアドバイザー／農村水給水（地下水開発）、(2) 副総括 / 農村給水（給水施設）、(3) 給水計画（施設維持管理）、(4) 農村給水（ロープポンプ／改良ハンドポンプ）、(5) 農村給水（ロープポンプ）、(6) 農村給水（電気システム・機器）、(7) 社会経済（スペアパーツ供給網開発）、(8) 社会開発 / 農村給水・衛生 (1)、(9) 社会開発 / 農村給水・衛生 (2)、(10) GIS / 情報管理専門、(11) 業務調整 / 研修管理、(12) 業務調整、である。日本人専門家の詳細な投入記録については、付属資料 1 合同評価報告書の Annex 6-1 を参照。

##### (2) 機材

GIS のためのソフトなど事務所用機材およびプロジェクト活動用の車両 1 台が供与された（詳細は付属資料 1 の Annex 6-2 を参照）。供与機材の合計額は約 660 万円で、そのうちの大部分を占める 600 万円は四輪駆動車に当てられている。ほとんどの機材は計画どおり 2009 年 11 月に供与されている。

##### (3) カウンターパート研修

プロジェクト 3 年次に、当時プロジェクトマネージャーであった Kasu 氏に対し CP 研修として本邦研修を予定していたが、Kasu 氏が長期病床に倒れたため研修は取り止めとなった。

##### (4) ローカルコスト

ローカルコストは、2010 年 6 月の時点で合計 65.7 百万円が拠出された（詳細は付属資料 1 の Annex 6-3 を参照）。

#### 3-1-2 エチオピア側

##### (1) カウンターパートの配置

州水資源局（WRB）からの CP は、プロジェクト開始当初 6 名が配置された。しかし、2009 年よりエチオピアが全国的に実施した組織改革（BPR）により、プロジェクトディレクターである局長以外には CP が GIS の 1 人しか配置されていないという状況が続いた。2009 年 12 月に実施した中間レビュー時に、CP の配置問題については協議され、その後徐々に CP の配置が進んだ。終了時評価時点では、11 名の CP が以下 7 分野（(1)プロジェクトディレクター、(2)プロジェクトマネージャー、(3)アシスタントプロジェクトマネージャー／社会開発、(4)修理／予防的維持管理（3 名）、(5)GIS、(6)スペアパーツ供給網（3 名）、(7)ロープポンプ普及）に配属されている（詳細は付属資料 1 の Annex 6-4 参照）。

##### (2) 土地・施設

WRB 敷地内にプロジェクト専門家および現地コーディネーター用に執務室 1 室の提供があっ

た。

### 3-2 成果

終了時評価時点でのアウトプットの達成度を PDM3 に基づいて示した。

実績を確認した結果、3つのアウトプットの全体的な達成度は高い。また、合同評価チームはプロジェクトによる複数のグッドプラクティスが産出されていることを確認した。なお、PDM3にはアウトプットを必ずしも適切に示していない指標があり、指標が不十分なアウトプットもあった<sup>2</sup>。アウトプットの詳細な実績については、Annex 5-1を参照されたい。また、3つのアウトプットそれぞれに係る研修リストは Annex 7に示してある。

#### 3-2-1 アウトプット 1

アウトプット 1： 重点対象 6 郡において主題図に基づいた村落給水施設開発維持管理計画が策定される		
指標	実績	
1	<p>主題図に基づいた村落給水施設開発維持管理計画の 2010 年版（エ暦 2003 年）を 2010 年 10 月までに、2011 年版（エ暦 2004 年）を 2011 年 5 月までに策定する</p>	<p>村落給水施設開発維持管理計画の 2010 年版は、計画どおり 2010 年 6 月に完成した。</p> <p>改訂版である 2011 年版については、すでに必要なインベントリーデータを 2011 年 3 月までに収集しており、維持管理計画は計画どおり 2011 年 5 月末までに完成する予定である。</p>

GIS 担当の CP はプロジェクト開始当初より配置されていたが、他業務との関係で多忙となり、プロジェクトへの積極的な参加ができず、活動に多少遅れが生じた。しかしながら、上記のとおり指標の達成度は高く、プロジェクト終了時までには指標は達成される見込みである。なお、プロジェクトと同時期に実施されたエチオピアによる全国給水インベントリー調査（2010 年）は、アウトプット 1 の達成を促進した。右調査項目において、プロジェクトで必要な郡レベルでの井戸の状況が含まれていたため、これらの結果を取り入れたことで主題図作成を効率的に実施することができた。なお、インベントリーデータは毎年更新する必要があるが、このような全国規模で行なうインベントリー調査は財政的理由からも 5-6 年に 1 回しか行なわれていない。また、インベントリーを毎年更新するような仕組みも WRB に存在していない。更に、交通手段や財政の確保が難しく、郡レベルがインベントリーデータを定期的に収集することは難しい。従って、本プロジェクトで策定した主題図がプロジェクト後に改訂されるのは、次の全国調査を待たなければならないというような状況が危惧されている。

アウトプット 1 の主な活動は以下のとおりである。

#### (1) 6 郡のインベントリーデータの整備

上記全国版のインベントリー調査の結果を基に、プロジェクトでは、井戸の種類、機能／不機能、受益者数、飲用水として水を利用する人口などについてのデータの検査を行なった。プロジ

<sup>2</sup> 例えば、3-4 の指標において、「21 箇所の WASHCO のそれぞれが Afridev ハンドポンプ用のスペアパーツを保管する」となっているが、実際 Afridev ハンドポンプがある WASHCO は 10 箇所しかなかった。また、アウトプット 3 の重要なコンポーネントであるスペアパーツ供給網に関する指標が抜けている。PDM の変更については、「5. PDM の変更」に詳述してある。

ェクトではインベントリーデータとしてこの他 GPS による井戸の位置についての情報を加えた。これらのデータを基に、対象 6 郡それぞれの 2010 年版の主題図を 2010 年 6 月に策定した。2011 年版については 2011 年 5 月末には完成予定である。

(2) GIS 研修

1) 研修カリキュラムと教材開発

GIS 研修に関するカリキュラムと教材が以下のとおり英語およびアムハラ語の両方で開発され、研修に使用されている。

クラス別	研修マニュアル
中級用	ArcGIS 9.X User's OPERATION MANUAL
	Creating a slope map
	Geo-Referencing using corner coordinates (ILWIS)
	GPS data to ILWIS
	Operating Instructions 3DEM Software for Terrain Visualization
初心者用	Getting data into ArcView GIS

2) WRB 職員のための GIS 講師養成研修 (TOT)

GIS の CP をはじめ WRB 職員に対し、GIS の基礎、GIS ソフト (ArcGIS) の使用方法、GPS によるデータ収集方法、機能している井戸および機能していない井戸の分布地図の作り方、井戸の配置図など、主題図策定のために必要なスキルや知識に関し、日本人専門家が研修を実施した。また、研修を受けた WRB 職員が GIS 専門家として講師になるためのスキル (教授法) について研修した。研修期間は 5 日間であり、2009 年および 2010 年の 2 回、計 11 名の WRB 職員に対して実施した。なお、現在までに 11 名のうち 6 名が離職している。

3) 県および特別郡水職員への GIS 訓練

県および特別郡の水職員 25 名に対し、GIS データ構築技術および郡が収集したデータの検査方法に関し、15 日間の研修を 2010 年と 2011 年の 2 回実施した。研修は上記 TOT で養成した 3 名の WRB 職員と日本人専門家が担当した。

3-2-2 アウトプット 2

アウトプット 2： 重点対象 6 郡において、ロープポンプ普及基盤が作られる		
	指 標	実 績
2.1	プロジェクトで設置したロープポンプの維持管理モニタリングシステムにおいて、プロジェクト終了までに利用者からの毎月の情報収集率が 80% に達する。	プロジェクトでは家庭用のロープポンプを 50 台設置し (設置地域については付属資料 1. の Annex 8)、設置方法、維持管理方法について OJT による研修を行なった。特に維持管理方法についてはロープポンプの利用者が直接郡水事務所に報告 (場合によっては水衛生委員会 (WASHCO) を通じて) 行なう「ボトムアップモニタリングシステム」を導入し、毎月報告書を提出することを研修した。この方法を採用したのは、郡事務所から直接利用者を訪問しモニタリングする予算や交通手段が限られているためである。終了時評価時の利用者からの報告の提

		<p>出程度は下表のとおりであり、Angacha と Boloso Sore 郡以外では目標率に達している。ボトムアップ方式の情報収集方法については、インタビューを行なったどのレベルでも高い評価が得られた。なお、プロジェクトは2年目よりコミュニティ用に開発された耐久性の高いロープポンプ（HDRP）を試験的に4台設置した。これらは試作品としてロープポンプの機能を検査するために設置されたものであるため、指標には反映されていない。</p> <table border="1"> <thead> <tr> <th>郡</th> <th>利用者からの情報収集率</th> <th>郡</th> <th>利用者からの情報収集率</th> </tr> </thead> <tbody> <tr> <td>Angacha</td> <td>64 %</td> <td>Hula</td> <td>100 %</td> </tr> <tr> <td>Boloso Sor</td> <td>40 %</td> <td>Silti</td> <td>100 %</td> </tr> <tr> <td>Arba Minch Zuria</td> <td>100 %</td> <td colspan="2"></td> </tr> </tbody> </table> <p>(2011年5月時点)</p>	郡	利用者からの情報収集率	郡	利用者からの情報収集率	Angacha	64 %	Hula	100 %	Boloso Sor	40 %	Silti	100 %	Arba Minch Zuria	100 %		
郡	利用者からの情報収集率	郡	利用者からの情報収集率															
Angacha	64 %	Hula	100 %															
Boloso Sor	40 %	Silti	100 %															
Arba Minch Zuria	100 %																	
2.2	ロープポンプの認知度が設置した地域でプロジェクト終了までに70%に達する	<p>ロープポンプを設置した周辺コミュニティからの終了時評価時点での認知度は下表の通りである。認知度に関してもAngacha および Boloso Sore で目標値を下回っている。プロジェクトでは今後認知度を上げるために毎月開かれる既存のコミュニティ会合（Kebele Meeting）に出席し、ロープポンプを紹介する予定でいるが、プロジェクト側の更なる努力を期待したい。また、ロープポンプの普及は政府の政策でもあるところ、ロープポンプを設置した周辺コミュニティのみならず、他コミュニティにも認知度を広げる努力が必要である。</p> <table border="1"> <thead> <tr> <th>郡</th> <th>認知度</th> <th>郡</th> <th>認知度</th> </tr> </thead> <tbody> <tr> <td>Angacha</td> <td>55 %</td> <td>Hula</td> <td>75 %</td> </tr> <tr> <td>Boloso Sore</td> <td>40 %</td> <td>Silti</td> <td>75 %</td> </tr> <tr> <td>Arba Minch Zuria</td> <td>75 %</td> <td colspan="2"></td> </tr> </tbody> </table> <p>(2011年5月時点)</p>	郡	認知度	郡	認知度	Angacha	55 %	Hula	75 %	Boloso Sore	40 %	Silti	75 %	Arba Minch Zuria	75 %		
郡	認知度	郡	認知度															
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Boloso Sore	40 %	Silti	75 %															
Arba Minch Zuria	75 %																	

合同評価チームは上記2つの指標がこれまでの進捗程度および今後の投入を考慮すると、プロジェクト終了までに達成される見込みがあると確認した。しかしながら、今後ロープポンプ普及の基盤をより強固なものとするため、活動の更なる強化が必要であろう。

中間レビュー後、ロープポンプに関しては2人のCPが配置された。また、4人の他WRB職員からなる「ロープポンプグループ」が設置され、CPとともに活動を一緒に行なうこととなった。実際は、CPのうち1名とロープポンプグループから2名が積極的に活動に参加しているが、他のメンバーはあまり参加していない状況である。

アウトプット2に関する活動は概ね計画どおり実施された。活動は対象6地域のうちロマ郡を除く5郡を中心に実施された。ロマ郡については水理地質的にロープポンプに適さなかったため、

実際の設置はしなかったが、各種会合やJCCの場でロープポンプの情報について共有が図られた。

政府は低コストの小規模給水施設の普及を提唱しており、ロープポンプの普及は政府の政策と合致している。実際の普及については郡レベルが担当することとなるが、WRBの役割として、今後郡が詳細な普及計画を策定することを支援および促進しなければならない。しかしながら、現在WRBにはロープポンプを担当する部署や担当者が正式に配置されていない。本プロジェクトでロープポンプのCPやロープポンプグループに所属している職員は、元来維持管理を担当している職員であり、州のこのような役割や将来的なロープポンプ普及計画について指示を受けておらず、プロジェクト終了後のロープポンプの方向性や自分たちの役割について理解していないことが判明した。ロープポンプに関わった関係者のオーナーシップや自立発展性にも関わる問題であり、今後プロジェクトにおいて彼らの将来的な役割を含め、郡への支援方法についても検討が必要である。

一方、合同評価チームはすでにいくつかの対象県や郡において限られた予算の中でロープポンプの普及活動を実践している例を確認した。例えば、Arba Minchにある県水事務所では、VITAやWorld VisionといったNGOを通じて彼らの支援地域で普及を進めている。また、Angacha郡では、本プロジェクトが実施したロープポンプの実地研修を基に、自分たちの予算から15台のコミュニティ用ロープポンプを設置していた。

アウトプット2の主な活動は以下のとおりである。

(1) 州水資源局内に「ロープポンプグループ」の設立

2009年12月に実施された中間レビュー後、2人とCPが配置された。プロジェクトは、CPと一緒に活動することでCPが異動しても技術が残るように、他4人の職員からなる「ロープポンプグループ」を局内に設立した。

(2) ロープポンプ研修マニュアルの改訂

プロジェクトでは、既存の設置、普及、設置場所に関するマニュアルを改訂し、これらにマーケティング（ロープポンプの導入・普及、品質管理）の分野（Rope Pump Promotion Booklet）を新たに追加した総合的な研修マニュアルを開発した。研修はこの総合的なマニュアルを基に実施された。マニュアルは英語およびアムハラ語で作成された。その他、家庭用のロープポンプ利用者が記入するモニタリングフォームが作成された。今後これらのマニュアルやフォームの改訂を誰が実施するのかについて明確にしておく必要がある。

(3) ロープポンプ総合研修の実施

5日間のロープポンプ総合研修が上記研修マニュアルを使用して5つの対象郡（Hula, Angacha, Arba Minch Zuria, Boloso Sore, Silti）で開催された。各郡よりは、5-6人の職員が参加し、WRBのCPもAngacha, Boloso Sore, Siltiの研修に参加した。研修ではロープポンプの基本的な知識（構造や機能）や設置場所の選択方法、設置方法、修理技術、維持管理技術、普及に関する知識（金額、需要を高める方法、質の確保の方法など）に関し、現地コンサルタントおよび日本人専門家による実地研修（OJT）が実施された。これらのOJTを通じて、50台の家庭用ロープポンプと4台のコミュニティ用（高耐久性ロープポンプ）が設置された。ロープポンプの設置場所については付属資料1のAnnex 8を参照されたい。また、ロープポンプ普及のためのセミナーをこれまで

2 回実施しており、南部諸民族州で活動している NGO や関係機関への情報共有を図っている。

(4) 他 3 州における活動

2008 年 9 月末より、ロープポンプの普及モデルの構築を目的に、実証的なデータを収集するためティグライ、オロミア、アムハラ州の 3 州でも活動を実施している。エチオピア給水技術センター (EWTEC) が 3 州に配布した合計 296 台のロープポンプを活用し、設置実地訓練の実施、EWTEC で研修を受けた技術者へのフォローアップ訓練の実施、州・県職員に対するロープポンプの品質管理訓練が実施された。また、研修は関連 NGO に対しても実施された。そして、本プロジェクトの対象 6 郡の職員が 3 州を訪問し、実証データを収集し、3 州での経験を学んだ。

3-2-3 アウトプット 3

アウトプット 3： 重点対象 6 郡において、水供給施設の維持管理体制が改善する		
指 標		実 績
3.1	各 WWMEO 事務所の規定の数の職員が修理/維持管理に関する試験にプロジェクト終了までに 70 ポイント以上を獲得する	2010 年に研修を受講した郡職員の平均 64.7 ポイントを獲得している。プロジェクトでは、彼らに更に追加研修を実施し、訓練した技術に対し再試験を実施する予定である。従って、指標はプロジェクト終了までには満たされる見込みである。
3.2	対象 21 箇所の水供給施設の水衛生委員会 (WASHCO) の管理者 (Caretaker) がプロジェクト終了までに修理・維持管理に関する訓練を受けた後、水供給施設によって異なる規定の頻度で予防保守管理 (定期維持管理) を実施する	合同評価チームが訪問したすべての WASHCO において、管理者が毎朝始業前点検を実施していることを確認した。  終了時評価時において、20 箇所の WASHCO のうち (モニタリング当時給水施設 1 台が 2011 年 1 月より故障中) 18 箇所が郡水事務所に月例報告書を定期的に提出していた。これにより、ほぼ全ての WASCHO が定期維持管理を実施していることが確認された。プロジェクトでは、WASCHO 機能の更なる強化とモニタリングを継続することとなっており、プロジェクト終了までの指標の達成は見込まれる。
3.3	対象の水供給施設のすべての水衛生委員会が 2011 年 8 月 (2003 エチオピア年) までにそれぞれ設定された維持管理コストを貯蓄する	すべての WASCHO で水料金の徴収が行なわれており、これらは維持管理費として銀行口座に入金されている。終了時評価時点では、20 箇所のうち 16 箇所を設定された維持管理費用 <sup>3</sup> を貯蓄していることを確認した。残りの 4 箇所については、前月にスペアパーツ交換のために大きな支出があったり、井戸利用者人口が他地域よりも少なく、料金徴収しても貯蓄のスピードが遅いからであった。コミュニティが水料金を支払うことに反対しているのではないことが確認された。
3.4	21 箇所の対象水衛生委員会のそれぞれが、プロジェクト終了までに半年毎に必要なハンドポンプのスペアパーツ (Afridev) を維持管理できるようになる	対象となっている 21 箇所の WASHCO のうち、実際 Afridev ハンドポンプを所有しているのは 10 箇所のみである。終了時評価時点で、10 箇所のうち 1 箇所は Indian Mark II に変更することが決定していることから、本指標で対象となるのは 9 箇所の WASHCO のみである。

<sup>3</sup> 貯蓄のため設定された費用は井戸の種類によって異なる。例えば Afridev では 500 ブル、Indian Mari II では 1,150 ブル、電動式井戸では、2,500-6,500 ブル (利用人口により異なる) である。



		<p>評価時点で、この9箇所のうち Afridev ハンドポンプのスペアパーツを保有しているのは2箇所しかなかった。WASCHO の中にはスペアパーツを購入する維持管理費はあるがスペアパーツを安全に保管する場所がない、といった理由も聞かれたが、プロジェクトとして今後更なる啓蒙活動を実施する必要がある。</p>
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上記4つの指標の進捗状況および今後の活動計画に鑑み、これら4つの指標はすべてプロジェクト終了までに達成が果たせる見込みである。しかしながら、現在の達成状況を維持および向上するためには、引き続き郡職員および WASHCO の能力強化が必要である。

アウトプット3は、(1)県、郡職員の修理技術および予防的維持管理技術の習得、(2)WASHCO の機能強化および衛生促進を含めた維持管理能力の向上、(3)スペアパーツ供給網のモデル開発、といった3つのコンポーネントからなる。これらのコンポーネントの主な活動は次のとおりである。

(1) 県、郡職員の修理技術および予防的維持管理技術の習得

プロジェクト前半においては、一般研修として78郡の職員に対し、維持管理技術向上のために(1)計画/管理、(2)給水技術、(3)電気/機械、(4)ハンドポンプ維持管理、(5)コンピュータ、(6)地下水開発の分野の研修を実施した。またこれらに係る教材の開発を行なった。

前述のとおり BPR の影響により本コンポーネントにおける CP は不在であったが、2010年9月になって3名が配置された。3名とも基礎的な維持管理技術や経験を積んでおり、日本人専門家の OJT による TOT の後、対象6郡の職員に対し維持管理技術の OJT を実施した。日本人専門家は適宜サポートを行なった。また、6重点対象郡のインベントリ調査を実施し、州、県、郡水資源事務所の職員と井戸の不稼動要因の解明のため現地踏査を実施した。その後、ハンドポンプの不稼動要因を大別し、特にその要因別の修理方法や維持管理方法を特定した。最終的にこれらは維持管理マニュアル (Community Operation and Maintenance Manual) として取り纏めた。

維持管理では、故障後の修理に重点を置いていたエチオピア側にとって、今回プロジェクトで導入した予防的維持管理の概念は新しいものであり、CP へのインタビューでは、給水施設の維持管理のためには大変有効である旨コメントがあった。その一方、州、県、郡のどのレベルにおいても維持管理に必要な道具が十分に配備されておらず、またモニタリングのために給水施設に行く予算も限られていた。ある郡事務所においてはドライバー1本も配備していない所や、郡事務所が井戸を修理する際に、その井戸の WASHCO がスペアパーツ代金および郡職員の日当、交通費を支払っているケースも観察した。従って、プロジェクト終了後の継続的な維持管理実施には予算や工具の不足といった課題が残っている。

(2) WASHCO の機能強化

対象21箇所の WASHCO では、レベルの差はあるがそれぞれ機能強化を果たしている。いくつかの WASHCO では水料金の徴収、コミュニティ用トイレの建設、コミュニティ集会の開催、各家庭レベルでのトイレ建設、水料金の設定、郡事務所への毎月の報告などの活動を WRB の助けなしに自分たちで実施していることが確認された。プロジェクトが始まってからすでに19箇所の WASHCO のうち9箇所コミュニティ用トイレを建設している。一方、家庭レベルでのトイレは

WASHCO の住民啓発により対象コミュニティのほぼ全てで建設された。プロジェクトが実施したインパクト調査によると、対象 6 郡において 2008 年では家庭用のトイレの普及率は 76.5%であったのに対し、2011 年には 93.6%に増加しているという暫定的な結果がでている。本プロジェクトでは WASHCO に対する研修や活動に地元の保健普及員やケベレ（コミュニティ）長を含む行政官を参加させ、これがトイレ建設を含め手洗い習慣の慣行など衛生環境の向上を促進したことが本評価で確認された。また、Boloso Sore 郡のホゴワン WASHCO は、各家庭用のトイレ建設の際には、必ず灰または石鹼を備えた簡易手洗い器具を備え付けさせ、また WASHCO 事務所を設立するなど本プロジェクトの活動以上のことを自分たちで実施している。このコミュニティの家庭用のトイレ普及率は 2009 年で 56.16%、2010 年で 68.65%であるが、本プロジェクトが 2011 年 11 月に WASHCO 向け研修を実施したところ、その 3 ヶ月後にはトイレ普及率が 100%にまで達した。この結果は WASHCO 研修の正のインパクトの現れである。

本プロジェクトでは特に WASHCO と郡事務所との連携を強化したことにより、給水施設の持続性が高まったということが州、県、郡のどのレベルからもインタビュー時に指摘されている。また、本プロジェクトが対象としている WASHCO と別の WASHCO では、郡レベルに収集される情報の量、質、透明性のどれをとっても違うということが指摘された。このような事実からプロジェクト対象となった県、郡事務所から、プロジェクトの効果を対象以外の郡や WASHCO に広めたいという意見が多く聞かれた。しかしながら、このような普及の意思は強く持っているが、日当などの予算や交通手段が制約となり、実際には難しい課題と直面している。

本コンポーネントの CP は、プロジェクト開始時より配属されており、一旦は BPR で正式な CP から外れていたが、プロジェクトに大変積極的に参加し、本コンポーネントの目標達成を促進した要因のひとつに挙げられる。日本人専門家による CP への TOT 研修の後、郡職員および対象 WASHCO に対し、多数の OJT 研修が実施された。研修内容は、郡事務所が所管する WASHCO について、その組織化や運営手法などコミュニティを基本とした維持管理に関する基礎研修であった。プロジェクトでは、すでに日本の無償資金協力で作成したマニュアルや WASH プログラムのマニュアルなど既存のマニュアルを活用しながら、より実践的で利用者が使用しやすいように研修マニュアルを改訂した。マニュアルは、郡事務所用（Field Implementation Manual (ver.1)）と WASHCO 用（Handbook for WASHCO）の 2 種類を策定した。

### (3) スペアパーツ供給網

プロジェクトでは、下表のとおり 7 箇所ですべての違った形態（(1)シルティ県で行なった県水事務所内の店舗モデル、(2)民間会社への委託モデル、(3)ハンドポンプ利用者グループモデル、(4)水公社内の店舗モデル、(5)ハンドポンプ修理民間技術者組合モデル）でスペアパーツを供給するアウトレットを開いた。事業を始めるための初期投資として、プロジェクトがスペアパーツ一式を供与し、運営が開始された。ただし、Durame 郡と Alte Wondo 郡の 2 つの民間店舗に対してはプロジェクトでスペアパーツの供給は行なわなかった。これらの民間店舗は、プロジェクトの趣旨に賛同し、自己資金で試験的に井戸のスペアパーツの供給を始めたものである。

スペアパーツ供給網のコンポーネントに関する WRB からの CP は常に 1 人は存在したが、途中で異動があり、現在は 2010 年 3 月に配置された 2 名が配置されている。日本人専門家により 2009 年 5 月と 2010 年 4 月に TOT が実施され、彼らがアウトレット店関係者にスペアパーツ店舗の運

営管理に関する研修（OJT）を実施した。プロジェクト3年次にはフォローアップ研修やモニタリングワークショップも開かれた。また、2010年10月にはそれぞれのアウトレット店の経験や課題、解決方法を共有するためアルバミンチで合同ワークショップを開催した。

プロジェクトでは、スペアパーツアウトレットの運営マニュアルやガイドライン、料金設定方法に関する演習・解答テキストを作成した。また、アウトレットの存在を地域の利用者である県および郡の水事務所および WASHCO に周知するため、住所と連絡先、そして主要スペアパーツの値段を記したリーフレットを作成し、配布した。

利用者である水事務所や WASHCO ではこれまでスペアパーツ購入のために州都であるアワサや場合によってはアディスアベバまで行かなければならなかった。従って、彼らへのインタビューでは、近隣県にスペアパーツ店舗ができたことは時間と交通費の節約にもなり、大変便利になったという声が聞かれた。また、迅速に修理要請に対応できるようになったことが挙げられた。

その一方、それぞれのモデルによっていくつかの課題も浮き彫りとなってきた。例えば民間店舗で販売するだけの需要がなく売上げが低いという事実や、県水事務所や水公社で販売する場合、アウトレット担当者は別の仕事をしている場合もあるため、店舗が常時開けられないという状況があることが判明した。今後プロジェクトではこの5つのモデルの利点、課題等を分析し、最終的にスペアパーツ供給網を構築するためのガイドラインを作成するが、合同評価チームは、プロジェクトがアウトレット店に関し今後更にプロモーション活動を強化する必要がある点を指摘した。またそれと共に、最終的に作成するアウトレットガイドラインの運用に当たっては、WRBからの強力な支援が必要である旨を指摘した。

モデル	アウトレット店	県	郡
県水事務所	県水事務所内店舗	Silti	Silti
民間店舗	Merab 金属加工店	Goma Gofa	Arba Minch Zuria
	Kasa 建設資材店*	Kembata Tembaro	Durame
	Hailu 建設資材店*	Sidama	Alte Wondo
ハンドポンプ利用者グループ	ハンドポンプ利用者グループ店	Gedeo	Yirgachefa
水公社	水公社内店舗	Wolayta	Boloso Sore
ハンドポンプ修理民間技術者組合	後に水公社モデルに変更	Dawro	Tercha

\* 初期にスペアパーツ一式が供給されなかった店舗

### 3-3 プロジェクト目標の達成度

プロジェクト目標	南部諸民族州の給水システムの開発、維持管理能力が向上する
指 標	OJT 対象郡の村落給水システムの稼働率（Access Running Rate）が2011年12月（プロジェクト終了）までにそれぞれの目標値に達する。（Hula 郡 85%, Silti 郡 88%, Angacha 郡 88%, Boloso Sore 郡 82%, Loma 郡 92%, Arba Minch 郡 87%, プロジェクトで設置されたロープポンプ 80%）

プロジェクト目標は指標の達成状況から判断する限りプロジェクト終了までに達成すると見込ま

れる。

WRB の組織内の調整や州、県、郡、WASHCO（コミュニティレベル）との縦の行政ラインの調整能力がプロジェクトにより強化された。特にプロジェクトはそれまで希薄であった WASHCO と郡水事務所間の連携を「ボトムアップ報告システム」を導入することにより強化することができた。また、プロジェクトでは、給水施設の維持管理に関し、コミュニティレベルで実施することに焦点を当てたことで既存の機関の連携を強化したといえる。プロジェクトの活動を通じて、WASHCO、技術・予防的維持管理、ロープポンプ普及、スペアパーツ供給網それぞれのモデルを構築したといえる。

2011 年 3 月時点での給水施設の稼働率の達成状況は下表のとおりであり、ほぼ目標値を達成していることを確認した。

対象地域	給水施設の稼働率	
	目標値	2011 年 3 月時点
Hula 郡	85 %	84 %
Silti 郡	88 %	86 %
Angacha 郡	88 %	88 %
Boloso sore 郡	82 %	80 %
Loma 郡	92 %	91 %
Arba Minch Zuria 郡	87 %	87 %
ロープポンプ設置地域	80 %	88 %

### 3-4 実施プロセス

本プロジェクトは、2008 年より始まった組織改革（BPR）により中間レビュー時には CP がいないという深刻な課題に直面していた。

PDM はプロジェクト期間中に 3 回変更された。2008 年 6 月に PDM0 から PDM1 に変更され、PDM2 は 2009 年 6 月に策定された。活動計画表もそれぞれの PDM の変更に伴い作成された。一方、PDM3 に至るまでプロジェクトの詳細な戦略やプロジェクト目標達成のためのアプローチが明確になっていなかった。主にそれぞれのアウトプットを導き出すインプット毎の活動が中心となっており、プロジェクトとしてのまとまりがなく、プロジェクトはそれぞれのアウトプットの結果、何を指すのかが明確になっていなかった。以上を踏まえ、中間レビューでは活動や各アウトプットの連携を考慮し、PDM2 の改訂を提案した結果、PDM3 案が日本人専門家チームにより 2009 年 12 月に策定された。エチオピア側の承認は、口頭でその後得ているが、正式には 2011 年 4 月に署名を交わしている。この遅れは、WRB の組織改革によりプロジェクトディレクターの交代があったためである。現行の PDM3 では、戦略を明確化した上、アウトプットを 6 つから 3 つに整理し、そして対象郡を 78 から 6 郡に絞ることとした。

プロジェクトは WRB のプロジェクトディレクターと日本人専門家により運営されてきた。しかしながら、前述したように BPR の影響から CP の異動や離職が後を絶たず、日本人専門家とエチオピア側とのコミュニケーションがあまり頻繁に行なわれていなかったのは否めない。そのため中間レビュー後には、月例会合を開催することとし、プロジェクトの進捗状況について常に情報共有を行なうシステムを導入し、コミュニケーション促進に努めている。それでも CP が他の業務で出席できない

ような時もしばしばあり、その場合は、個別に対応している。また、本プロジェクトは業務実施型で複数の日本人専門家がそれぞれの活動を実施するためシャトル型の短期派遣を繰り返していた。これが CP の交代が頻繁な本プロジェクトではコミュニケーションを更に難しくしていた。そのため、プロジェクトでは中間レビュー後に、全体の日本人専門家の派遣期間 (M/M) は変えずに、プロジェクト調整員を長期で常駐させることで、プロジェクトの調整および CP とのコミュニケーション促進に努力を払っている。更に、それぞれの日本人専門家は現地にはいない期間も自分たちの CP とメールや電話などで連絡をとりあい調整をとっている。しかしながら、日本人専門家が不在の期間はプロジェクトの進捗は多少遅くなっていることは否めない。



## 第4章 評価結果

### 4-1 妥当性

#### (1) エチオピア政府の政策との妥当性

本プロジェクトが策定された時のエチオピア政府の5ヵ年計画（PASEDP: 2005-2009）の中で、農村給水施設の稼働率を30%（2005）から2010年までに10%に減少することを目的としている。また、水セクター中長期計画であるUAP（2005）は、給水率を策定時期の35%から2012年までに98%に改善することを目的としている。同計画の目標達成のためには郡水事務所における人材開発および能力開発、低コスト技術の積極的採用、稼働施設の改修を主要戦略として位置づけている。従って、農村給水の稼働率を関係機関の人材育成を通じて向上させようとする本プロジェクトとの整合性が高い。

さらに、2010年に発表された現行の5ヵ年計画（GTP）には2015年までに給水率を98.5%に改善することが挙げられ、2011年に改訂されたUAPにおいても同様に2015年までに安全な水へのアクセス（1.5km以内でのアクセス）を98%にし、稼働率を10%に改善することが明記されている。その戦略はすべてのレベルにおける水セクターの人材育成や能力開発である。

以上より、南部諸民族州の給水システムの開発、維持管理にかかる能力の向上を図るといふ本プロジェクトは、エチオピア側の開発政策と整合性が高い。

#### (2) セクター戦略との整合性

2011年に改訂されたUAPでは、特に低コスト技術の採用により農村給水率の向上を挙げているが、これは手掘り井戸のみならず、本プロジェクトで普及基盤を構築する家庭用やコミュニティ用のロープポンプも該当する。また、UAP改訂版には維持管理がコミュニティレベルでできるような簡単な技術や安価なものを要請している。そして、持続的かつ確実な給水施設にするために維持管理に対しコミュニティの積極的な参加を要請し、そしてスペアパーツ供給網の改善を強調している。本プロジェクトはこれらの要素をすべて内包しており、セクター戦略との整合性が高い。

#### (3) ターゲットグループの妥当性

ターゲット地域である南部諸民族州の給水率は34%（2004）と全国平均の35%を下回っており、既存施設の約30%が故障したまま使用不能になっているとされる。対象郡の選択に当たってはプロジェクトの事前調査を経てエチオピア政府側と協議のもと実施されており、UAPに挙げられているように、特に水セクターのすべてのレベルの人材における能力開発に重点を置いている。従って、ターゲットグループの選定の妥当性も高く、またニーズにも合致している。

