マラウイ共和国
持続可能な土地管理促進プロジェクト
終了時評価調査報告書

平成 27 年 7 月
（2015年）

独立行政法人国際協力機構
農村開発部

農 村
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序　　文

独立行政法人国際協力機構は、マラウイ共和国と締結した討議議事録に基づき、技術協力プロジェクト「持続可能な土地管理促進プロジェクト」を、2011 年 11 月から 4 年間の予定で実施してきました。

このたび、プロジェクトの協力期間の終了を 2015 年 11 月に控え、JICA は 2015 年 4 月 13 日から 5 月 1 日までの間、JICA 農村開発部農業・農村開発第二グループ第四チーム 天目石慎二郎を団長とする終了時評価調査団を現地に派遣し、マラウイ共和国側評価チームと合同で、これまでの活動実績等について総合的評価を行いました。これらの評価結果は、日本・マラウイ共和国双方の評価チームによる討議を経て合同評価報告書としてまとめられ、署名・交換のうえ、両国の関係機関に提出されました。

本報告書は、同調査団によるマラウイ共和国政府関係者との協議及び評価調査結果等を取りまとめたものであり、日本・マラウイ共和国両国の親善と関連する国際協力の推進に広く活用されることを願うものです。

終わりに、本調査の実施にあたり、ご協力とご支援を頂いた関係各位に対し、厚く御礼を申し上げるとともに、当機構の業務に対して今後とも一層のご支援をお願いする次第です。

平成 27 年 5 月

独立行政法人　国際協力機構

農村開発部長　**北中　真人**

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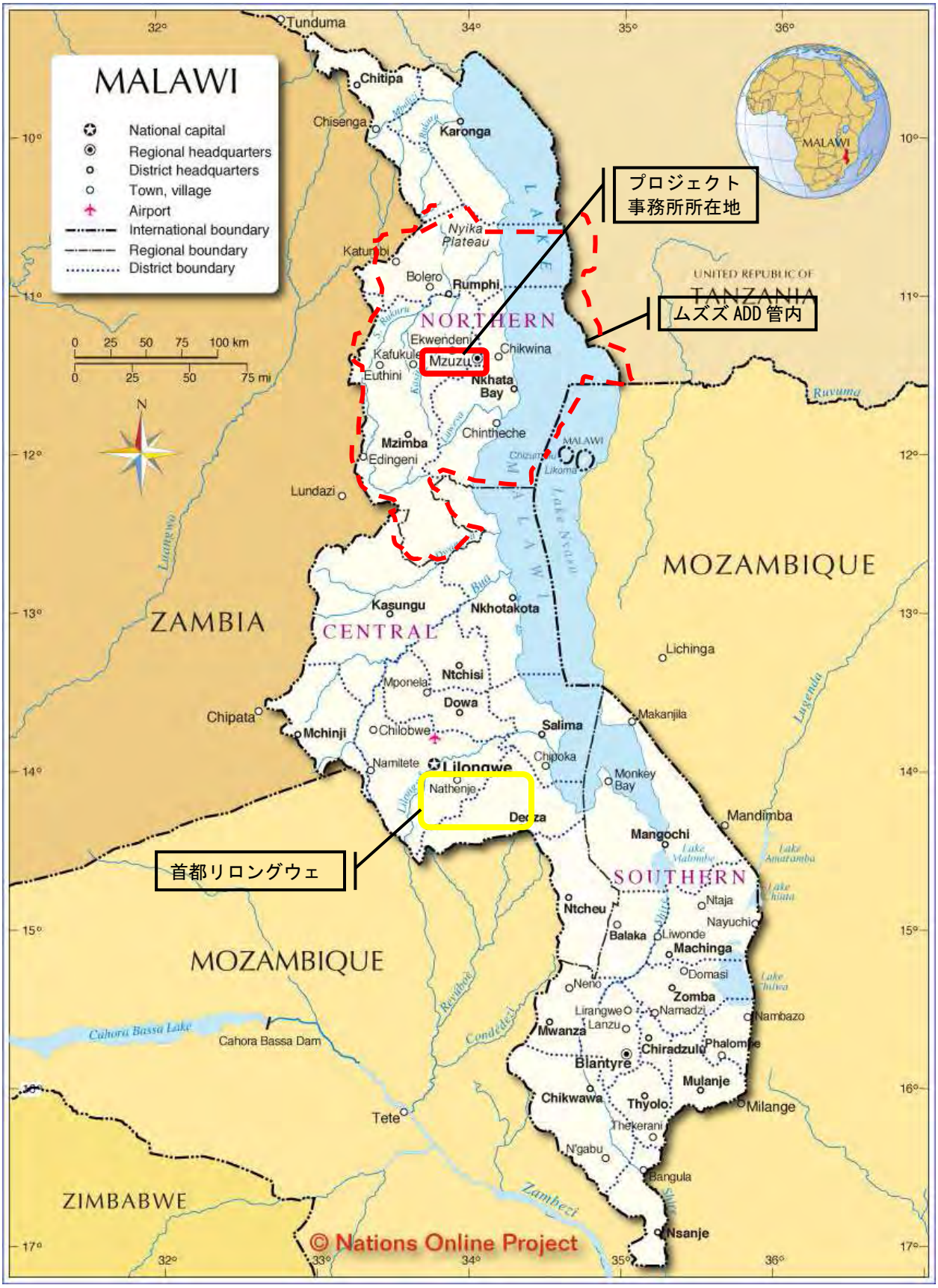
プロジェクト対象地区位置図



現地写真

ルニャングワ試験場での堆肥作成

ルニャングワ試験場の土壌分析室

ムコンデジ試験支場での圃場試験（干ばつ被害）

北ムジンバ県の LF 圃場

ルンピ県の LF 圃場

南ムジンバ県の LF 圃場

合同評価報告書の署名

第 3 回 JCC

略語表

略　語	正式名称	日本語
ADD	Agricultural Development Division	農政局
AEDC	Agricultural Extension and Development Coordinator	農業普及開発調整員
AEDO	Agricultural Extension and Development Officer	農業普及開発員
ASWAp	Agriculture Sector Wide Approach	農業セクター・ワイド・アプローチ
C/P	Counterpart	カウンターパート
DAES	Department of Agricultural Extension Services	農業普及サービス局
DARS	Department of Agricultural Research Services	農業研究サービス局
DF	Development Fund of Norway	ノルウェー開発基金
EPA	Extension Planning Area	農業普及所
FF	Follower Farmer	フォロワー・ファーマー
FISP	Farm Input Subsidy Program	農業用投入資材補助金プログラム
JCC	Joint Coordinating Committee	合同調整委員会
LF	Lead Farmer	リード・ファーマー
LRCD	Land Resources Conservation Department	土地資源保全局
LRCO	Land Resources Conservation Officer	土地資源保全官
M/M	Minutes of Meeting	会議議事録
MoAFS	Ministry of Agriculture and Food Security	農業食料安全保障省
MoAIWD	Ministry of Agriculture, Irrigation and Water Development	農業・灌漑・水開発省
MWK	Malawian Kwacha	通貨単位：マラウイ・クワチャ
ORT	Other Recurrent Transaction	政府経常経費
PDM	Project Design Matrix	プロジェクト・デザイン・マトリックス
PMT	Project Management Team	プロジェクト管理チーム
PO	Plan of Operations	活動計画
R/D	Record of Discussions	協議議事録
SMS	Subject Matter Specialist	専門技術員
SLM	Sustainable Land Management	持続可能な土地管理

評価調査結果要約表

１．案件の概要	
国名：マラウイ共和国	案件名：持続可能な土地管理促進プロジェクト
分野：農業・農村開発	援助形態：技術協力プログラム
所管部署：JICA 農村開発部	協力金額（評価時点）：3.95 億円
協力期間： 2011 年 11 月～2015 年 11 月 （4 年間）	先方関係機関：農業・灌漑・水開発省（MoAIWD）土地資源保全局（LRCD）

１－１　協力の背景と概要

マラウイ共和国（以下、「マラウイ」と記す）の総労働人口の約 80%は農業セクターに従事し、その 90%以上は 1 世帯当たりの平均農地面積が約 0.8ha の小規模農民である。種子や肥料などの農業投入資材、土壌保全・肥沃度向上の技術、灌漑や水管理技術などへのアクセスは不十分で農業生産性は総じて低い。このため、乾期には食料不足に陥る農村住民も多く、国家レベルでも重大な食料危機がしばしば発生している。近年は農業用投入資材補助金プログラム（Farm Input Subsidy Program：FISP）に加え、好天に恵まれたこともあり主食のメイズが自給を達成するなど食料事情に改善がみられたが、ここ数年再び食料不足が問題となっている。貧困率は 51%（2011 年）と依然として非常に高く、特に農村部では 56%と都市部の 17.3%[1]に比べて著しく高い。国内の貧困を削減するため、全国的な農業生産性の向上・安定化が急がれている。

このような課題に対応するため、マラウイ政府は 2009 年に「農業セクター・ワイド・アプローチ（Agriculture Sector Wide Approach：ASWAp）」を策定し、そのなかで開発政策の 1 つとして持続可能な土地管理（Sustainable Land Management：SLM）技術の普及を重点課題に位置づけている。SLM 技術は、土壌肥沃度改善、土壌・水保全、保全型農業、雨水利用、アグロフォレストリーから構成される。農家が圃場でこれらの技術を組み合わせて適用することにより、地力の向上・維持と農業生産性の向上を図ることを目的としている。なお、このプロジェクトは、SLM 技術のなかでも特に「土壌肥沃度改善」技術に焦点を当てている。

農業・灌漑・水開発省（Ministry of Agriculture, Irrigation and Water Development：MoAIWD[2]）は、FISP による農家に対する優良種子や化学肥料の安価での提供などを通じて農業生産を支えているが、農業投入資材の供給量は圧倒的に不足している。化学肥料などの投入が限られ、化学肥料による土壌の劣化が問題となるなかで農業生産性を向上させるためには、堆肥の適用や土壌流出の防止が特に重要となるが、MoAIWD はそうした地力向上・維持に必要な技術を十分に普及できていない。

このような背景から、マラウイ政府は SLM の普及を進めるための技術支援をわが国に要請した。本要請を受け、JICA は、MoAIWD 土地資源保全局（Land Resources Conservation Department：LRCD）をカウンターパート（Counterpart：C/P）機関として、2011 年 11 月から 4 年間の予定で持続可能な土地促進管理プロジェクト（以下、「本プロジェクト」と記す）を実

[1] National Statistics Office （NSO）Statistical Year Book, 2012 P.90
（http://www.nsomalawi.mw/images/stories/data_on_line/general/yearbook/2012%20Statistical%20Yearbook.pdf）

[2] 2014 年の総選挙に伴い、農業食料安全保障省（Ministry of Agriculture and Food Security: MoAFS）から MoAIWD に組織改編がなされた。本報告書では、PDM Ver.2 の引用ではそのまま MoAFS を使用し、本文と PDMVer.3 案では MoAIWD を使用する。

施している。

本プロジェクトは、ルニャングワ農業試験場とも協力しながらマラウイ北部のムズズ農政局（Agricultural Development Division：ADD）管轄地域を対象として実施している。土壌肥沃度改善に重点を置きながら、科学的に裏づけされた土壌肥沃度改善技術の開発を行い、MoAIWD の農民に対する指導能力強化をめざしている。本終了時調査は、2015 年 11 月のプロジェクト終了を控え、活動の実績や成果を評価・確認し、今後のプロジェクト活動に対する提言及び今後の類似事業実施のための教訓を導くことを目的とし、実施された。

１－２　協力内容（Project Desgin Matrix Ver.2 に基づく）

（1）上位目標

適切な持続可能な土地管理技術（Sustainable Land Management：SLM 技術）[3]が全国に普及される

（2）プロジェクト目標

適切な SLM 技術を普及するための農業食料安全保障省（MoAFS）の能力が向上する

（3）アウトプット

1）ムズズ農政局（ADD）における土壌・堆肥試験や圃場試験実施のための組織的・人的キャパシティが向上する

2）ムズズ ADD の土地資源保全局（LRCD）の専門技術員と普及員が SLM 技術を習得する

3）堆肥作りと施肥技術がパイロットサイトの農家によって適用される

4）SLM 技術を全国に普及するための方策が示される

（4）投入（評価時点）

1）日本側

総投入金額：3.4 億円

専門家派遣：長期専門家派遣（延べ 2 名）、短期専門家派遣（延べ 8 名）

機材供与：約 3,202 万円[4]、ローカルコスト負担：約 4,147 万円（2011 年 11 月～2015 年 3 月末）

研修員派遣（本邦研修）：C/P 研修 3 名

2）マラウイ側

C/P 人材の配置：計 23 名〔プロジェクト・ディレクター： LRCD 局長、プロジェクト副ディレクター：LRCD 副局長、プロジェクト・マネジャー：ムズズ ADD 主席土地資源保全官、C/P：対象県農業事務所土地資源保全局専門技術員（Land Resource Conservation Officer：LRCO）、農業試験場技術者〕

施設提供：ムズズ ADD 内の事務室をプロジェクト執務室として提供、棚机、椅子等備品を配置、会議室などの利用、農業試験場の実証用圃場の利用、堆肥作成用備品費

[3] 以後「SLM 技術」は、プロジェクトで推奨する堆肥施用を中心とした土壌肥沃度改善技術を指す。

[4] JICA 平成 26 年度 3 月レート（1MWK＝0.276 円）による。

など負担。
〔年次予算額：MWK36,030,202（9,944,335 円）、2015 年 4 月までの執行額：MWK17,907,790（4,942,550 円）〕

２．調査団の概要

	担当分野	氏　名	所　属
日本側	団長	天目石　慎二郎	JICA 農村開発部農業・農村開発第二グループ第四チーム課長
	協力企画	田村　俊輔	JICA 農村開発部農業・農村開発第二グループ第四チーム特別嘱託
	評価分析	白井　和子	株式会社かいはつマネジメント・コンサルティング
マラウイ側	団長	Mr. Lloyd Liwimbi	MoAIWD, 農業研究サービス局（Department of Agricultural Research Services：DARS）チテゼ農業試験場　チーフ農業研究科学者
	評価団員	Mr. Thaf Mlebe	MoAIWD, LRCD エコノミスト
	評価団員	Ms. Beatrice Mbakaya	MoAIWD, 農業普及サービス局（Department of Agricultural Extension Services：DAES）ムズズ農政局チーフ農業普及主任官

調査期間	2015 年 4 月 13 日～5 月 1 日	評価種類：終了時評価調査

３．評価結果の概要

３－１　実績の確認

（1）プロジェクト目標の達成状況

プロジェクト目標：適切な SLM 技術を普及するための農業食料安全保障省（MoAFS）の能力が向上する。

プロジェクト目標は残りの活動が予定どおり実施されれば達成される見込み。

指　標	達成状況
1. SLM 技術ハンドブックが DAES により承認され、28 県すべての LRCD 及び普及の専門技術員に配付される	プロジェクトは 2014/2015 作期の試験結果を踏まえ、SLM 技術ハンドブックを取りまとめる。同ハンドブックは MoAIWD の技術検討委員会の承認を得て、28 県の LRCD 及び専門技術員に配付される予定。他方、プロジェクトは今後、主にアウトプット 4 に関する実施計画を策定するが、プロジェクト期間内に同ハンドブックを 28 県の普及員と県の技術専門員に配付するに至るには、時間的制約を見据えた働きかけが必要である。現場では既にプロジェクトが作成した堆肥作成・施肥リーフレットは活用されている。
2. 土壌・堆肥分析サービスが北部地域において提供され、分析結果が普及員と農家によっ	ルニャングワ農業試験場の分析室がプロジェクト支援により整備され、C/P への技術移転が進み、北部地域の土壌・施肥分析サービスは既に開始されている。分析結果の利用については、農家まで伝わっていないケースと、農家は結果を得たが内容が理解されていない

て利用されるようになる	ケースが確認された。

（2）アウトプットの達成度

中間レビュー以降、PDM Ver.2 と Plan of Operations（PO）に基づきプロジェクト活動が実施され、アウトプット 1 から 3 はほぼ達成した。アウトプット 4 は、活動が予定どおり実施されればプロジェクト終了までに達成される見込みである。各アウトプットの達成状況は以下のとおり。

1）アウトプット 1 :「ムズズ ADD における土壌・堆肥試験や圃場試験実施のための組織的・人的キャパシティが向上する」は、以下のとおりほぼ達成した。

分析マニュアルのドラフトが作成され、ルニャングワ農業試験場では土壌と堆肥分析サービスが開始された。研究プロトコルに基づき 1,700 近くのメイズ生育に関するデータが収集された。NGO、民間セクター、警察など外部組織からも 787 件の試験が依頼された。2014/2015 作期の試験結果は分析中だが、リード・ファーマー（Lead Farmer : LF）、試験場でのメイズ生育は干ばつのなかでも 2014 年よりも明らかに向上している。