#### (4) 日本政府の援助政策との整合性

対エチオピア援助計画（2008）において、水・衛生セクターは援助重点課題のひとつであり、また第4回アフリカ開発会議（TICAD IV）において日本はアフリカにおいて有効な水資源管理への支援および安全な水・衛生へのアクセスの改善を重視する旨表明している。日本は水分野に関する高い技術を有しており、特に予防的維持管理技術に関しては深い知見と経験がある。これらはエチオピアの持続的な農村給水供給に大変効果的である。

以上により、本プロジェクトの実施はエチオピア国の開発政策、開発ニーズ、日本の援助政策と十分に合致しており、妥当性は高い。

## 4-2 有効性

本プロジェクトの実施により、概ね目標どおりの効果発現が見られ、有効性は高い。

### (1) プロジェクト目標の達成度

上記 3-3 で既述したとおり PDM3 の指標および評価時に得られたコメントから判断するとプロジェクト目標は期待どおりに達成される見込みが高い。

WRB 内の関連部署との調整能力や県、郡、WASHCO の関係機関との調整能力が強化された。特にこれまで希薄であった WASHCO と郡水事務所との連携がボトムアップ報告システムを導入して強化されたことはすべてのレベルの関係者より大変有益である旨コメントがあった。また、プロジェクトでは、給水施設の維持管理に関し、コミュニティレベルで実施することに焦点を当てたことで既存の機関の連携を強化したといえる。プロジェクトの活動を通じて、WASHCO、技術・予防的維持管理、ロープポンプ普及、スペアパーツ供給網それぞれのモデルを構築したと言える。

プロジェクトの効果を高めた理由のひとつは、特にコミュニティレベルの WASHCO の能力強化活動に対し、モニタリングなど頻繁なフォローアップを実施したことである。通常ドナーや NGO は井戸を設置し、WASHCO のような水衛生委員会を設置するところまで実施するが、彼らに対する訓練は行なっても 1 回程度であり、あまり機能強化が望めていない。本プロジェクトでは頻繁なフォローアップにより WASHCO 機能の強化が可能となったことが特筆される。

しかしながら、今後もプロジェクト目標の達成度を維持するためには、プロジェクト終了後も WRB が頻繁なモニタリング活動を実施することが期待される。また、持続的な給水施設のためには、本プロジェクトが実施したようなコミュニティレベルでの維持管理能力の強化が効果的であり、南部諸民族州の対象となっていなかった郡や WASHCO の強化を水資源局のイニシアティブで実施する必要がある。

### (2) プロジェクト目標を促進または阻害した要因

中間レビューで PDM の改訂を受け、プロジェクトの内容が整理され対象郡が 78 から 6 郡に絞ったことがプロジェクト目標の達成を促進した。また、本プロジェクトのアプローチは郡や WASHCO への研修後にモニタリング活動など頻繁にフォローアップを取り入れており、研修実施のみを基本としている他ドナーや NGO の形態よりも、研修で強化された能力を定着させるのに効果的であった。

一方、これまでに 3 回交代したプロジェクトディレクターをはじめ、主に BPR による CP および県、郡の水職員の頻繁な異動や離職はプロジェクトの進捗に深刻な影響を及ぼした。

## 4-3 効率性

3 つのアウトプットはプロジェクト終了までに達成されることが見込まれるが、総合的に判断すると効率性はやや低い。



2008年初期に導入されたBPRや2010年10月の新行政改革により、WRBのCP、プロジェクトで訓練した県、郡水事務所職員の頻繁な交代はプロジェクト実施に深刻な影響を及ぼした。また、対象県・郡水事務所の所長の交代や、職員の交代があっても特に次の人に引き継ぎや記録を残して置くという習慣がないエチオピア行政の中で、プロジェクトの効率性が損なわれた。そしてプロジェクトの一貫性を保つために、日本人専門家は新しいCPや県・郡職員に対してプロジェクトの説明を最初からやり直さなければならず、また同じ訓練を新しいCPに実施するなど追加的な努力が払われた。その結果、計画した活動の遅れも生じた。

州水資源局長はプロジェクト期間中に3度交代し、CPはBPRによる人員削減のための他業務の負担が増え、本プロジェクトにコミットする時間が限られてしまった。

また、当初プロジェクトは78郡を対象としていたが、投入の量や4年間という限られた期間を考慮すると、プロジェクトが目に見えるアウトプットを産出するにはあまりにも広げすぎており、結局、これがプロジェクトの進捗に影を落とすこととなっていた。中間レビューは、CPの再配置の促進、アウトプットの整理（6つから3つに整理）、そして対象地域を絞込んだこと（78郡から6郡）により効率性を高めることとなった。なお、対象郡を減らしてはいるが、プロジェクトのインパクトを狭めることにはならず、むしろプロジェクトの効果を高め、プロジェクトの焦点がより絞られることとなった。中間レビュー以前に実施された活動についても対象6郡が含まれており、現在のプロジェクトの内容とも整合している。しかしながら、プロジェクトが初期の段階からリソースを現在の対象6郡に集中していればより効率的であったことは否めない。

また、中間レビュー後には、月例会合を導入することにより日本人専門家とCPとのコミュニケーションが良好となった。更に、日本人専門家（調整員）がほぼ常駐することにより、CPとの調整やロジ的なアレンジが効率的に行なわれるようになった。

機材の投入は計画どおりに実施された。

#### 4-4 インパクト

すでに正のインパクトがいくつか観察されている。負のインパクトは現在のところ生じていない。

##### (1) 上位目標の達成見込み

プロジェクトの上位目標である「南部諸民族州において給水システムの持続性が向上する」については、プロジェクトで導入したアプローチが対象地域以外でも導入されプロジェクト効果が広まることが指標となっている。合同評価チームは、評価時においていくつかのプロジェクト対象県や郡において、プロジェクトで実施した予防的維持管理の活動やロープポンプの普及を実施している例を確認することができた。例えば、Dawro 県水事務所では水料金の徴収、会計、衛生啓蒙活動など本プロジェクトで用いた WASHCO を強化するアプローチを他2郡（Tocha と Esaro 郡）の WASHCO に研修している。また、Hula 郡においては、対象となっていなかった WASCHO に対し、本プロジェクトのアプローチを用いて研修を行なっている。このようなプロジェクト対象となっていない地域や WASHCO へのプロジェクト効果の普及については、県や郡に限られた予算や人員の中で独自に行なっているものであり、プロジェクトの有効性と彼らの自主性を証明したこととなった。更に、SNV が本プロジェクトで作成した WASHCO から郡事務所への月例報告フォーマットを採用し、彼らの支援地域で活用することも確認した。また、Silti 郡事務所にお

いては、スペアパーツのアウトレット店をノルウェー系 NGO (NCA) から初期のスペアパーツの供給を受けて開設する予定であることも確認した。アウトレット店の運営管理については本プロジェクトが研修を実施した県事務所の支援を受けることを期待している。他の例としては、アフリカ開発銀行が井戸の設立支援している Angacha 郡において、本プロジェクトから啓発され、井戸の近くに水掲示板の設置が行なわれている。更に、Angacha 郡の Bercha WASHCO においては、井戸の維持管理費用を賄うために水料金の他に、コミュニティから土地を借りて農作物を育て換金するなどの工夫もみられた。

ロープポンプ普及に関しては、本プロジェクトが研修を実施した後、Angacha 郡は Food for Hunger という国際 NGO の支援を受け 30 台導入している。また、Arba Minch 県事務所では VITA や World Vision などの NGO を通じてロープポンプの導入を図っている。また Angacha 郡では、郡独自の予算でコミュニティ用ロープポンプ 15 台を設置している。

以上のように、プロジェクトで用いたアプローチがすでいくつかの県や郡で採用されていることが確認されたが、今後本プロジェクトで策定したガイドライン、マニュアル、モニタリングフォームなどが WRB によって承認され、南部諸民族州全地域において通常使われるものになれば、上位目標の達成も可能であろう。

## (2) 他インパクトの発現

本プロジェクトでは以下の正のインパクトの発現が確認された。

プロジェクトは衛生面においてコミュニティの行動に変化をもたらした。プロジェクトにより対象地域コミュニティのほとんどが各家庭に簡易手洗い装置付きトイレを建設し、そしてトイレ使用后や料理前の手洗いの習慣をつけさせた。また、住民に衛生面の改善について啓蒙し、村自体の衛生環境が大幅に変化した。人びとは、今や自分の家だけではなく、共有スペースの清掃も実施している。プロジェクトでインパクト調査を実施したところ、2008 年には対象地域でのトイレの普及率が 76.5%であったのに対し、2011 年には 93.6%に改善したという暫定結果も出ている。評価時に合同評価チームが訪問したコミュニティにおいても、ほとんどの場所で井戸の側に共用トイレが建設されており、井戸を利用しているほとんどすべての家庭でトイレが建設されているのを確認した。特に Boloso Sore 郡の Hogowan WASHCO はベストプラクティスとも言える WASHCO であり、共用トイレや各家のトイレ建設促進の他、彼ら自身の発案で様々な活動も始めており、村の清掃や WASHCO 事務所の建設も実施していた。

一方、スペアパーツ供給網が利用者側である郡事務所や WASHCO の近くに設立されたことにより、時間と交通費の節約ができるようになったという経済的効果も現れている。

## 4-5 自立発展性

プロジェクト効果の持続性は、WASHCO レベルではやや高いが、州、県、郡レベルでは中程度である。

### (1) 政策面

持続可能な給水施設や水セクターのすべてのレベルで人材育成は引き続きエチオピア政府の優先課題のひとつである。2011 年に改訂された UAP や現行 5 年計画である GTP においても重点

が置かれている課題である。また、UAP 改訂版には、農村の給水施設の普及には低コストでありコミュニティがアクセスしやすいロープポンプのような小規模給水施設を普及するべきであると提言されている。このように、プロジェクト効果の持続性を保つ政策面での強力なバックアップが存在する。

また、郡の予算配分を決定する郡議会には、保健、教育、農業分野など水以外のセクターの関係者が集まっていたのが、BPR 後に郡水事務所長がメンバーとして加わるようになった。今後郡レベルでの水セクターの予算配分への配慮が期待できる。

## (2) 組織面

県、郡水事務所のほとんどで予算不足のため、ポストはあっても人員が埋まっていない状態である。ある郡事務所では管轄内に 150 以上ある水施設があるのに、そのための維持管理職員が 2 人しかいないという状態であり、組織面では脆弱である。しかしながら、上記のとおり限られた予算、人員の中でも本プロジェクトで得た知識や経験をすでに他にも広げようとしており、プロジェクト終了後も彼らのできる範囲内で活動を続ける意志が確認された。

一方、エチオピア側からのプロジェクトの質の確保と、CP の積極的なプロジェクトへの参加、そして今後の持続性を確保するためにも、WRB 内にある「開発計画準備、モニタリング、評価、フィードバック支援部」の職員を今後本プロジェクトの定期会合や JCC、フィールド調査への参加など本プロジェクトに組み入れることが有効であることを確認した。

## (3) 技術面

全体的にはプロジェクトで移転した知識、スキル、技術はエチオピアに適したものであり、適切に関係者に移転された。技術移転を受けた様々なレベルの関係者がプロジェクト終了後も在籍し続ければ、プロジェクトで対象となっていない南部諸民族州の他地域へも知識や技術の普及が可能であり、技術的な持続性が保たれるだろう。また、プロジェクトで開発したマニュアル、ガイドライン、そして報告フォーマットなどが州の標準として採用され、他地域にも普及することができれば、技術面での持続性は保持される。

しかし、アウトプット 1 である GIS のコンポーネントに関しては、プロジェクトで作成した主題図が 5-6 年に 1 回しか実施されない全国規模の給水インベントリー調査を待たなければ改訂されない恐れがあり、移転した技術も使われる機会がない。インベントリー情報は郡レベルで収集するものであるが、郡事務所には予算や人員が限られていることから、支援がなければ更新ができない。しかしながら、GIS を使った主題図は、維持管理の計画を策定する際に大変重要なものであり、また、今回プロジェクトが策定した主題図の有効性はすべてのレベルの給水関係者から確認されている。従って、5-6 年に 1 回の全国レベルの調査を待つのではなく、毎年郡レベルでインベントリーが改定できるための他の戦略を考慮すべきである。

一方、研修を受けた WASHCO のほとんどはコミュニティレベルでの予防的維持管理技術やスキルを身につけている。特に村の保健普及員やコミュニティ行政官をプロジェクト活動に組み入れたことで、プロジェクト終了後も衛生面での技術的な指導を保健普及員からも受けられ、そしてコミュニティとしての強い支援が受けられる体制となっている。

#### (4) 財政面

WASHCO レベルにおいては水料金を徴収し、維持管理コストを適切に貯蓄、管理しているため財政面での持続性がある程度担保されている。しかしながら、県、郡水事務所では財政面において深刻な予算不足に直面している。本プロジェクトは低コスト技術を活用して給水施設の維持管理を実施することを基本としているが、それでも適切な維持管理コスト（日当、交通費等）の確保が必要である。本プロジェクトで実施した効果的な活動の契機を逸しないためにも、州、県、郡のすべてのレベルの水事務所において適切な予算の確保のために更なる努力が必要である。特に州においては、WRB が前面に立って、県、郡水事務所のために、ドナー、国際機関、NGO、CBO、マイクロファイナンス機関など、外部リソースを開拓する努力を払う必要があるだろう。

## 第5章 PDM の変更

現行 PDM3 をより明確化するために次のとおりの変更を提案する。添付資料 1. の Annex 4 に改訂版の PDM (PDM4) および PO4 を添付した。

- (1) 上位目標の指標が不明瞭であるため、合同評価チームは指標を「WASHCO 強化、ロープポンプ普及、予防的維持管理活動のスケールアップのための活動が対象県／郡において実施される」に精緻化することを提案した。
- (2) アウトプット 3 の指標 3.4 に関し、Afridev ハンドポンプがある WASHCO は対象 21 箇所のうち 9 箇所しかないため、「9 箇所の WASHCO がプロジェクト終了までに半年毎に必要な Afridev ハンドポンプのスペアパーツを維持管理できるようになる」に訂正すべきである。
- (3) アウトプット 3 の主要なコンポーネントであるスペアパーツ供給網に関する指標が抜けている。合同評価チームは本コンポーネントに係る投入の大きさや活動の重要性から、「スペアパーツ供給網を設立するためのガイドラインを準備し、プロジェクト終了までに南部諸民族州内に配布する」という指標を追加すべきである。



## 第6章 阻害・貢献要因の総合的検証

### 6-1 効果発現に貢献した要因

#### (1) 計画内容に関すること

プロジェクトはコミュニティレベルの維持管理に焦点を当て、低コストで給水施設の持続性を確保する予防的 O&M を導入し、また、行政の限られた予算の中で給水ポイントを頻繁にモニタリング・監督できない環境の中で、下からのボトムアップモニタリングシステムを導入したことが、プロジェクト目標の達成に貢献した。

また、中間レビューによるプロジェクトの内容整理および実施計画の変更は、プロジェクトの焦点が絞られ効果発現に大きく貢献した。

#### (2) 実施プロセスに関すること

中間レビュー以降、日本人コーディネーターをほぼ長期で常駐させることにより、先方政府とのコミュニケーションが向上し、かつ様々なロジスティック調整が円滑になった。

### 6-2 問題点および問題を惹起した要因

#### (1) 計画内容に関すること

本プロジェクトは計画段階において、プロジェクトが何を目標にし、それに必要な手段（アウトプット）は何か、といった論理性で立案されたものではなく、数ある雑多なニーズ（アウトプット）を集めて何が達成されるかといった方法で計画されたものであった。対象も 78 郡と広く、またアウトプットも 6 つから成っていた。さらに当初の PDM では、「それぞれのアウトプットを産出するための活動が、州、県、郡、コミュニティにおいて誰を対象にどの程度実施するのかが曖昧である」と中間レビューでも指摘されており、プロジェクト全体としての能力向上戦略が不明確であった。更に、中間レビュー前の PDM2 に至るまでアウトプットの効果を示す指標に目標値が設定されておらず、プロジェクトをモニタリングするためのデータが必ずしも収集されていなかった。

#### (2) 実施プロセスに関すること

エチオピア政府の BPR の実施とプロジェクト期間の大部分が重なったことで、CP の異動や離職が頻繁に起こり、CP とのコミュニケーションに支障をきたした。





## 第7章 結論と提言・教訓

### 7-1 結論

3つのアウトプットの達成度は高く、プロジェクトは目標を達成すると見込まれる。5段階評価において、妥当性は高く、有効性も高い。効率性はやや低くなっている。インパクトを示す正のインパクトの発現も生じている。他方、負のインパクトは確認されなかった。自立発展性については、WASHCO 活動を通じてコミュニティレベルではやや高いと認められるが、州、県、郡レベルでは政策的な要素以外の要素に関しては認められなかった。しかし、限られた制約の中でのある程度の自立発展性が認められることから中程度であると判断した。

### 7-2 提言

プロジェクト終了までに対応すべき課題とともに、プロジェクト終了後において、プロジェクト実施によりもたらされた便益やインパクトを更に発展させるため、合同評価チームは実施機関である WRB に対し、以下の事項を提言する。

#### プロジェクト期間中における提言

##### (1) プロジェクト成果の拡大

エチオピア側および日本側でプロジェクト成果を拡大することは WRB にとって有益であることは合意されている。しかし、拡大の方向性はあっても具体的な戦略がまだない。WRB は日本人専門家と協議の上、プロジェクト成果をどのように拡大していくのか、具体的なスケジュールや財政的な裏づけを明記した、明確な戦略や方法を策定する必要がある。

プロジェクトが終了するまでの今後の6ヶ月間での拡大活動としては、例えば対象6郡の水事務所がプロジェクトのターゲットとなっていなかった WASHCO の1-2箇所に対して WASHCO 強化のための研修を実施し、対象となっていない県水事務所の職員をプロジェクト対象地域に招き OJT を実施するといった活動が考えられる。また、政府、ドナー、国際機関、関連 NGO などを対象としたワークショップを開催し、本プロジェクトの成果および教訓を紹介し、協議する場を設けることも考慮すべきである。本プロジェクトの効果を拡大するためには、本プロジェクトで開発したガイドライン、マニュアル、報告フォーマットなどを使ったアプローチが WRB に正式に承認され、地域のアプローチとして採用されることが期待される。

##### (2) CPの「業務評価シート」(Performance Evaluation Sheet)に本プロジェクト活動を追記する

本プロジェクトの CP として WRB 職員が配置されているが、彼らの「業務評価シート」には本プロジェクトの活動が明記されていない。業務評価シートに明記されている活動により CP は評価されており、シートは毎年度更新されている。今後 CP の積極的なプロジェクトへの参加を促すためには、本評価シートにプロジェクト活動を追記することは効果的である。エチオピア新年度は7月より始まるため、2011年7月の CP 各自の新しい業務評価シートにプロジェクト活動を正式に追記することを提言する。

##### (3) WRB モニタリング・評価職員のプロジェクトへの参加

プロジェクトの質および自立発展性を向上するため、WRB のモニタリング・評価職員をプロジェクトに参加させることは有益である。参加の仕方としては、プロジェクトの進捗状況について

全体的なモニタリングを行なう JCC や各種セミナーへの参加、そして現場での活動モニタリングなどにも参加することが望まれる。

#### (4) 南部諸民族州におけるロープポンプ普及の方向性

GTP や UAP にロープポンプなど低コスト技術の給水施設の普及が明記されているとおり、ロープポンプ普及は国レベルの方針であり、南部諸民族州においても優先課題のひとつとなっている。ロープポンプの実際の設置などについては郡レベルで実施されるものであるが、WRB は郡水事務所が具体的な普及計画を策定する支援を行う必要がある。そのためには、現在 WRB 内にロープポンプを担当する部局や担当者がいないことから、担当の配置など早急に対応する必要がある。

なお、ロープポンプを既存の井戸に設置する場合は、その環境や水量など水資源の状況などを評価し、必要に応じた配慮をすべきである。

#### プロジェクト終了後に対する提言

##### (1) 維持管理のための適切な予算配分

維持管理に関し適切な予算配分を促進する必要がある。特に郡水事務所は予算、交通手段、維持管理工具が限られている。WRB は、郡が予算を確保できるように、ドナー、国際機関、NGO、CBO、マイクロファイナンスなど外部リソースへ働きかけを行なう努力が必要である。また、州および県においても、持続可能な給水システムの確保のために維持管理に関する適切な予算配分が期待される。

### 7-3 教訓

今後、他のプロジェクトを効果的に実施するために、今回の終了時評価から以下の教訓を導き出した。

- (1) 本プロジェクトのように、アウトプットが様々な分野にまたがり、またそれぞれの活動が多く、そのため日本人専門家や CP の数が多いようなプロジェクトにおいては、プロジェクト内容の調整や CP との調整に時間と労力を要する。そのようなプロジェクトには少なくとも 1 人は日本人専門家の長期的な常駐が必要である。長期的な投入は先方政府との信頼関係を醸成することが可能であろう。
- (2) エチオピア国公務員の評価システムでは、公務員は各自「業務評価シート (Performance Evaluation Sheet)」に書かれてある業務内容によって評価されている。JICA プロジェクトの活動が CP の評価シートに記載されていれば、CP の積極的な参加も促されるところ、エチオピアで公務員を CP としたプロジェクトを実施する場合は、プロジェクト開始時より JICA プロジェクトの活動内容を上記業績評価シートの業務内容に記載するべきである。
- (3) プロジェクト立案において、効果的かつ効率的なプロジェクト実施のためには、ニーズを集めてプロジェクトにするのではなく、プロジェクトによって何を達成させたいのかをまず決め、それからその方法を選択するという論理性に基づいて行なうことが望ましい。また、各指標はできるだけ客観的に測定できるものを設定し、プロジェクト開始時からモニタリングを行なうべきである。

## 第8章 団長所感

プロジェクトは、中間レビューでは進捗や成果の発現状況があまり芳しくないと言われた。しかしその時点で活動内容等を大幅に整理したこと、およびコンサルタントによる人員の充実やエチオピア側の努力により、今次終了時評価においては成果の達成状況や5項目評価は概ね良好であった。よって、先ずは予定通りの終了見込で差支えないと思料する。ただし終了までに対応すべき事項もあるため、以下に課題等と合わせて述べる。

### (1) プロジェクトの特性

本プロジェクトは給水施設の維持管理に必要なコンポーネントを贅沢に取り込んだ設計となっている。給水施設のインベントリー整備、モニタリング体制の構築、行政及び WASHCO の能力強化、サプライチェーンの構築や適正技術の普及（ロープポンプ）など、それぞれの方向性も正しい。しかし、これら多くのコンポーネントを盛り込んだ当初のプロジェクト設計は複雑であり、その目指すところが必ずしも明確でない部分があった。中間レビューまで本件を担当した総括が活動を纏めきれなかったこと、およびエチオピア側の BPR なども重なり、前半は成果が見えにくく、効率性の面で課題となった。

加えて南部諸民族州は非常に広大、かつその地形は起伏に富んでいる。対象とする給水施設に到達するのに要する時間や機材運搬のための手間は相当大きい。当初は 78 郡を研修対象とするなどしていたが、その後、6 郡に縮小した。このように地勢的な側面もプロジェクトを設計する際にはより考慮すべきであったかも知れない。

### (2) 実施中の対応

しかし、(1) で述べたプロジェクトの特性が実施中の課題の全ての原因となった訳ではない。そのような場合でも、専門家チームは必要な投入を早期かつ臨機応変に提案することでより早くより大きな成果が得られた可能性が高いことも否定はできない。残り活動期間においては、在外主導案件として専門家チームと事務所の距離が近い利点をより生かしてプロジェクト活動を行うべきである。またプロジェクトのインパクト拡大のための若干の追加投入は、必要であれば現時点で検討されても良い。

### (3) グッドプラクティス

以上のような困難な点があったが、本件でグッドプラクティスが多く生まれている。ある WASHCO では、不足する水料金を補うため共有の畑が用意された。ここで栽培された作物の代金が、住民から徴収された水料金と合わせて将来の修理に備えて積み立てられている。また衛生普及活動の結果、世帯のトイレ普及率が 100%に達している村もいくつかある。ロープポンプに関しては、リボルビングファンドの立ち上げやマイクロファイナンスの利用などといった例も見られる。これらは今回対象とならなかった他のゾーンや郡、更に他州や他国でも十分参考になる成果であり、また今後の広がり期待を持たせるものである。

### (4) 成果の拡大

(3) のようなグッドプラクティスや、その他の活動、特に維持管理やサプライチェーンなどは今後、南部諸民族州全体に拡大されていく必要がある。残りのプロジェクト実施期間中にも、対

象となる郡を増やすなどの措置が可能であるが、いかんせん同州は広い。また州やゾーン、郡の予算も限りがある。よって、これもグッドプラクティスに入れられるが、オランダの SNV が本件のモニタリングシートを取り入れたことに倣って、他のドナーや NGO などのリソースを活用することが有効である。このためにはプロジェクトで作成した維持管理のガイドライン・マニュアル類を「分かりやすい形を取りまとめて他ドナー等と積極的に共有すると共に、同ガイドライン・マニュアル類が州の維持管理モデルとして適用されるよう働きかけていく必要がある。

#### (5) GIS

給水施設の維持管理に、その施設および水源の精度の高い情報は必要不可欠である。他国の水関係省や JICA が実施中の同種のプロジェクトでも、理想とするところは本件で作成したような GIS データベースである。一方、GIS データベースはそれ自身の維持管理も行われなければならない。数年に一回実施される一斉調査を待つまでもなく、プロジェクト終了までには、各郡から上がってくるモニタリングシートが適切に反映されるような方向付けを行うことが望ましい。

#### (6) サプライチェーン

現在 5 つのモデルでサプライチェーンの検証が行われているが、プロジェクト終了までにはそれぞれ、より精緻化されたモデルとしたい。また、これをエチオピア側が実施することを勘案すると、それぞれの機関の担当者が、自分は何をすればよいのか明確にしておくことが重要である。また現在明らかにうまく行っていないモデルもあるため、モデルを十分取捨選択し、州レベルで最適なものがどれか絞り込んでおくことが相手にとっては親切である。

#### (7) ローブポンプ

ニーズが十分あることがよく認識できた。その意味で本件での普及活動の意義は大いに認められた。一方、エチオピア側で普及する際の土台となる人、予算、制度、計画の整備は途上である。プロジェクト終了までにこれらも出来るだけ精緻に検討しておくことが望ましい。

以上

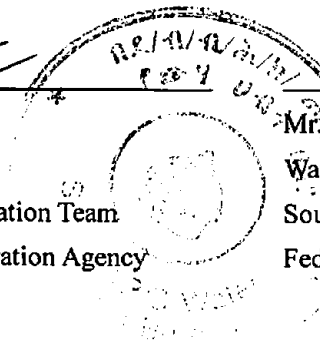
**MINUTES OF MEETING**  
**BETWEEN JAPAN INTERNATIONAL COOPERATION AGENCY**  
**AND**  
**THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF THE FEDERAL**  
**DEMOCRATIC REPUBLIC OF ETHIOPIA**  
**ON**  
**JAPANESE TECHNICAL COOPERATION**  
**FOR**  
**THE WATER SECTOR CAPACITY DEVELOPMENT PROJECT IN SOUTHERN NATIONS,**  
**NATIONALITIES AND PEOPLE'S REGION**  
**IN**  
**THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA**

25<sup>th</sup> May 2011



*Junji Wakui*  
Mr. Junji Wakui  
Team Leader

JICA Joint Terminal Evaluation Team  
Japan International Cooperation Agency



*Abas Mohammed Ahmed*  
Mr. Abas Mohammed Ahmed  
Water Resource Bureau Head  
Southern Nations and Nationalities People's Region  
Federal Democratic Republic of Ethiopia

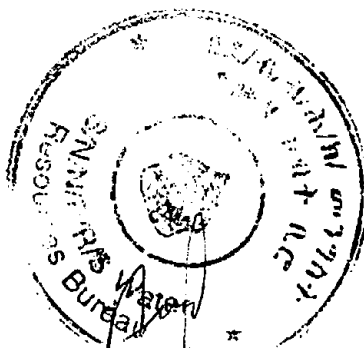
The Japan International Cooperation Agency (hereinafter referred to as "JICA") and Ethiopian Government jointly organized the Terminal Evaluation Team (hereinafter referred to as "the Team") for the purpose of conducting the Terminal evaluation for the technical cooperation project "The Water Sector Capacity Development Project in Southern Nations, Nationalities and People's Region" (hereinafter referred to as "the Project"). The Team has carried out intensive study and analysis of the activities and achievements of the Project, and prepared the Joint Evaluation Report attached hereto (hereinafter referred to as "the Report"), and presented it to the Joint Coordinating Committee (JCC) held on 25<sup>th</sup> May, 2011.

After series of discussions on the major issues pointed out in the Report as described below, the representatives of the Japanese side and the Ethiopian side accepted the report and took note of the recommendations described in the Report for the smooth and successful implementation of the Project.

The Evaluation Team concluded the evaluation as follows, referring to the Joint Evaluation Report attached here to;

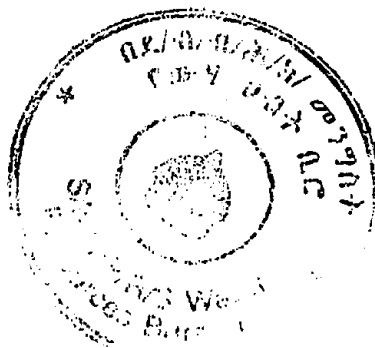
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**Attachment: Joint Terminal Evaluation Report**



**JOINT TERMINAL EVALUATION REPORT**  
**ON**  
**“THE WATER SECTOR CAPACITY DEVELOPMENT PROJECT IN SOUTHERN NATIONS, NATIONALITIES**  
**AND PEOPLE'S REGION”**  
**IN**  
**ETHIOPIA**

**MAY 2011**

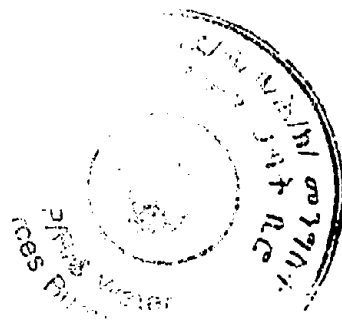


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## List of Abbreviations and Acronyms Used

BPR	Business Process Re-Engineering
CP	Counterpart
GIS	Geographical Information System
GPS	Global Positioning System
HDW	Hand-dug well
HP	Hand Pump
JCC	Joint Coordination Committee
JICA	Japan International Cooperation Agency
JCC	Joint Coordination Committee
M/M	Minutes of Meeting
O&M	Operation and Maintenance
OJT	On-the-Job Training
PDM	Project Design Matrix
PO	Plan of Operation
RP	Rope Pump
SNNPR	South Nations and Nationalities People's Region
SNV	Netherlands Development Organization (NGO)
TICAD	Tokyo International Conference on Africa Development
TOT	Training of Trainers
WAS-CAP	Water Sector Capacity Development Project
WASHCO	Water Sanitation and Hygiene Committee
WRB	Water Resource Bureau
WWMEO	Woreda Water, Mining and Energy Office
ZWMED	Zonal Water, Mining and Energy Department



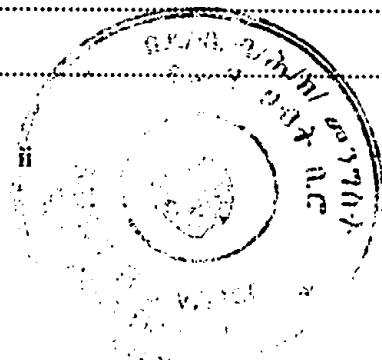
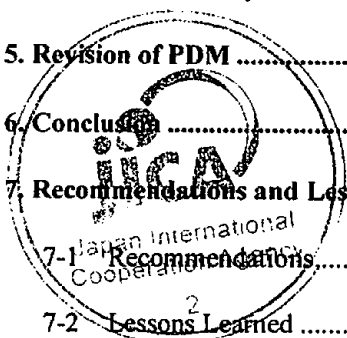
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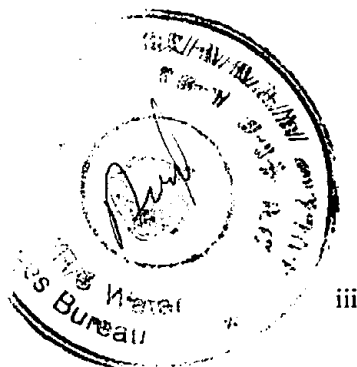
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## 1. Introduction

### 1-1 Background and Purpose of the Terminal Evaluation

The Water Sector Capacity Development Project (hereinafter called as "WAS-CAP") in the Southern Nations, Nationalities and People's Regional State (SNNPRS) of the federal Democratic Republic of Ethiopia (FDRE) has been implemented since 2007 December, and Scheduled to last until 2011 December. Hence, it is considered as it is an appropriate time to conduct the Terminal Evaluation of the Project.

In this regard, the objectives of the Joint Final Evaluation of the Project are;

- 1) To review the current status of the project based on inputs, outputs, project purpose, and identify the problems to be solved;
- 2) To evaluate the project in accordance with the five evaluation criteria ( i.e. relevance, effectiveness, efficiency, impact, and sustainability);
- 3) To make recommendations to the authorities of both Governments concerned with regard to the activities of remaining period of the project and after the termination of the project; and
- 4) To draw lessons learned.