2）アウトプット 2 :「ムズズ ADD の LRCD の専門技術員と普及員が SLM 技術を習得する」は、ある程度達成された。

プロジェクト開始から 2015 年 2 月までに 585 名のムズズ ADD 管下の県専門技術員（LRCO, または Subject Matter Specialist : SMS）、普及員（Agricultural Extension and Development Officer : AEDO）が堆肥作成と施用に関する研修を受講した。普及員、LF 向け研修マニュアルも第 3 版まで作成され、県専門技術員の堆肥作成と施用に関する普及員向け指導能力は向上した。

3) アウトプット 3:「堆肥作りと施肥技術がパイロットサイトの農家によって適用される」は、プロジェクト終了までに達成される見込み。

プロジェクトでは 49 名の LF を対象に圃場実証を行っている。研修を受けた LF のうち 2013/2014 作期 45 人（91%）、2014/2015 作期 42 人（86%）が、展示圃場で堆肥を施用したメイズを栽培している。水、堆肥作成に必要な材料（特に家畜糞）、運搬費の不足などが LF 数の減少の主な理由として確認された。LF はフォロワー・ファーマー（Follower Farmer : FF[5]）を指導している。プロジェクトはプロジェクト終了まで LF と FF 向け普及活動を重点的に行う予定。

4）アウトプット 4 :「SLM 技術を全国に普及するための方策が示される」は、活動が予定どおり実施されればプロジェクト終了までに達成する見込み。

プロジェクトは圃場試験の結果を踏まえ、推奨する SLM 技術メッセージ[6]を全国に普及するためのワークショップ/セミナーをプロジェクト終了前までに開催する予定である。

[5] LF と FF の関係は本プロジェクト終了時評価報告書に記載のとおり。

[6] 技術メッセージには堆肥作成技術に限らず、土壌肥沃度向上の必要性や、土壌特性を踏まえた施肥とその際の堆肥施用の推奨、化学肥料との併用の効果なども含まれる。

３－２　評価結果の要約

（1）妥当性：高い

・マラウイ政府の農業分野における最上位の投資プログラムである ASWAp の 3 本柱の 1 つに持続可能な土地・水管理が設定されている。ムズズ ADD の LRCO、普及員、対象農家（LF、FF）の土壌肥沃度改善へのニーズにプロジェクトは応えている。

・中間レビューの結果、アウトプット 4 と 5 が 1 つにまとまり、指標が明確化されプロジェクト管理が容易となった。プロジェクトはマラウイの農業分野の普及方法として確立している LF 制度を活用し、堆肥作成・施用の普及を進めている点でアプローチの妥当性も高い。

（2）有効性：中程度

・プロジェクトは今後残りの活動が予定どおり実施されれば、プロジェクト終了までに目的を達成すると見込まれる。

・アウトプット 1～3 はプロジェクト目標達成へ貢献している。アウトプット 4 は上位目標達成への布石でもあるが、活動の推進、完了が待たれている。

（3）効率性：中程度

・アウトプット 1～3 はある程度達成されている。プロジェクトは今後アウトプット 4 の達成に向け動き出す予定。

・日本側投入はプロジェクト開始当初の専門家派遣や機材設置の遅れなどが全体の進捗に影響を及ぼした。

・マラウイ側の資金的投入不足は現場での普及活動に大きく影響を及ぼしている。ルニャングワ農業試験場は主に日本側からの投入（化学薬品費、労働者傭上費など）により運営されている。

（4）インパクト：中程度

・上位目標の達成は、LRCD の予算配賦へのコミットメント次第である。予算が確保されればある程度プロジェクトで推進している技術の普及は見込まれる。

・プロジェクトが推奨する技術は既にいくつかの NGO で適用されている。

・プロジェクトが推奨する有機肥料の適用は環境へのプラスのインパクトを意図しているものであり、堆肥による土壌肥沃度改善の実証と分析がプロジェクトによって実施されている。

・マイナスのインパクトは特に確認されなかった。

（5）持続性：中程度

・政策面：MoAIWD の最も中心的な投資プログラムである ASWAp の 3 本柱の 1 つに持続可能な土地・水管理が設定されている。SLM 技術推進への政策的後押しは継続すると見込まれる。

・体制面：LRCO から FF に至る普及システムは確立しているが、普及員の充足率は全国で 64%であり、課題は残る。ルニャングワ農業試験場には 1 名研究員が配置されたが、

増加する土壌分析ニーズに十分対応できるか課題となり得る。

・財政面：これまでのプロジェクト実施において予算面で日本側に依存してきた状況を踏まえると、今後の活動を維持する予算の確保は LRCD と DAES のコミットメント次第と見込まれる。ルニャングワ農業試験場の土壌分析による収益のうち 80%が正式に試験場に入ることになれば同組織の分析サービス事業の持続性は高まる。

・技術面：試験場の技術は維持されると見込まれるが職員の異動も頻繁であり、新入職員への技術移転には不安が残る。プロジェクトが研究、普及してきた技術は地元で得られる材料を用いているが、家畜糞や水の入手など地域によって厳しいことも確認された。

・C/P、T/G のオーナーシップ：県、普及員、農家レベルのプロジェクトが移転した技術の維持への意欲は高い。農家は FF への指導も継続すると表明している。一方、ムズズ ADD の運営管理体制の強化は、将来の技術維持発展に向け大きな課題である。

３－３　効果発現に貢献した要因

（1）計画内容に関すること

PDM の改訂により、アウトプット 4 と 5 が整理され、より運営管理がしやすくなった。

（2）実施プロセスに関すること

プロジェクトでは、研究プロトコルによる圃場実証レビュー会合を 2014 年 9 月に各対象県で初めて開催した。会合でプロジェクトは、前年作付け期の進捗と次年度作付け期の計画を発表した。本会合を通じ、関係者のコミュニケーションは改善し、特に LF のプロジェクトに関する理解が深まった。

３－４　問題点及び問題を惹起した要因

（1）計画内容に関すること

プロジェクト前半は日本側、マラウイ国側双方の人材の要員計画が十分でなく、適時配置が困難であった。

（2）実施プロセスに関すること

本調査団は中間レビュー時同様、現在もプロジェクト管理チーム（Project Management Team：PMT）内でコミュニケーションに改善の余地があることを確認した。

３－５　結論

プロジェクトは堆肥作成・施用技術の科学的検証と農家への普及をつなぐという意味において価値あるものである。活動は PDM 改訂版に沿って進捗し、プロジェクト目標は残りの活動が予定どおり実施されれば達成されると見込まれている。

土壌/堆肥分析サービスが北部地域で開始された点はプロジェクトの大きな成果である。今後ムズズ ADD のオーナーシップにより普及活動が進められることが期待され、それはプロジェクトの持続性につながるものである。

また、5 項目評価についても中程度もしくは高い判定結果に至った。

上記の現状を踏まえ、調査団は本プロジェクトが予定どおり終了することが適切である、と

の結論に至った。

３－６　提言

(1) 今後の活動計画の策定（協力期間中、協力終了後）

技術資料の作成、SMS や普及員の能力強化、SLM 技術の全国普及に向けた活動など今後一層加速化が求められる活動が残されているため、①協力期間中、②協力終了後に実施すべき活動を具体化し、活動計画を策定することが求められる。上記活動計画の策定はマラウイ側が中心となり、本評価終了後 1 カ月以内に作成するとともに、個々の活動の進捗管理を行っていくべきである。また、成果がまとまった段階で ASWAp の関係ワーキンググループなどの場で積極的に発信していくことが求められる。

(2) 持続性の向上

1) SLM 技術の全国への普及

マラウイ側予算の不足が大きな不安材料となっているため、関係部局が連携してマラウイ政府の他のプログラム/プロジェクト等から必要な予算を確保するよう働きかけていくことが求められる。また、SLM 技術の普及を推進する他機関との連携の可能性を具体的に探っていくことも必要である。

2) ルニャングワ農業試験場における継続的な活動

土壌/堆肥分析サービスに関してルニャングワ農業試験場では分析料の徴収を開始したが、これは今後の分析活動の持続性を高めるうえで有効である。ただし、現状では分析料の徴収を通じて十分な資金を確保できるか不透明である。また圃場堆肥試験に関しては今後の予算措置のめどが立っていない。したがって、SLM 技術の普及と同様にマラウイ政府の他のプログラム/プロジェクト等から必要な予算を確保するよう働きかけていくことが求められる。

(3) 技術資料の作成

1) 作成すべき技術資料の明確化

プロジェクト活動の成果を基に①どのような技術資料を、②だれ向けに、③いつまでに、④どれくらい作成するのかを明確にするとともに、スケジュールを具体化することが求められる。なお、上記プロセスはマラウイ側の主体的な取り組みの下で進められることが望まれる。

2) 農民にも分かりやすい SLM に係る技術メッセージの取りまとめ

SLM 技術が農民に取り入れられるよう、分かりやすさとメッセージ性を意識するなど農民にも理解できるものとするよう十分に配慮する必要がある。

(4) ムズズ ADD の主体性の強化

プロジェクト活動の中心は研究から技術資料の作成や普及に軸足が移りつつあることもあり、ムズズ ADD の役割は一層重要性を増している。また、ムズズ ADD は協力終了後の活動の実施・全国に向けた拡大において中心的な役割が期待されている。したがって、今後はムズズ ADD が中心的な役割を果たしたうえでプロジェクト活動に係る計画立案、

実施及びモニタリングなどを進めていくことが求められる。

(5) 提言事項の進捗の確認

上記提言事項の進捗を定期的に確認するためマラウイ側が中心となりプログレスレポートをまとめ LRCD の局長宛に提出することを想定している。各提言事項の進捗の確認は協力終了までにとどまらず、活動の持続性及び SLM 技術の幅広い普及を担保するため、協力終了後もマラウイ側により継続的に実施していくことが望まれる。

(6) 上位目標の見直し

現行 PDM Ver.2 の上位目標には、実現可能性が不透明な過大な指標が含まれていた。したがって、現実的な指標を設定するべくマラウイ側調査団と協議を行い、改定案を取りまとめた（付属資料 9 参照)。

３－７　教訓

(1) 農業分野案件におけるプロジェクト期間の設定

農業分野では作付け期の数がプロジェクトの目標達成への制約となり得る。特に本プロジェクトのように実証を通じて新しい技術を開発する場合、作付け期数は重要な要素である。実際、マラウイは一期作であり、2014 年に発生した干ばつは一部のプロジェクト活動へ多大な影響を及ぼし、進捗に遅れが生じた。農業分野のプロジェクト形成においては、農作期の数を考慮して、十分な協力期間が確保されること、または協力期間中の農作期で達成できる範囲の活動の枠組みに設定することなどに留意することが肝要である。

(2) 人材確保の必要性

本プロジェクトは土壌・施肥試験及び圃場試験の実施、同試験を経て得られた堆肥を中心とする持続可能な土地管理技術の専門技術員、普及員及び農民への普及を進める案件であった。しかし、当該分野で活躍する日本人人材は極めて少なく、人材確保に時間を要したため、プロジェクト活動が軌道に乗るまでに時間を要した。今後は人材のめどをある程度つけたうえで協力枠組みを固めることが肝要である。

Summary of the Results of Evaluation Study

I. Outline of the Project	
Name of Country: The Republic of Malawi	Project Title: Sustainable Land Management Promotion (SLMP) Project
Issue/Sector: Agriculture Development	Cooperation Scheme: Technical Cooperation Project
Office In-Charge: Agricultural and Rural Development Group 2, Rural Development Department, JICA	Cost: 395million yen
The Project Period: November 2011– November 2015 (four (4) years)	Partner Country's Implementing Organization: Land Resource Conservation Department (LRCD) of Ministry of Agriculture, Irrigation and Water Development (MoAIWD)
	Related Institutions (Japan): --

1-1. Background of the Project

In the Republic of Malawi (hereinafter referred to as "Malawi"), 80% of the working population is engaged in agriculture, and more than 90 % of them are small farmers. The mean farmland area per household is around 0.8ha. The agricultural productivity is generally low because of the access to input agricultural materials or farming techniques, infrastructure such as irrigation facilities are limited. The national poverty ratio is very high (50.7%) in 2011, and, in particular, the value in rural areas (56.6 %) is much higher than that in urban areas (17.3 %)[1].

For resolving these issues, the Malawian Government formulated "Agricultural Sector Wide Approach (hereinafter referred to as "ASWAp")" in 2009, and has placed the dissemination of Sustainable Land Management techniques (hereinafter referred to as "SLM techniques") as one of the key issues in the development policy. The SLM techniques are consisted of soil fertility improvement, soil and water conservation, conservation agriculture, rainwater harvesting, and agroforestry. It is intended that farmers take proper techniques to meet each situation in their fields to improve their soil fertility and agricultural productivity. The Sustainable Land Management Promotion Project (hereinafter referred to as "the Project") focuses to soil fertility improvement in the SLM techniques.

Although Ministry of Agriculture, Irrigation and Water Development (hereinafter referred to as "MoAIWD") supports agricultural production through subsidies for quality seeds or fertilizers to farmers, the agricultural inputs are severely in shortage. While utilization of compost and prevention of soil erosion are required to improve agricultural productivity under the situation, but the techniques are not sufficiently prevailed up to the present.

Under these circumstances, the Project has been implemented since November 2011 as 4 years project based on the agreement between MoAIWD and Japan International Cooperation Agency (hereinafter referred to as "JICA"). Before the completion of the project period (November 2015), this terminal evaluation study has been carried out for evaluating the degree of achievement of the Outputs and the Project Purpose, etc.

1-2. Project Overview

(1) Overall Goal: Appropriate Sustainable Land Management (SLM) techniques are diffused to nationwide.
(2) Project Purpose: Capacity of MoAFS to diffuse appropriate SLM techniques is enhanced.
(3) Outputs:

1) Institutional and human capacity for soil and/or compost testing, and skills for field test in Mzuzu ADD are improved.
2) LRCD SMSs and extension agents in Mzuzu ADD are equipped with the SLM techniques.
3) Compost making and application techniques are applied by pilot site farmers.
4) Measures to diffuse the SLM techniques nationwide are provided.

(4) Target Areas:4 districts (Rumphi, Mzimba N/S, Nkhata-Bay) in Mzuzu ADD (Northern region of Malawi)
(5) Implementing Agency: LRCD involving Department of Agricultural Research Services (DARS and Department of Agricultural Extension Services (DAES) under MoAFS, Government of Malawi

[1] National Statistics Office (NSO)Statistical Year Book, 2012 P.90

(6) Inputs:

Japanese Side: (total 395 million Yen)

Long-Term Experts: 2 persons — Equipment: 32million yen

Short-Term Experts: 8 persons — Local Operation Cost: MWK150,252,191.98 (42million yen)

Training in Japan for Counterpart Personnel: 3 participants

Malawian Side(Total budget: MWK36,030,202 (9,944 thousand Yen)

Disbursed up to April 2015: MWK17,907,790 (4942 thousand Yen) for Counterpart (23 personnel) ,Office space, and equipment for compost making

II. Evaluation Team

Malawian Side	Mr. Mr. Lloyd Liwimbi (Team Leader), Chief Agricultural Research Scientist, Chitedze Agricultural Research Station, DARS, MoAIWD Mr. Thaf Mlebe (Evaluation), Economist, LRCD, MoAIWD Ms. Beatrice Mbakaya (Evaluation), Chief Agricultural Extension Officer, Mzuzu Agricultural Development Division (Mzuzu ADD), MoAIWD
Japanese Side	Mr. Shinjiro AMAMEISHI (Team Leader), Director, Team 4, Rural Development Group 2, Rural Development Department Japan International Cooperation Agency (JICA) Mr. Shunsuke TAMURA (Plan Management), Special Advisor, Rural Development Group 2, Rural Development Department, JICA Ms. Kazuko SHIRAI (Evaluation Analysis), Consultant, Kaihatsu Management Consulting, Inc.

Period of Evaluation	April – May 1, 2015	Type of Evaluation: Terminal Evaluation

III. Results of Evaluation

1. Project Performance

1-1.Achievement of Outputs

Since the Mid-term Review was conducted in March 2014, the Project has implemented its activities in line with the revised PDMVer.2 and PO, and achieved the goals of Output1～3. Output 4 is expected as implemented by the end of the Project as follows:

The Output 1 relating to research development is achieved as following detailed evaluation results:

- A Manual for soil and compost analysis techniques was drafted.
- Technical recommendations and messages on compost application for soil fertility improvement will be compiled by the end of the Project
- Lunyangwa ARS started to provide soil and compost analysis services requested from varieties of entities.
- In accordance with the research protocol, nearly 1,700 of growth and harvest data on the effects of compost have been collected from research stations and LFs.
- Although the trend in soil fertility in the 2014/15 crop season has been under analysis, crop stands in LFs' trial plots are visibly improved even in the serious drought of this season.

The Output 2 relating to extension is partially achieved as follows:

- Training for 585 of Mzuzu ADD officers, District officers, Technical staff, and Extension agents has been conducted.
- Training modules, titled "Training Module for Field Trails on Compost Making & Application Trials" was drafted up to the third version.
- LRCD SMSs in Mzuzu are trained on the SLM techniques through the project activities in collaboration with the Japanese experts and training in Japan.
- With self-confidence, LRCOs in target districts instruct compost related techniques for extension agents in the fortnight training.

The Output 3 relating to capacity development of leader farmers (hereinafter 'LFs') is expected to be achieved by the end of the Project.