### 1-2 Member of the Evaluation

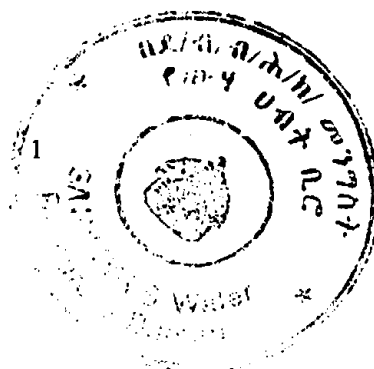
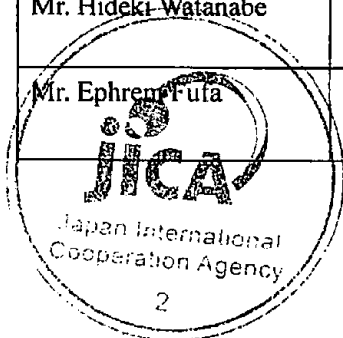
The Terminal Evaluation of the Project was conducted jointly by both the Ethiopian and Japanese sides. Members of the Joint Terminal Evaluation Team were the following;

#### Ethiopian side:

Mr. Mulugeta Asfaw	Team Member	Planning, Monitoring and Evaluation Officer, Development Plan Preparation, Monitoring, Evaluation and Feedback Supportive Process
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#### Japanese Side (JICA Evaluation Team):

Mr. Junji Wakui	Team Leader	Director, Water Resources Management Div. II, Global Environment Dept., JICA HQ
Dr. Keiko Watanabe	Evaluation and Analysis	Senior Consultant, Foundation for Advanced Studies on International Development (FASID)
Mr. Hideki Watanabe	Evaluation Planning	Representative, JICA Ethiopia Office
Mr. Ephrem Tufa	Rural Water Supply	In-house Consultant for Water Sector, JICA Ethiopia Office



### 1-3 Schedule of the Terminal Evaluation

The Terminal Evaluation of the Project was conducted from 6<sup>th</sup> to 26<sup>th</sup> of May 2011. In this respect, a series of meetings and discussions were held among SNNP Regional authorities, the Evaluation Team, the Project Team, and institutions relevant for execution of the Project.

### 1-4 Methodology of Evaluation

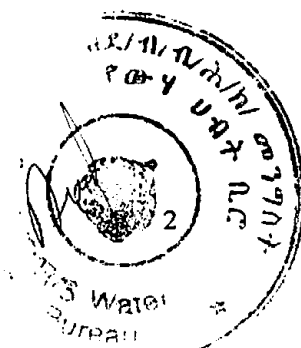
The Terminal Evaluation was conducted using the Project Design Matrix (PDM) in accordance with the JICA Project Evaluation Guidelines of April 2010. The Evaluation was conducted based on the confirmation on the achievement of the Project and the implementation process, with the five evaluation criteria by the Joint Evaluation Team consisting of both the Ethiopian and Japanese sides. Based on its result the Joint Evaluation Report was developed.

### 1-5 Evaluation Procedure

The evaluation was conducted based on the PDM3, which was agreed to revise during the Mid-term evaluation of the Project, December 2009 and signed in April 2011. Further, detail analysis on the evaluation design was conducted based on the Project Document, including Baseline Survey Reports, Interim Report, PDM3, the Evaluation Grid and other related materials. Based on the Evaluation Grid, the questionnaire was developed and distributed to stakeholders of the Project at various levels (i.e. regional, zonal, woreda, WASHCO) to fill in as well as to submit the related data, reports, and outputs of the Project and other relevant data.

Apart from analysis of responses from the questionnaires, the Team also conducted interviews, site observations, workshop and discussion with relevant stakeholders. Hence, during the field survey further triangulation was made on the answers to each question of the Evaluation Grid, which were filled by stakeholders of the Project and appropriate ethical consideration were made during the report preparation. In this respect, interviews were conducted to JICA Project experts, Counterparts (CPs) of the Project and other relevant stakeholders.

To this end, based on the aforementioned activities and thorough analysis a draft of the Joint Evaluation Report was developed and endorsed by the Joint Evaluation members. Accordingly, the Joint Evaluation Team made recommendations and drew lessons learned from the outputs of the Terminal Evaluation. In the evaluation, following five criteria in the table below are applied for the Project.



<b>Relevance</b>	Relevance of the project is considered from a viewpoint of the validity of the Project Purpose and Overall Goal in connection with the development policy of both Governments of Ethiopia and Japan, and the needs of beneficiaries of the Project.
<b>Effectiveness</b>	Effectiveness is whether the project has actually benefited the target group and whether the project is effective. It also assesses whether the Project Purpose is being achieved as expected and whether that is in the result of the project's Outputs.
<b>Efficiency</b>	Efficiency verifies whether the project was efficient in terms of effective use of resources. The relationship between Inputs and Outputs is reviewed. In essence, Efficiency examines whether the timing, quality and quantity of inputs are appropriate for the degree of achievement on the Outputs and the Project Purpose.
<b>Impact</b>	Impact examines direct effects extended by the project in the long run and indirect effects. The analysis also includes the positive and negative impacts that are not expected when the project was planned.
<b>Sustainability</b>	Sustainability of the project is focused on institutional, financial and technical aspects by examining the current extent to what the achievement of the project is sustained or expanded after the project is completed.

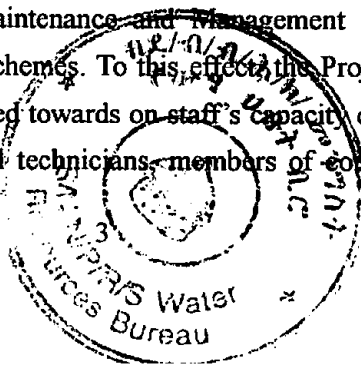
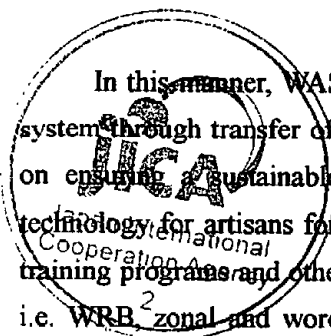
## 2. Outline of the Project

### 2-1 Background

SNNPRS is located in the southern and southwestern part of Ethiopia, with an estimated population size of 15,044,531 (2007), which is the third largest number in the country, where about 93% of its population resides in the rural areas. The Safe Water Rate was estimated to be about 34.1%, in 2004 and it was below the national average. Moreover, due to absence of appropriate maintenance and rehabilitation measures the scheme non-functionality rate was thought to be about 30%.

Against these backdrops, the Government of Ethiopia has requested the Japanese Government for a technical cooperation program, which aims for capacity development for various implementing agencies in the water sector of the region, including woreda staffs, local technicians, NGOs, etc. In response to the request and as a subsequent effort to ensure the sustainability of rural water project funded with Japan's Grant Aid Project in the region, JICA in collaboration with WRB has designed WAS-CAP in 2006.

In this manner, WAS-CAP was launched with the aim of establishing a sustainable water supply system through transfer of technologies and knowledge. The Project was designed in a way that focus on ensuring sustainable Operation, Maintenance and Management (OM/M) and leveling up of technology for artisans for water supply schemes. To this effect, the Project targets on the delivery of training programs and other activities geared towards on staff's capacity development at various levels, i.e. WRB zonal and woreda offices, local technicians, members of community water and sanitation



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committees, etc. In this respect, the Project CP is Water Resource Bureau (WRB) of SNNPRS.

## 2-2 Summary of the Project

The outline of the Project described in PDM 3 is as follows:

### (1) Overall Goal

Sustainability on the water supply system is improved in SNNPRS.

### (2) Project Purpose

Organizational capacity in implementation, operation and maintenance of water supply system is improved in SNNPRS.

### (3) Outputs

- 1) Rural Water Supply Scheme development/O&M plan is formulated in each of the 6 Target Woredas.
- 2) Rope Pump Dissemination System is established in the 6 Target Woredas.
- 3) Operation and Maintenance of Water Schemes are improved in the 6 Target Woredas.

## 2-3 Administration of the Project

According to the Record of Discussions for the Project, organization responsible for the Project is the SNNPR Water Resource Bureau. The Japanese experts provide necessary technical guidance, advices and recommendations to the Project Director, the Project Managers and other Ethiopian CPs. Furthermore, Joint Coordinating Committee (JCC) is held at least once a year to fulfill the following functions:

- 1) To supervise the annual work plan of the Project in line with the Plan of Operation and Project Design Matrix
- 2) To review the annual and overall progress of the Project, and to evaluate the accomplishment of annual targets and achievement of the objectives
- 3) To find out proper ways and means for the solutions of major issues arising from or in connection with the Project

## 3. Achievement of the Project

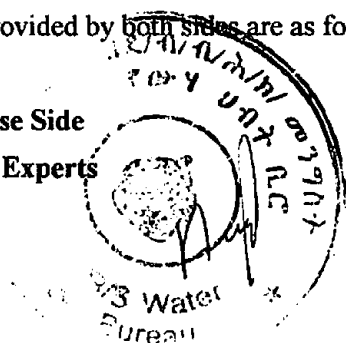
Achievements of the Inputs, Outputs, Project Purpose and Overall Goal are described below. Details of the Project achievement are described in the Achievement Grid, which is attached as Annex 5.

### 3-1 Inputs

Inputs provided by both sides are as follows.

#### 3-1-1 Japanese Side

##### (1) Japanese Experts



A total of twelve (12) experts have been dispatched shuttlewise. Total person-month of dispatch amounted to 85.62 by May 2011 since the beginning of the Project. The areas of expertise were; (1) Chief Advisor / Rural Water Supply (Groundwater Development), (2) Deputy Adviser / Rural Water Supply (Water Supply Facilities), (3) Water Supply Planning (Facility Operation and Maintenance), (4) Rural Water Supply (Rope Pump / Improved Hand Dug Wells), (5) Rural water Supply (Rope Pump), (6) Rural Water Supply (Electrical System and Equipment), (7) Socio-Economic (Establishment of Spare Parts Supply Chain), (8) Social Development / Rural Water and Sanitation (1), (9) Social Development / Rural Water and Sanitation (2), (10) GIS / Information Control Specialist, (11) Project Coordinator / Training Management, and (12) Project Coordinator. The detailed list of Japanese experts is attached as Annex 6-1.

## **(2) Equipment**

Office equipment, software for GIS, and one vehicle to implement project activities were provided. Total value of equipment provided was about 6.6 million yen, among which 6 million was spent for a 4x4 vehicle. The equipment was provided by November 2009 as scheduled. The detailed list of equipment is attached as Annex 6-2.

## **(3) Counterpart training**

A Counterpart training in Japan was planned for Mr. Kasu, the CP of the Project in the third year of the Project in 2009. However, since he got sick and had to stay out of the work for a long time and there were no alternative CPs at that time, the counterpart training was cancelled.

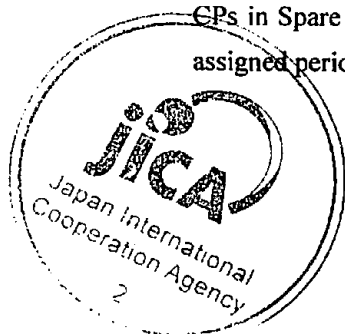
## **(4) Local costs**

A total amount of 65.7 million Japanese yen equivalent was provided to supplement a portion of local expenditure as of June 2010. Details of the local costs are attached as Annex 6-3.

### **3-1-2 Ethiopian Side**

#### **(1) Assignment of Counterpart Personnel**

A total of six (6) counterpart personnel have been assigned at the very beginning of the project by the WRB. However, due to the Business Process Re-Engineering (BPR), only one CP for GIS has been officially appointed as a staff member except Project Director. Therefore, Project did not have any CP to work with except the GIS CP. At the time of the Mid-Term Review, the issue was raised and gradually the new CPs were assigned to the Project. At the moment of the Terminal Evaluation, eleven (11) CPs are appointed as CPs. They are; (1) Project Director, (2) Project Manager, (3) Assistant Project Manager / Social Development, (4) 3 CPs in Curative / Preventive Operation and Maintenance, (5) GIS, (6) 3 CPs in Spare Parts Supply Chain, and (7) Rope Pump Dissemination. The detail list of CPs and their assigned periods are shown in Annex 6-4.



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## (2) Provision of Facilities for Project Operations

An office in WRB compound was provided for the Japanese experts and local consultants.

### 3-2 Achievement of Outputs

According to the PDM3, the level of achievement of Output as of May 2011 is shown below. Although some indicators stated in the PDM3 do not accurately indicate the outputs and there are insufficient indicators<sup>1</sup>, the overall degree of achievement of the three Outputs is *high*. In addition, The Team confirmed that a variety of good practices has been produced by the Project. Detailed description of achievement is shown in Annex 5-1.

A list of related training of all three Outputs is attached as Annex 7.

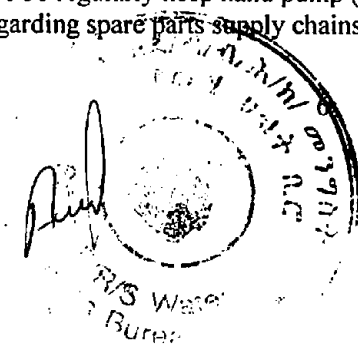
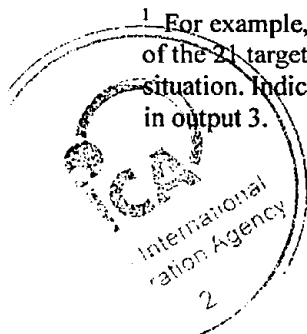
#### 3-2-1 Output 1

Output 1: Rural Water Supply Scheme Development / O&M Plan is formulated in each of the 6 Target Woredas	
Objectively Verifiable Indicator (OVI)	Achievements
1 Rural Water Supply Scheme Development / O&M Plan on the basis of thematic map is formulated in each of the 6 Target Woredas. (2003 in Ethiopian Calendar (2010 in European Calendar) year's version by October 2010 and 2004 in Ethiopian Calendar (2011 in European Calendar) year's version by May 2011	2010 version of Rural Water Supply Scheme Development / O&M Plan of 2010 has been completed in June 2010.  The necessary data has been collected by March 2011 for the revised version of 2011. The Plan for 2011 will be developed at the end of May 2011.

In order to achieve Output 1, key activities such as preparation of GIS database based on the result of inventory survey and training on GIS were conducted as below. Although due to the CP's heavy occupancy in other tasks, the progress on the output were delayed to some extent. However, Output 1 was confirmed to be achieved by assessing the current progress made.

The national exercise to collect all inventory data in the region by WRB in the same period of the Project has promoted the achievement of the Project. However, this kind of exercise by WRB will be conducted only once in 5-6 years due to the budget constraint. Besides there is lack of strong system installed to update the data regularly in the existing system. Therefore, the thematic map which the Project produced has a little chance to be revised until the next national exercise since there is serious problem of lack of budget and transport for Woreda level to collect information without any support.

<sup>1</sup> For example, since not all the 21 target WASHCO have Afridev Hand pump, the indicator 3-4 "Each of the 21 target WASHCOs regularly keep hand pump (Afridev)..." is not necessarily reflecting the situation. Indicators regarding spare parts supply chains are missing, which is one of major components in output 3.





**(1) Preparation of the 6 target Woreda Inventory data**

Based on the result of Inventory survey by WRB, the Project inspected the data on the types, functionality, number of beneficiary, number of people who can use hand pump for drinking, etc. The Project added the data on location of water points by GPS. Using these data, a thematic map for every 6 target Woreda for 2010 version has been developed in June 2010 and the revised version of 2011 will be completed in the end of May 2011.

**(2) Training on GIS**

1) Development of training curriculum and materials

GIS Training curriculum and materials were developed both in English and Amharic as below. These manuals were used for the training.

Classification	Training Manuals
For Senior Class	ArcGIS 9.X User's OPERATION MANUAL
	Creating a slope map
	Geo-Referencing using corner coordinates (ILWIS)
	GPS data to ILWIS
	Operating Instructions 3DEM Software for Terrain Visualization
For Beginners	Getting data into ArcView GIS

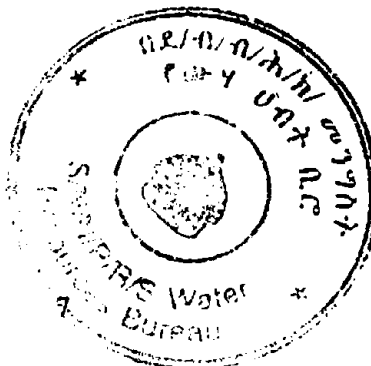
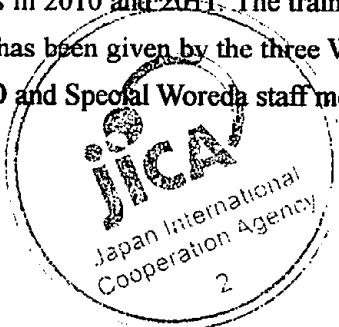
2) GIS Trainers of Training for WRB staff

WRB staff including GIS CP has learned basic function of GIS, usage of ArcGIS software, GPS data collection, developing a functional well and non-functional well distribution map, and distribution map of well data, which are necessary to implement the development of a thematic map. Training also included the skills of being a trainer as GIS specialist. The trainings were conducted by the Japanese expert on GIS.

Two 5-day training sessions were held in 2009 and 2010 and a total of 11 WRB staff were trained. Out of 11 trained staff, six (6) staff members were left.

3) Training of ZWMEO and special woredas

Two 15-day trainings on acquisition of GIS database construction technology and the quality control of collected data by Woreda have been conducted for ZWMEO and Special Woreda staff members in 2010 and 2011. The training was conducted by a Japanese expert on GIS. Some part of the training has been given by the three WRB staff members who have received TOT on GIS. A total of 25 ZWMEO and Special Woreda staff members have received training.



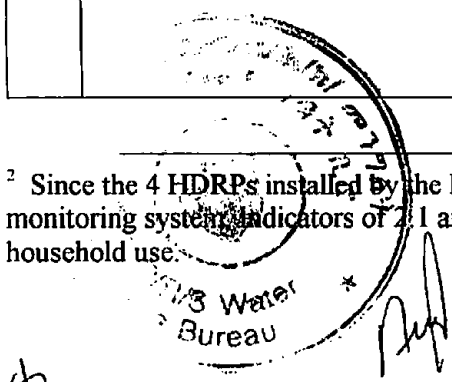
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3-2-2 Output 2

Output 2: Rope Pump Dissemination System is established in the 6 Target Woredas																			
Objectively Verifiable Indicators		Achievements																	
2.1	The collection rate of monthly information from users in O & M monitoring system for rope pumps, which are installed by the Project, is 80 % by the end of the Project.	<p>The Project installed 50 Rope Pumps (RP) for household use as shown in the installation list of RP in Annex 8. The Project introduced a “bottom-up monitoring system”, which monthly report is submitted by RP users to WWMEO directly or through WASHCO. The bottom-up approach has been adopted due to the fact that WWMEO has limited budget to visit on site monitoring. At the time of Terminal Evaluation, the monthly information collection rate at each target Woreda is below, showing the attainment of the indicator. The WWMEO which the Team interviewed all expressed effectiveness and efficiency in bottom-up monitoring system. In the 2<sup>nd</sup> year, the Project also installed 4 High Durable Rope Pumps (HDRP), a prototype for communal use, to monitor their mechanical performance<sup>2</sup>.</p> <table border="1"> <thead> <tr> <th>Woreda</th> <th>Info. Collection</th> <th>Woreda</th> <th>Info. Collection</th> </tr> </thead> <tbody> <tr> <td>Angacha</td> <td>64 %</td> <td>Hula</td> <td>100 %</td> </tr> <tr> <td>Boloso Sore</td> <td>40 %</td> <td>Silti</td> <td>100 %</td> </tr> <tr> <td>Arba Minch Zuria</td> <td>100 %</td> <td></td> <td></td> </tr> </tbody> </table> <p>(as of May 2011)</p>		Woreda	Info. Collection	Woreda	Info. Collection	Angacha	64 %	Hula	100 %	Boloso Sore	40 %	Silti	100 %	Arba Minch Zuria	100 %		
Woreda	Info. Collection	Woreda	Info. Collection																
Angacha	64 %	Hula	100 %																
Boloso Sore	40 %	Silti	100 %																
Arba Minch Zuria	100 %																		
2.2	The rate of awareness of rope pump in each rope pump installation site is 70 % by the end of the Project	<p>At the time of Terminal Evaluation, the recognition rate of RP was shown in the table below. The Team found that further efforts are necessary to raise recognition by the Project especially for those Woredas which have low rates. In order to raise the recognition, the Team confirmed that the Project is planning to participate in the monthly Kebele (Community) meeting to introduce the scheme. The Team also found that additional activities should be included to raise recognition not only for the RP installation community but also community in wider areas for further promotion of RP.</p> <table border="1"> <thead> <tr> <th>Woreda</th> <th>Recognition</th> <th>Woreda</th> <th>Recognition</th> </tr> </thead> <tbody> <tr> <td>Angacha</td> <td>55 %</td> <td>Hula</td> <td>75 %</td> </tr> <tr> <td>Boloso Sore</td> <td>40 %</td> <td>Silti</td> <td>75 %</td> </tr> <tr> <td>Arba Minch Zuria</td> <td>75 %</td> <td></td> <td></td> </tr> </tbody> </table> <p>(as of May 2011)</p>		Woreda	Recognition	Woreda	Recognition	Angacha	55 %	Hula	75 %	Boloso Sore	40 %	Silti	75 %	Arba Minch Zuria	75 %		
Woreda	Recognition	Woreda	Recognition																
Angacha	55 %	Hula	75 %																
Boloso Sore	40 %	Silti	75 %																
Arba Minch Zuria	75 %																		

<sup>2</sup> Since the 4 HDRPs installed by the Project is to monitor their RP performance not to build a monitoring system, indicators of 2.1 and 2.2 is evaluated based on the performance of 50 RPs for household use.



The Team confirmed that the activities should be further strengthened within the Project period under this output in order to establish a firm foundation to promote RP, although the achievements of the above indicators would be fulfilled by the end of the Project period.

Two CPs for RP were assigned only after the Mid-Term Review in December 2009. The Project formed a "Rope Pump Group" consisting of four (4) other WRB staff members to work with the CPs. However, the level of their commitments in the Project was varied. In fact, only one CP and two members of a Rope Pump Group have been working closely.

Activities for output 2 have been conducted almost as planned although some delays were observed. The activities were done in mainly targeted 5 woredas except Loma where the potential of RP was found to be limited due to the hydro-geological reason. The results of those activities were, however, shared with Loma woreda at the related seminars, workshops and JCC.

The government has a direction to promote small scale water schemes including RP. Although the actual implementation of dissemination of RPs is primarily the responsibility of Woreda water offices, WRB is to facilitate and support to develop a comprehensive implementation plan for dissemination at Woreda level. Any specific unit has not been established nor have specific staff members been assigned in WRB for this purpose. Therefore, the CPs and RP group members have not been given a detailed plan on RP promotion for the future, which has affected the ownership of CPs and sustainability of the Project.

At the same time, the Team confirmed some dissemination efforts have been initiated by zonal and woreda water offices. For example, Arba Minch Zonal office has started to disseminate rope pumps through NGOs like VITA and World Vision in their supportive woredas. Inspired by the demonstration course held by WAS-CAP, Angacha woreda has installed 15 communal use rope pumps from their own initiatives by using their budget.

The followings are the major activities under output 2.

**(1) Establishment of "Rope Pump Group" in the WRB**

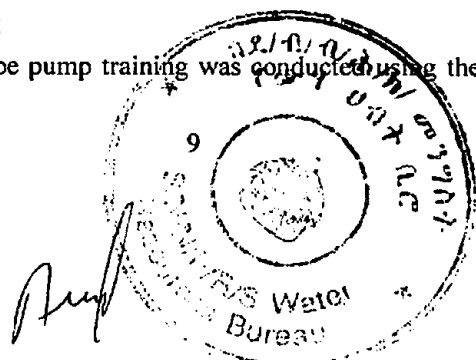
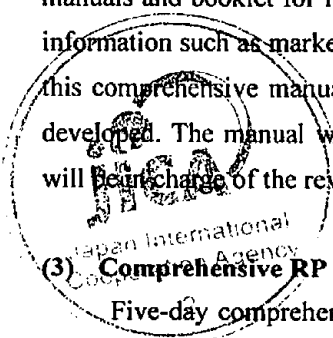
Two CPs for RP were assigned after the Mid-Term Review in December 2009. The Project formed a "Rope Pump Group" consisting of four (4) other WRB staff members to work with the CPs.

**(2) Revision of RP Manuals**

The Project developed a comprehensive Rope Pump Training Manual integrating existing manuals and booklet for installation, dissemination and site selection instruction and adding necessary information such as marketing, maintenance and quality control. The trainings were conducted based on this comprehensive manual. The monitoring sheet for RP users (HHRP RP Monitoring Sheet) is also developed. The manual was developed both in English and Amharic. It is needed to be clarified who will be in charge of the revision of those manuals after the completion of the Project.

**(3) Comprehensive RP training**

Five-day comprehensive rope pump training was conducted using the above manual for each 5



targeted Woredas in Hula, Angacha, Arba Minch Zuria, Boloso Sore and Silti. 5-6 officers from each Woreda attended the course. CPs from WRB also attended the training in Angacha, Boloso Sore and Silti. The training focused on basic knowledge of RPs (mechanisms, functions), site selection for installation, installation skills, repair skills, operation and maintenance techniques, knowledge regarding RP promotion (price, method of gaining demand of users and quality control). The local experts along with the Japanese experts conducted a course. Although training was not held in Loma Woreda since it was found that there was no potential for RP there, results of RP activities were shared through general workshops and JCC to the stakeholders in Loma Woreda.

During the trainings, 54 rope pumps were installed in the target woredas, 50 for household use and 4 for communal use. The list of RP installed is shown in Annex 8.

In addition, RP Dissemination Seminars are held twice by WAS-CAP, which motivate the NGOs and relevant stakeholders to promote RPs in SNNPRS.

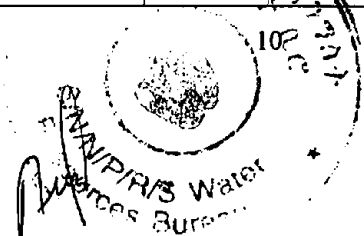
#### (4) RP activities in three other regions

Since the end of September 2008, activities have been started to come up with RP dissemination models by compiling empirical studies in three other regions, namely, Tigray, Oromia and Amhara. Activities also planned to install as training using 296 RPs in total, which had been distributed by the Ethiopian Water Technology Centre (EWTEC) to the three regions; conduct follow-up training to those artisans who had already been trained by EWTEC; and conduct of quality management training for regional and zonal staff members. Various training courses have been conducted not only for artisans, officials but also for NGOs.

The Project arranged field trips for WWMEO staff members of 6 target woredas to the three other regions to collect empirical data and learn their lessons. The Project developed a Technical Specifications of Rope Pump and Installation Manual.

### 3-2-3 Output 3

Output 3: Operation and Maintenance of Water Schemes are improved in 6 Target Woredas		
OVI		Achievements
3.1	The defined numbers of staffs in each WWMEO score over 70 points in exam of repair / O & M Training by the end of the Project	The average score of WWMEO trainees after the training conducted in 2010 was 64.7 points. The Project is planning to conduct refreshment training and re-examine their skills by conducting the exam again.
3.2	Caretakers of WASHCO in 21 target water schemes implement preventive maintenance (regular maintenance) according to the established frequencies in the different water schemes after repair / O & M training by the end of the Project	The Team observed from the visited WASHCOs that caretakers were checking the functionality of water schemes before opening time of water scheme every morning.  At the time of the Terminal Evaluation, 18 out of 20 WASHCO (1 water scheme is not working at the monitoring period in January 2011) submitted monthly monitoring sheet to WWMEO regularly. This showed the regular maintenance conducted by the almost all target WASHCOs. The Project is



		planning to further reinforce the management skills of community and conduct follow-up monitoring,
3.3	All the WASHCO of the target water schemes save the established cost for O & M by the end of 2003 in Ethiopian Calendar (August 2011 in European Calendar)	All WASHCOs were found to be collecting water tariff and saving in the microfinance bank for O&M. At the time of the Evaluation, 16 out of 20 WASHCOs (1 water scheme was not working at monitoring period) have been keeping the established cost <sup>3</sup> for O&M. It is noted that four WASHCOs which did not have enough savings were also accumulating amount. The reasons of not reaching the target savings at the time of monitoring included that a large amount of payment for repair happened the months before, and the coverage of population were smaller than others which delayed the accumulation progress.
3.4	Each of the 21 target WASHCO regularly keep hand pump (Afridev) spare parts for half a year O & M by the end of the Project.	Actually, 10 out of 21 WASHCOs have Afridev hand pump water supplies. At the time of the Evaluation, out of nine (9) Afridev WASHCOs (one Afridev pump is going to alter from Afridev to Indian Mark II) only two (2) kept spare parts. One of the reasons for not keeping spare parts was found to be the absence of a safe place to keep them, even though they have enough money to buy. The Project needs to make further efforts to ensure those WASHCOs which did not reach the objectives.

The Team observed the progress made of above four indicators and assumed that it is likely to achieve all indicators by the end of the Project. However, the Project needs to make continuous efforts to keep the level of achievements.

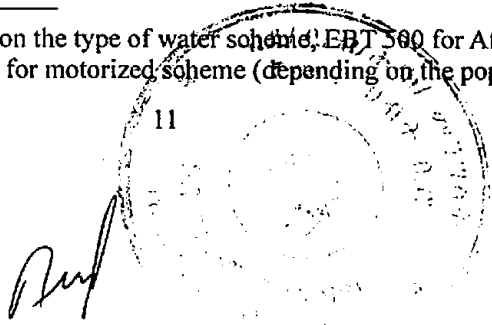
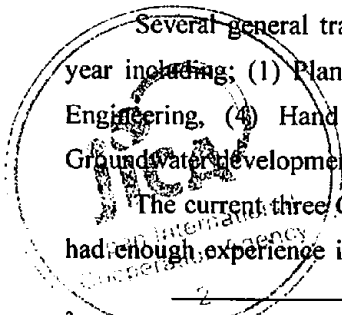
There are three major components under Output 3, namely 1) upgrading skills of repair and O&M for hand pumps for WWMEO and ZWMEO staff members through OJT by WRB (curative/preventive O&M); 2) capacity development of WASHCO and O&M management including sanitation and hygiene promotion (social development and rural hygiene); and 3) developing a model of spare parts supply chains. The major activities for these components were as follows.

**(1) Upgrading skills and repair and Curative / Preventive O&M for WWMEO and WWMEO**

Several general training were conducted for ZWMED and WWMED staff members in the 2<sup>nd</sup> year including; (1) Planning/Management, (2) Water Supply Engineering, (3) Electrical/Mechanical Engineering, (4) Hand pump Operation and Maintenance, (5) Computer Operation, and (6) Groundwater development for 78 woreda level staff members.

The current three CPs of curative/preventive O&M was assigned in September 2010. Since they had enough experience in O&M, without intensive TOT, they could conduct OJT training to Woreda

<sup>3</sup> Established cost differs depending on the type of water scheme, EBT 500 for Afridev, EBT 1,150 for Indian Mark II and EBT 2,500-6,500 for motorized scheme (depending on the population coverage).



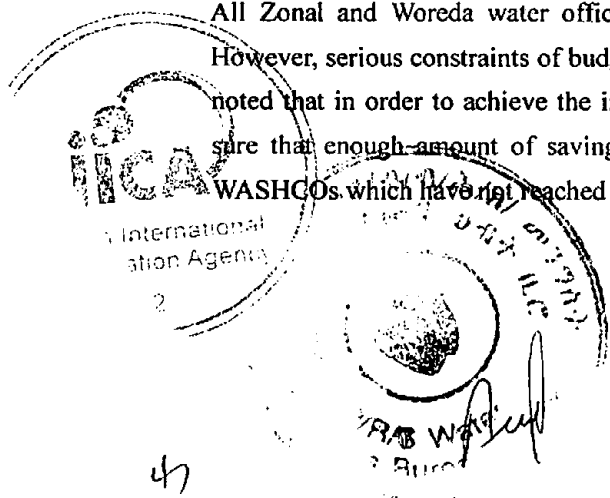
staff. During OJT, they investigated the causes of the malfunction of hand pumps and rope pumps using the inventory data, classified causes, and identified the repair methods, and noted important points for operation and maintenance according to the causes. As a result, the Project developed a “Community Operation and Maintenance Manual”.

It was expressed during the interview with CPs that the preventive O&M approach had not been exercised in Ethiopia before and they found the approach very effective for sustainability of water scheme. However, it was also expressed by all levels of staff members in charge of operation and maintenance of water scheme that there are some challenges to continue the activities after the Project terminated since there are lack of tools to repair and budget to visit the site, although the skills for O&M were developed. The Team observed that one WWMEO has even no screw driver. However, the Team observed the some cases that after WASHCO saved the money for O&M, they paid the cost for WWMEO staff for their transport, per diem as well as spare parts.

## (2) Capacity development of WASHCO

The Team found out that the capacity of the target WASHCOs has been upgraded although the level of performance is different each other. The Team observed that some of WASHCOs were now able to conduct their activities by themselves, such as collecting water tariff, building a communal latrine, holding a mass community meeting, convincing community to build their own latrine at home, pricing water, and reporting monthly to Woreda. The Team confirmed that 9 out 19 WASHCOs have prepared communal latrines but that almost all the households have built latrines after the Project started. According to the impact survey done by the Project, the preliminary result showed that the coverage of latrine in each household increased from 76.5% in 2008 to 93.6 in 2011. It was observed the involvement of Health Extension Workers, Kebele (Community) Administration including chairperson in WAS-CAP activities including training expedited the improvement of sanitation situation especially for hand-washing. Especially Hogowan WASHCO in Boloso Sore woreda made further efforts to build a WASHCO office and expedited the process of all household in the community to build a latrine with hand wash facility (water in the pet bottle and ash/soap). In this Kebele, the coverage rate of latrine per household in 2009 and 2010 were 56.16% and 68.65% respectively. After the WAS-CAP sanitation training in November 2010, the coverage rate increased to 100% within three months. This showed the remarkable impact of the training.

It was expressed by all levels of regional, zonal and woreda water offices, that the WAS-CAP approach has enhanced the sustainability of water management especially through bridging a firm relationship with WASHCO, where the relation had been very weak. It was also pointed out during the interview that the quality of information given by WAS-CAP supported WASHCOs have apparently different from those which have not trained, in terms of amount, accuracy and transparency of the data. All Zonal and Woreda water offices showed the willingness to scale up the WAS-CAP activities. However, serious constraints of budget and transport in these offices hamper taking initiatives. It is also noted that in order to achieve the indicators of 3-3 and 3-4, the Project needs further efforts to make sure that enough amount of saving for O&M and Afridev spare parts should be secured for those WASHCOs which have not reached the target.



CP in this component was assigned throughout the Project period and very positively participated in the activities, which was one of the promoting factors to achieve the objectives. Several OJT trainings were conducted to WWMEO and 21 target WASHCOs after the TOT conducted to the CP in WRB. Basic training for WWMEO staff on community based management was conducted in each 6 woreda especially on organization and management of WASHCO, which WWMEO is responsible to support. The Project developed a manual for this purpose utilizing the existing manuals provided by the Japanese Grant Aid program and manuals prepared by the WASH program to be more practical and user friendly. The manuals were prepared both for WWMEO (Field Implementation Manual (ver.1) and WASHCO (Handbook for WASHCO).

### (3) Spare Parts Outlet

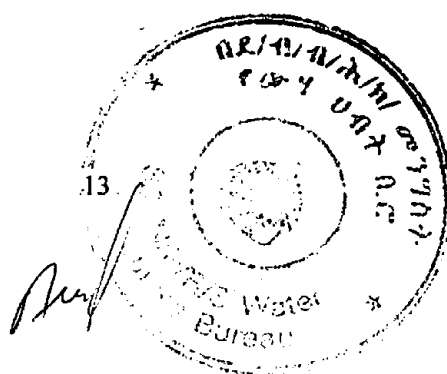
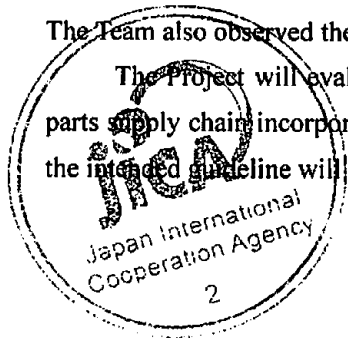
The Project has set up the five types of outlet models in seven locations in seven zones as shown in the table below; (1) ZWMED model at Silti in Silti Zone, (2) Private firm model in Arba Minch Zuria, Alte Wondo and Durama, (3) Hand pump user group model in Yigachefa, (4) Town Water Supply model in Sodo, (5) Private HP artisan association group model in Tercha (later changed into Town Water model). The seed spare parts were provided to have them start sales except two private firms.

One CP was assigned initially and he was been shifted in June 2010 to other tasks. After March 2010 two CPs were assigned. Therefore, at least one CPs was assigned in this component. The TOT was provided to CPs with necessary knowledge to conduct training to outlets in May 2009 and April 2010. After TOT, CPs conducted the training those outlets on sales and management. The several follow-up trainings and monitoring workshops were also conducted in each outlet in the 3rd year of the Project. In addition, a Joint workshop was held in October 2010 to share the experiences and issues among outlets at Arba Minch Zuria. The Project produced "Operation Manual for Spare Part Outlet", exercise materials for outlet to operate and "Guideline for Monitoring and Evaluation SP Supply System". A leaflet to introduce the outlet shops including the prices of major spare parts was developed and distributed to all Woredas and WASHCOs in the respective zone.

It was expressed by the users (WASHCO and WWMEO) to the Team that the presence of a spare part outlet in their vicinity became very convenient, saved the cost for transport and enabled them to repair in timely manner, while they used to travel to obtain spare parts to Awassa, capital town of SNNPRS or even to Addis Ababa.

The Team observed the several issues encountered by each model. For example, there is not much market demands created for the private shops, and some cases shop keepers were absent for other duties. The Team also observed the Project should strengthen the promotion activities.

The Project will evaluate these five models and produce a final guideline for establishing spare parts supply chain incorporating lessons learnt and challenges. It should be noted that the adaptation of the intended guideline will need have stronger operational support from WRB.



Model	Outlet	Zone	Woreda
ZWMED	ZWMED	Silti	Silti
Private firms	Merab Metal Shop	Goma Gofa	Arba Minch Zuria
	Kasa Building Material Shop*	Kembata Tembaro	Durame
	Hailu Building Material Shop*	Sidama	Alte Wondo
Hand pump user group	Hand pump user group	Gedeo	Yirgachefa
Town Water Supply	Town Water Supply	Wolayta	Boloso Sore
Private Hand pump repair association	It was changed into Town Water Supply model	Dawro	Tercha

\* The seed spare parts were not provided to these two shops.

### 3-3 Achievement of Project Purpose

Project Purpose	Organizational capacity in implementation, operation and maintenance of water supply system is improved in SNNPRS
<b>Objectively Verifiable Indicator</b>	OJT target Woredas achieve the objective of rate of access Running rate (utilization) of rural water supply system by December 2011. (Hula Woreda 85%, Silti Woreda 88%, Angacha Woreda 88%, Boloso Sore Woreda 82% Loma Woreda 92%, Arba Minch Woreda 87% and Rope Pumps which are installed by the Project 80%)

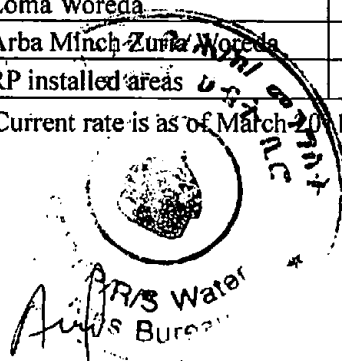
The Project Purpose is expected to be achieved by the end of the Project period based on the progress made of indicator.

The capacity of WRB on inter-institutional collaboration and coordination among Region, Zonal and Woreda has been strengthened. Particularly the Project initiated to establish an inter-linkage between WASHCO and Woreda through bottom-up reporting system for various components of the Project, where the existing linkage was very limited. The Project focused on the community operation and maintenance of water schemes bridging the existing layer of institutions which has resulted in developing models of WASHCO, Preventive/Curative O&M, dissemination of rope pumps and spare parts supply chains.

At the time of the Terminal Evaluation, the access running rates (utilization) of rural water supply system in target areas are shown in below table.

Target Areas	Utilization Rate	
	Target	Current*
Hula Woreda	85 %	84 %
Silti Woreda	88 %	86 %
Angacha Woreda	88 %	88 %
Boloso sore Woreda	82 %	80 %
Loma Woreda	92 %	91 %
Arba Minch Zuria Woreda	87 %	87 %
RP installed areas	80 %	88 %

\*Current rate is as of March 2011





### 3-4 Issues on the Implementation Process

Up to the Mid-Term Review, the Project faced serious challenges of a sheer absence of CPs due to the Business Process Re-Engineering (BPR) in early 2008 for implementation of the Project.

PDM was modified three times during the Project, from PDM 0 to PDM 3. PDM 1 was developed in June 2008 and PDM 2 in June 2009. Each Plan of Operations (POs) has been developed according to these PDMs. However, up to PDM2, detailed strategy and approaches were rarely discussed and the Project was managed mainly from the perspectives of respective inputs and has lacked its cohesiveness as a Project. The Mid-Term Review recommended the alignment of activities and the revision of PDM 2. After the recommendation by the Mid-Term Review, a draft PDM 3 was developed immediately after the review in December 2009 by the Japanese Team. Although the signing of Minutes on revised PDM 3 was delayed due to some of the reasons such as the structural change of the WRB, change of Project Director after the Mid-Term Review, basically the consent had been obtained by the Ethiopian side verbally. The current PDM 3 streamlined the outputs from six (6) to three (3) with setting clearer strategies and the target areas were also focused from 78 woredas to 6 woredas in SNNPRS.

The project operations have been managed by Project Director from WRB and the Japanese experts. However, due to the frequent turnovers of CPs, the communication between Japanese experts and most of Ethiopian CPs had not been always frequent. After the Mid-Term Review, the communication has been improved. A monthly meeting, if not, an ad-hoc meeting mechanism to share information on progress has been installed, although sometimes the participation of CPs were limited.

The Project has made good efforts to cope with the situation. For example, the presence of the Japanese expert increased. An assignment period of Japanese coordinator prolonged in order to enhance the communication and make logistical arrangement smoothly without changing the total amount of work months of Japanese experts. Each Japanese expert made efforts to communicate with his/her CPs frequently, even by e-mail or telephone at the time of his/her absence, so that WRB have more ownership of the Project. Yet, the Project slowed down the progress during the absence of Japanese experts.

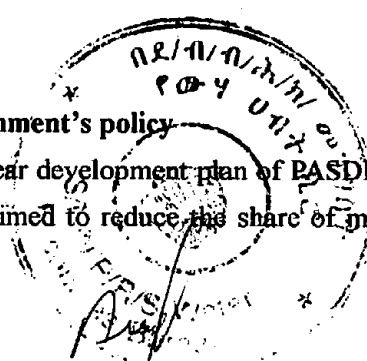
## 4. Evaluation Results by Five Criteria

### 4-1 Relevance

The relevance of the Project is *high*.

#### (1) Relevance of the Project for Ethiopian government's policy

The Project was well aligned with both five-year development plan of PASDEP (2005-2009) and UAP (2005) when the Project designed. PASDEP aimed to reduce the share of mal-functioning rural



4

systems from 30% in 2005 to 10% by 2010, while UAP developed in 2005 which aimed the water supply coverage from 35% at that time to 98% by 2012. In order to achieve the target, human resources development and capacity building for officers at woreda water offices, adoption of low cost technology, and rehabilitation of mal-functioning rural system were listed as major strategies.

Released national five years Growth and Transformation Plan (GTP) in 2010 sets target to reach the coverage of 98.5% by 2015. In same manner, the revised UAP in 2011, which in line with the GTP also emphasizes the priority on water supply and set the target to increase the coverage of rural access to safe water (within 1.5 km) to 98% by 2015 and reduce the malfunctioning schemes to 10%. In addition, it highlighted that the human resource development for water supply as a priority agenda and its implementation strategy includes capacity building at all levels of water resources management. In this respect, the document clearly defines that the primary responsibility for sustainable water supply at the rural area goes to the community level. Hence, all these prove that, the Project is in line with Ethiopian government's water policy and development strategy framework.

The Project also intended to contribute to the broader national efforts of meeting the needs in the rural water supply aspects of the country, which is to develop and utilize water resources to fulfill social and economic priorities, sustainably and equitably, by increasing water supply coverage. To this end, WAS-CAP is also in accord with the national development objectives, during the GTP period.

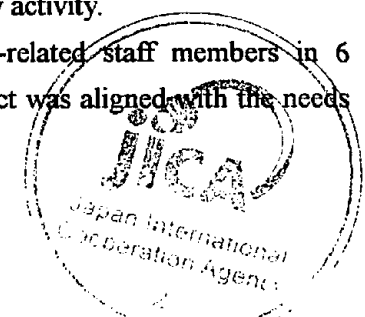
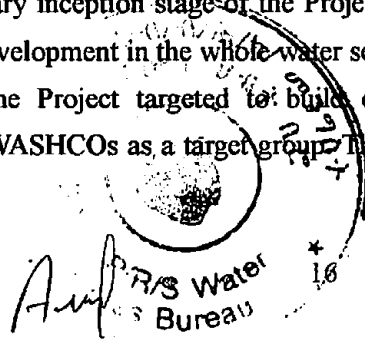
## **(2) Relevance of the Project for Sectoral Strategy**

The relevance of the project can also be evident from the alignment of Project Purpose with sectoral development strategies and plans of the country. Since it is clearly stipulated in the revised UAP, due focus is given for securing water supply access through low cost technologies including, but not limited to self-supply hand-dug wells with rope pumps to serve households and the community for a minimum of 5 years. In addition, the document also outlined first and foremost the appropriateness of the technology in terms of its O&M requirement should be assessed in terms of community operational skill and financial capacity in advance prior to investment. Further it also stated that it is vital to ensure the user community's commitment to meet all the requirements of O&M and to institute consistent sound operation and maintenance practices. It also highlighted that the water system need to take spare-parts supply chain improvements into consideration if sustainable and reliable service is to be achieved.

## **(3) Relevance of the Project for the Target groups**

The selection of target groups in the Project was appropriate. The target areas and groups were selected based on the results of the study and joint consultation among Project members that is carried out during the preliminary inception stage of the Project. In addition, revised UAP (2006-2012) states that human resources development in the whole water sector is a necessary activity.

In this regard, the Project targeted to build capacity of water-related staff members in 6 woredas/zones and 21 WASHCOs as a target group. Therefore, the Project was aligned with the needs of the target.



#### (4) Relevance of the Project for Japanese government's policy

The Project is also in line with the ODA policy. The country assistance program for Ethiopian of the Japanese (2008) stipulates (water and sanitation as two of the focal assistance sectors). TICAD IV also addressed effective water resource management and access to safe water and sanitation facilities. Japan has high-level water technologies and experiences especially in preventive Operation and Maintenance which is effective for the sustainability of rural water supply in Ethiopia.

#### 4-2 Effectiveness

The effectiveness of the Project can be evaluated *high* base on the PDM 3.

##### (1) The Achievements of the Project Purpose

As explained in the 3-3, judging from the achievement of the indicator and comments received during the Terminal Evaluation, the Project Purpose can be said satisfactory achieved. The capacity of WRB on inter-institutional collaboration and coordination among Region, Zonal and Woreda has been strengthened in the areas of Project concerned. Particularly the Project initiated to establish an inter-linkage between WASHCO and Woreda through bottom-up reporting systems of various components of the Project, where the existing linkage had been very limited. The Project focused on the community operation and maintenance of water schemes bridging the existing layer of institutions which has resulted in developing models of WASHCO, Preventive/Curative O&M, dissemination of rope pumps and spare parts supply chains. One of the reasons that made the Project effective was to conduct frequent follow-up, monitoring and supervision especially for WASHCO's capacity building. It is usual that most WASHCOs receive initial training after the installation of water schemes but only once or none by installed donor agencies or NGOs, which does not enable WASCHO to function effectively.

On the other hand, in order to sustain the level of achievements of the Project, it is expected that the WRB should take an initiative to continue to follow up the activities. It is also expected the initiative of WRB to replicate the models to other Zones and Woredas in SNNPRS, so that especially capacities of the community level (WASHCO) in engaging operation and maintenance will be further developed throughout the region, which is a key for sustainable management of rural water supply.

##### (2) Promoting and hindering factors to achieve the Project Purpose

The revision of PDM at the Mid-Term Review facilitated the achievement of the Project Purpose by streamlining a project design.

The approach of the WAS-CAP was more effective in a way they conduct the frequent and close monitoring, and supervision activities at WASHCO and Woreda level compared to the usual practices conducted by other donor agencies and NGOs after the installation of water schemes.

Frequent changes of CPs including Project Director (change three times during last 3 years) and relevant stakeholders in Zone and Woreda levels mainly due to BPR affected the progress of the

implementation of the Project.

#### 4-3 Efficiency

Overall, the level of efficiency is evaluated *relatively low* although the three outputs are expected to be produced by the end of the Project period.

Frequent turnovers of CPs and trained staff members at WWMEO and ZWMEO due to BPR started in early 2008 and a new administration introduced in October 2010 affected greatly the efficiency of progress of the Project implementation. Especially changes of the heads of relevant stakeholders including ZWMEO and WWMEO made difficult to keep consistency of the Project. The absence of customs in keeping records and documents to take over the new personnel also hindered the consistency and efficiency. The Japanese experts devoted their time to make new CPs understood the Project and to train new staff members from scratch, which sometimes delayed the planned activities.

Director of WRB has changed three times during the Project period. In addition, the devotion of time that most of the WRB CPs could manage was not sufficient due to other responsibilities and the understaffed situation due to BPR.

The Mid-Term Review enhanced the efficiency in terms of being facilitated the CP's appointments to the Project and streamlining the project framework which reduced six outputs to three and which limited the target areas into 6 woredas from 78. The initial design of the Project which covers 78 woredas was too ambitious to produce tangible outputs considering the amount of input and limited period of the Project time, as a result, it had cast a shadow in the Project progress. Therefore, the reduction of the number of target woreda at the Mid-Term Review did not affect the Project impact, rather it created more benefit and the Project became more focused. The activities conducted before the redirection are still relevant to the current project in some extent, however, it could be more efficient if the resources had been concentrated in 6 woredas from the beginning.

The situation became better after the Mid-Term Review where most of the CPs was assigned and the Project introduced a monthly meeting with both Japanese experts and CPs, although some of the CPs was still not able to meet regularly.

An assignment period of Japanese coordinator prolonged in order to enhance the communication and make logistical arrangement smoothly without changing the total amount of work months of Japanese experts.

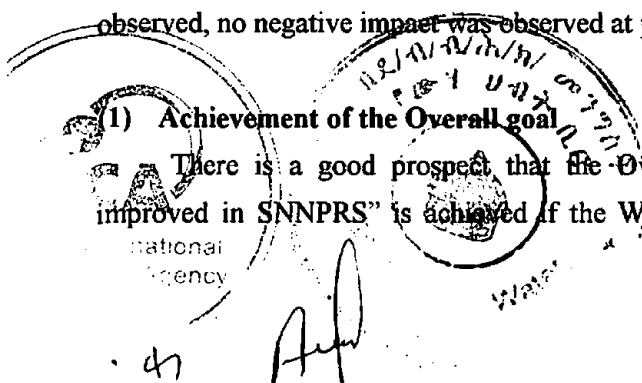
Equipment was provided as planned in timely manner.

#### 4-4 Impact

While there are several impacts from the Project that have been observed or are likely to be observed, no negative impact was observed at present.

##### 1) Achievement of the Overall goal

There is a good prospect that the Overall Goal "Sustainability on water supply system is improved in SNNPRS" is achieved if the WAS-CAP approaches including guidelines, manuals and



forms of various components which were developed by the Project officially utilized in the regular WRB strategy for sustainable water supply system. It was already observed some examples of showing impact. For example, Dawro Zonal office has already initiated to replicate some activities for two WASHCOs in Tocha and Esara woredas, except setting up a water billboard and utilizing reporting format. The Team observed that the Hula Woreda has also started to introduce WAS-CAP activities of WASCHO capacity building to non-targeted three WASHCOs. These initiatives to scaling up were done voluntarily by Woreda and Zonal water offices despite they are facing difficulties in budget and transport. Another good example is that SNV has started to use WASHCO reporting system and formats to SNV supported Woredas. Also, in Silti woreda, the Team has found that a spare parts outlet is going to be established with a support of seed spare parts from Norwegian Church Aid (NCA). Silti woreda will apply the WAS-CAP approach on operation and management of spare parts outlet. The training of shop keepers, however, is required support from ZWMEO which has trained shop keepers by the Project. The other example includes that African Development Bank supported Angacha woreda installed a water billboard to its WASHCOs, which was learnt from the experience of WAS-CAP Project. In addition, Bercha WASHCO in Angacha has started income generation activities for the purpose of O&M by obtaining farm land from Kebele administration.

As for RP dissemination, an international NGO, Food for Hunger, has tried to introduce 30 RPs in Angacha Woreda after the training of Woreda Staff by WAS-CAP Project. In addition, the Team confirmed some dissemination efforts have been initiated by zonal and woreda water offices. For example, Arba Minch Zonal office has started to disseminate rope pumps through NGOs like VITA and World Vision in their supportive woredas. Inspired by the demonstration course held by WAS-CAP Project, Angacha woreda has installed 15 communal use rope pumps from their own initiatives by using their budget.

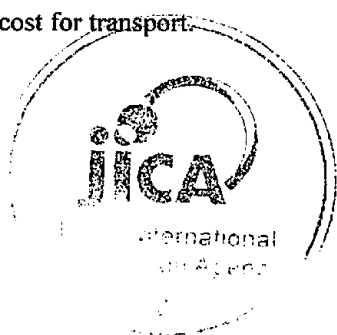
## (2) Other impact observed

The following positive impacts were already observed.

The Project influenced on behavioral changes of the community especially on sanitation and hygiene aspects. The Project raised awareness of sanitation to the community which convinced the most of the community to build latrine at their houses. Hand-washing after using latrine and before cooking have been practiced. The Project also has contributed to improve sanitary environment of the villages. The people now start cleaning not only their premises as well as common places. The preliminary results of the Impact survey which the Project conducted showed the improvement of the coverage of household latrine 76.5% (2008) to 93.6% (2011) in the target WASHCOs in 6 woredas.

The Team also observed through the visit that most of the visited WASHCOs prepared communal latrines and that almost all the households have built latrines. Especially Hogowan WASHCO in Boloso Sore woreda made further efforts to build a WASHCO office and convince all household in the community to build a latrine including a community latrine.

It was also observed that a presence of spare parts outlet nearby WASHCO saved the time and cost for transport.





collection in each woreda level annually.

Most of the trained WASHCOs have now acquired the knowledge and skills to conduct community based preventive operation and maintenance. WASHCOs' activity on sanitation and hygiene was cooperated with the Health Extension Workers in their respective Kebele (community). In addition, involvement of the Kebele administration including chairperson in the Project activities improved the effectiveness and sustainability. Hence, the WASHCO can easily obtain technical support on sanitation and hygiene issues. This kind of arrangement has strengthened the technical sustainability.

#### (4) Financial Aspects

There is much prospect for the WASHCO level to sustain the Project effect since most of WASHCOs have gained a mechanism to collect water tariff and saved appropriate amount of money for O&M. On the other hand, the financial aspect at the levels of WWMEO and ZWMEO may hinder the continuity of the activities. Although the Project was designed to adopt low cost O&M approaches, appropriate allocation of budget for per diem and transport to conduct O&M is necessary. In order not to lose the momentum to continue a good initiative of Project activities, all levels of water offices should make further efforts to secure budget. In this regard, it was also pointed out that WRB take an initiative to explore the possibility to obtain outside resources including donors, international agencies, NGOs, CBOs and micro finance institution.

#### 5. Revision of PDM

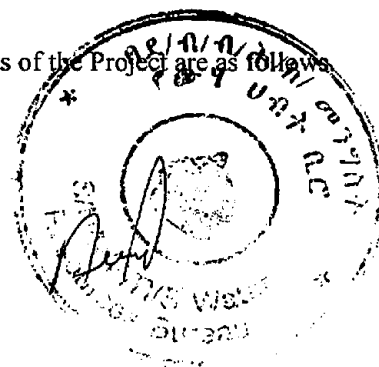
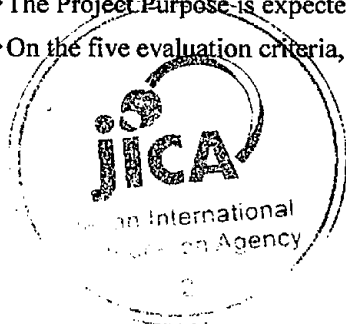
The following modification of indicators should be done to clarify the meaning of the narrative summary. A revised PDM4 / PO4 is attached as ANNEX 4.

- (1) Indicator of the Overall Goal is still ambiguous. The Team suggests replacing the indicator to "Scale-up activities to strengthen WASHCO, disseminate Rope Pumps and implement preventive O&M are being conducted in the 6 targeted zones and woredas".
- (2) Indicator 3.4: Since only 9 out of 21 target WASHCO have Afridev Hand pump, the indicator 3.4 "Each of the 21 target WASHCOs regularly keep hand pump (Afridev)...." is not necessarily reflecting the situation. The indicator should said "9 WASHCOs which monitor Afridev Hand Pumps regularly keep Afridev spare parts for half yearly".
- (3) An indicator regarding spare parts supply chains is missing, which is one of major components in Output 3. The Team suggests an additional indicator should be needed. "Guideline for spare parts supply chain is prepared and distributed in the region by the end of the Project period" should be placed as an additional indicator of 3.5 under Output 3.

#### 6. Conclusion

The conclusion of this Evaluation is as follows.

- The achievements to date of the Output1 , Output2 and Output 3 are high
- The Project Purpose is expected to be achieved.
- On the five evaluation criteria, the evaluation results of the Project are as follows



The relevance of the Project is high.

The effectiveness of the Project is high.

The efficiency of the Project is relatively low.

Some positive impacts are observed while no negative impact is remarked as of now.

The sustainability of the Project effect is relatively high at the WASHCO level, however, moderate at Woreda, Zonal, and Regional levels.

## 7. Recommendations and Lessons Learnt

### 7-1 Recommendations

The evaluation Team suggests that the following recommendations from this terminal evaluation.

**The following recommendations are made for the short-term perspective before the end of the Project.**

#### (1) Scaling up of the Project outputs

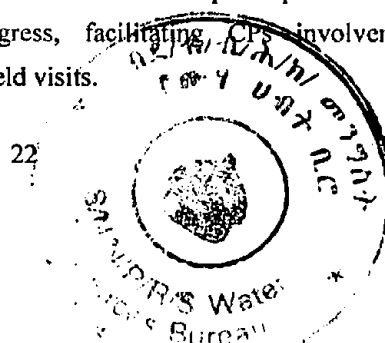
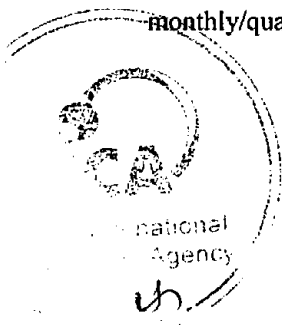
It was agreed by both sides that scaling-up of the outputs of the Project could be beneficial for WRB. WRB should develop a clear strategy/guidance and detailed procedure which includes concrete schedule with detailed activities and financial arrangement in consultation with JICA Experts by the end of the Project period. The activities for scaling-up within the next six months would include training 1-2 un-targeted WASHCOs per each 6 woreda by the trained WWMEO staff members, OJT / field visit for un-targeted ZWMEOs in the SNNPRS. A workshop should be held to announce the results and lessons learnt from the WAS-CAP inviting all stakeholders from the government, donors, international agencies, relevant NGOs and micro finance institutions. In order to scale-up the effect of WAS-CAP, it is recommended that WAS-CAP approach including developed guidelines, manuals, reporting formats by the Project be officially utilized by WRB and adopted regionally.

#### (2) Inclusion of the WAS-CAP Project activities into the CP's performance evaluation sheet

Although WRB staff members are assigned as CPs of the WAS-CAP, it was found that the WAS-CAP activities are not included in their personal performance evaluation sheet, which hinders the involvement of CPs into the activities of the Project. WAS-CAP activities should be added officially in their respective performance evaluation format in the next financial year starting from 1 July 2011 in European year for the smooth project implementation.

#### (3) Inclusion of M&E officers in the Project

It is recommended that the M&E officers from the WRB should be included for the effective project management and ensuring sustainability. The modalities of participation in the project include such as overall monitoring of project progress, facilitating CPs involvement, attending a monthly/quarterly meetings and accompanying field visits.





**(4) Direction of the dissemination of RP in SNNPR**

The dissemination of low cost technology including RPs is clearly mentioned in the official policy documents such as GTP and UAP and it is also a regional policy to disseminate RPs. Although the actual implementation should be done at the woreda level, WRB should facilitate and support WWMEO to develop a detailed plan to disseminate RPs. In this regard, WRB should take necessary actions such as by assigning the focal persons or specific unit within the Bureau.

When the RP is installed in the existing well, careful assessment and consideration should be made on the environmental and water resources potential.

**The following recommendations are made for the medium- and long-term perspective.**

**(5) Budget Allocation for appropriate O&M activities**

After the series of meeting with relevant stakeholders, it was found that some target Woredas are facing the lack of budget, transport and basic tools for repair which could be inevitable for WWMEO to conduct appropriate O&M activities. WRB should facilitate and support Woredas to allocate the necessary budget for conducting those activities effectively including making efforts to find potential financial sources from donors, international agencies, NGOs, CBOs, and micro finance institutions. Regional and zonal levels should also allocate appropriate budget for necessary activities in this context.

**7-2 Lessons Learned**

The evaluation Team suggests that the following lessons are learned from this terminal evaluation.

**(1) Communication between JICA experts and CPs**

When a project includes that the number of components of outputs are many and each component has large quantity of activities, at least one longer-term JICA Expert should be assigned for the project since intensive and constant coordination are required.

**(2) Inclusion of project activities in CP's performance evaluation sheet**

In order to ensure the active involvement of CPs in the project activities, official inclusion of these activities in CP's performance evaluation sheet found to be very effective.

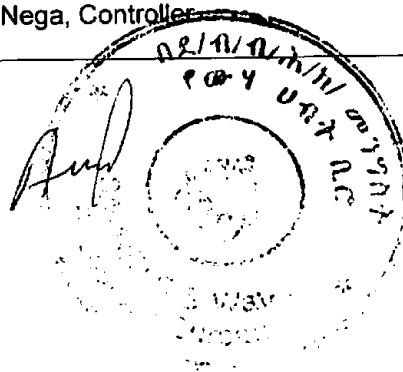


## Tentative Schedule of WAS-CAP Project Final Evaluation

	day	Mr. WAKUI (Team Leader)	Mr. WATANABE (Evaluation Planning)	Dr. Watanabe / Mr. Ephrem (Evaluation and Analysis) / (Rural Wate Supply)
5-May	Thu	1		TYO→Dubai
6-May	Fri	2		Arrival at Addis Ababa
			14:00 Meeting with JICA Office	
7-May	Sat	3		8:30 Move to Awassa, 14:30 Meeting with JICA Experts, interviews
8-May	Sun	4		8:30 Meeting with JICA Experts(conti.) 11:00 Move to Arba Minch
9-May	Mon	5		8:30 Meeting with Arba Minch Woreda Bureau 11:00 Meeting with WASHCO in Arba Minch 15:00 Meeting with Spare parts focal points
10-May	Tue	6		8:30 Meeting with Gamo Gofa Zonal Office 14:30 Meeting with Wolaita Zonal Office
11-May	Wed	7		8:30 Meeting with Boroso Sore Woreda Office 11:00 Meeting with Boroso Sore WASHCO 13:30 Meeting with Visit to the Rope pump site 15:00 Meeting with Spare Parts (Town Water Supply)
12-May	Thu	8		9:00 Meeting with Loma Woreda 11:00 Meeting with Loma WASHCO 13:00 Meeting with Dawero Zone PM Move from Loma to Sodo
13-May	Fri	9	Addis Ababa → Awassa	AM Move from Sodo to Awassa 11:00 Meeting with CPs in WRB (O&M, GIS, SD, SP) 16:00 Meeting with SNV
14-May	Sat	10		Document Preparation, Submission of draft report to other members 16:00 Meeting with CP n WRB on RP
15-May	Sun	11	TYO→Dubai	Document Preparation 12:30 Meeting with Silte WASHCO 13:00 Meeting with Silte Zonal Bureau
16-May	Mon	12	Dubai→Addis Ababa Move to Awassa	9:00 Meeting with Silte Woreda Bureau 12:30 Meeting with Silte WASHCO 13:00 Meeting with Silte Zonal Bureau 16:00 Rope Pump Site
17-May	Tue	13		8:30 Courtesy call to SNNPR Water Bureau Head 9:00 Meeting with Process Owner, CPs of SNNPR Water Bureau 10:00 Meeting with Mr. Kassu, CP of SNNPR Water Bureau 14:00 Meeting with Sidama Zonal Office 16:00 Meeting with JICA Experts
18-May	Wed	14		10:00 Meeting with Anegacha Woreda Office 14:00 Meeting with Anegacha WASHCO 14:00 Rope pump Site 15:00 Meeting with K.T Zonal Office
19-May	Thu	15		9:00 Meeting with Head of Hula Woreda Water Bureau 11:30 Meeting with Hula WASHCO 14:00 Rope pump site
20-May	Fri	16		9:00 Meeting with SNNPR Water Bureau 14:00 Meeting with SNNPR Water Bureau
21-May	Sat	17		Document Preparation
22-May	Sun	18		Document Preparation
23-May	Mon	19		16:00 Preparation Meeting for Terminal Evaluation Report with SNNPR Water Bureau
24-May	Tue	20		9:00 Document Preparation (Conti...)
25-May	Wed	21		9:00 JCC (Signing of M/M of Terminal Evaluation report)
26-May	Thu	22		Awassa → Addis Ababa
27-May	Fri	23		9:00 Report to JICA Ethiopia Office 11:30 Report to Embassy 17:30 Lv. Addis Ababa
28-May	Sat	24	Dubai → TYO	Dubai → TYO

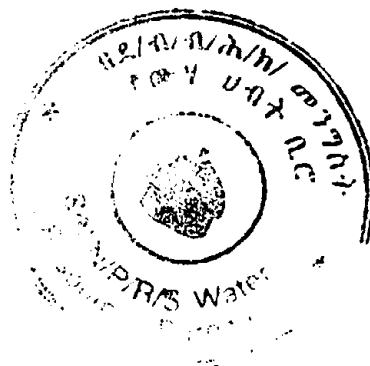
## List of Interviewed

	Organizations	Interviewees
Region	Water Resource Bureau (WRB)	Mr. Abas Mohammed, Project Director, Bureau Head Mr. Wubishet, Project Manager, Water Supply and Scheme Administration, Main Process Owner Mr. Kassu Eshete, Asst. Project Manager, CP in Social Development Mr. Bekele Belete, CP in O&M Mr. Sitota Girma – CP in GIS Mr. Bilom Teshome - CP in Spare Parts supply Mr. Dereje Halie, CP for Rope Pump Mr. Andualem Tefera, CP for Rope Pump
Zone	Gamo-Goff ZWMED	Mr. Mesele Aynalem, Community Participation Promoter Mr. Eneyew Tsgeye, Electro Mechanical Engineer Mr. Zegeye Zage, Hydro-Geologist
	Wolayta ZWMED	Mr. Abrham, office Head
	Dawro ZWWED, Tercha	Mr. Matiws Mamo, Development Planning Mr. Mitiku, WSS Expert
	Silti ZWMED	Mr. Mohammed Dedgaga Muze, Mr. Yassin Aman, Process owner
	Sidama ZWMED	Mr. Abiru Dinkamo Daniso, Office Head
	Kembata Tembaro ZWMED, Durame Town	Mr. Lolamo Sulamu, Office Head Mr. Abera Abiyu, Water Supply and Scheme Administration Process owner
Woreda	Arba Minch WWMEO	Mr. Endiyas Wagiem, Office Head Mr. Worknh Abraham, process owner Mr. Haimonot Getachew, Community Participation Promoter
	Boloso Sore WWMEO	Mr. Daneil Chorfo, Office Head Mr. Mesfin, Civil Engineer Mr. Alebie Demessie, Process owner
	Loma WWMEO	Mr. Zenebe Jarso, Office Head Mr. Mebratu Meshesha, Mr. Bafie Choforie, Sanitation and Hygiene Expert
	Silti Zone, Silti WWMEO	Mr. Musema Ligbo, Electromechanical Technician Ms. Asma Awel, Hygiene and Sanitation
	Angacha WWMEO	Mr. Defar Fantu, Office Head Mr. Alemaehu Bantamo, OM&CPP Mr. Mihretu Fiseha, O&M Mr. Getachew Huro, O&M
	Hula WWMEO	Mr. Tamiru Buchie, Office Head Ms. Mekdes Kassa, Hygiene and Sanitation
WASHCO	Arba Minch Woreda-Chamo Dorga Kebele WASHCO	Mr. Samaul Wonjela, Chairperson Mr. Bogale Moto, Secretary Mr. Belete Bekele, Cashier Ms. Nigist Mamo, Property Administrator Ms. Mekoya Menegsha, Controller Mr. Abayeneh Geffa, Care taker Mr. Gibe Derza, Care taker
	Boloso Sore Woreda, Garagodo Kebele, Hagowan WASHCO	Mr. Bekele Bantero, Chairperson Mr. Zeleke Gatiso, Secretary Ms. Adanech Tendama, Cashier Mr. Wodaje Worku, Property Administrator Ms. Senayiet Nega, Controller