- After receiving training on three kinds of compost making in July 2013, 45 (91%) of 49 LFs in 2013/14

season, and 42 (86%) LFs in 2014/15 season prepared the SLMP demonstration trials.

- Inadequate monitoring and follow up, inaccessibility of materials and water, and lack of labor for manure production caused some dropouts of LF.
- AEDOs hold Field Days in which LFs demonstrate their trial plots to other farmers. Some of those farmers become FFs and receive instruction from LF on how to make and apply manure compost.
- LFs have recognized improvement of crop stands this year even in the serious drought.
- Precise number of farmers in Mzuzu ADD is not surveyed by the Project.

The Output 4 relating to dissemination of SLM techniques is expected to be achieved by the end of the project period as following detailed evaluation results:

- The Project plans to hold a seminar/workshop nationwide on compost making and application for LRCD SMSs by the end of the Project.
- The Project will present the results and achievement of the Project at the Sustainable Land and Water Management Technical Working Group of ASWAp.

1-2.Achievement of the Project Purpose:

Project Purpose is expected to be achieved if the rest of activities are implemented as planned with following factors:

a. The Project will compile the result of 2014/15 crop season into the SLM technique handbook.
b. Distribution of the reviewed handbook to 28 districts' LRCD and Extension SMS may not be reachable by the end of the Project. On the field, LRCOs already utilizes the Technical Information Series when they train extension agents in the fortnight training.
c. Since its establishment in 2012, Lunyangwa ARS has delivered soil and compost testing in Northern region.
d. Feed backing of the results to farmers still remains as a challenge.

1-3. Implementation Process

The Joint Coordination Committee (JCC), as the highest decision-making mechanism of the Project, was held three times to date, including the latest JCC on April 29, 2015 for discussion of result of the Terminal Evaluation including revision of the indicators of Overall Goal in PDM ver.2.

In addition to JCC, the Project has held the Field Operation Review & Planning Meeting among the officers in Mzuzu ADD, research staff at Lunyangwa ARS, and Japanese experts. Internal Meeting between the Japanese experts and the staff members is also held every Monday morning.

2. Summary of Evaluation by Five Criteria

(1) Relevance: High

- SLM techniques have been one of three pillars in the ASWAp which is the highest policy of the GoM.
- The Project's objectives to enhance capacity of MoAIWD staff to diffuse compost techniques has fulfilled the needs of LRCOs, extension agents as well as LF and FF for improvement of soil fertility and maize production.
- LF approach is appropriate to supplement extension agents.

(2) Effectiveness: Medium

- The Project Purpose is expected to be achieved by the end of the Project.
- Achievements of outputs 1～3 have contributed to achievement of the Project purpose.
- Output 4 will be achieved by the end of the Project.

(3) Efficiency: Medium

- Output 1～3 have been almost achieved.
- Output 4 will be achieved before the end of the Project if all the rest of activities are conducted as planned.
- There were delays of inputs from Japanese side.
- There is lack of budget of Malawian side.

(4) Impact: Medium

1) Prospect of Achievement of the Overall Goal

Prospect of achievement of the Overall goal largely depends on the commitment of MoAIWD/districts to secure sufficient budget.

2)Impact on Policy

No particular impact on Policy was identified.

3)Impacts on Environment, Economic and Society

Economic impact was observed on farming by LFs since it has reduced the cost for chemical fertilizer.

4) Negative impacts

There was no negative impact identified at the time of the evaluation.

(5) Sustainability: Medium

1) Policy Aspect

The GoM will continue to promote SLM technologies including compost making and application based on ASWAp.

2) Institutional Aspect

The extension system is well established in Malawi, in which compost techniques are expected to be disseminated from LRCO to LFs, FFs and ordinary farmers through extension agents.

3) Financial Aspect

Financial aspect is challenge for sustainability.

4) Ownership of C/P and Target Group

Ownership of LRCO, AEDO, and T/G (LF) is high. They showed their will to maintain compost making/application techniques obtained by the Project.

5)Technical Aspect

The techniques that the Project has transfer is not too high and utilized nationwide. The Project has developed compost making techniques with utilizing local material.

3. Factors Promoting Better Sustainability and Impact

(1) Factors Concerning to Planning

The revision of PDM was effective to make all the indicators suitable to farmers' level. The Project implemented its activities more smoothly with clear goals after setting the improvement plans for agriculture and water management activities.

(2)Factors Concerning to the Implementation Process

The First Project Review Meeting held in each district in September 2014 functioned to enhance understanding on the project objectives and roles of LFs.

4. Factors Inhibiting Better Sustainability and Impact

(1) Factors Concerning to Planning:

After the Mid-term Review, revised PDM has become the common directions among the Project Management team (PMT).

(2)Factors Concerning to the Implementation Process:

There is a still room to improve communication among the PMT.

5. Conclusion

As a valuable project covering laboratory research services and extension services on the field, the team confirmed that the Project has so far been implemented in line with the revised PDM, and progressed to achieve the Outputs and the Project Purpose.

Attaining the soil test services in the northern region, all the rest of activities for dissemination of composting technique are expected to be implemented with the initiatives of Mzuzu ADD, which confirm sustainability of the Project.

Considering these factors, the Team concluded it was reasonable that the Project would be completed as scheduled.

6. Recommendations

(1) Making action plans

In order to achieve the Project Purpose and the Overall Goal, it is recommended to materialize future activities as concrete as possible and make detailed action plans for (a) the remaining project period and (b) after the completion of the project, under the ownership of Malawian counterpart. Especially, dissemination and extension plans of the SLM techniques are essential. DAES is recommended to make the plans together with LRCD as soon as the "technical messages" is finalized.

(2) Ensuring sustainability

1) For extension/dissemination activities

It is recommend that relevant Departments/Divisions should work together to secure the necessary budget by utilizing the fund of other Government programmes /projects related SLM and seek to collaborate with other stakeholders such as NGOs in order to expand the outputs created by the Project.

2) For the activities of Lunyanguwa ARS and its substations

Regarding soil and compost analysis services, the Lunyangwa ARS has started collecting service charge from clients except small-holders via Extension Agents. As 80% of service charge is supposed to be utilized for the ARS's activities. However it is still uncertain whether it secures sufficient financial resource for future activities. Regarding compost trial activities, the budget has not yet been fully secured.

It is recommended to ensure necessary budget for continuation of above activities from the Government programmes /projects, as well as for above-mentioned extension/dissemination of the SLM techniques.

(3) Output materials

1) Clarifying the technical materials to be made

It is recommended the Project clarifies the 4 points: (a) what kind of technical materials will be made, (b) for whom (Researchers, LRCD SMSs, Extension Agents and farmers), (c) when and (d) how many sets and set the schedule. It is hoped that these will proceed under the leadership of the Malawian counterpart.

2) Making the "technical messages on SLM techniques" for easy understanding by farmers

It should be noted that the "technical messages" be easily understandable for farmers, namely drawing with simple and impressive messages, so that farmers can understand their effectiveness and apply for them through their farming activities.

(4) Strengthening ownership of Mzuzu ADD

The Mzuzu ADD at Mzuzu management unit level (both land resource conservation and extension divisions) is expected to take the lead in planning and implementing the Project activities and conducting monitoring to measure the progress, etc.

It is recommended that Mzuzu ADD at Mzuzu management unit level should enhance their ownership for the Project, so that the Overall Goal "appropriate SLM techniques are diffused to nationwide" can be achieved.

(5) Monitoring the recommendations

The progress of the implementations of the recommendations mentioned above should be monitored and reported on regular basis by making progress reports. The progress report should be made under the ownership of the Malawian side and submitted to the Director, LRCD for securing sustainable activities and extension / dissemination of the Project outcomes.

(6) Revising the overall goal of PDM

The present indicators set for the Overall Goal are considered beyond the actual achievable level. Therefore it is recommended that the present indicators for the Overall Goal be replaced with newly proposed realistic ones, which are shown in attached Annex 9.

7. Lessons Learned

(1) Setting an Appropriate Project Period

In agricultural sector, the number of crop season might become a limiting factor for the achievement of the original target, in particular the projects like SLMP that new techniques are supposed to be developed through the field trials. Since the cropping season is only once a year and in 2014 the target areas were hit by the dry spell, a part of the Project activities is lagging behind the original schedule.

A lesson learnt through the Project is that, taking into account the number of crop season, sufficient technical cooperation period should be secured in formulating the project in agricultural sector.

(2) Allocation of human resources

The Project aims to implement on-farm and on-field soil/manure trials, and to disseminate techniques on compost making and application to extension agents and farmers. Since appropriate human resources were not available from Japanese side, it took long time for the Project to implement its activities smoothly at the early time of the project period. It is necessary to confirm a project framework after arranging human resources to some extent so as to commence and implement the Project without delay.