	Zima WARUMA WASHCO	Mr. Hursh Hutalo, Chairperson Ms. Belaynesh Wurgessa, Secretary Mr. Baffa Badacho, Cashier Mr. Abebe Asnake, Controller Ms. Fannaye Fanta, Hygien
	Silti Woreda, Boze Sobaha WASHCO	Mr. Musubeh Shei Hassen, Chairperson Mr. Yesuf Hamza, Secretary Ms. Maymuna Jemal, Cashier Ms. Sofiya Wrkicho, Property controller Mr. Hussien Shanko, Controller
	Angacha Woreda, Berche WASHCO	Mr. Getso Kebeto, Chairperson Mr. Taddese W/Giorgis, Secretary Mr. Matiws Anorie, Cashier Ms. Mesele Kebede, Property controller Ms. Terfie Misyabo, Controller
	Hula Woreda-Wirama WASHCO	Mr. Ayele Ameiso-Chair person Mr. Tadele Katinafu, Secretary Ms. Asnakech Ashenafie, Cashier Mr. Legesse Gojoo, Controller Mr. Warie Adie, Property Administration
Spare Parts Outlet	Merab Meatal Workshop, Arba Minch Zuria	Shop keeper on behalf of Mr. Mekoner Zegeye, shop owner
	Wolayta Zone Town Water Supply	Mr. Bekrie Mohammed Ms. Almaz Amare, a Purchase and Finance Main Process Owner (Spare-parts focal Person)
	Silti ZWMED (Spare parts outlets)	Officer in charge
	Kasa Building Material Shop, Kembata Tembaro	Shop owner
	Hailu Building Material Shop, Sidama	Shop owner
	Town Water Supply, Dawro	Officer in charge
Rope Pump	Boloso Sore Woreda-Rope Pump Site	Mr. Yohannes Eersado's Wife
	Angacha Woreda-Rope Pump Site	Mr. Simion Mekebo, Pump Owner
	Hula Woreda Rope Pump (Communal use)	Communities
NGO	Netherlands Development Organization (SNV)	Ms. Selamawit Tamiru, Advisor in Water, Sanitation and Hygiene
JICA	JICA Experts	Mr. Nobuyuki Ishii, Chief Advisor Mr. Naoki Yasuda, Rope Pump/Improved hand dug well Ms. Maki Hamaoka, Social Development/Rural Water Supply and Sanitation Mr. Takafumi Ohashi, Project Coordinator

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Project Design Matrix (PDM)

**Project Name:** Water Sector Capacity Development Project in SNNPRS  
**Target Area:** 6 Target Woredas  
**Executing Agency:** Water Resource Bureau (WRB)

**Target Group:**  
 Direct: 6 Woredas Water, Mining and Energy Office (WMMEO), 21 Water Schemes (WATSANCO)  
 : Water, Sanitation and Hygiene Committee)

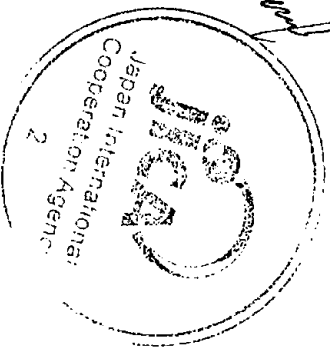
**Period:** Dec 2007 - Dec 2011  
**Version:** 3.0  
**Date:** 28 February 2011

Overall Goal	Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>Sustainability on water supply system is improved in SNNPRS.</p>	<p>Operational capacity in implementation, operation and maintenance of water supply system is improved in SNNPRS.</p> 	<p>Any method used by WAS-CAP is utilized in any other ZWMED or WMMED in SNNPRS.</p>	<p>Fact-finding on the spot to the concerned persons</p>	<p>The SNNPRS government does not change. The policy of further development of rural water supply in SNNPRS.</p> <p>Support services from Woreda Water Office with regard to rural water supply are improved in the woredas other than Japanese supported woredas through assistance from different stakeholders.</p>
<p><b>Project Purpose</b> Organizational capacity in implementation, operation and maintenance of water supply system is improved in SNNPRS.</p>	<p>OUT target Woredas achieve the objective of rate of access Running rate (utilization) of rural water supply system by December 2011. (Hula Woreda 85%, Silli Woreda 88%, Angacha Woreda 88%, Botoso Sore Woreda 82%, Loma Woreda 92%, Aba Minch Woreda 87% and Rope Pumps which are installed by the Project 80%)</p>	<p>Project Document (Final Report etc.)</p>	<p>Project Document (Monitoring Report etc.)</p>	<p>Budget is allocated appropriately for water sector by Woreda Administration</p>
<p><b>Outputs</b> 1. Rural Water Supply Scheme Development / O&amp;M Plan is formulated in each of the 6 Target Woredas 2. Rope Pump Dissemination System is established in the 6 Target Woredas 3. Operation and Maintenance of Water Schemes are improved in 6 Target Woredas.</p>	<p>1. Rural Water Supply Scheme Development / O&amp;M Plan on the basis of thematic map is formulated in each of the 6 Target Woredas. (2003 in Ethiopian Calendar (2010 in European Calendar) year's version by October 2010 and 2004 in Ethiopian Calendar (2011 in European Calendar) year's version by May 2011. 2-1. The collection rate of monthly information from users in O &amp; M monitoring system for rope pumps, which are installed by the Project, is 80 % by the end of the Project. 2-2. The rate of awareness of rope pump in each rope pump installation site is 70% by the end of the Project. 3-1. The defined numbers of staffs in each WMMEO score over 70 points in exam of repair / O &amp; M Training by the end of the Project. 3-2. Carrelakers of WASHCO in 21 target water schemes implement preventive maintenance (regular maintenance) according to the established frequencies in the different water schemes after repair / O &amp; M training by the end of the Project. 3-3. All the WASHCO of the target water schemes save the established cost for O &amp; M by the end of 2003 in Ethiopian Calendar (August 2011 in European Calendar). 3-4. Each of 21 WASHCOs regularly keep hand pump (Afrider) spare parts for half a year O &amp; M by the end of the Project.</p>	<p>Rural Water Supply Scheme Development / O&amp;M Plan 2010 year's ver. and 2011 year's ver. Project Document (Monitoring Report etc.) Project Document (Monitoring Report etc.) Project Document (Monitoring Report etc.) Repair/O&amp;M Training Report (Examination Results) Project Document (Monitoring Report etc.) Project Document (Monitoring Report etc.)</p>	<p>There is no significant turn over of project counterparts in the WRDB and Woreda Water Office.</p>	
<p><b>Activities</b> 0. Hold JCC for Exploration and Revised Plan and the Final Seminar 0.1. Prepare supporting system for WMMEO and the training for WMMEO personnel (needs assessment, training plan, curriculum, training materials, etc.) 0.2. Study to formulate specific approach and select prioritized Woredas 0.3. Study to formulate specific approach and select prioritized Woredas 0.4. Study to formulate specific approach and select target Woredas 0.5. Study to formulate specific approach and select target Woredas 0.6. Formulate training program using local resources 0.7. Develop training materials using local resources 0.8. Conduct and manage training for WMMED/WMMEO staff and local artisans 0.9. Evaluate and feed back contents and results of training 0.10. Hold JCC for Explanation and Approval of Revised Plan and the Final Seminar 1.0. Improve GIS database model for effective water resource development and management</p>	<p>Inputs (Japanese Side) Experts Chief Advisor / Water Supply Planning (Groundwater Development) Deputy Advisor / Water Supply Planning (Facility Improvement) Water Supply Planning (Facility Operation and Maintenance) Water Supply Planning (Electrical/Mechanical) Water Supply Planning (Rope Pump / Hand Dug Well) Social Economy Social Development / Rural Sanitation and Hygiene (1) Social Development / Rural Sanitation and Hygiene (2) GIS / Information Management Project Coordination / Training Management Equipment to be provided 4-wheeled vehicle Copy machine Projector Personal Computer Printer (Ethiopian Side)</p>	<p>1-1. Prepare GIS Database based on the Result of the Inventory Survey in the 6 Target Woredas 1-2. Train WRB Staff on GIS as Training of Trainers (TOT) 1-3. Train WMMED Staff on GIS by WRB 1-4. Update Database regularly by WMMEO 1-5. Collect Data for Inventory by WMMEO 1-6. Develop GIS Map for Effective Water Resources Development in the 6 Target Woredas 2.0.1 Conduct training on improved hand dug well training for local artisans 2.0.2 Support to establish artisan association at Woreda level 2.0.3 Conduct training on rope pump technology for local artisans 2.0.4 Install public rope pumps for demonstration purpose to stimulate demand 2.0.5 Install household rope pumps for demonstration to stimulate demand 2.0.6 Conduct activities to stimulate demands for communal and household rope pump</p>	<p>Pre-conditions All the important stakeholders of the project have agreed in principle.</p>	

- 2-1. Formulate Technical Workgroup on Appropriate Technology in Water & Sanitation Process of WRB and Give Training (OJT)
- 2-2. Contact and Review the Rope Pump Manuals and Guides and Translate them into Amharic
- 2-3. Execute Comprehensive Rope Pump Training for Water Office Staff (OJT)
- 2-4. Assist Woroda Water Office Staff in Selection of Installation Site for Rope Pumps
- 2-5. Install Rope Pumps through OJT to Woroda Water Office Staff by Local Consultant
- 2-6. Monitor HDRP (Technical Instruction of HDRP Manufacturing and Promotion of Rope Pumps at Workshops in Aberneth and Soda as a part)
- 2-7. Promote Rope Pump Dissemination Models
- 2-8. Conduct activities such as training, installation, and quality control that are intended to help establish rope pump dissemination models in the other three regions (Amhara, Tigray and Oromia)
- 3.0.1 Conduct training on water supply schemes for WWMECO personnel in charge of technical aspects
- 3.0.2 Conduct training on water supply schemes for WWMECO personnel in charge of community mobilization
- 3-1. Technical O & M Capacity Building related Activities
  - 3-1-1. Analyze Malfunction Causes of Water Schemes
  - 3-1-2. Formulate Curative/Preventive O & M Manual by Type of Malfunction
  - 3-1-3. Conduct Curative/Preventive O & M Training for WRB & ZWMECO staff as TOT
  - 3-1-4. Conduct Curative / Preventive O & M Training for WWMECO Staff & Technical Staff of Spare Parts Outlets
  - 3-1-5. Conduct Training on Minor Repair Works & Preventive Maintenance for WASHCO by WWMECO
  - 3-1-6. Develop Effective Use of GIS Database for Planning and Monitoring of O & M by the Target Zones &
  - 3-2. Community-based Management of the Water Schemes related Activities:
    - 3.2.0 Support the target WASHCO to strengthen the organizational capacity by WWMECO
    - 3.2-1. Conduct a Basic Training for Technical Staff of the WWMECO about the Community-based Management (Organization, Accounting)
    - 3.2-2. Through Trained Staff of the WWMECO about the Operation and Maintenance of Water Supply Facilities (Organization, Accounting, Monitoring, etc.) at the Target Site
    - 3.2-3. (Common for Technical and Social Components) Sensitize the Users of the Target Water Schemes about Water, Sanitation, Hygiene and Management of the Water Scheme
    - 3.2-4. (Common for Technical and Social Components) Monitor Regularly the O&M and Management Status of the Target Water Schemes
    - 3.2-5. (Common for Technical and Social Components) Formulate/Update WAS-CAP O & M package for community-based water scheme management
    - 3.2-6. (Common for Technical and Social Components) Establish a future scaling up system of community-based water supply chain related Activities
    - 3-3. SP Supply Chain related Activities
      - 3.3.0.1 Prepare draft model for spare parts supply chain
      - 3.3.0.2 Conduct draft model for spare parts supply chain on trial
      - 3.3.0.3 Monitor and evaluate draft model for spare parts supply chain
      - 3-3-1. Modify Draft Models for Spare Parts Supply Chain.
      - 3-3-2. Establish a System that WWMECOs and WASHCOs have an Access to Information on available Spare Parts and their Prices.
      - 3-3-3. Conduct Draft Model for Spare Parts Supply Chain on Trial
      - 3-3-4. Assist Spare Parts Outlets to Supply the Spare Parts for Rope Pumps
      - 3-3-5. Monitor and Evaluate Draft Model for Spare Parts Supply Chain
      - 3-3-6. Formulate a Guideline for establishing Spare Parts Supply Chain

Counterpart Personnel  
Facilities and Equipment  
Allocation of cost

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PLAN OF OPERATIONS ver.3

February 28, 2011

Activities of PDM	2007												2008												2009												2010												2011											
	1st Year												2nd Year												3rd Year												4th Year												5th Year											
	Project Year	Month											Project Year	Month											Project Year	Month											Project Year	Month											Project Year	Month										
▲ : Joint Coordinate Committee (JCC) ■ : Project Annual Report																																																												
0.1 Prepare supporting system for WMMEO and the training for WMMEO personnel (needs assessment, training plan, curriculum, training materials, etc.)	Planned (Nov 07)																																																											
0.2 Study to formulate specific approach and select prioritized Woredas	Actual																																																											
0.3 Study to formulate specific approach and select prioritized WASHCOs from Woredas selected in activity 0.2	Planned (Nov 07)																																																											
0.4 Study to formulate draft models for spare parts supply chain and formulate specific approach	Actual																																																											
0.5 Study to formulate specific approach and select target Woredas	Planned (Nov 07)																																																											
0.6 Formulate training program	Actual																																																											
0.7 Develop training instructors among local resources	Planned (June 09)																																																											
0.8 Conduct and manage training for ZMWED/WMMEO staff and local artisans	Actual																																																											
0.9 Evaluate and feed back contents and results of training	Planned (June 09)																																																											
0.10 Hold JCC for Explanation and Approval of Revised Plan and the Final Seminar	Actual																																																											
0.11 Develop Water Supply Schemes Development/ O&M Plan is formulated in respect of the 6 Target Woredas	Planned (Apr 10)																																																											
0.12 Improve GIS database model for effective water resource development and management	Actual																																																											
1.1 Prepare GIS Database based on the Result of the Inventory Survey in the 6 Target Woredas	Planned (Apr 10)																																																											
1.2 Train WRB Staff on GIS as Training of Trainers (TOT)	Actual																																																											
1.3 Train ZMWED Staff on GIS by WRB	Planned (Apr 10)																																																											
1.4 Update Database regularly by WMMEO	Actual																																																											
1.5 Collect Data for Inventory by WMMEO	Planned (Apr 10)																																																											
1.6 Develop GIS Map for Effective Water Resources development in the 6 Target Woredas	Actual																																																											



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PLAN OF OPERATIONS ver.3

Activities of PDM	2007												2008												2010												2011											
	1st Year			2nd Year			3rd Year			4th Year			5th Year			6th Year			7th Year			8th Year			9th Year			10th Year			11th Year			12th Year														
	Project Year	Month		Project Year	Month		Project Year	Month		Project Year	Month		Project Year	Month		Project Year	Month		Project Year	Month		Project Year	Month		Project Year	Month		Project Year	Month		Project Year	Month																
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3.3.4 Assist spare parts outlets to supply the spare parts for rope pumps.																																																
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3.3.6 Formulate a guideline for establishing spare parts supply chain.																																																

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**Project Design Matrix (PDM)**

**Project Name:** Water Sector Capacity Development Project in SNNPRS  
**Target Area:** 6 Target Woredas  
**Executing Agency:** Water Resource Bureau (WRB)

**Target Group:**  
 Direct 6 Woreda Water, Mining and Energy Office (WWMEO), 21 Water Schemes (WATSANCO : Water, Sanitation and Hygiene Committee)

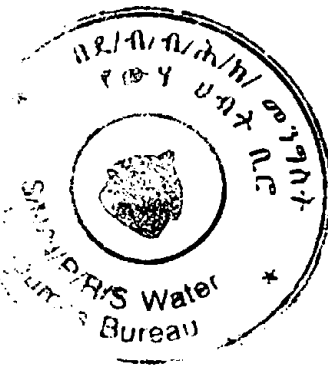
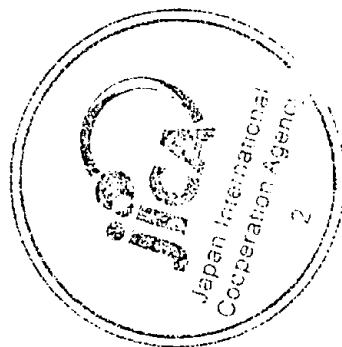
**Period:** Dec 2007 - Dec 2011  
**Version:** 4.0  
**Date:** 25 May 2011

Overall Goal	Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>Sustainability on water supply system is improved in SNNPRS.</p> <p><b>Project Purpose</b>                      Organizational capacity in implementation, operation and maintenance of water supply system is improved in SNNPRS.</p>	<p>Sustainability on water supply system is improved in SNNPRS.</p> <p>Organizational capacity in implementation, operation and maintenance of water supply system is improved in SNNPRS.</p> 	<p>Scale up activities to strengthen WASCHO, disseminate Rope Pumps and implement preventive O&amp;M are being conducted in the 6 targeted zones and woredas.</p> <p>OJT target Woredas achieve the objective of rate of access Running rate (utilization) of rural water supply system by December 2011. (Hula Woreda 85%, Silti Woreda 88%, Angacha Woreda 86%, Boroso Sore Woreda 82%, Loma Woreda 92%, Alaba Minch Woreda 87% and Rope Pumps which are installed by the Project 80%)</p>	<p>Fact-finding on the spot to the concerned persons</p> <p>Project Document (Final Report etc.)</p>	<p>- The SNNPRS government does not change the policy of further development of rural water supply in SNNPRS.</p> <p>- Support services from Woreda Water Offices with regard to rural Water supply are improved in the woredas other than Japanese supported woredas through assistance from different stakeholders.</p>
<p><b>Outputs</b></p> <p>1. Rural Water Supply Scheme Development / O&amp;M Plan is formulated in each of the 6 Target Woredas</p> <p>2. Rope Pump Dissemination System is established in the 6 Target Woredas</p> <p>3. Operation and Maintenance of Water Schemes are improved in 6 Target Woredas.</p>		<p>1. Rural Water Supply Scheme Development / O&amp;M Plan on the basis of thematic map is formulated in each of the 6 Target Woredas. (2003 in Ethiopian Calendar (2010 in European Calendar) year's version by October 2010 and 2004 in Ethiopian Calendar (2011 in European Calendar) year's version by May 2011.</p> <p>2-1. The collection rate of monthly information from users in O &amp; M monitoring system for rope pumps, which are installed by the Project, is 80 % by the end of the Project.</p> <p>2-2. The rate of awareness of rope pump in each rope pump installation site is 70% by the end of the Project.</p> <p>3-1. The defined numbers of staffs in each WWMEO score over 70 points in exam of repair / O &amp; M Training by the end of the Project.</p> <p>3-2. Caretakers of WASHCO in 21 target water schemes implement preventive maintenance (regular maintenance) according to the established frequencies in the different water schemes after repair / O &amp; M training by the end of the Project.</p> <p>3-3. All the WASHCO of the target water schemes save the established cost for O &amp; M by the end of 2003 in Ethiopian Calendar (August 2011 in European Calendar).</p> <p>3-4. 9 target WASHCOs which monitor Afridev Hand Pumps regularly keep its hand pump spare parts for half a year O &amp; M by the end of the Project.</p> <p>3-5. A Guideline for spare parts supply chains is prepared and distributed in the region by the end of the Project.</p>	<p>Rural Water Supply Scheme Development / O&amp;M Plan 2010 year's ver. and 2011 year's ver.</p> <p>Project Document (Monitoring Report etc.)</p> <p>Project Document (Monitoring Report etc.)</p> <p>Project Document (Monitoring Report etc.)</p> <p>Repair/O&amp;M Training Report (Examination Results)</p> <p>Project Document (Monitoring Report etc.)</p> <p>Project Document (Monitoring Report etc.)</p> <p>Project Document (Monitoring Report etc.)</p>	<p>Budget is allocated appropriately for water sector by Woreda Administration</p>
<p><b>Activities</b></p> <p>0. Hold JCC for Explanation and Approval of Revised Plan and the Final Seminar</p> <p>0.1 Prepare supporting system for WWMEO and the training for WWMEO personnel (needs assessment, training plan, curriculum, training materials, etc.)</p> <p>0.2 Study to formulate specific approach and select prioritized Woredas</p> <p>0.3 Study to formulate specific approach and select prioritized WASHCOs from Woredas selected in activity 0-2</p> <p>0.4 Study to formulate draft models for spare parts supply chain and formulate specific approach</p> <p>0.5 Study to formulate specific approach and select target Woredas</p> <p>0.6 Formulate training program</p> <p>0.7 Develop training instructors among local resources</p> <p>0.8 Conduct and manage training for ZWIMED staff and local artisans</p> <p>0.9 Evaluate and feed back contents and results of training</p> <p>0.10 Hold JCC for Explanation and Approval of Revised Plan and the Final Seminar</p> <p>1.0 Improve GIS database model for effective water resource development and management</p>	<p>1-1. Prepare GIS Database based on the Result of the Inventory Survey in the 6 Target Woredas</p> <p>1-2. Train WRB Staff on GIS as Training of Trainers (TOT)</p> <p>1-3. Train ZWIMED Staff on GIS by WRB</p> <p>1-4. Update Database regularly by ZWIMED</p> <p>1-5. Collect Data for Inventory by WWMEO</p> <p>1-6. Develop GIS Map for Effective Water Resources Development in the 6 Target Woredas</p> <p>2.0.1 Conduct training on improved hand dug well training for local artisans</p> <p>2.0.2 Support to establish artisan association at Woreda level</p> <p>2.0.3 Conduct training on rope pump technology for local artisans</p>	<p>Inputs                      (Japanese Side)  <b>Experts</b>                      Chief Advisor / Water Supply Planning (Groundwater Development)                      Deputy Advisor / Water Supply Planning (Facility Improvement)                      Water Supply Planning (Facility Operation and Maintenance)                      Water Supply Planning (Electrical/Mechanical)                      Water Supply Planning (Rope Pump / Hand Dug Well)                      Water Supply Planning (Rope Pump)                      Social Economy                      Social Development / Rural Sanitation and Hygiene (1)                      GIS / Information Management                      Project Coordination / Training Management                      Equipment to be provided                      4-wheeled vehicle                      Copy machine                      Projector                      Personal Computer                      Printer</p>	<p>There is no significant turn over of project counterparts in the WRDB and Woreda Water Office.</p>	<p><b>Pre-conditions</b>                      All the important stakeholders of the project have agreed in principle.</p>

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- 2.0.4 Install public rope pumps for demonstration purpose to stimulate demand
- 2.0.5 Install household rope pumps for demonstration to stimulate demand
- 2.0.6 Conduct activities to stimulate demands for communal and household rope pump
- 2-1. Formulate Technical Workgroup on Appropriate Technology in Water & Sanitation Process of WRB and Give Training (OJT)
- 2-2. Correct and Revise the Rope Pump Manuals and Guides and Translate them into Amharic
- 2-3. Execute Comprehensive Rope Pump Training for Water Office Staff (OJT)
- 2-4. Assist Woreda Water Office Staff in Selection of Installation Site for Rope Pumps
- 2-5. Install Rope Pumps through OJT to Woreda Water Office Staff by Local Consultant
- 2-6. Monitor HDRP. (Technical Instruction of HDRP Manufacturing and Promotion of Rope Pumps at Workshops in Arbaamich and Sodo as a part)
- 2-7. Promote Rope Pump Dissemination Models
- 2-8. Conduct activities such as training, installation, and quality control that are intended to help establish rope pump dissemination models in the other three regions (Amhara, Tigray and Oromia)
- 3.0.1 Conduct training on water supply scheme for WWMEO personnel in charge of technical aspects
- 3.0.2 Conduct training on water supply scheme for WWMEO personnel in charge of community mobilization
- 3-1. Technical O & M Capacity Building related Activities
  - 3-1-1. Analyse Malfunction Causes of Water Schemes
  - 3-1-2. Formulate Curative/Preventive O & M Manual by Type of Malfunction
  - 3-1-3. Conduct Curative/Preventive O & M Training of O & M for WRB & ZWMEED staff as TOT
  - 3-1-4. Conduct Curative / Preventive O & M Training for WWMEO Staff & Technical Staff of Spare Parts Outlets
  - 3-1-5. Conduct Training on Minor Repair Works & Preventive Maintenance for WASHCO by WWMEO
  - 3-1-6. Develop Effective Use of GIS Database for Planning and Monitoring of O & M by the Target Zones &
- 3-2. Community-Based Management of the Water Schemes related Activities
- 3.2.0 Support the target WASHCO to strengthen the organizational capacity by WWMEO
- 3-2-1. Conduct a Basic Training for Technical Staff of the WWMEO about the Community-based Management (Organization, Accounting)
- 3-2-2. Through Trained Staff of the WWMEO, Train WASHCO about the Operation and Maintenance of Water Supply Facilities (Organization, Accounting, Monitoring, etc.) at the Target Site
- 3-2-3. (Common for Technical and Social Components) Sensitize the Users of the Target Water Schemes about Water, Sanitation, Hygiene and Management of the Water Scheme
- 3-2-4. (Common for Technical and Social Components) Monitor Regularly the O&M and Management Status of the Target Water Schemes
- 3-2-5. (Common for Technical and Social Components) Formulate/Update WAS-CAP O & M package for community-based water scheme management
- 3-2-6. (Common for Technical and Social Components) Establish a future scaling up system of community-3.3. SP Supply Chain related Activities
  - 3.3.0.1 Prepare draft model for spare parts supply chain
  - 3.3.0.2 Conduct draft model for spare parts supply chain on trial
  - 3.3.0.3 Monitor and evaluate draft model for spare parts supply chain
  - 3-3-1. Modify Draft Models for Spare Parts Supply Chain.
  - 3-3-2. Establish a System that WWMEOs and WASHCOs have an Access to Information on available Spare Parts and their Prices.
  - 3-3-3. Conduct Draft Model for Spare Parts Supply Chain on Trial
  - 3-3-4. Assist Spare Parts Outlets to Supply the Spare Parts for Rope Pumps
  - 3-3-5. Monitor and Evaluate Draft Model for Spare Parts Supply Chain
  - 3-3-6. Formulate a Guideline for establishing Spare Parts Supply Chain

Ethiopian Side  
 Counterpart Personnel  
 Facilities and Equipment  
 Allocation of cost



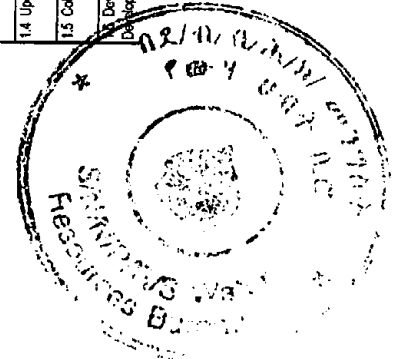
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PLAN OF OPERATIONS ver. 4

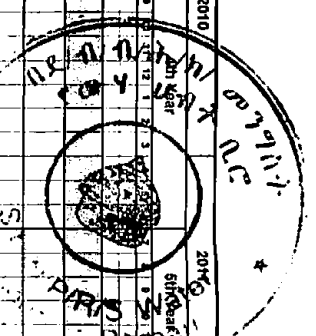
May 25, 2011

Activities of PDIM	2007												2008												2009												2010												2011																							
	1st Year												2nd Year												3rd Year												4th Year												5th Year																							
	Project Year	Month											Project Year	Month											Project Year	Month											Project Year	Month											Project Year	Month																						
▲ : Joint Coordinating Committee (JCC) Project Annual Report																																																																								
0.1 Prepare supporting system for WWMEQ and the training for WWMEQ personnel (needs assessment, training plan, curriculum, training materials, etc.)	Planned (Nov 07)												Actual												Planned (Nov 07)												Actual												Planned (Nov 07)												Actual											
0.2 Study to formulate specific approach and select prioritized Woredas	Planned (Nov 07)												Actual												Planned (Nov 07)												Actual												Planned (Nov 07)												Actual											
0.3 Study to formulate specific approach and select prioritized WASHCOs from Woredas selected in activity 0.2	Planned (Nov 07)												Actual												Planned (Nov 07)												Actual												Planned (Nov 07)												Actual											
0.4 Study to formulate draft models for spare parts supply chain and formulate specific approach target Woredas	Planned (Nov 07)												Actual												Planned (Nov 07)												Actual												Planned (Nov 07)												Actual											
0.5 Study to formulate specific approach and select target Woredas	Planned (Nov 07)												Actual												Planned (Nov 07)												Actual												Planned (Nov 07)												Actual											
0.6 Formulate training program	Planned (June 09)												Actual												Planned (June 09)												Actual												Planned (June 09)												Actual											
0.7 Develop training instructors among local resources	Planned (June 09)												Actual												Planned (June 09)												Actual												Planned (June 09)												Actual											
0.8 Conduct and manage training for ZWMEQ/WWMEQ staff and local artisans	Planned (June 09)												Actual												Planned (June 09)												Actual												Planned (June 09)												Actual											
0.9 Evaluate and feed back contents and results of training	Planned (June 09)												Actual												Planned (June 09)												Actual												Planned (June 09)												Actual											
0.10 Hold JCC for Explanation and Approval of Revised Plan and the Final Seminar	Planned (Apr 10)												Actual												Planned (Apr 10)												Actual												Planned (Apr 10)												Actual											
Output 1: Rural Water Supply Scheme Development / O&M Plan is formulated in each of the 6 Target Woredas																																																																								
1.0 Improve GIS database model for effluent water resource development and management	Planned (Oct 06)												Actual												Planned (Oct 06)												Actual												Planned (Oct 06)												Actual											
1.1 Prepare GIS Database based on the Result of the Inventory Survey in the 6 Target Woredas	Planned (Apr 10)												Actual												Planned (Apr 10)												Actual												Planned (Apr 10)												Actual											
1.2 Train WRB Staff on GIS as Training of Trainers (TOT)	Planned (Apr 10)												Actual												Planned (Apr 10)												Actual												Planned (Apr 10)												Actual											
1.3 Train ZWMEQ Staff on GIS by WRB	Planned (Apr 10)												Actual												Planned (Apr 10)												Actual												Planned (Apr 10)												Actual											
1.4 Update Database regularly by ZWMEQ	Planned (Apr 10)												Actual												Planned (Apr 10)												Actual												Planned (Apr 10)												Actual											
1.5 Collect Data for Inventory by WWMEQ	Planned (Apr 10)												Actual												Planned (Apr 10)												Actual												Planned (Apr 10)												Actual											
Develop GIS Map for Effective Water Resources Development in the 6 Target Woredas	Planned (Apr 10)												Actual												Planned (Apr 10)												Actual												Planned (Apr 10)												Actual											

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Activities of PDM	Japanese Fiscal Year														
	Project Year	2007			2008			2009			2010				
	Month	1	2	3	4	5	6	7	8	9	10	11	12		
▲ Joint Coordinate Committee (JCC) Project Annual Report	Planned (June 09)														
▲ Rope Pump Dissemination System is established in the 61 target Woredas	Planned (June 09)														
2.0.1 Conduct training on improved hand dug well training for local artisans	Actual														
2.0.2 Support to establish artisan association at Woreda level	Actual														
2.0.3 Conduct training on rope pump technology for local artisans	Planned (June 09)														
2.0.4 Install public rope pumps for demonstration purpose to stimulate demand	Planned (June 09)														
2.0.5 Install household rope pumps for demonstration to stimulate demand	Actual														
2.0.6 Conduct activities to stimulate demands for communal and household rope pump	Planned (June 09)														
2.1 Formulate Technical Workgroup on appropriate technology in Water & Sanitation Process of WRB and Gwa Training (OLT)	Planned (Apr 10)														
2.2 Correct and Revise the Rope Pump Manuals and Guides and Translate them into Amharic	Planned (Apr 10)														
2.3 Execute Comprehensive Rope Pump Training for Waba Office Staff (OLT)	Planned (Apr 10)														
2.4 Assist Woreda Water Office Staff in Selection of Installation Site for Rope Pumps	Planned (Apr 10)														
2.5 Install Rope Pumps through OJT to Woreda Water Office Staff by Local Consultant	Planned (Apr 10)														
2.6 Monitor HDOP (Technical Instruction of HDOP Manufacturing and Promotion of Rope Pumps at Workshops in Adirambol and Soga as a unit)	Planned (Apr 10)														
2.7 Promote Rope Pump Dissemination Models	Actual														
2.8 Conduct activities such as training, installation, and quality control that are intended to help establish rope pump dissemination models in the other three regions (Acherar, Tigay and Oromal)	Planned (Apr 10)														
3. Conduct water infrastructure of Water Schemes at targeted 16 Target Woredas	Actual														
3.0.1 Conduct training on water supply scheme for WWMEC personnel in charge of technical aspects	Planned (June 09)														
3.0.2 Conduct training on water supply scheme for WWMEC personnel in charge of community mobilization	Planned (Oct 09)														
3.1 Technical O & M Capacity Building related Activities	Actual														
3.1.1 Analyze Malfunction Causes of Water Schemes	Planned (Apr 10)														
3.1.2 Formulate Curative/Preventive O & M Manual by Type of Malfunction	Actual														
3.1.3 Conduct Curative/Preventive O & M Training of O & M for WRB & ZWMEC staff as TOT	Planned (Apr 10)														
3.1.4 Conduct Curative/Preventive O & M Training for WWMEC Staff & Technical Staff of Soree Parts Outlets	Planned (Apr 10)														
3.1.5 Conduct Training on Minor Repair Works & Preventive Maintenance for WATSANCO by WWMEC	Planned (Apr 10)														
3.1.6 Develop Effective Uses of GIS Database for Planning and Monitoring of O & M by the Target Zones & Woredas	Planned (Apr 10)														



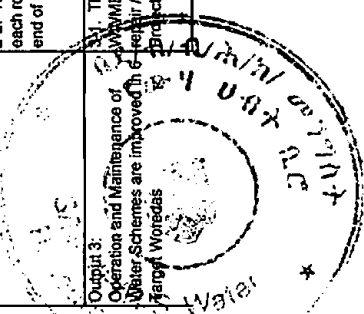
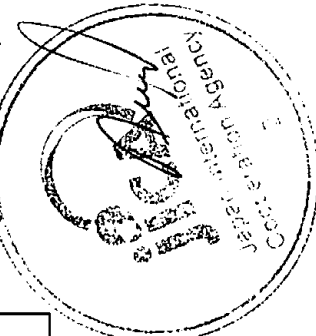
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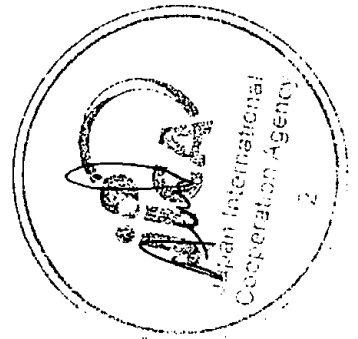
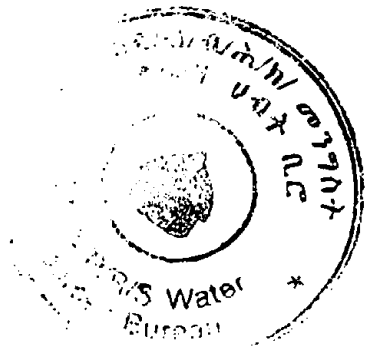


Evaluation Grid: Achievement of the Project

Evaluation Item		Indicators	Results/Findings of the Study
Achievement of Overall Goal			
Sustainability on water supply system is improved in SNNPRS		Any method used by WAS-CAP or WWMEIO or SNNPRS is improved in SNNPRS	<p>Many good examples of utilizing some of WAS-CAP methods have been already observed as follows:</p> <ul style="list-style-type: none"> <li>- Dawro Zonal office has initiated to replicate WASHCO activities in non-targeted two woredas, Tocha and Esara. Activities excluded setting up water billboards and using monthly reporting format.</li> <li>- Hula woreda has started to introduce WASHCO's approach of financial management, reporting system, preventive O&amp;M to non-targeted three WASHCOs.</li> <li>- SNU (NGO) has started to use WASHCO reporting system with WAS-CAP developed monitoring format to their supporting woredas.</li> <li>- In Silti, WWMEIO is planning to open a spare parts outlet. They have requested to provide the seed spare parts from Norwegian Church Aid (NCA) and the request was approved. However, they need technical assistance for operation of shops from Zonal level.</li> <li>- In Angacha, water billboards have been installed to the HPs installed by the ADB, which was inspired by the experience of WAS-CAP. Also in Angacha, after training by WAS-CAP, they installed 30 RPs with support from Food for Hungry. In addition, Angacha woreda installed 15 communal use RPs with their own budget.</li> <li>- ZWMEIO in Arba Minch Zuria has initiated disseminate RP through VTA and Word Vision.</li> </ul> <p>As above, many initiatives to scale up activities have been taken by the WAS-CAP targeted zones and woredas. However, the indicator is ambiguous so that the achievement levels have not been clear. The Team suggested altering the indicator to be more specific.</p>
Achievement of Project Purpose			
Organizational capacity in implementation, operation and maintenance of water supply system is improved in SNNPRS		OJT target Woredas achieve the objective of rate of access Running rate (utilization) of rural water supply system by December 2011. (Hula Woreda 65%, Silti Woreda 88%, Angacha Woreda 88%, Boloso Sore Woreda 82%, Loma Woreda 92%, Arba Minch Woreda 87% and Rope Pumps which are installed by the Project 80%)	<p>The current level of achievement (as of March 2011) of the access running rate (utilization rate) of rural supply system is as follows: Hula 64%, Silti 86%, Angacha 88%, Boloso Sore 80%, Loma 91%, Arba Minch Zuria 88%, RP installed areas 68%. From the achievement of the indicator, the Project Purpose is expected to be achieved by the end of the Project period.</p> <p>Further, the Project strengthen the capacity of WRB on inter-institutional collaboration and coordination among regional, zonal and woreda. Particularly the Project initiated to establish an inter-linkage between WASHCO and Woreda through bottom-up reporting system for various components of the project, where the existing linkage was limited. Stakeholders at all levels have expressed the appreciation on good changes made for their inter-linkage relationship after WAS-CAP project.</p>
Achievement of Outputs			
Output 1: Rural Water Supply Scheme Development/ O&M Plan is formulated in each of the 6 Target Woredas		1. Rural Water Supply Scheme Development/ O&M Plan on the basis of thematic map is formulated in each of the 6 Target Woredas. (2003 in Ethiopian Calendar (2010 in European Calendar) year's version by October 2010 and 2004 in Ethiopian Calendar (2011 in European Calendar) year's version by May 2011.	<p>2010 version has been completed in June 2010. Necessary data has been collected by March 2011 for the revised version of 2011. The plan for 2011 will be developed at the end of May 2011 as assessed. Although due to the counterpart's heavy occupancy in other tasks of WRB, the progress on the output were delayed to some extent. However, Output 1 was confirmed to be achieved by assessing the current progress made. The national exercise to collect all inventory data in the region by WRB in the same period of the Project has promoted the achievement of the Project.</p> <p>GIS training curriculum and materials were developed both in English and Amharic. TOT for WRB staff members was conducted twice in 2009 and 2011. 11 WRB staff members were trained, however, currently 5 are still remaining due to the BPR. Two 15-day trainings for ZWMEIO have been conducted by the trained WRB staff and a Japanese expert.</p>
Output 2: Rope Pump Dissemination System is established in the 6 Target Woredas		2-1. The collection rate of monthly information from users in O & M monitoring system for rope pumps, which are installed by the Project, is 80 % by the end of the Project.	<p>The Project installed 50 Rope Pumps (RP) for household use as shown in the installation list of RP in Annex 8. The Project introduced a "bottom-up monitoring system", which monthly report is submitted by RP users to WWMEIO directly or through WASHCO. The bottom-up approach has been adopted due to the fact that WWMEIO has limited budget to visit on site monitoring. At the time of Terminal Evaluation, the monthly information collection rate at each target Woredas is: Angacha 64%, Boloso Sore 40%, Arba Minch Zuria 100%, Hula 100%, Silti 100%, showing the attainment of the indicator. The WWMEIO which the Team interviewed all expressed effectiveness and efficiency in bottom-up monitoring system. In the 2nd year, the Project also installed 4 High Durable Rope Pumps (HARP), a prototype for communal use, to check their mechanical performance.</p>
Output 3: Operation and Maintenance of Water Schemes are improved in 6 Target Woredas		2-2. The rate of awareness of rope pump in each rope pump installation site is 70% by the end of the Project.	<p>At the time of Terminal Evaluation, the recognition rate of RP are: Angacha 55%, Boloso Sore 40%, Arba Minch Zuria 75%, Hula 75%, Silti 75%. The Team found that further efforts are necessary to raise recognition by the Project especially for those Woredas which have low rates. In order to raise the recognition, the Team confirmed that the Project is planning to participate in the monthly Keble (Community) meeting to introduce the scheme. The Team also found that additional activities should be included to raise recognition not only for the RP installation community but also community in wider areas for further promotion of RP.</p>
Output 3: Operation and Maintenance of Water Schemes are improved in 6 Target Woredas		3. The defined numbers of staffs in each Woreda score over 70 points in exam of O & M. Training by the end of the Project.	<p>The average score of WWMEIO trainees after the training conducted in 2010 was 64.7 points. The project is planning to conduct refreshment training and re-examine their skills by conducting the exam again, so that it is likely to achieve the target score by the Project period. Through the interview at the WWMEIO who have taken the O&amp;M technical training, they expressed the usefulness of the training, but they also expressed the constraints to use the trained skills due to lack of mechanical tools.</p>



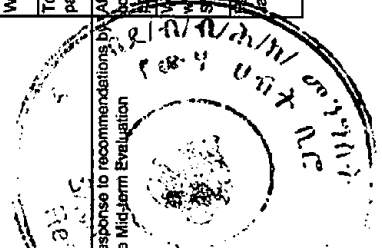
Evaluation item	Indicators	Results/Findings of the Study
3-2. Caretakers of WASHCO in 21 target water schemes implement preventive maintenance (regular maintenance) according to the established frequencies in the different water schemes after repair / O & M training by the end of the Project.	3-2. Caretakers of the target water schemes save the established cost for O & M by the end of 2003 in Ethiopian Calendar (August 2011 in European Calendar).	The Team observed from the visited WASHCOs that caretakers were checking the functionality of water schemes before opening time of water scheme every morning. At the time of the Terminal Evaluation, 18 out of 20 WASHCO (1 water scheme is not working at the monitoring period) submitted monthly monitoring sheet to WWMEC regularly. This showed the regular maintenance conducted by the almost all target WASHCOs. The Project is planning to further reinforce the management skills of community and conduct follow-up monitoring. All WASHCOs were found to be collecting water tariff and saving in the microfinance bank for O&M. At the time of the Evaluation, 16 out of 20 WASHCOs (1 water scheme was not working at monitoring period) have been keeping the established cost for O&M. It is noted that four WASHCOs which did not have enough savings were also accumulating amount. The reasons of shortage to reach enough amount at the time of monitoring included that a large payment for repair happened the months before, and the coverage of population were smaller than others which delayed the accumulation progress. It is also noted that some WASHCOs still needs to be further strengthened in the financial management skills. The Project is expected to make further effort to achieve the indicator by the end of the Project period.
3-4 Each of the 21 target WASHCOs regularly keep hand pump (Afridev) spare parts for half a year O & M by the end of the Project.	3-4 Each of the 21 target WASHCOs regularly keep hand pump (Afridev) spare parts for half a year O & M by the end of the Project.	Actually, 10 out of 21 WASHCOs have Afridev hand pump water supplies. At the time of the Evaluation, out of nine (9) Afridev WASHCOs (one Afridev pump is going to alter from Afridev to Indian Mark II) only two (2) kept spare parts. One of the reasons for not keeping spare parts was found to be the absence of a safe place to keep them, even though they have enough money to buy. The Project needs to make further efforts to ensure those WASHCOs which did not reach the objectives. Initially 6 Counterparts were assigned by WRB, however, due to the Business Process Re-Engineering (BPR), most of the counterparts were re-shuffled. At the time of the Mid-Term Review in December 2009, out of 5 counterparts besides the Project Director, only GIS counterpart has officially been appointed for the position of the staff member. As a result, except for a counterpart on GIS, the project did not have any counterpart to work with to transfer knowledge and skills. After the consultation with both sides at the Mid-Term Review, the counterparts were appointed accordingly. At the time of the Terminal Evaluation, 11 counterparts were appointed as counterparts: (1) Project Director, (2) Project Manager, (3) Asst. Project Manager/Social Development, (4) 3 counterparts in curative/preventive O&M, (5) GIS, and (6) 3 counterparts in Spare Parts Supply Chain, (7) Rope Pump Dissemination. A office in the premises of WRB was provided for the Japanese experts and local consultants. A total of 12 experts have been dispatched shuttlewise. Total person-month of dispatchment amounted to 85.62 by May 2011. (1) Chief Advisor / Rural Water Supply (Groundwater Development), (2) Deputy Advisor / Rural Water Supply (Water Supply Facilities), (3) Water Supply Planning (Facility Operation and Maintenance), (4) Rural Water Supply (Rope Pump / Improved Hand Dug Wells), (5) Rural water Supply (Rope Pump), (6) Rural Water Supply (Electrical System and Equipment), (7) Socio-Economic (Establishment of Spare Parts Supply Chain), (8) Social Development / Rural Water and Sanitation (1), (9) Social Development / Rural Water and Sanitation (2), (10) GIS / Information Control Specialist, (11) Project Coordinator / Training Management, and (12) Project Coordinator. Office equipment and one 4x4 vehicle to implement project activities were provided. Total amount of equipment was about 6.6 million yen. A counterpart training in Japan was planned for Mr. Kasu, the CP of the Project in the third year of the Project in 2009. However, since he got sick and had to stay out of the work for a long time there were no alternative counterparts at that time, the counterpart training was not conducted. A total amount of 66.7 million Japanese yen equivalent was provided for local costs.
Results of Inputs	Counterparts offices Project cost	
Inputs by Ethiopian side	Dispatchment of Experts Provision of Equipment Acceptance of trainees Local Cost	
Inputs by Japanese side		





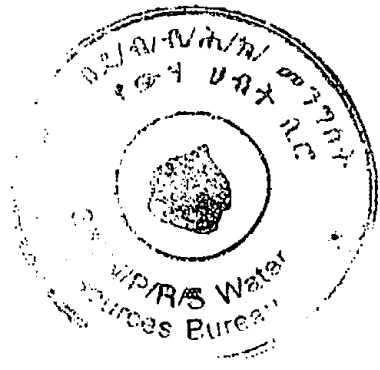
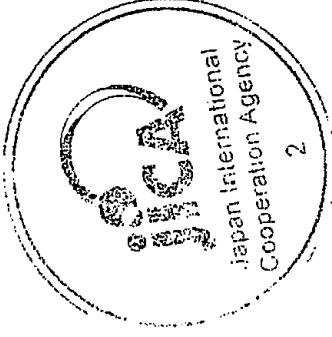
Evaluation Grid: Process of Project Implementation

Topics	Questions	Results/Findings of the Study
Activities	Have the activities been implemented as planned?	Various studies and assessments were conducted to conceptualize project plans in the first year. Full implementation of the planned activities was to be started in the second year but due to BPR process, there were only 1 counterpart to transfer the technology. BPR affected not only the regional level but also target zone and woreda. Many of the Zonal and Woreda Heads and trained staff members have been changed. Therefore, some trainings had to do again and delayed have been witnessed in the activities. After the Mid-Term review, the PDM has been revised and the target areas limited to 6 from 78 woredas, so that the activities of the Project also focused and implemented as planned without serious delay. Yet, the Project slowed down the progress during the absence of Japanese experts.
Transfer of Technology	Was there any problem in the process to transfer of technology?	Technology has been transferred but due to the dear absence of the counterparts in the first half of the Project, those trained staff members have been left, so as some stakeholders in woredas and zones. Other than that, the team did not find any difficulties in the process to transfer of technology.
Project Management	How the monitoring results have been feedbacked to the project operation?	The Project operations have been managed by Project Director from WRB and the Japanese experts. Due to frequent turnover the post of Project Director (3 times during the Project period), the communication between them has not been always frequent. Each components were reviewed and monitored by it relevant Japanese experts and CPs and the results were feedbacked to the future activities.
	What was the decision-making process in revision of activities and direction, selection of staff, etc?	Any revision or change of activities were done in consultation between Japanese experts and each CP. The issues were reported to the Project Director for approval.
	How the communication among Japanese experts were made?	Since there are 11 experts from 6 different companies, it was difficult to meet together in one time. The communication was made mostly through e-mail and reports for information sharing. Sometimes meetings were held in each expert.
	Was there any hindrance in communication among project stakeholders (between Japanese experts and Ethiopian side)? If there is, what is the challenge?	Before the Mid-Term Review, due to short-term assignment of the Japanese experts and poor network system in Ethiopia, the communication were difficult especially when the Japanese experts were absent. But recent improved network system in Ethiopia, the communication between Japanese side and Ethiopia CP has been improved through e-mail and telephone during the absence of the Japanese experts. Based on the recommendations of the Mid-Term Review, a monthly meeting, if not, ad-hoc meeting mechanism was introduced to share information on the progress, although sometimes the participation of CPs were limited due to their other occupancies. In order to cope with the challenges, the assignment period of Japanese coordinator prolonged in order to enhance the communication and make logistical arrangement smoothly without changing the total amount of work months of Japanese experts.
	How did the experts and Ethiopian CP make the coordination, consultation, guidance with the target Woredas?	Both Japanese experts and their CP as a team visited zonal and woreda levels to conduct instruction, consultation and monitoring activities.
	Did the Japanese partner organization (JICA Ethiopia office and Headquarters) support the project well? Was the communication good?	There is monthly meeting held at JICA office to inform the progress of the Project. Otherwise, if the issue occurs, the Project reported to the JICA office for consultation.
Ownership	To what extent have the counterparts in WRB, and relevant stakeholders in Woreda and WASHCO understand the project?	Most of the counterparts and stakeholders at Woreda and Zone have been understood about the project. However, the level of understanding is different depending on the involvement period of the Project.
	Has the Ethiopia side input (budget, personnel, facilities and equipment) to the project been appropriate?	Assignment of the CPs were not timely manner due to BPR. In addition, BPR reduced the number of staff members which resulted that the workload of remaining staff became heavier. Therefore, some CPs were difficult to involve in the WAS-CAP project as expected. In addition, per diem and transport from the WRB and Woreda
Counterparts	Were appropriate Counterparts assigned in WRB?	All assigned CPs were appropriate in terms of their expertise and positions.
	To what extent have the counterparts actively participated in the Project?	Some CPs were too busy for other duties of WRB to commit to the WAS-CAP activities as expected.
Response to recommendations by the Mid-Term Evaluation	After the Mid-Term Review, were the counterparts allocated as immediately as feasible? Were the manuals and guidelines produced which are specifically applicable to the SNNPRS situation?	The influence of BPR continued for some time, but the CPs assigned accordingly. Some of counterparts, for example, in the fields of Spare Parts Supply Chains and O&M were assigned for last year. All manuals and curriculums were developed according to the SNNPRS situation incorporating the comments and ideas from CPs, other donors and NGOs. The final guidelines will be produced in the fifth year of the Project.
	Have PDM3 and PO3 been developed by January 2010?	PDM3/PO3 has been drafted just after the Mid-Term Review by the Japanese experts. However, the consultation with the Ethiopia side was made only before JCC in May 2010 since the WRB institutional system had not been established after BPR. The agreement was made verbally at that time but the officially the PDM3/PO3 was signed in April 2011 after the current Project Director has been appointed.



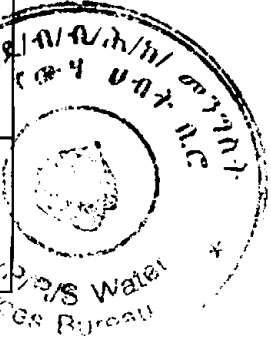
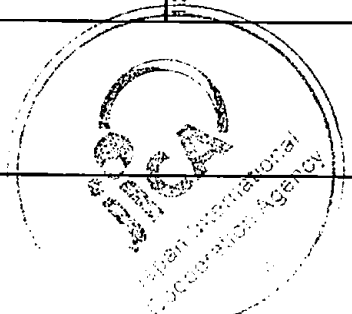
Topics	Questions	Results/Findings of the Study
	Has the regular monthly meeting been held after the Mid-Term Review?	A monthly meeting, if not, an ad-hoc meeting mechanism to share information on progress has been installed, although sometimes the participation of counterparts were limited.

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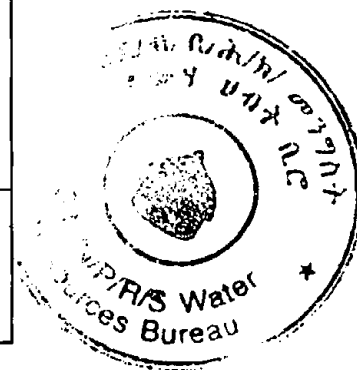
Evaluation by Five Criteria

5 Criteria	Topics	Questions	Result of the Study
1. Relevance	1.1 Needs	Is the Project Purpose relevant to the needs of Ethiopia?	The government 5-year plan PASDEP(2005-2009) aimed to reduce the share of mal-functioning rural systems from 30% in 2005 to 10% by 2010, while UAP developed in 2005 which aimed the water supply coverage from 35% at that time to 98% by 2012. Therefore, the project purpose is well aligned with the Ethiopian needs.
		Is the Project Purpose relevant to the needs of the target groups?	The target areas and groups were selected based on the results of the baseline study and joint consultation among project members that is carried out during the preliminary inception stage of the project. In addition, revised UAP (2006-2012) has states that human resources development in the whole water sector is a necessary activity. In this regard, the Project targeted to build capacity of water-related staff members in 6 woredas/zones and 21 WASHCOs as a target group. Therefore, the Project was aligned with the needs of the target.
	1.2 Priority	Is the Project Purpose aligned with the development plans and strategies of Ethiopia?	5-Year development plan (PASDEP) and water sectoral plan (UAP) clearly stated the improvement of malfunction rate of water schemes in rural areas. It is also aligned with the MDG and current 5-year development plan of GTP and revised UAP.
		Is the Project Purpose aligned with Japan's country assistance policy and strategy for Ethiopia?	The Project is also in line with the ODA policy. The country assistance program for Ethiopian of the Japanese (2008) stipulates (water and sanitation as two of the local assistance sectors). TICAD IV also addressed effective water resource management and access to safe water and sanitation facilities.
	1.3 Strategy	Has the project taken an appropriate approach to achieve the Project Purpose? (including approach to the donor coordination)	Revised UAP highlighted that the human resource development for water supply as a priority agenda and its implementation strategy includes capacity building at all levels of water resources management. In this respect, the document clearly defines that the primary responsibility for sustainable water supply at the rural area goes to the community level.
		Did Japan have comparative advantage in this technical area? (Has Japan accumulated technical know-how in this area? Has Japanese experienced been utilized?)	Japan has high-level water technologies and experiences especially in preventive Operation and Maintenance which is effective for the sustainability of rural water supply in Ethiopia.
	1.4 Others	After the Mid-Term Review(Dec 2009), has there been any changes of the environment for the project politically, economically and socially?	The effect of BPR still remained even after the Mid-Term Review. Many staff members including the Heads and Process owners of the ZWMEQ and WWMEQ have been shifted. After BPR, WRB has restructured its divisions. They abolished some divisions like Community Participation & Training Section and O&M. Those components are now comprised under one large Process (Drinking Water Supply & Schemes Administration Core Process).

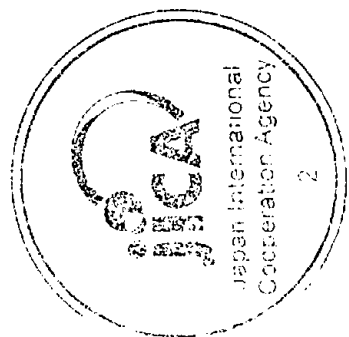


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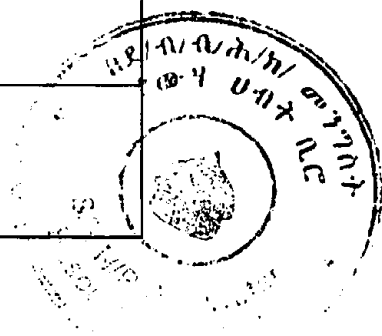
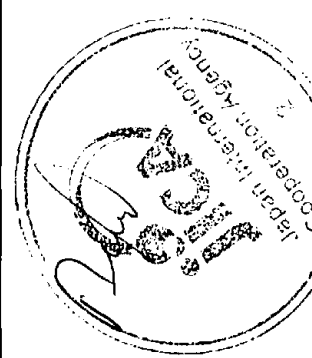
5 Criteria	Topics	Questions	Result of the Study
2. Effectiveness	2.1 Achievement of the Project Purpose  2.2 Causality	Will the Project Purpose be achieved by the end of the Project based on the inputs, outputs and the progress of the activities?  Were three Outputs only prerequisites for the achievement of the Project Purpose? Are there any other Outputs that would have been necessary for achievement of the Project Purpose? Have the changes in outputs influenced achievement of the Project Purpose?	The Project purpose is expected to be achieved by the end of the Project Period. The indicator of the PP in most of woredas has already been reached the target. However, in order to keep the level of achievement of the Project, it is expected that the WRB should take an initiative to continue to follow up the activities. It is also expected the initiative of WRB to replicate the models to other Zones and Woredas in SINPRs, so that especially capacities of the community level (WASHCO) in engaging operation and maintenance will be further developed throughout the region, which is a key for sustainable management of rural water supply.
		To what extent "important Assumption" from the Outputs to the Project Purpose were relevant to achievement of the Project Purpose? Was any influence caused by Important Assumption?	Revision of PDM at the Mid-Term Review contributed to improvement of the causality of the Project. Three outputs were contributed to achieve the project purpose. Particularly, while the project purpose is to achieve the access running rate of existing water schemes focusing on operation and maintenance. It can be said that because initial design of the Project did not firstly identify what the project would achieve and then what measures should be taken. Instead, the project firstly identified several needs and outputs, then consider what the project would achieve from them. This approach lost sense of logic of the Project.
		Are there any factors contributed to achievement of the Project Purpose?	The assumption of "Budget is allocated appropriately for water sector by Woreda Administration" is important, however, this has been fixed when the Project was designed to install new water schemes at Woreda level. The Project changed the focus on community level O&M and the target was to improve the utilization rate of existing water schemes. Then the Project purpose is expected to be achieved even the Woreda level are facing severe difficulties to secure budget. Therefore, although the current Important Assumption is still important but not important enough to put it as Important Assumption.
		Are there any factors impeded achievement of the Project Purpose?	The revision of PDM at the Mid-Term Review facilitated the achievement of the Project Purpose by streamlining a project design. The approach of the WAS-CAP was more effective in a way the conduct the frequent and close monitoring and supervision activities at WASHCO and Woreda level.



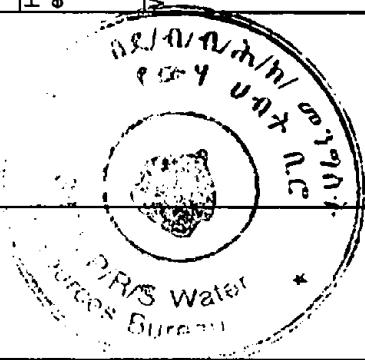
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5 Criteria	Topics	Questions	Result of the Study
3. Efficiency	3.1 Achievement of Outputs	Is the Output production adequate?	All three outputs are expected to be produced by the end of the Project period. See each Achievement of Output in the Achievement of the Project.
	3.2 Causality	To what extent Important Assumption "There is no significant turn over of project counterparts in the WRB and Woreda Water office from the Activities to the Output were relevant to achievement of the Project Purpose? Was any influence caused by Important Assumption?"	Project has significantly affected by the BPR especially in the first half of the Project both at the WRB and Woreda level.
	3.3 Input	Were the inputs from the Ethiopian side appropriate in terms of contents (CP personnel, facilities, etc) and timing?	Efficiency has been severely affected by frequent turnovers of CPs and trained staff members at Woreda and Zonal water offices due to BPR and a new administration introduced in October 2010. Especially, changes of the heads of relevant stakeholders including ZWMECO and WWMECO made difficult to keep consistency of the Project. Regarding RP component, since one CP was not enough to achieve the Output 2, the Project established a "RP Working Group" involving other 4 staff members of WRB.
		Were the inputs from the Japanese side appropriate in terms of contents (experts, equipment, project cost) and timing?	Efficiency was constricted by the initial project design and according input of the Japanese experts before the Mid-Term Review. However, after the Mid-Term Review, an assignment period of Japanese coordinator prolonged in order to enhance the communication and make logistical arrangement smoothly without changing the total amount of work months of the Japanese experts. That kind of change contributed to improve efficiency.  Equipment was provided as planned in timely manner.
		Were the Activities carried out timely? When there was a delay in Input which need to carry out the activity, how the Project deal with these situation?	Activities were delayed especially in the first half of the Project due to the absence of CPs and stakeholders at Zone and Woreda levels. However, Mid-Term Review enhanced the efficiency in terms of being facilitated CP's appointments to the Project and streamlining the project framework which reduced six to three outputs and limited the target areas from 78 to 6 woredas. Accordingly, the activities after the Mid-Term Review were carried out mostly in timely manner.
	3.4 Others	Do you think that the current project management system has worked well for the project in terms effectiveness and efficiency?	As stated in the above inputs of Japanese side, after the Mid-Term Review, a Japanese Coordinator stayed almost all the time to manage the Project, which enhanced the effectiveness and efficiency.
		Have the changes of PDM affect any efficiency in the Project?	The project became significantly focused by streamlining the outputs from 6 to 3 and reduced target woredas from 78 to 6. The initial design of the Project which covers 78 woredas was too ambitious to produce tangible outputs considering the amount of input and limited period of the Project time, as a result, it had cast a shadow in the Project progress. Therefore, the reduction of the number of target woreda at the Mid-Term Review did not affect the Project impact, rather it created more benefit and the Project became more focused.
		Has the Project produce any synergistic effect in cooperation with other initiatives done by Japan, other development agencies or Ethiopian side?	The WASHCO had some base ground to formulate a committee, open a bank account by the soft component of the Japan's Grant Aid Assistance "Project for Water Supply in Southern Nations, Nationalities and Peoples' Regional State" in 2006 and other schemes. Out of 21 of 15 WASHCO sites had Grant Aid HPs. During the Project period, information and ideas have shared with NGOs and other stakeholders. Through these activities, SNV (NGO) have decided to adopt WAS-CAP's monitoring monthly format for WASHCO in their supported woredas.

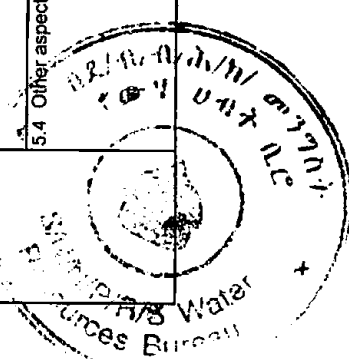
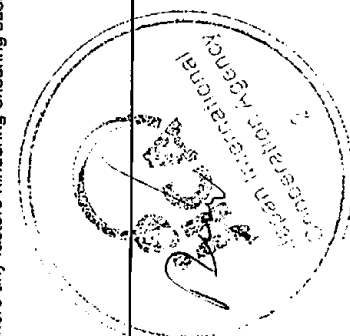


5 Criteria	Topics	Questions	Result of the Study
4. Impact	4.1 Achievement of Overall Goal	Will the Overall Goal be achieved within 3-4 years after the end of the Project based on the result of inputs, outputs and activities, and achievement of the project Purpose?	There is a good prospect that the Overall Goal "Sustainability on water supply system is improved in SNNPRS" is achieved if the WAS-CAP approaches including guidelines, manuals and forms of various components which were developed by the Project officially utilized in the regular WRB strategy for sustainable water supply system. Many good examples of utilizing some of WAS-CAP methods have been already observed. See the Achievement of Overall Goal for details.
	4.2 Contributing/Obstructive factors	Are there any factors that would contribute/inhibiting to achievement of the Overall Goal?	As stated in the above, WRB's strong initiative would be necessary to achieve the Overall Goal, which include the official utilization of manual, guidelines and formats, and facilitate Woreda and Zonal water offices to develop a concrete plan for proliferation methodology.
	4.3 Causality	Is the consequence from the project purpose to the Overall Goal logically designed?	There will be no gap between Overall Goal and Project Purpose.
	4.4 Positive Impact	Has the Project produced any positive and negative impact on water policy, regulations and strategies?	Nothing in particular.
		Has the Project produced any positive and negative impact on environmental protection?	Significant positive influence on sanitary environment to the villages where targeted WASHCOs existed. The project raised awareness of sanitation to the community which convinced the most of the community to build latrine at their houses. According to the preliminary results of the Impact survey which the Project conducted showed the improvement of the coverage of household latrine 76.5% (2008) to 93.6% (2011) in the target WASHCOs in 6 woredas.
		Has the Project produced any positive and negative impact on gender, social vulnerable ethnicity, etc?	Nothing in particular.
		Has the Project produced any positive and negative impact on technological advancement in rural water supply in Ethiopia?	Preventive O&M which WAS-CAP introduced was not common approach in Ethiopia before. WRB expressed that the approach very effective for sustainability of water scheme.
		Has the Project produced any positive and negative impact on economy of target society and beneficiaries?	Introduction of spare parts outlets nearby saved money and transport time for WASHCO and WWMEO, for they had to travel to Awassa, capital town of SNNPRS or even Addis Ababa to obtain spare parts before. It was expressed by one of Zone office that the preventive O&M also influenced economically since the rate of breakdown reduced after introduction (but figures of rate of reduction of breakdown was not validated).
		Was there any influences to other than the target group?	As stated in the Achievement of the Project on Overall Goal, several initiatives have been made from target WWMEO and ZWMEO. For example, Dawro Zonal office has already initiated to replicate some activities for two WASHCOs in Tocha and Esara woredas, except setting up a water billboard and utilizing reporting format. The Team observed that the Hula Woreda has also started to introduce WAS-CAP activities of WASHCO capacity building to non-targeted three WASHCOs. These initiatives to scaling up were done voluntarily by Woreda and Zonal water offices despite they are facing difficulties in budget and transport. Regarding to dissemination of RP, Arab Minch Zonal office has started to disseminate rope pumps through NGOs like VITA and World Vision in their supportive woredas. Inspired by the demonstration course held by WAS-CAP project, Angacha woreda has installed 15 communal use rope pumps from their own initiatives by using their budget.
		Was there any positive impacts other than above?	Nothing in particular.
	4.5 Negative Impact	Has the Project produced any unexpected negative impacts? If so, what are the reasons? Has the project taken any measures for those negative impacts?	No negative impacts are observed.