第１章　終了時評価調査の概要

１－１　調査の背景と目的

（1）調査団派遣の背景

マラウイの総労働人口の約 80%は農業セクターに従事し、その 90%以上は 1 世帯当たりの平均農地面積が約 0.8ha の小規模農民である。種子や肥料などの農業投入資材、土壌保全・肥沃度向上の技術、灌漑や水管理技術などへのアクセスが不十分であることから農業生産性は総じて低い。このため、乾期には食料不足に陥る農村住民も多く、国家レベルでも重大な食料危機がしばしば発生している。近年は農業用投入資材補助金プログラム（Farm Input Subsidy Program：FISP）に加え、好天に恵まれたこともあり主食のメイズが自給を達成するなど食料事情に改善がみられたが、ここ数年再び食料不足が問題となっている。貧困率は 51%（2011 年）と依然として非常に高く、特に農村部では 56%と都市部の 17.3%に比べて著しく高い。国内の貧困を削減するため、全国的な農業生産性の向上・安定化が急がれている。

このような課題に対応するため、マラウイ政府は 2009 年に農業セクター・ワイド・アプローチ（Agriculture Sector Wide Approach：ASWAp）を策定し、そのなかで開発政策の 1 つとして持続可能な土地管理（Sustainable Land Management：SLM）技術の普及を重点課題に位置づけている。SLM 技術は、土壌肥沃度改善、土壌・水保全、保全型農業、雨水利用、アグロフォレストリーから構成される。農家が圃場でこれらの技術を組み合わせて適用することにより、地力の向上・維持と農業生産性の向上を図ることを目的としている。

農業・灌漑・水開発省（Ministry of Agriculture, Irrigation and Water Development：MoAIWD）は、FISP による農家に対する優良種子や化学肥料の安価での提供などを通じて農業生産を支えているが、農業投入資材の供給量は圧倒的に不足している。化学肥料などの投入が限られ、化学肥料による土壌の劣化が問題となるなかで農業生産性を向上させるためには、堆肥の適用や土壌流出の防止が特に重要となるが、MoAIWD はそうした地力向上・維持に必要な技術を十分に普及できていない。

このような背景から、マラウイ政府は SLM の普及を進めるための技術支援をわが国に要請した。本要請を受け、JICA は、MoAIWD 土地資源保全局（Land Resources Conservation Department：LRCD）をカウンターパート（Counterpart：C/P）機関として、2011 年 11 月から 2015 年 11 月までの 4 年間の予定で持続可能な土地管理促進プロジェクト（以下、「本プロジェクト」と記す）を実施している。

本プロジェクトは、ルニャングワ農業試験場とも協力しながらマラウイ北部のムズズ農政局（Agricultural Development Division：ADD）管轄地域を対象として実施している。土壌肥沃度改善に重点を置きながら、科学的に裏づけされた土壌肥沃度改善技術の開発を行い、MoAIWD の農民に対する指導能力強化をめざしている。

（2）調査団派遣の目的

本終了時評価調査では、2015 年 11 月のプロジェクト終了を控え、MoAIWD と合同でプロジェクト目標や成果の達成状況を検証し、評価を行う。また、評価結果に基づき、プロジェクト終了までの活動計画・活動実施における留意事項やプロジェクト終了後にマラウイ政府

側が行うべきことを検討し、提言や教訓を抽出することを目的とする。

１－２　調査団の構成

終了時評価調査はマラウイと日本の合同評価団によって実施された。評価団員の構成は以下のとおりである。

（1）マラウイ側評価団員

担当分野	氏　名	所　属	現地調査期間
団長	Mr. Lloyd Liwimbi	MoAIWD、農業研究サービス局/チテゼ農業試験場チーフ農業研究科学者	4/20～4/29
団員	Mr. Thaf Mlebe	MoAIWD、土地資源保全局　エコノミスト	4/20～4/29
団員	Mrs. Beatrice Mbakaya	MoAIWD、農業普及サービス局/ムズズ農政局 チーフ農業普及主任官	4/20～4/29

（2）日本側評価団員

担当分野	氏　名	所　属	現地調査期間
団長	天目石 慎二郎	JICA 農村開発部 農業・農村開発第二グループ第四チーム 課長	4/20～5/1
計画管理	田村 俊輔	JICA 農村開発部 農業・農村開発第二グループ第四チーム 特別嘱託	4/20～5/1
評価分析	白井 和子	株式会社かいはつマネジメント・コンサルティング	4/13～5/1

１－３　調査日程

終了時評価調査は 2015 年 4 月 13 日から 5 月 1 日にかけて実施された。詳細日程は付属資料 1 を参照。

１－４　主要面談者

終了時評価調査団が調査期間中に面談・聞き取りを行った主要な関係者は表－１のとおりである。

表－１　主要面談者一覧

氏　名	所　属	職　位
Mr. J.J. Mussa	農業・灌漑・水開発省・土地資源保全局	局長
Mr. Banda	同省・土地資源管理局	副局長
Ms. Stella Kankwanba	同省・農業普及サービス局	局長
Ms. A.P. Moyo	ムズズ農政局	局長
Mr. Gilbert Kupunda	ムズズ農政局	土地資源管理チーフ・オフィサー

Ms. Emily Therah	ムズズ農政局	土地資源管理オフィサー
Mr. Oswald Mulenga	ルンピ県	土地資源管理オフィサー
Mr. F.J. Gondwe	ムジンバ北県	シニア・土地資源管理オフィサー補佐
Mr. D.J. Kaonga	ムジンバ南県	シニア・土地資源管理オフィサー補佐
Mr. B. Msowoya	ンカタベイ県	シニア・土地資源管理オフィサー補佐
Dr. Wilfred Chilimba	ルニャングワ農業試験場	研究所代表
Mr. C. Chisambi	ルニャングワ農業試験場	土壌課長
Mr. C. Gondwe	チェナチェナ農業試験支場	農業研究員補佐
Mr. M. Moyo	ムコンデジ農業試験支場	シニア・研究員補佐
鈴木　篤志	JICA 専門家	チーフアドバイザー
松井　直弘	JICA 専門家	土壌調査・試験計画
杉浦　伸郎	JICA 専門家	業務調整（長期）
Mr. Mahara Nyirenda	The Development Fund of Norway（DF）	プログラム・オフィサー

１－５　プロジェクト概要

（1）協力期間：2011 年 11 月～2015 年 11 月（4 年間）

（2）実施機関：農業・灌漑・水開発省 土地資源保全局（LRCD, MoAIWD）
協力機関：同省農業研究サービス局（DARS）
同省農業普及サービス局（DAES）

（3）対象地域：ムズズ農政局（ムズズ ADD）管内の 4 県（ルンピ、ムジンバ北、ムジンバ南、カタベイの各県）

◆プロジェクト概要

上位目標

適切な持続可能な土地管理技術（SLM 技術）[1]が全国に普及される。

プロジェクト目標

適切な SLM 技術を普及するための農業食料安全保障省（MoAFS)[2]の能力が向上する。

アウトプット

アウトプット１：ムズズ農政局（ADD）における土壌・堆肥試験や圃場試験実施のための組織的・人的キャパシティが向上する。

[1] ここでは、本プロジェクトで科学的に整理され、推奨される堆肥の作成・施用技術に限定していう。
[2] 現在では、農業・灌漑・水開発省（MoAIWD）に改編されているが、PDM上では合意当初の省名を使用する。

アプトプット２：ムズズ ADD の土地資源保全局（LRCD）の専門技術員と普及員が SLM 技術を習得する。 アウトプット３：堆肥作りと施肥技術がパイロットサイトの農家によって適用される。 アウトプット４：SLM 技術を全国に普及するための方策が示される。

第２章　終了時評価の方法

２－１　評価手法

本終了時評価では、土地資源保全局（LRCD）をはじめ、農業研究サービス局（Department of Agricultural Research Services：DARS)、農業普及サービス局（Department of Agricultural Extension Services：DAES）職員、リード・ファーマー（Lead Farmer：LF)、日本人専門家など、さまざまな関係者への聞き取り調査と現地踏査を実施した。

合同評価

日本・マラウイ国側双方の評価者は合同で、討議議事録（Record of Discussions：R/D)、プロジェクト・デザイン・マトリックス（Project Design Matrix：PDM)、活動計画（Plan of Operations：PO）に基づき、本プロジェクトの評価を実施した。評価分析、現地踏査や関連機関のスタッフ、受益者、日本人専門家などへの聞き取り調査を含む評価活動では、評価 5 項目による評価手法を用いた。合同評価団は、日本側 3 名、マラウイ側 3 名で構成された。