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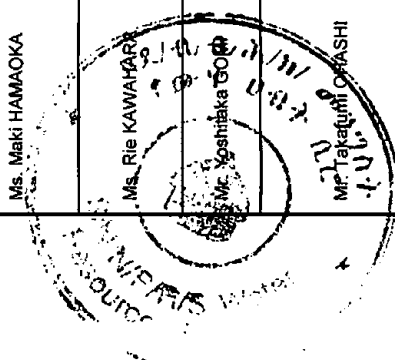
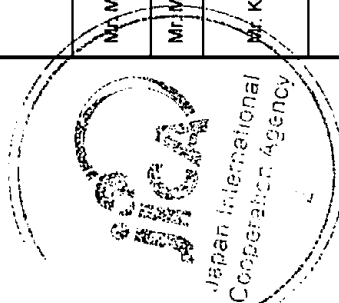
5 Criteria	Topics	Questions	Result of the Study
5. Sustainability	5.1 Political and institutional aspects	Will the political support on rural water supply sector from the Ethiopian government be maintained even after the end of the Project?	Sustainable rural water supply and human resources development for water supply at all levels are still one of the high priority areas of the Ethiopian government, stipulated in the revised UAP in 2011 as well as a recent released national five-year Growth Transformation Plan (GTP). In addition, after BPR the Head of WWMECO is now become a member of Woreda Cabinet where the allocation of budget to sector offices at woreda level is decided. Therefore, improvement of rural water supply has obtained strong political backups.
		Is there a mechanism to enable to disseminate the Outputs of the Project (i.e. training curriculum, guidelines, GIS database, O&M system, spare-parts supply chain, dissemination system of Rope Pump) to the other part of SNNPRS after the end of the Project	A mechanism for dissemination of Outputs has not been developed yet. It is recommended that this mechanism should be developed with in consultation with Japanese experts within the Project period. Especially, the government has a clear direction to disseminate low-cost water schemes including RPs, WRB should facilitate Woreda to develop a detailed plan for dissemination.
	5.2 Organizational and financial aspects	Does the WRB have capacities to continue providing support WWMECO and ZWMECO to improve development and O&M of rural water supply?	Due to BPR, the current institutional arrangement does not allow sufficient number of staff members to effectively conduct activities in WRB, ZWMECO and WWMECO.
		Have the planning and implementing capacities of WWMECO improved enough for supply water and O&M themselves even after the end of the Project? (Budget, Staffing, Decision making process)	As stated above, due to insufficient number of staff and budget constraints hinder the effective implementation of activities. However, the Team observed some WWMECO and ZWMECO have initiated to replicate the WAS-CAP activities within their limited capacity.
		Has the WRB embraced sufficient level of ownership of the Project?	The ownership raised especially after the Mid-Term Review, where most of the CPs were assigned to the Project, although the level of ownership is different from each CP. It is noted that the involvement of officers from Development Plan Preparation, Monitoring, Evaluation and Feedback Supportive Process of WRB in the Project could be effective for ensuring the quality of the Project from the Ethiopia side and CPs' active participation in the Project.
		Has the budget secured to maintain and update the Project outputs such as GIS inventory, O&M manuals, etc. at WRB and WWMECO?	There is much prospect for the WASHCO level to sustain the Project effect since most of WASHCOs have gained a mechanism to collect water tariff and saved appropriate amount of money for O&M. On the other hand, the financial aspect at the levels of WWMECO and ZWMECO may hinder the continuity of the activities.
	5.3 Technical aspects	Have the techniques and approaches used for the Project accepted by the Ethiopian side? (appropriateness of technical level, social & cultural consideration, etc.)	The skills and technology which the Project introduced seem to be appropriate to attain the Project Purpose. CPs and stakeholders at WWMECO and ZWMECO have expressed the effectiveness of the skills and technology the Project introduced.
		Has the technical capacity of WRB staff improved enough to continue the project activities (GIS database update, training, O&M, etc) by themselves after the end of the Project?	Capacity of CPs in WRB has been improved to conduct the activities by themselves.
	5.4 Other aspects	Are there any factors hindering ensuring sustainability?	Nothing in particular.



## (1) Japanese Input

## Dispatch of Japanese Experts

Name	Field	Dispatch Period	Man/Month FY2008	Man/Month FY2009	Man/Month FY2010	Man/Month FY2011	Company/University
Mr. Tetsuji NIWANO	Chief Advisor / Rural Water Supply (Groundwater)	23 Dec 2007 - 21 Mar 2008	3.00	-	-	-	Japan Techno Co., Ltd.
Mr. Nobuyuki Ishii		12 Oct - 25 Dec 2008 / 8 Feb - 16 Apr 2009 / 5 May - 19 June 2009	-	6.30	-	-	
Mr. Tadao SUZUMURA	Deputy Adviser / Rural Water Supply (Water Supply Facilities)	11 Nov 2009 - 5 Jan 2010	-	-	1.87	-	Japan Techno Co., Ltd.
Mr. Naoki TAIRA		16 May - 14 June 2010	-	-	1.00	2.00	
Mr. Naoki YASUDA	Rural Water Supply (Rope pump / Improved hand dug wells)	9 Sep - 8 Oct 2010 / 28 Apr - 27 May 2011	1.50	-	-	-	Kokusai Kogyo Co., Ltd.
Mr. Masahiko IKEMOTO		7 May - 20 June 2008	-	2.00	-	-	
Mr. Kenichi MACHIDA	Rural Water Supply (Rope pump)	1 - 30 Dec 2008 / 22 Apr - 20 May 2009	-	-	1.00	-	Japan Techno Co., Ltd.
Mr. Maki HAMAOKA		10 Apr - 9 May 2010	-	-	1.00	1.00	
Ms. Rie KAWAHARA	Water Supply Planning (Facility Operation and Maintenance)	16 Nov - 15 Dec 2010	-	-	-	-	Japan Techno Co., Ltd.
Ms. Yoshitaka GOTO		10 Apr - 22 May 2010	-	-	1.40	-	
Mr. Takatomi OKASHI	Rural Water Supply (Electrical System and Equipment)	9 Sep - 14 Nov 2010 / 24 Feb - 18 Mar 2011	-	-	-	3.00	Japan Techno Co., Ltd.
TOTAL		8 Jan - 6 Feb 2008	1.00	-	-	-	
	Rural Water Supply (Rope pump)	16 Oct 28 Nov 2008 / 16 Jan - 8 Feb 2009 / 18 Mar - 1 Apr 2009 / 5 - 19 June 2009	-	3.30	-	-	Kokusai Kogyo Co., Ltd.
		16 Nov - 7 Dec 2009 / 27 Jan - 5 Mar 2010 / 27 May - 17 June 2010	-	-	2.73	-	
	Rural Water Supply (Electrical System and Equipment)	30 Sep - 29 Oct 2010 / 10 Apr - 9 May 2011	-	-	-	2.00	Japan Techno Co., Ltd.
		26 Nov - 25 Dec 2008 / 21 Apr - 20 May 2009	-	2.00	-	-	
	Socio-Economic (Establishment of Spare Parts Supply Chain)	15 Nov - 14 Dec 2009 / 14 Mar - 12 Apr 2010	-	-	2.00	-	Kokusai Kogyo Co., Ltd.
		2 Oct - 31 Oct 2010 / 26 Mar - 24 Apr 2011	0.50	-	-	2.00	
	Social Development / Rural Water and Sanitation (1)	17 - 31 Mar 2008	0.50	-	-	-	Japan Techno Co., Ltd.
		20 Nov - 19 Dec 2008	-	1.00	-	-	
	Social Development / Rural Water and Sanitation (2)	9 Jan - 18 Mar 2008	2.33	-	-	-	Kaihatsu Management Consulting, Inc.
		16 Oct - 14 Nov 2008 / 16 Apr - 14 June 2009	-	3.00	-	-	
	Social Development / Rural Water and Sanitation (1)	15 Feb - 27 Mar 2010 / 25 Apr - 12 June 2010	-	-	3.00	-	FASID
		9 Oct - 5 Nov 2010 / 5 Feb - 4 Mar 2011	-	-	-	1.86	
	Social Development / Rural Water and Sanitation (2)	17 Feb - 2 Mar 2008 / 26 Apr - 9 June 2008	2.00	-	-	-	R-QUEST Corporation
		30 Sep - 22 Oct 2008 / 14 Feb - 1 Apr 2009 / 16 May - 19 June 2009	-	3.50	-	-	
	GIS / Information Control Specialist	20 Feb - 12 Mar 2010 / 17 Apr - 15 June 2010	-	-	2.70	-	Asia Air Survey Co., Ltd.
		17 Feb - 9 Mar 2011 / 4 May - 28 May 2011	-	-	-	1.50	
	Project Coordination / Training Management	16 Feb - 30 Apr 2008	2.50	-	-	-	Japan Techno Co., Ltd.
		23 Apr - 22 May 2009	-	1.00	-	-	
	Project Coordinator	15 Mar - 28 Apr 2010	-	-	1.50	-	Japan Techno Co., Ltd.
		11 Oct - 9 Nov 2010	-	-	-	1.00	
	Project Coordinator	11 Apr - 25 May 2008	1.50	-	-	-	Japan Techno Co., Ltd.
		11 Nov 2009 - 9 Jan 2010	-	-	2.00	-	
	Project Coordinator	11 Oct - 9 Nov 2010	-	-	-	1.50	Japan Techno Co., Ltd.
		6 - 28 Mar 2010 / 10 Apr - 2 June 2010	-	-	2.50	-	
	Project Coordinator	22 Dec 2010 / 15 Jan - 15 Mar 2011 / 19 Apr - 18 May 2011	-	-	-	4.50	Japan Techno Co., Ltd.
		17 Jan - 16 Mar 2008	2.00	-	-	-	
	Project Coordinator	18 Oct - 16 Nov 2008 / 26 May - 2 June 2009	-	2.00	-	-	Japan Techno Co., Ltd.
		16 - 30 Oct 2009 / 3 - 19 June 2010	-	-	1.13	-	
	Project Coordinator	14 Oct / 19 May - 22 Jun 2011	-	-	-	2.00	Japan Techno Co., Ltd.
		TOTAL	16.33	24.10	22.83	22.36	



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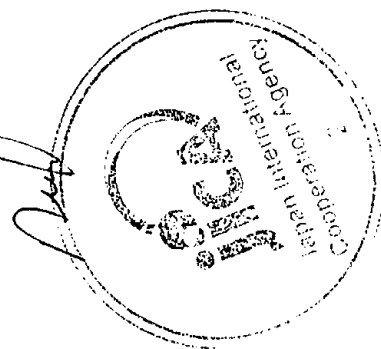
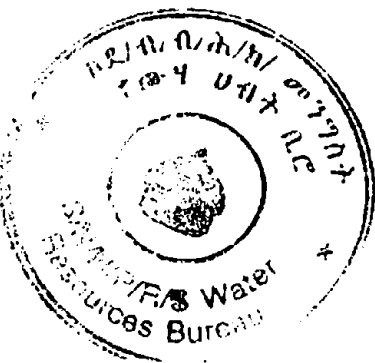
(1) Japanese Input

Equipment Supply

Date of Purchase	Equipment (Specification)	Price (Thousand Yen)	Section for the equipment to be used	Installation Place	Usage of the Equipment
30-Apr-08	Projector	115	1	WRB, Awassa	Presentation in JCC etc.
30-Apr-08	Two (2) sets of ArcView 9	318	2	WRB, Awassa	Basic Training for GIS
30-Apr-08	Two (2) sets of Personal Computer, UPS for PC and Printer	364	1	WRB, Awassa	Office Work
07-May-08	UPS for PC	51	1	WRB, Awassa	Office Work
13-May-08	Copy Machine	512	1	WRB, Awassa	Office Work
27-May-08	4x4 Land Cruiser	5,971	1	WRB, Awassa	Transportation, especially for field work
31-May-08	Pedestal for Copy Machine	38	1	WRB, Awassa	Office Work
	TOTAL	6,572			

1 : Water Supply Services Improvement, Community Participation & Training Service

2 : Water Resource Potential Team, Drinking Water Supply Service



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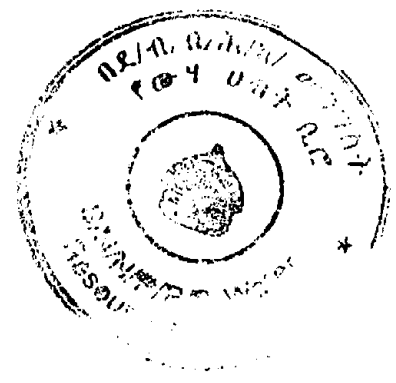
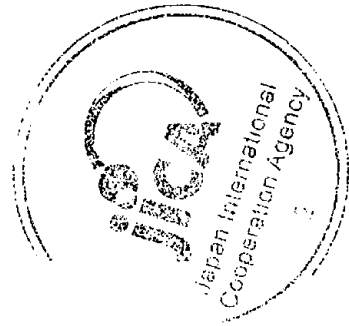
**ANNEX 6-3**

(1) Japanese Input

**Local Cost Borne by Japanese Side**

as of June 2010 (Unit: JPN 1000 Yen)

Items	1st Year	2nd Year	3rd Year	Total
1 General Cost	6,629	20,317	15,292	42,238
1.1 Staff Cost	1,262	3,547	3,968	8,777
1.2 Equipment Maintenance Cost	0	131	74	205
1.3 Consumable Cost	274	5,351	1,713	7,338
1.4 Travel Expense	69	296	364	729
1.5 Communication Cost	44	67	131	242
1.6 Document Preparation Cost	0	90	70	160
1.7 Rental Cost	4,881	6,021	7,468	18,370
1.10 Facility Maintenance Cost	0	0	0	0
1.11 Local Training Cost	99	4,768	1,467	6,334
1.14 Miscellaneous Cost	0	46	37	83
2 Equipment Cost (Provided Equipment)	7,371	0	0	7,371
3 Equipment Cost (JICA Expert's Equipment)	222	1,224	0	1,446
4 Equipment Shipping Cost (Provided Equipment)	146	162	0	308
5 Equipment Cost (Other Equipment)	0	463	0	463
6 Report Preparation Cost (Except Printing and Binding)	0	38	9	47
7 Local Consultant Cost	10,473	2,191	1,142	13,806
<b>Total</b>	<b>24,841</b>	<b>24,395</b>	<b>16,443</b>	<b>65,679</b>



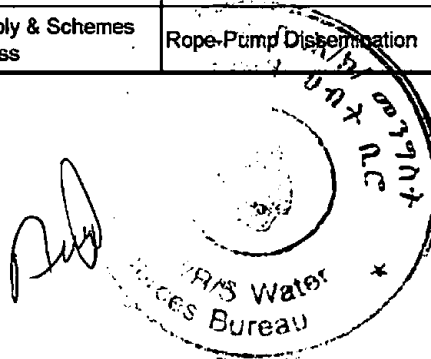
## C/P Arrangement

## 1) Before Mid Term Evaluation (Dec 2009)

C/P Name	Title	Field	Working Period
Mr. Jamal RASHED	Head, WRDB	Project Director	Dec 2007 - May 2008
Mr. Mitiku BEDRU			May 2008 - Dec 2009
Mr. Kassu ESHTE	Head, Water Supply Services Improvement, Community Participation & Training Service	Project Manager	Dec 2007 - Oct 2008
Mr. Alemanyhu NEGASH	Team Leader, Operation & Maintenance Development	Task for dissemination of appropriate technology dissemination	Dec 2007 - Dec 2009
Mr. Alemanyhu NEGASH	Team Leader, Operation & Maintenance Development	Task for establishment of hand pump spare parts supply chain	Dec 2007 - Dec 2009
Ms. Meselech TAMATE	Staff member of Water Supply Service Improvement, Community Participation & Training Service	Task for social development and community participation	Dec 2007 - May 2009
Mr. Sitota GIRMA	Team Leader, Water Resource Potential Team, Drinking Water Supply Service	Task for GIS/Information control	Dec 2007 - Dec 2009

## 2) After Mid Term Evaluation (Dec 2009)

C/P Name	Title	Field	Working Period
Mr. Mitiku BEDRU	Head, WRB	Project Director	Dec 2009 - Sep 2010
Mr. Abas MOHAMMED			Oct 2010 - NOW
Mr. Wubshet TSEGAYS	Process Owner, Drinking Water Supply & Schemes Administration Core Process	Project Manager	Dec 2009 - NOW
Mr. Kassu Eshte	Staff, Drinking Water Supply & Schemes Administration Core Process	Assistant Project Manager	Dec 2009 - NOW
Mr. Bekele Belete	Staff, Drinking Water Supply & Schemes Administration Core Process	Crative / Preventive Operation and Maintenance	Sep 2010 - NOW
Mr. Zenebe Dekamo			Sep 2010 - NOW
Mr. Tilahun Yiman			Sep 2010 - NOW
Mr. Sitota GIRMA	Staff, Water Resource Study & Management Core Process	GIS	Dec 2009 - NOW
Mr. Kassu Eshte	Staff, Drinking Water Supply & Schemes Administration Core Process	Social Development	Dec 2009 - NOW
Mr. Alemanyhu NEGASH	Staff, Drinking Water Supply & Schemes Administration Core Process	Spare-parts Supply Chain	Dec 2009 - June 2010
Mr. Seifu Belete	Staff, Drinking Water Supply & Schemes Administration Core Process		Feb 2011- NOW
Mr. Bilom Teshome	Staff, Drinking Water Supply & Schemes Administration Core Process		Mar 2010 - NOW
Ms. Aynalem Arussa	Staff, Procurement Finance and Property Administration Supportive Work Process		Dec 2009 - NOW
Mr. Andualem Tefera	Staff, Drinking Water Supply & Schemes Administration Core Process		Rope-Pump Dissemination



Training Results (from 1st Fiscal Year to May, 4th Fiscal Year)

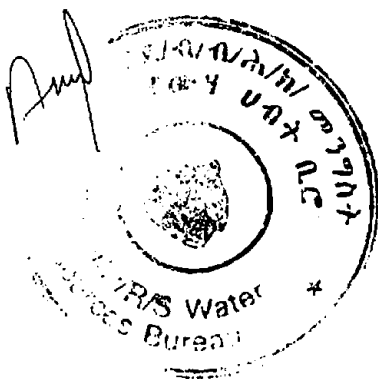
No.	Training Name	Output	Major	Target	Period		Participants		
					Start	End	Male	Female	Total
1	GIS Training for WRD	Output 1	GIS	WRB C/P	12/8/2008	12/14/2009	5	0	5
2	GIS Training for Zonal Office etc	Output 1	GIS	ZWME / Special WWME	12/21/2008	1/1/2010	23	2	25
3	GIS Training for WRB	Output 1	GIS	WRB C/P	11/29/2010	12/3/2010	6	0	6
4	GIS Training for Zonal Office etc	Output 1	GIS	ZWME / Special WWME	12/6/2010	12/17/2010	13	1	14
5	GIS Training for Zonal Office etc	Output 1	GIS	ZWME / Special WWME	2/7/2011	2/18/2011	11	0	11
6	Rope Pump Manufacturing and Installation Training	Output 2	RP	WRB / NGO / Private Workshop	2008/11/5	2008/1/25	9	0	9
7	Rope Pump Promotion Seminar	Output 2	RP	NGO	2008/11/21	2008/11/21	14	1	15
8	Rope Pump Installation Training (Tigray)	Output 2	RP	WRB / NGO / Private Workshop	2008/12/22	2008/12/25	17	0	17
9	Rope Pump Installation Training (Oromia)	Output 2	RP	WRB / NGO / Private Workshop	2008/12/18	2008/12/20	33	4	37
10	Hand Dug Well Training (Silt, Hubs)	Output 2	RP	WWME	2009/2/13	2009/4/1	30	0	30
11	Rope Pump Installation Training in Fiche Woreda, Oromia	Output 2	RP	WRB / NGO / Private Workshop	5/13/2009	5/19/2009	8	2	10
12	Rope Pump Installation Training in Tole Woreda, Oromia	Output 2	RP	WRB / NGO / Private Workshop	12/22/2008	12/24/2009	11	0	11
13	Rope Pump Installation Training in Dawo Woreda, Oromia	Output 2	RP	WRB / NGO / Private Workshop	12/22/2008	12/31/2009	11	1	12
14	Comprehensive Rope Pump Training to 5 Woredas	Output 2	RP	WWME	2/22/2010	3/26/2010	30	5	35
15	Rope Pump Installation Training (Oromia)	Output 2	RP	WRB / NGO / Private Workshop	3/22/2010	3/24/2010	2	0	2
16	Rope Pump Installation Follow-up Training (Dromia)	Output 2	RP	WRB / NGO / Private Workshop	3/25/2010	3/27/2010	5	0	5
17	Rope Pump Quality Management Training (Amhara)	Output 2	RP	WRB / NGO / Private Workshop	3/30/2010	4/2/2010	19	2	21
18	Rope Pump Installation Training (Oromia)	Output 2	RP	WRB / NGO / Private Workshop	4/7/2010	4/10/2010	7	3	10
19	Rope Pump Quality Management Training (Tigray)	Output 2	RP	WRB / NGO / Private Workshop	4/7/2010	4/16/2010	13	0	13
20	Rope Pump Quality Management Training (Amhara)	Output 2	RP	WRB / NGO / Private Workshop	10/31/2010	11/5/2010	21	1	22
21	Rope Pump Installation Training (Amhara)	Output 2	RP	WRB / NGO / Private Workshop	11/8/2010	11/12/2010	15	4	19
22	Rope Pump Installation Training (Oromia)	Output 2	RP	WRB / NGO / Private Workshop	4/20/2011	4/23/2011	5	0	5
23	Rope Pump Installation Training in Chencha Woreda	Output 2	RP	WWME	10/15/2010	10/17/2010	4	0	4
24	Training on Water Supply Scheme (Planning/Management)	Output 3	GT	ZWME / WWME	5/4/2009	5/8/2009	130	10	140
25	Training on Water Supply Scheme (Water Supply Engineering)	Output 3	GT	ZWME / WWME	5/11/2009	5/22/2009	67	5	72
26	Training on Water Supply Scheme (Electrical/Mechanical Engineering)	Output 3	GT	ZWME / WWME	5/11/2009	5/22/2009	63	5	68
27	Training on Water Supply Scheme (Handpump Operation/Maintenance)	Output 3	GT	ZWME / WWME	5/4/2009	5/15/2009	21	0	21
28	Training on Water Supply Scheme (Computer Operation)	Output 3	GT	ZWME / WWME	5/4/2009	5/15/2009	16	6	22
29	Training on Water Supply Scheme (ToT) (Groundwater Development) (Awassa)	Output 3	GT	WWME	2008/12/16	2008/12/21	12	0	12
30	Training on Water Supply Scheme (ToT) (Groundwater Development) (Arba Minch)	Output 3	GT	WWME	2009/4/27	2009/6/2	16	0	16
31	Training on Water Supply Scheme (ToT) (Groundwater Development) (Sodo)	Output 3	GT	WWME	2008/5/6	2008/5/15	25	0	25
32	Operation and Maintenance Training (Well Management) (Daba)	Output 3	O & M	WWME	2010/4/13	2010/4/25	14	0	14
33	Operation and Maintenance Training (Well Management) (Awassa)	Output 3	O & M	WWME	2010/4/26	2010/4/30	5	0	5
34	Operation and Maintenance Training (Well Management) (Silt)	Output 3	O & M	WWME	2010/5/3	2010/5/6	10	1	11
35	Operation and Maintenance Training (Well Management) (Daba)	Output 3	O & M	WWME	2010/11/21	2010/11/26	6	0	6
36	Operation and Maintenance Training (Well Management) (Arba Minch)	Output 3	O & M	WWME	2010/11/29	2010/12/3	5	0	5
37	Operation and Maintenance Training (Well Management) (Silt)	Output 3	O & M	WWME	2010/12/28	2010/12/28	6	0	6
38	Conduct Curative / Preventive O & M Training for WWME (Theoretical) (Sodo)	Output 3	O & M	WWME	2010/9/22	2010/9/23	9	1	10
39	Conduct Curative / Preventive O & M Training for WWME (Theoretical) (Hawassa)	Output 3	O & M	WWME	2010/10/7	2010/10/8	28	2	30
40	Conduct Curative / Preventive O & M Training for WWME (Practical) (Huta)	Output 3	O & M	WWME	2010/9/24	2010/9/25	3	0	3
41	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Huta / Worema)	Output 3	O & M	WASHCO	2010/9/24	2010/9/24	5	0	5
42	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Huta / Chiro Ne)	Output 3	O & M	WASHCO	2010/9/24	2010/9/24	5	0	5
43	Conduct Curative / Preventive O & M Training for WWME (Practical) (Silt)	Output 3	O & M	WASHCO	2010/9/29	2010/10/1	3	1	4
44	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Silt / Dehub Goto)	Output 3	O & M	WASHCO	2010/9/29	2010/9/29	6	1	7
45	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Silt / Mirak Yekoche)	Output 3	O & M	WASHCO	2010/9/29	2010/9/29	3	0	3
46	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Silt / Asano Dagdole)	Output 3	O & M	WASHCO	2010/9/30	2010/10/4	4	1	5
47	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Silt / Boze Sabota)	Output 3	O & M	WASHCO	2010/10/1	2010/10/1	4	1	5
48	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Silt / Dabo Sabota)	Output 3	O & M	WASHCO	2010/11/3	2010/11/3	2	0	2
49	Conduct Curative / Preventive O & M Training for WWME (Practical) (Loma)	Output 3	O & M	WWME	2010/10/11	2010/10/14	7	0	7
50	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Loma / Dasa Kere)	Output 3	O & M	WASHCO	2010/10/11	2010/10/11	4	0	4
51	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Loma / Arga Beche)	Output 3	O & M	WASHCO	2010/10/11	2010/10/11	4	0	4
52	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Loma / Kato Gule)	Output 3	O & M	WASHCO	2010/10/11	2010/10/11	3	0	3
53	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Loma / Zina Woruma)	Output 3	O & M	WASHCO	2010/10/12	2010/10/12	4	0	4
54	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Loma / Yellow Worbe)	Output 3	O & M	WASHCO	2010/10/14	2010/10/14	4	0	4
55	Conduct Curative / Preventive O & M Training for WWME (Practical) (Bosaso Sore)	Output 3	O & M	WWME	2010/10/18	2010/10/21	7	0	7
56	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Bosaso Sore / Gara Gado (Hago 1))	Output 3	O & M	WASHCO	2010/10/18	2010/10/18	4	1	5
57	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Bosaso Sore / Gara Gado (Godo))	Output 3	O & M	WASHCO	2010/10/18	2010/10/20	2	0	2
58	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Bosaso Sore / Gara Gado (Tadree))	Output 3	O & M	WASHCO	2010/10/20	2010/10/20	2	0	2
59	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Bosaso Sore / Gara Gado (Hago 1))	Output 3	O & M	WASHCO	2010/10/21	2010/10/21	3	0	3
60	Conduct Curative / Preventive O & M Training for WWME (Practical) (Arba Minch)	Output 3	O & M	WWME	2010/10/25	2010/10/25	3	2	5
61	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Arba Minch / Dorja)	Output 3	O & M	WASHCO	2010/10/25	2010/10/25	2	0	2
62	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Arba Minch / Genza Kenchama)	Output 3	O & M	WASHCO	2010/10/25	2010/10/25	1	0	1
63	Conduct Curative / Preventive O & M Training for WWME (Practical) (Angacha)	Output 3	O & M	WWME	2010/10/25	2010/10/25	5	0	5
64	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Angacha / Jeba Dodoba)	Output 3	O & M	WASHCO	2010/10/25	2010/10/25	4	1	5
65	Training on Minor Repair Works & Preventive Maintenance for WASHCO (Angacha / Gebetende)	Output 3	O & M	WASHCO	2010/10/28	2010/11/2	2	0	2
66	Training on Water Supply Scheme (Social Development)	Output 3	GT	ZWME / WWME	5/20/2009	6/11/2009	13	6	19
67	Basic Training for the WWME Staff on the Community-based Management of Water Schemes (Angacha)	Output 3	SD	WWME	3/18/2010	3/20/2010	5	0	5
68	Basic Training for the WWME Staff on the Community-based Management of Water Schemes (Huta)	Output 3	SD	WWME	3/24/2010	3/28/2010	4	1	5
69	Basic Training for the WWME Staff on the Community-based Management of Water Schemes (Arba Minch)	Output 3	SD	WWME	3/29/2010	3/31/2010	3	1	4
70	Basic Training for the WWME Staff on the Community-based Management of Water Schemes (Loma)	Output 3	SD	WWME	4/7/2010	4/7/2010	4	0	4
71	Basic Training for the WWME Staff on the Community-based Management of Water Schemes (Bosaso Sore)	Output 3	SD	WWME	4/13/2010	4/13/2010	5	1	6
72	Basic Training for the WWME Staff on the Community-based Management of Water Schemes (Sila)	Output 3	SD	WWME	4/28/2010	4/28/2010	3	1	4
73	Training for the WATSANCO on the Community-based Management of Water Schemes (Bosaso Sore)	Output 3	SD	WASHCO	4/29/2010	4/30/2010	23	14	37
74	Training for the WATSANCO on the Community-based Management of Water Schemes (Angacha)	Output 3	SD	WASHCO	5/3/2010	5/4/2010	12	4	16
75	Training for the WATSANCO on the Community-based Management of Water Schemes (Arba Minch)	Output 3	SD	WASHCO	5/8/2010	5/7/2010	12	4	16
76	Training for the WATSANCO on the Community-based Management of Water Schemes (Loma)	Output 3	SD	WASHCO	5/11/2010	5/15/2010	29	11	40
77	Training for the WATSANCO on the Community-based Management of Water Schemes (Huta)	Output 3	SD	WASHCO	5/27/2010	5/28/2010	12	4	16
78	Participatory Hygiene and Sanitation Workshop (1st Round) (Angacha / Gebetende)	Output 3	SD	WASHCO	10/25/2010	10/29/2010	44	24	68
79	Participatory Hygiene and Sanitation Workshop (1st Round) (Angacha / Jeba Dodoba)	Output 3	SD	WASHCO	10/28/2010	10/28/2010	33	26	59
80	Participatory Hygiene and Sanitation Workshop (1st Round) (Silt / Dabo Sabota)	Output 3	SD	WASHCO	10/30/2010	10/30/2010	40	45	85
81	Participatory Hygiene and Sanitation Workshop (1st Round) (Silt / Mirak Yekoche)	Output 3	SD	WASHCO	11/1/2010	11/1/2010	45	31	76
82	Participatory Hygiene and Sanitation Workshop (1st Round) (Silt / Dehub Goto)	Output 3	SD	WASHCO	11/2/2010	11/2/2010	34	27	61
83	Participatory Hygiene and Sanitation Workshop (1st Round) (Silt / Asano Dagdole)	Output 3	SD	WASHCO	11/3/2010	11/3/2010	38	18	56
84	Participatory Hygiene and Sanitation Workshop (1st Round) (Silt / Boze Sabota)	Output 3	SD	WASHCO	11/4/2010	11/4/2010	35	13	48