２－２　評価 5 項目

評価 5 項目を表－２に示す。

表－２　評価５項目

項　目	内　容
妥当性	プロジェクトのターゲットグループ（Target Group：T/G）のニーズへの整合性、プロジェクト内容の先方政府と援助側の政策や優先順位との整合性、プロジェクトの戦略やアプローチの妥当性に関する視点。
有効性	プロジェクトの達成見込みと、その達成がアウトプットの達成によりもたらされているかに関する視点。
効率性	アウトプットの達成状況と投入がいかにアウトプットの達成に転換されているか（量的、質的観点）に関する視点。ほかのアプローチと比して最も効率的な方法を適用しているかも必要に応じ問う。
インパクト	上位目標の達成見込みと、プロジェクトの直接/間接的影響。正/負、予期した/予期していない影響も確認する。
持続性	プロジェクト終了後にプロジェクトがもたらす影響と持続性を問う視点。

２－３　情報・データ収集方法

主な情報・データ収集方法を表－３に示す。

表－３　主な情報・データ収集方法

1	R/D、PDM、Minutes of Meetings（M/M）
2	半期ごとプロジェクト報告書
3	プロジェクト進捗報告書など

4	投入実績
5	日本人専門家への聞き取り調査と協議
6	C/P への聞き取り調査と協議
7	現地踏査及び受益者への聞き取り調査と協議

２－４　評価に使用した PDM、PO、評価グリッド

本終了時評価に使用した現行の PDM Ver.2（2014 年 2 月改訂版）、PO 及び評価グリッド（和文・英文）を付属資料 2～5 に示す。

第３章　プロジェクトの達成状況

３－１　投入実績

（1）日本側投入実績

調査団は PDM Ver.2 及び PO に基づき、下記の投入をもってプロジェクトを実施中であると確認した。詳細は付属資料 6 を参照のこと。

1）専門家派遣

本プロジェクトにはこれまで延べ 2 名の長期専門家（①業務調整/普及、②業務調整）に加えて、8 名の短期専門家〔①チーフアドバイザー/土壌肥沃、②チーフアドバイザー、③チーフアドバイザー/普及、④土壌調査/計画（2 名）、⑥ベースライン調査-全国、⑦ベースライン調査-対象地、⑧作物管理/施肥〕が派遣されている。

2）研修（本邦研修）

これまで、3 名の C/P が土壌分析技術と持続的土地管理をテーマとした本邦研修に参加した。

3）機材供与

これまでに、車両 1 台、プロジェクト事務所及び対象県農業事務所用パソコンなどの事務機器、土壌検査機器など合計で約 3,202 万円相当の機材を供与した。

4）現地業務費支出

これまでに、セミナー/ワークショップ開催費、ルニャングワ農業試験場の堆肥作成用の作業員及びプロジェクトスタッフ傭上費、C/P の交通費などを含む在外事業強化費が合計 MWK150,252,191.98（約 4,147 万円）支出された。

（2）マラウイ側投入実績

1）C/P の配置

マラウイ政府は、本プロジェクトの C/P として延べ 23 名（LRCD、DAES、DARS 各本部、ムズズ ADD、4 県農業事務所、ルニャングワ農業試験場、農業試験支場）を配置した。その後、異動、留学などの理由により C/P は減少し、現在 16 名が配置されている。

2）施設・設備の提供

マラウイ政府はムズズ ADD 内に、プロジェクトオフィスを 1 室、専門家執務、会議などのため提供している。ムズズ ADD 内施設（会議室など）も利用されている。

3）プロジェクト運営費

2011 年～2015 年 3 月末まで、マラウイ側は C/P 職員給与、堆肥作成用備品などについて、年次予算額 MWK36,030,202（9,944,335 円）を計上し、2015 年 4 月までに MWK17,907,790（4,942,550 円）を負担した。

３－２　活動の進捗状況

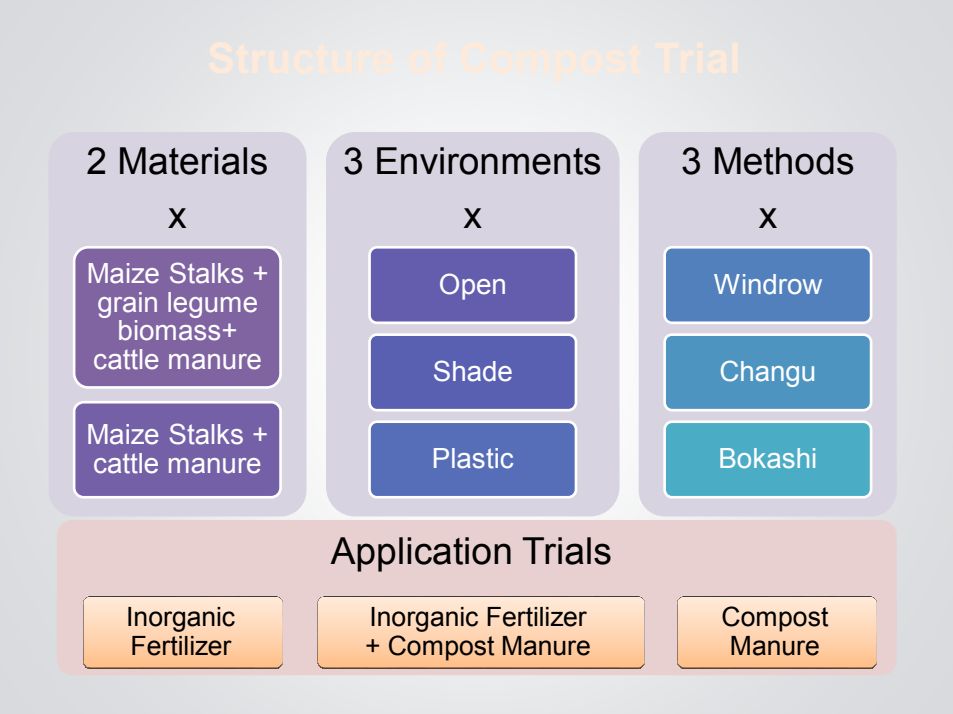
2014 年 2 月に実施された中間レビュー以降、PDM Ver. 2 及び PO に沿って実施されており、特にアウトプット 1～3 の活動には進捗がみられる。アウトプット 4 達成のための活動は本調査終了後からプロジェクト終了前まで実施される予定。主に中間レビュー以降の堆肥作成と施用試験・分析に関する活動の進捗は以下のとおりである。

2013 年 6 月に作成された研究プロトコルに基づいて、メイズを対象作物とし、2 種類の材料、3 つの異なる環境、3 種類の堆肥の組み合わせによりメイズの生育を比較する「第 1 試験」が 2013/2014 作期において実施された。

研究プロトコルに基づく試験と併せ、2014/2015 作期では化学肥料と堆肥の割合を変えて比較する「第 2 試験」も日本人専門家の発案によって実施されている。試験結果は第 1 試験よりもメイズの生育に明確に違いが出ており、環境の異なる 4 つの試験場で堆肥と化学肥料と混合する効果が確認されている[3]。2014/2015 作期の試験場では、堆肥材料もコメの籾、木の葉などさまざまな植物残渣を使用し比較する試験も追加している。LF は 2013/2014 作期と同じ実証試験を行い、昨期と今期の比較を行っている。

堆肥試験概要は図-1 のとおり。3 カ所の農業試験場では 18 種～32 種、LF 圃場では 16 種程度の組み合わせによる実証試験が行われている。

図－１　プロジェクト堆肥試験概要



出所：SLMP プロジェクトチーム作成（2015 年 4 月）

2013/2014 作期の試験はルニャングワ農業試験場、ムブワ、ンコンデジ、ボレロ、チェナチェナ農業試験支場で実施されたが、ボレロ、ムブワ試験支場のデータは十分収集されない、精度に欠ける、遠距離であるためモニタリングが不十分など、さまざまな問題が発生した[4]。2014/2015 作期はルニャングワ試験場、ンコンデジ、チェナチェナ試験支場にて実証試験を継続している[5]。

上記の農業試験場の実証圃場で試験的に施用されている堆肥及び土壌は、ルニャングワ農業試験場ラボにて収集・分析されている。サンプル数は後述３－３（3）のとおり、2014 年に大幅な

[3] 松井専門家報告書（2014 年 6 月～2015 年 2 月派遣分）
[4] 日本人専門家向け質問票回答
[5] 対象農業支場がボレロ、ムブワの 2 カ所削減されたのは JICA 予算削減も影響している。