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85	Participatory Hygiene and Sanitation Workshop (1st Round) (Bolosoro Sore / Gara Godo (Hago 1))	Output 3	SD	WASHCO	11/8/2010	11/9/2010	21	40	61
86	Participatory Hygiene and Sanitation Workshop (1st Round) (Bolosoro Sore / Gara Godo (Godo))	Output 3	SD	WASHCO	11/10/2010	11/10/2010	22	38	60
87	Participatory Hygiene and Sanitation Workshop (1st Round) (Bolosoro Sore / Dubo)	Output 3	SD	WASHCO	11/11/2010	11/11/2010	21	27	48
88	Participatory Hygiene and Sanitation Workshop (1st Round) (Bolosoro Sore / Tadise)	Output 3	SD	WASHCO	11/12/2010	11/12/2010	28	32	60
89	Participatory Hygiene and Sanitation Workshop (1st Round) (Bolosoro Sore / Dete)	Output 3	SD	WASHCO	11/13/2010	11/13/2010	34	33	67
90	Participatory Hygiene and Sanitation Workshop (1st Round) (Loma / Arga Bache)	Output 3	SD	WASHCO	11/16/2010	11/16/2010	26	20	46
91	Participatory Hygiene and Sanitation Workshop (1st Round) (Loma / Gato Gufo)	Output 3	SD	WASHCO	11/17/2010	11/17/2010	36	29	65
92	Participatory Hygiene and Sanitation Workshop (1st Round) (Loma / Dasa Kara)	Output 3	SD	WASHCO	11/18/2010	11/18/2010	24	16	40
93	Participatory Hygiene and Sanitation Workshop (1st Round) (Loma / Zima Woruma)	Output 3	SD	WASHCO	11/19/2010	11/19/2010	31	28	59
94	Participatory Hygiene and Sanitation Workshop (1st Round) (Loma / Yellow Worbeta)	Output 3	SD	WASHCO	11/20/2010	11/20/2010	23	14	37
95	Participatory Hygiene and Sanitation Workshop (1st Round) (Arba Minch / Genta Kanchemo)	Output 3	SD	WASHCO	11/29/2010	11/29/2010	82	28	110
96	Participatory Hygiene and Sanitation Workshop (1st Round) (Arba Minch / Dorga)	Output 3	SD	WASHCO	11/30/2010	11/30/2010	32	52	84
97	Participatory Hygiene and Sanitation Workshop (1st Round) (Huta / Chiro Ne)	Output 3	SD	WASHCO	12/3/2010	12/3/2010	56	21	77
98	Participatory Hygiene and Sanitation Workshop (1st Round) (Huta / Worema)	Output 3	SD	WASHCO	12/4/2010	12/4/2010	32	17	49
99	Participatory Hygiene and Sanitation Workshop (2nd Round) (Siti / Debo Sabota)	Output 3	SD	WASHCO	2/21/2011	2/21/2011	19	33	53
100	Participatory Hygiene and Sanitation Workshop (2nd Round) (Siti / Misrak Yakoche)	Output 3	SD	WASHCO	2/22/2011	2/22/2011	30	36	66
101	Participatory Hygiene and Sanitation Workshop (2nd Round) (Siti / Debus Gato)	Output 3	SD	WASHCO	2/23/2011	2/23/2011	90	42	132
102	Participatory Hygiene and Sanitation Workshop (2nd Round) (Siti / Aaano Degdenes)	Output 3	SD	WASHCO	2/24/2011	2/24/2011	27	7	34
103	Participatory Hygiene and Sanitation Workshop (2nd Round) (Siti / Bozie Sabota)	Output 3	SD	WASHCO	2/25/2011	2/25/2011	21	37	58
104	Participatory Hygiene and Sanitation Workshop (2nd Round) (Bolosoro Sore / Gara Godo (Hago 1))	Output 3	SD	WASHCO	3/2/2011	3/2/2011	13	40	53
105	Participatory Hygiene and Sanitation Workshop (2nd Round) (Bolosoro Sore / Tadise)	Output 3	SD	WASHCO	3/2/2011	3/2/2011	22	19	41
106	Participatory Hygiene and Sanitation Workshop (2nd Round) (Bolosoro Sore / Gara Godo (Godo))	Output 3	SD	WASHCO	3/4/2011	3/4/2011	40	9	49
107	Participatory Hygiene and Sanitation Workshop (2nd Round) (Bolosoro Sore / Daba)	Output 3	SD	WASHCO	3/5/2011	3/5/2011	41	16	57
108	Participatory Hygiene and Sanitation Workshop (2nd Round) (Loma / Zima Woruma)	Output 3	SD	WASHCO	3/6/2011	3/6/2011	16	26	43
109	Participatory Hygiene and Sanitation Workshop (2nd Round) (Loma / Yellow Worbeta)	Output 3	SD	WASHCO	3/8/2011	3/8/2011	10	17	27
110	Participatory Hygiene and Sanitation Workshop (2nd Round) (Loma / Arga Bache)	Output 3	SD	WASHCO	3/9/2011	3/9/2011	20	31	51
111	Participatory Hygiene and Sanitation Workshop (2nd Round) (Loma / Gato Gufo)	Output 3	SD	WASHCO	3/10/2011	3/10/2011	13	9	22
112	Participatory Hygiene and Sanitation Workshop (2nd Round) (Loma / Dasa Kara)	Output 3	SD	WASHCO	3/11/2011	3/11/2011	18	9	27
113	Participatory Hygiene and Sanitation Workshop (2nd Round) (Angacha / Jaba Dodoba)	Output 3	SD	WASHCO	3/30/2011	3/30/2011	13	34	47
114	Participatory Hygiene and Sanitation Workshop (2nd Round) (Angacha / Garbatendde)	Output 3	SD	WASHCO	3/31/2011	3/31/2011	21	6	29
115	Participatory Hygiene and Sanitation Workshop (2nd Round) (Arba Minch / Genta Kanchemo)	Output 3	SD	WASHCO	4/5/2011	4/5/2011	6	5	8
116	Participatory Hygiene and Sanitation Workshop (2nd Round) (Arba Minch / Dorga)	Output 3	SD	WASHCO	4/6/2011	4/6/2011	9	11	20
117	Participatory Hygiene and Sanitation Workshop (2nd Round) (Huta / Chiro Ne)	Output 3	SD	WASHCO	4/7/2011	4/7/2011	12	4	16
118	Participatory Hygiene and Sanitation Workshop (2nd Round) (Huta / Worema)	Output 3	SD	WASHCO	4/8/2011	4/8/2011	11	8	25
119	TOT (Training of Trainers) for Opening Hand Pump Spare Parts Outlets (To CP)	Output 3	SP	WRB CP	2009/3/11	2009/5/22	0	1	1
120	Training for Opening Hand Pump Spare Parts Outlets (Yigachefe)	Output 3	SP	ZWMED / Outlets	2009/5/26	2009/5/25	6	1	7
121	Training for Opening Hand Pump Spare Parts Outlets (Siti)	Output 3	SP	ZWMED / Outlets	2009/5/27	2009/5/27	2	0	2
122	Training for Opening Hand Pump Spare Parts Outlets (Arba Minch)	Output 3	SP	ZWMED / Outlets	2009/6/1	2009/6/1	4	0	4
123	Training for Opening Hand Pump Spare Parts Outlets (Sodo)	Output 3	SP	ZWMED / Outlets	2009/6/3	2009/6/3	4	1	5
124	Training for Opening Hand Pump Spare Parts Outlets (Tercha)	Output 3	SP	ZWMED / Outlets	2009/6/4	2009/6/4	8	0	6
125	Workshop for Opening Hand Pump Spare Parts Outlets (Yigachefe)	Output 3	SP	ZWMED / Outlets	2009/5/26	2009/5/26	23	2	25
126	Workshop for Opening Hand Pump Spare Parts Outlets (Siti)	Output 3	SP	ZWMED / Outlets	2009/5/27	2009/5/27	18	2	20
127	Workshop for Opening Hand Pump Spare Parts Outlets (Arba Minch)	Output 3	SP	ZWMED / Outlets	2009/6/2	2009/6/2	35	2	37
128	Workshop for Opening Hand Pump Spare Parts Outlets (Sodo)	Output 3	SP	ZWMED / Outlets	2009/6/3	2009/6/3	26	2	28
129	Workshop for Opening Hand Pump Spare Parts Outlets (Tercha)	Output 3	SP	ZWMED / Outlets	2009/6/4	2009/6/4	17	2	19
130	Advanced TOT (Training to Trainer) for Opening Hand Pump Spare Parts Outlets (To CP)	Output 3	SP	WRB CP	2010/4/22	2010/5/4	0	1	1
131	Advanced Training for Opening Hand Pump Spare Parts Outlets (Yigachefe)	Output 3	SP	ZWMED / Outlets	2010/3/16	2010/3/17	7	1	8
132	Advanced Training for Opening Hand Pump Spare Parts Outlets (Siti)	Output 3	SP	ZWMED / Outlets	2010/3/5	2010/3/5	3	0	3
133	Advanced Training for Opening Hand Pump Spare Parts Outlets (Arba Minch)	Output 3	SP	ZWMED / Outlets	2010/3/9	2010/3/10	4	0	4
134	Advanced Training for Opening Hand Pump Spare Parts Outlets (Sodo)	Output 3	SP	ZWMED / Outlets	2010/3/19	2010/3/18	3	1	4
135	Advanced Training for Opening Hand Pump Spare Parts Outlets (Tercha)	Output 3	SP	ZWMED / Outlets	2010/3/30	2010/3/30	5	0	5
136	Training for Opening Hand Pump Spare Parts Outlets (Awassa)	Output 3	SP	ZWMED / Outlets	2010/5/18	2010/5/18	5	0	5
137	Advanced Training for Opening Hand Pump Spare Parts Outlets (Alota Wand)	Output 3	SP	ZWMED / Outlets	2010/5/21	2010/5/21	2	0	2
138	Advanced Training for Opening Hand Pump Spare Parts Outlets (Durame)	Output 3	SP	ZWMED / Outlets	2010/5/25	2010/5/25	2	0	2
139	Workshop for Monitoring Hand Pump Spare Parts Outlets (Siti)	Output 3	SP	ZWMED / Outlets	2010/5/27	2010/5/27	9	1	10
140	Workshop for Monitoring Hand Pump Spare Parts Outlets (Arba Minch)	Output 3	SP	ZWMED / Outlets	2010/6/1	2010/6/1	24	0	24
141	Workshop for Monitoring Hand Pump Spare Parts Outlets (Sodo)	Output 3	SP	ZWMED / Outlets	2010/6/2	2010/6/2	29	0	29
142	Workshop for Monitoring Hand Pump Spare Parts Outlets (Tercha)	Output 3	SP	ZWMED / Outlets	2010/6/3	2009/6/3	18	0	18
143	Workshop for Monitoring Hand Pump Spare Parts Outlets (Yigachefe)	Output 3	SP	ZWMED / Outlets	2010/6/7	2010/6/7	21	0	21
144	Training for Opening Hand Pump Spare Parts Outlets (Durame)	Output 3	SP	ZWMED / Outlets	2010/6/4	2010/6/4	19	0	19
145	Training for Opening Hand Pump Spare Parts Outlets (Alota Wand)	Output 3	SP	ZWMED / Outlets	2010/6/8	2010/6/8	17	0	17
146	Refreshment Training for Hand Pump Spare Parts Outlets (Site 1)	Output 3	SP	ZWMED / Outlets	2010/5/19	2010/5/19	1	0	1
147	Refreshment Training for Hand Pump Spare Parts Outlets (Site 2)	Output 3	SP	ZWMED / Outlets	2010/5/27	2010/5/27	2	0	2
148	Joint Workshop for Hand Pump Spare Parts Outlets (Arba Minch)	Output 3	SP	ZWMED / Outlets	2010/10/29	2010/10/29	17	3	20
149	Workshop for Monitoring Hand Pump Spare Parts Outlets (Yigachefe)	Output 3	SP	ZWMED / Outlets	2011/2/11	2011/2/11	24	1	25
150	Workshop for Monitoring Hand Pump Spare Parts Outlets (Alota Wand)	Output 3	SP	ZWMED / Outlets	2011/2/12	2011/2/12	26	0	26
151	Workshop for Monitoring Hand Pump Spare Parts Outlets (Siti)	Output 3	SP	ZWMED / Outlets	2011/2/15	2011/2/15	21	2	23
152	Workshop for Monitoring Hand Pump Spare Parts Outlets (Durame)	Output 3	SP	ZWMED / Outlets	2011/2/16	2011/2/16	18	3	21
153	Workshop for Monitoring Hand Pump Spare Parts Outlets (Sodo)	Output 3	SP	ZWMED / Outlets	2011/2/17	2011/2/17	25	3	28
154	Workshop for Monitoring Hand Pump Spare Parts Outlets (Tercha)	Output 3	SP	ZWMED / Outlets	2011/2/23	2011/2/23	22	1	23
155	Workshop for Monitoring Hand Pump Spare Parts Outlets (Arba Minch)	Output 3	SP	ZWMED / Outlets	2011/2/24	2011/2/24	36	4	40
156	Donor Workshop on Hand Pump Spare Parts Supply (Awassa)	Output 3	SP	ZWMED / Outlets	2011/3/2	2011/3/2	15	1	16

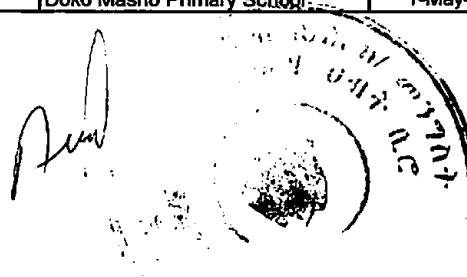
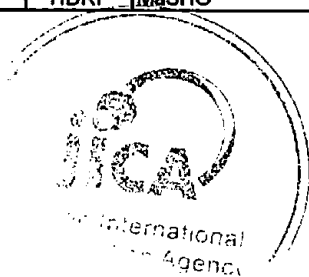
GT: General Training for water supply scheme  
SD: Social Development  
O & M: Operation and Maintenance



## ANNEX 8

## List of Rope Pump Installation

Woreda	S/N	Type	Kebele	Owner Name	Inst. Date	No.	
Slite	1-6	HHRP	Shele Washo	HUSEN ABIDIY	6-Dec-10	1	
	2-1	HHRP	Ashute	Naslri Dutimena	1-Mar-11	2	
	2-2	HHRP	Ashute	Tamiru Negashi	1-Mar-11	3	
	2-3	HHRP	Ashute	Sime Merisha	1-Mar-11	4	
	2-4	HHRP	Ashute	ademi Ahimedi	1-Mar-11	5	
	2-5	HHRP	Balokeriso	Ahimedi Alidi	4-Mar-11	6	
	2-6	HHRP	Balokeriso	Sebire Shehi Jemali	4-Mar-11	7	
			HDRP	Agode Hare Shiyitan	Sadiki Eibraham (Leader)	1-Mar-10	8
			HDRP	Arat Ber	Safi Deitemo (Leader)	1-May-11	9
Hulla	1-1	HHRP	Audessa	BEKELE NAENA	26-Dec-10	10	
	1-2	HHRP	Audess Bunedo	AYELE BORESO	26-Dec-10	11	
	1-3	HHRP	GASSE	YOYO EILO	29-Dec-10	12	
	1-4	HHRP	TETICHA	JEMIBERU TEWENIJA		13	
	1-5	HHRP	AUDESSA	EUDESSA SCHOOL	27-Dec-10	14	
	1-6	HHRP	Audessa	BERIBERO TUTE	26-Dec-10	15	
	1-7	HHRP	CHIRONE	WERIKINESH ADELA	19-Dec-10	16	
	1-8	HHRP	CHELIBESSA	BUNURA MIREDU	28-Dec-10	17	
	1-9	HHRP	LOYA	Tsegaye Shumibe	18-Dec-10	18	
		HDRP	LOYA	Agricultural training center	1-May-09	19	
Boloso Sore	1-1	HHRP	Dubo danuta	YOHANIS ARISIDO	2-Dec-10	20	
	1-2	HHRP	Dubo danuta	Abebe Seba	2-Dec-10	21	
	1-3	HHRP	Dubo danuta	Zewide Abera	2-Dec-10	22	
	2-1	HHRP	Chema Einibecho(Zone-4)	Desita Cherecha	9-Feb-11	23	
	2-2	HHRP	Chema Einibecho(Zone-4)	Erimyas Mota	9-Feb-11	24	
	2-3	HHRP	Chema Einibecho(Zone-4)	Abrahame Anigore	9-Feb-11	25	
	2-4	HHRP	Adimenicho Arifita	Tamirati tekile	9-Feb-11	26	
	2-5	HHRP	Sore Honiba	Jote Boshe	28-Feb-11	27	
2-6	HHRP	Adimenicho Arifita	Derese Abebe	28-Feb-11	28		
Angacha	1-1	HHRP	0 1Anigacha	Markos Letebo	11-Dec-10	29	
	1-2	HHRP	Jeba Dodoba	Bekele Wakaso	11-Dec-10	30	
	1-3	HHRP	1st Anigacha ( Kelama )	Simon Mekebo	11-Dec-10	31	
	2-1	HHRP	1st Anigacha ( Kelama )	Kasa Eirisedo	21-Feb-11	32	
	2-2	HHRP	1st Anigacha ( Kelama )	Mengesha Abiyo	21-Feb-11	33	
	2-3	HHRP	Shino Funomora	Yohanis Auye	21-Feb-11	34	
	2-4	HHRP	Shino Funomora	Beyero Mekenigo	21-Feb-11	35	
	2-5	HHRP	Shino Funomora	Nigusse Lamiboro	21-Feb-11	36	
	2-6	HHRP	Shino Funomora	Adisse Gibisso	21-Feb-11	37	
2-7	HHRP	Shino Funomora	Mullo Shegado	21-Feb-11	38		
2-8	HHRP	Gubena Amibericho	Eliyas Kurassa	21-Feb-11	39		
Arbaminch Zuria	1-3	HHRP	LANITE	AYELE AMACHE	21-Nov-10	40	
	1-4	HHRP	LANITE	Tasew Cheche	21-Nov-10	41	
	1-5	HHRP	LANITE	Bogale Bolicha	21-Nov-10	42	
	2-1	HHRP	Chanomile	Chubero Chuko	13-Feb-11	43	
	2-2	HHRP	Mierabi Lanite	Matiyos Alibe	14-Feb-11	44	
	2-3	HHRP	Mierabi Lanite	Wade Mello	14-Feb-11	45	
	2-4	HHRP	Misiraki Lanite	Tesifaye Halicho	14-Feb-11	46	
2-5	HHRP	Mierabi Lanite	Health Center	28-Feb-11	47		
2-6	HHRP	Mierabi Lanite	Teshome Techo	28-Feb-11	48		
Chencha	1-1	HHRP	03(Tolola)	Tewofilos Tesfaye	27-Nov-10	49	
	1-2	HHRP	aezo	Abebe Aurika	27-Nov-10	50	
	1-3	HHRP	Doko shaye	Mulunesh Sheno	27-Nov-10	51	
	1-4	HHRP	Kale	Doko kale Apple union, Anja Alemu	27-Nov-10	52	
	1-5	HHRP	Aezo	Atitseggeb Mulugeta(Hotel)	27-Nov-10	53	
		HDRP	MaSHO	Doko Masho Primary School	1-May-09	54	



## 付属資料 2 Evaluation Report

<b>I. Outline of the Project</b>					
<b>Country :</b> Ethiopia	<b>Project title :</b> The Water Sector Capacity Development Project In Southern Nations, Nationalities And People's Region In The Federal Democratic Republic Of Ethiopia				
<b>Issue/Sector :</b> Rural Water Supply	<b>Cooperation scheme :</b> Technical Cooperation				
<b>Division in charge :</b> JICA Ethiopia	<b>Total cost :</b>				
<b>Period of Cooperation</b>	<b>(R/D):</b> December,2007–December, 2011				
	<b>Partner Country's Implementing Organization :</b> Water Resource Bureau Head Southern Nations and Nationalities People's Region, Federal Democratic Republic of Ethiopia				
<p><b>1 Background of the Project</b></p> <p>SNNPRS is located in the southern and southwestern part of Ethiopia, with an estimated population size of 15,044,531 (2007), which is the third largest number in the country, where about 93% of its population resides in the rural areas. The Safe Water Rate was estimated to be about 34.1%, in 2004 and it was below the national average. Moreover, due to absence of appropriate maintenance and rehabilitation measures the scheme non-functionality rate was thought to be about 30%.</p> <p>Against these backdrops, the Government of Ethiopia has requested the Japanese Government for a technical cooperation program, which aims for capacity development for various implementing agencies in the water sector of the region, including woreda staffs, local technicians, NGOs, etc. In response to the request and as a subsequent effort to ensure the sustainability of rural water project funded with Japan's Grant Aid Project in the region, JICA in collaboration with WRB has designed WAS-CAP in 2006.</p> <p>In this manner, WAS-CAP was launched with the aim of establishing a sustainable water supply system through transfer of technologies and knowledge. The Project was designed in a way that focus on ensuring a sustainable Operation, Maintenance and Management (OM/M) and leveling up of technology for artisans for water supply schemes. To this effect, the Project targets on the delivery of training programs and other activities geared towards on staff's capacity development at various levels, i.e. WRB, zonal and woreda offices, local technicians, members of community water and sanitation committees, etc. In this respect, the Project CP is Water Resource Bureau (WRB) of SNNPRS.</p> <p><b>2 Project Overview</b></p> <p><b>(1) Overall Goal</b> Sustainability on the water supply system is improved in SNNPRS.</p> <p><b>(2) Project Purpose</b> Organizational capacity in implementation, operation and maintenance of water supply system is improved in SNNPRS.</p> <p><b>(3) Outputs</b></p> <ol style="list-style-type: none"> <li>1) Rural Water Supply Scheme development/O&amp;M plan is formulated in each of the 6 Target Woredas.</li> <li>2) Rope Pump Dissemination System is established in the 6 Target Woredas.</li> <li>3) Operation and Maintenance of Water Schemes are improved in the 6 Target Woredas.</li> </ol> <p><b>(4) Inputs</b></p> <p><b>Japanese side :</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">12 Experts (85.62M/M)</td> <td style="width: 50%;">Equipment 66 million Yen</td> </tr> <tr> <td></td> <td>Local cost 657million Yen</td> </tr> </table> <p><b>Ethiopian Side :</b></p> <p>Counterpart 11 staff (6 staff at the time of beginning) Land and Facilities</p>		12 Experts (85.62M/M)	Equipment 66 million Yen		Local cost 657million Yen
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	Local cost 657million Yen				



<b>II. Evaluation Team</b>		
<b>Members of Evaluation Team</b>	<p>Ethiopian side:</p> <p>1) Mr. Mulugeta Asfaw      Team Member      Planning, Monitoring and Evaluation Officer, Development Plan Preparation, Monitoring, Evaluation and Feedback Supportive Process</p> <p>2) Mr. Gizachew Mekuriya      Team Member      Water Supply and Scheme Administration Expert (Electrician), Drinking Water Supply &amp; Schemes Administration Core Process</p> <p>Japanese Side (JICA Evaluation Team):</p> <p>1) Mr. Junji Wakui      Team Leader      Director, Water Resources Management Div. II, Global Environment Dept., JICA HQ</p> <p>2) Mr. Hideki Watanabe      Evaluation Planning      Representative, JICA Ethiopia Office</p> <p>3) Dr. Keiko Watanabe      Evaluation and Analysis      Senior Consultant, Foundation for Advanced Studies on International Development (FASID)</p> <p>4) Mr. Ephrem Fufa      Rural Water Supply In-house Consultant for Water Sector, JICA Ethiopia Office</p>	
<b>Period of Evaluation</b>	6/ May/ 2011~ 26/May / 2011	<b>Type of Evaluation :</b> Terminal

### III. Results of Evaluation

#### 1. Summary of Evaluation Results

##### (1) Achievement of the Project

Output 1: Rural Water Supply Scheme Development / O&M Plan is formulated in each of the 6 Target Woredas																			
Objectively Verifiable Indicator (OVI)		Achievements																	
1	Rural Water Supply Scheme Development / O&M Plan on the basis of thematic map is formulated in each of the 6 Target Woredas. (2003 in Ethiopian Calendar (2010 in European Calendar) year's version by October 2010 and 2004 in Ethiopian Calendar (2011 in European Calendar) year's version by May 2011	2010 version of Rural Water Supply Scheme Development / O&M Plan of 2010 has been completed in June 2010. The necessary data has been collected by March 2011 for the revised version of 2011. The Plan for 2011 will be developed at the end of May 2011.																	
Output 2: Rope Pump Dissemination System is established in the 6 Target Woredas																			
Objectively Verifiable Indicators		Achievements																	
2.1	The collection rate of monthly information from users in O & M monitoring system for rope pumps, which are installed by the Project, is 80 % by the end of the Project.	<p>The Project installed 50 Rope Pumps (RP) for household use. The Project introduced a “bottom-up monitoring system”, which monthly report is submitted by RP users to WWMEO directly or through WASHCO. The bottom-up approach has been adopted due to the fact that WWMEO has limited budget to visit on site monitoring. At the time of Terminal Evaluation, the monthly information collection rate at each target Woreda is below, showing the attainment of the indicator. The WWMEO which the Team interviewed all expressed effectiveness and efficiency in bottom-up monitoring system. In the 2<sup>nd</sup> year, the Project also installed 4 High Durable Rope Pumps (HDRP), a prototype for communal use, to monitor their mechanical performance<sup>1</sup>.</p> <table border="1"> <thead> <tr> <th>Woreda</th> <th>Info. Collection</th> <th>Woreda</th> <th>Info. Collection</th> </tr> </thead> <tbody> <tr> <td>Angacha</td> <td>64 %</td> <td>Hula</td> <td>100 %</td> </tr> <tr> <td>Boloso Sore</td> <td>40 %</td> <td>Silti</td> <td>100 %</td> </tr> <tr> <td>Arba Minch Zuria</td> <td>100 %</td> <td></td> <td></td> </tr> </tbody> </table> <p>(as of May 2011)</p>		Woreda	Info. Collection	Woreda	Info. Collection	Angacha	64 %	Hula	100 %	Boloso Sore	40 %	Silti	100 %	Arba Minch Zuria	100 %		
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Arba Minch Zuria	100 %																		
2.2	The rate of awareness of rope pump in each rope pump installation site is 70 % by the end of the Project	<p>At the time of Terminal Evaluation, the recognition rate of RP was shown in the table below. The Team found that further efforts are necessary to raise recognition by the Project especially for those Woredas which have low rates. In order to raise the recognition, the Team confirmed that the Project is planning to participate in the monthly Kebele (Community) meeting to introduce the scheme. The Team also found that additional activities should be included to raise recognition not only for the RP installation community but also community in wider areas for further promotion of RP.</p> <table border="1"> <thead> <tr> <th>Woreda</th> <th>Recognition</th> <th>Woreda</th> <th>Recognition</th> </tr> </thead> <tbody> <tr> <td>Angacha</td> <td>55 %</td> <td>Hula</td> <td>75 %</td> </tr> <tr> <td>Boloso Sore</td> <td>40 %</td> <td>Silti</td> <td>75 %</td> </tr> <tr> <td>Arba Minch Zuria</td> <td>75 %</td> <td></td> <td></td> </tr> </tbody> </table> <p>(as of May 2011)</p>		Woreda	Recognition	Woreda	Recognition	Angacha	55 %	Hula	75 %	Boloso Sore	40 %	Silti	75 %	Arba Minch Zuria	75 %		
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<sup>1</sup> Since the 4 HDRPs installed by the Project is to monitor their RP performance not to build a monitoring system, indicators of 2.1 and 2.2 is evaluated based on the performance of 50 RPs for household use.

<b>Output 3: Operation and Maintenance of Water Schemes are improved in 6 Target Woredas</b>		
<b>Objectively Verifiable Indicators</b>		<b>Achievements</b>
3.1	The defined numbers of staffs in each WWMEO score over 70 points in exam of repair / O & M Training by the end of the Project	The average score of WWMEO trainees after the training conducted in 2010 was 64.7 points. The project is planning to conduct refreshment training and re-examine their skills by conducting the exam again.
3.2	Caretakers of WASHCO in 21 target water schemes implement preventive maintenance (regular maintenance) according to the established frequencies in the different water schemes after repair / O & M training by the end of the Project	The Team observed from the visited WASHCOs that caretakers were checking the functionality of water schemes before opening time of water scheme every morning. At the time of the Terminal Evaluation, 18 out of 20 WASHCO (1 water scheme is not working at the monitoring period in January 2011) submitted monthly monitoring sheet to WWMEO regularly. This showed the regular maintenance conducted by the almost all target WASHCOs. The Project is planning to further reinforce the management skills of community and conduct follow-up monitoring.
3.3	All the WASHCO of the target water schemes save the established cost for O & M by the end of 2003 in Ethiopian Calendar (August 2011 in European Calendar)	All WASHCOs were found to be collecting water tariff and saving in the microfinance bank for O&M. At the time of the Evaluation, 16 out of 20 WASHCOs (1 water scheme was not working at monitoring period) have been keeping the established cost <sup>2</sup> for O&M. It is noted that four WASHCOs which did not have enough savings were also accumulating amount. The reasons of not reaching the target savings at the time of monitoring included that a large amount of payment for repair happened the months before, and the coverage of population were smaller than others which delayed the accumulation progress.
3.4	Each of the 21 target WASHCO regularly keep hand pump (Afridev) spare parts for half a year O & M by the end of the Project.	10 out of 21 WASHCOs have Afridev hand pump water supplies. At the time of the Evaluation, out of nine (9) Afridev WASHCOs (one Afridev pump is going to alter from Afridev to Indian Mark II) only two (2) kept spare parts. One of the reasons for not keeping spare parts was found to be the absence of a safe place to keep them, even though they have enough money to buy. The Project needs to make further efforts to ensure those WASHCOs which did not reach the objectives.

## (2) Evaluation by Five Criteria

### (1) Relevance : high

- The Project was well aligned with both five-year development plan of PASDEP (2005-2009) and UAP(2005) when the Project designed.
- The Project is in line with Growth and Transformation Plan (GTP).
- The revised UAP in 2011, which aligns with the GTP also emphasizes the priority on water supply and set the target to increase the coverage of rural access to safe water (within 1.5 km) to 98% by 2015 and reduce the malfunctioning schemes to 10%.
- The selection of target groups in the Project was appropriate. The Project targeted to build capacity of water-related staff members in 6 woredas/zones and 21 WASHCOs as a target group.
- The Project is also in line with the Japanese ODA policy. (The country assistance program for Ethiopian of the Japan (2008) and TICAD IV)

### (2) Effectiveness: high

- The Project Purpose can be satisfactory achieved.
- The capacity of WRB on inter-institutional collaboration and coordination among Region, Zonal and Woreda has been strengthened. Particularly the Project initiated to establish an inter-linkage between WASHCO and Woreda through bottom-up reporting systems of various components.
- The revision of PDM at the Mid-Term Review facilitated the achievement of the Project Purpose by streamlining a project design.

<sup>2</sup> Established cost differs depending on the type of water scheme, EBT 500 for Afridev, EBT 1,150 for Indian Mark II and EBT 2,500-6,500 for motorized scheme (depending on the population coverage).

- The approach of the WAS-CAP was more effective in a way they conduct the frequent and close monitoring, and supervision activities at WASHCO and Woreda level compared to the usual practices conducted by other donor agencies and NGOs after the installation of water schemes.
- Frequent changes of CPs mainly due to BPR affected the progress of the implementation of the Project.

(3) Efficiency: relatively low

- Frequent turnovers of CPs and trained staff members at Woreda and Zonal Water offices due to BPR started in early 2008 and a new administration introduced in October 2010 affected greatly the efficiency of progress of the Project implementation.
- The situation became better after the Mid-Term Review where most of the CPs was assigned and the Project introduced a monthly meeting with both Japanese experts and CPs.

(4) Impact: Several impacts from the project. No negative impact at present.

- There is a good prospect that the overall goal “Sustainability on water supply system is improved in SNNPRS” is achieved.
- Some examples of positive impacts were already observed including RP dissemination.
- The Project influenced on behavioral changes of the community especially on sanitation and hygiene aspects. The project raised awareness of sanitation to the community.
- The presence of spare parts outlet nearby WASHCO saved the time and cost for transport.

(5) Sustainability: Relatively high at the WASHCO level, moderate at Regional, Zonal and Woreda levels.

<Policy Aspects>

- Sustainable rural water supply and human resources development for water supply at all levels are still one of the high priority areas of the Ethiopian government which is highlighted in the revised UAP in 2011 as well as a recent released GTP.
- Most of the trained WASHCOs have now acquired the knowledge and skills to conduct community based preventive operation and maintenance.
- After BPR the Head of WWMEO is now become a member of Woreda Cabinet, which gained more chance to be allocated appropriate budget.

<Organizational/Financial Aspects>

- Almost all Woreda and Zonal Offices are facing the shortage of staff although they have showed willingness to continue WAS-CAP activities even after the termination of the Project.
- Involvement of officers from Development Plan Preparation, Monitoring, Evaluation and Feedback Supportive Process of WRB in the Project could be effective for ensuring the quality of the Project from the Ethiopia side and CPs’ active participation in the Project.
- The financial aspect at the levels of WWMEO and ZWMEO may hinder the continuity of the activities.

2. Factors that promoted realization of effects

(1) Factors concerning to the Implementation Process

The Project has made good efforts to cope with the situation. For example, the presence of the Japanese expert increased. An assignment period of Japanese coordinator prolonged in order to enhance the communication and make logistical arrangement smoothly without changing the total amount of work months of Japanese experts. Each Japanese expert made efforts to communicate with his/her CPs frequently, even by e-mail or telephone at the time of his/her absence, so that WRB have more ownership of the Project. Yet, the Project slowed down the progress during the absence of Japanese experts.

3. Factors that impeded realization of effects

(1) Factors concerning to the Implementation Process

Up to the Mid-Term Review, the Project faced serious challenges of a sheer absence of CPs due to the Business Process Re-Engineering (BPR) in early 2008 for implementation of the Project.

After the recommendation by the Mid-Term Review, a draft PDM 3 was developed immediately after the review in December 2009 by the Japanese Team. Although the signing of Minutes on revised PDM 3 was

delayed due to some of the reasons such as the structural change of the WRB, change of Project Director after the Mid-Term Review, basically the consent had been obtained by the Ethiopian side verbally. The current PDM 3 streamlined the outputs from six (6) to three (3) with setting clearer strategies and the target areas were also focused from 78 woredas to 6 woredas in SNNPRS.

The project operations have been managed by Project Director from WRB and the Japanese experts. However, due to the frequent turnovers of CPs, the communication between Japanese experts and most of Ethiopian CPs had not been always frequent. After the Mid-Term Review, the communication has been improved. A monthly meeting, if not, an ad-hoc meeting mechanism to share information on progress has been installed, although sometimes the participation of CPs were limited.

#### 4. Conclusion

The conclusion of this Evaluation is as follows.

- The achievements to date of the Output1 , Output2 and Output 3 are high
- The Project Purpose is expected to be achieved.
- On the five evaluation criteria, the evaluation results of the Project are as follows.
  - The relevance of the Project is high.
  - The effectiveness of the Project is high.
  - The efficiency of the Project is relatively low.
  - Some positive impacts are observed while no negative impact is remarked as of now.
  - The sustainability of the Project effect is relatively high at the WASHCO level, however, moderate at Woreda, Zonal, and Regional levels.

#### 5. Recommendations

##### (1) Scaling up of the Project outputs

Scaling-up of the outputs of the Project could be beneficial for WRB. WRB should develop a clear strategy/guidance and detailed procedure which includes concrete schedule with detailed activities and financial arrangement in consultation with JICA Experts by the end of the Project period. In order to scale-up the effect of WAS-CAP project, it is recommended that WAS-CAP approach including developed guidelines, manuals, reporting formats by the Project be officially utilized by WRB and adopted regionally.

##### (2) Inclusion of the WAS-CAP Project activities into the CP's performance evaluation sheet

It was found that the WAS-CAP Project activities are not included in their personal performance evaluation sheet, which hinders the involvement of CPs into the activities of the Project. WAS-CAP Project activities should be added officially in their respective performance evaluation format in the next financial year starting from 1 July 2011 in European year for the smooth project implementation.

##### (3) Inclusion of M&E officers in the Project

M&E officers from the WRB should be included for the effective project management and ensuring sustainability.

##### (4) Direction of the dissemination of RP in SNNPR

Although the actual implementation should be done at the woreda level, WRB should facilitate and support WWMEO to develop a detailed plan to disseminate RPs. In this regard, WRB should take necessary actions such as by assigning the focal persons or specific unit within the Bureau.

##### (5) Budget Allocation for appropriate O&M activities

Some target Woredas are facing the lack of budget, transport and basic tools for repair which could be inevitable for WWMEO to conduct appropriate O&M activities. WRB should facilitate and support Woredas to allocate the necessary budget for conducting those activities effectively including making efforts to find potential financial sources from donors, international agencies, NGOs, CBOs, and micro finance institutions. Regional and zonal levels should also allocate appropriate budget for necessary activities in this context.

## 6 . Lessons Learned

### (1) Communication between JICA experts and CPs

When a project includes that the number of components of outputs are many and each component has large quantity of activities, at least one longer-term JICA Expert should be assigned for the project since intensive and constant coordination are required.

### (2) Inclusion of project activities in CP's performance evaluation sheet

In order to ensure the active involvement of CPs in the Project activities, official inclusion of these activities in CP's performance evaluation sheet found to be very effective.

END