伸びを示している。

堆肥作成・施用技術の普及を含むこれまでのプロジェクト活動の進捗に関する詳細については付属資料 7 を参照のこと。

３－３　アウトプットの達成状況

以下のとおり、アウトプット 1 から 3 はおおむね達成されつつある。アウトプット 4 はプロジェクト終了までに達成される見込みである。各アウトプットの達成状況は以下のとおりである。

アウトプット 1：ムズズ ADD における土壌・施肥試験や圃場試験実施のための組織的・人的キャパシティが向上する。

本プロジェクトの土壌試験実施能力向上における成果は以下のとおり達成されており、未達成の成果指標もプロジェクト終了までに達成される見込みである。

（1）指標 1-1：土壌・堆肥分析マニュアルが編纂される。

本指標はおおむね達成されている。

土壌/肥料分析技術のためのマニュアル“Lunyangwa Laboratory Manual Ver.1”のドラフトは第 3 版まで改訂されている（活動 1-6）。本マニュアルを活用し、ルニャングワ農業試験場や LF の実証圃場から土壌と肥料のサンプルが日本人専門家の指導の下、回収されている。

（2）指標 1-2：土壌肥沃度向上のための堆肥の施肥に関する提言が取りまとめられる。

本指標は協力終了までに達成が見込まれる。

メイズの実証栽培の結果に基づいた推奨されるべき技術メッセージはプロジェクト終了前までに取りまとめられる予定（活動 1-13）。

（3）指標 1-3：ルニャングワ農業試験場が土壌・堆肥分析サービスの提供を開始する。

本指標は本調査時点で達成済みである。

ルニャングワ農業試験場では、プロジェクト関係だけではなく、既に一般向けにも土壌・堆肥分析サービスが開始されている。表－４ではプロジェクト関係の土壌サンプルの分析実績、表－５ではプロジェクト関係以外の組織に対する分析実績を示す。

表－４で示すとおり、2012 年の設立以来、ルニャングワ農業試験場の土壌分析ラボではプロジェクト関係の土壌サンプルが分析されている。2014 年には前年度比 5.45 倍になるなど、サンプルの依頼数は増加傾向にある。

表－４　プロジェクト関係土壌サンプルの分析（ルニャングワ農業試験場土壌分析ラボ）

年	分析したサンプル数	サンプル採取場所
2012	139	SLMP の LF
2013	240	SLMP の LF、農業試験場、DF[6]農家
2014	1,308	SLMP の LF、農業試験場
合計	1,687	

出所：SLMP プロジェクト（2015 年 2 月）

ルニャングワ農業試験場では、上記のプロジェクト関係者からのサンプル以外にも、既にNGO や民間セクター、警察など北部地域の外部組織から 23 件の土壌・堆肥分析依頼を受け、サービスを開始している[7]。2013 年から現在までのサービス提供実績は表－５のとおり。1 要素の分析にかかる料金は MWK500（約 138 円）で、他 2 カ所の農業試験場と同じ金額に設定されている。徴収料は組織や農家の特徴によって無料/有料に分かれ、主に民間の大規模農場や警察からの依頼は有料、NGO などの組織や小農は無料と区別されている。他方、徴収の有無が不明な事案もあり、サービスに関する基本的な運営管理においてはいまだ課題があると観察される。

[6] DF：Development Fund（ノルウェーの NGO）

[7] 土壌/堆肥分析サービスを提供する農業試験場は全国でルニャングワ農業試験場を含め 3 カ所。

表－５　プロジェクト関係者以外へのサービス提供実績（ルニャングワ農業試験場土壌分析ラボ）

Organisation	Collection date	No. of samples	No. of elements	No. of analysis	Cost/element	Amount to be paid (MWK)	Status
1	12.06.14	70	7	490	500.00	245,000.00	
2	27.08.14	47	11	517	500.00	258,500.00	free
3	27.07.14	4	8	32	500.00	16,000.00	
4	06.10.14	7	7	49	500.00	24,500.00	
5	19.11.14	15	11	165	500.00	82,500.00	
6	Jan-April, 2015	312	7	2184	500.00	1,092,000.00	free
7	2013 Dec and 2014 Dec	48	7	336	500.00	168,000.00	free
8	07.11.13	3	8	24	500.00	12,000.00	free
9	07.11.13	139	7	973	500.00	486,500.00	free
10	08.07.14	64	11	704	500.00	352,000.00	free
11	20.11.14	11	2	22	500.00	11,000.00	
12	20.11.14	8	4	32	500.00	16,000.00	
13	07.11.14	18	4	72	500.00	36,000.00	
14	06.11.14	7	4	28	500.00	14,000.00	
15	07.07.14	45	5	225	500.00	112,500.00	
16	Oct-Nov, 2014	424	1	424	500.00	212,000.00	paid
17	Dec-14	5	8	40	500.00	20,000.00	free
18	27.03.15	1	3	3	500.00	1,500.00	
19	Aug-13	28	9	252	500.00	126,000.00	free
20	Apr-15	14	1	14	500.00	7,000.00	paid
21	Apr-15	2	1	2	500.00	1,000.00	paid
22	Apr-15	9	1	9	500.00	4,500.00	paid
23	Apr-15	9	1	9	500.00	4,500.00	paid
	Total	787		2,833		1,416,500.00	

出所：SLMP プロジェクト（2015 年 4 月）

（4）指標 1-4：研究プロトコルに沿った圃場試験でのデータが収集される。

本指標は本調査時点で達成済みである。

2013 年 3 月に策定された研究プロトコル“Comparison of Composting Techniques and Biomass Combinations on Quantity of Compost, Soil Fertility Improvement and Crop Yield in Mzuzu ADD”（活動 1-3）に基づき、ルニャングワ農業試験場、農業試験支場、LF の実証圃場から 2013/2014 作付け期の土壌分析のための生育と収穫に関するデータが普及員や研究農場職員の協力の下、プロジェクトにより回収された。今期（2014/15）も引き続きデータ収集を継続中（活動 1-11）。

（5）指標 1-5：プロジェクト終了時の土壌試験でデモンストレーション圃場の土壌肥沃度が増加する。

本指標は協力終了までに達成が見込まれる。

2014/2015 作期の土壌肥沃度の傾向については現在分析中である。農業試験場や LF の実証圃場でのメイズ生育を観察した結果、今期の厳しい干ばつにもかかわらず生育は昨期よりも目に見えて改善していると確認された。

アウトプット 2：ムズズ ADD の LRCD の専門技術員と普及員が SLM 技術を習得する。

本プロジェクトの専門技術員と普及員の能力向上における成果は、以下のとおり部分的に達成されている。

(1) 指標 2-1：ムズズ ADD の普及員が LF の技術サポートができるレベルまで現存の堆肥づくりと施肥技術を習得する。

本指標は一部達成されたと判断される。

プロジェクトにより開発された（活動 2-1）研修マニュアルに基づき、各県の普及員やプロジェクトの LF などを対象に 2012 年 10 月から 2015 年 2 月にかけて研修が実施された（活動 2-1～2-3)。研修では土壌サンプル採取技術、堆肥作成技術、圃場整備と堆肥施用、2014 年のレビューと今期の計画づくり、土壌診断技術が主なテーマとして取り上げられた。これまでの参加者は延べ 585 名。研修実績概要は表－６のとおり。

表－６　プロジェクトによる研修実績概要

年	日　付	場　所	内　容	参加者			
				農業普及開発員（AEDO）	農業普及開発調整員[8]（AEDC）	LF	その他
2012	10/8-11	ムジンバ	土壌サンプリング技術	-	50	-	4
2013	7 /8-10	ルンピ	堆肥作成技術	-	12	12	2
	7 /11-13	カタベイ		-	12	12	1
	7 /25-27	北ムジンバ		-	12	12	2
	7 /29-31	南ムジンバ		-	12	12	1
	11/11	ムズズ	圃場整備と堆肥の施用	-	23	-	-
	11/26-27	ムズズ		-	16	1	1
2014	9/18-19	ルンピ	昨期の振り返りと次期の計画策定	7	12	12	1
	9/24-25	南ムジンバ		9	11	12	-
	9/26-27	北ムジンバ		9	6	12	-
	9/29-30	カタベイ		5	9	10	1
2015	2/9-10	カタベイ	土壌診断技術	14（AEDC、AEDO、その他）			
	2/11-12	南ムジンバ		19（AEDC、AEDO、その他）			
	2/18-19	北ムジンバ		15（AEDC、AEDO、その他）			
	2/16-17	ルンピ		20（AEDC、AEDO、その他）			
合計				585（AEDC、AEDO、その他）			
AEDC：農業普及開発調整員（Agricultural Extension and Development Coordinator） AEDO：農業普及開発員（Agricultural Extension and Development Officer）							

出所：SLMP プロジェクト（2015 年 4 月）

[8] 農業普及開発調整員は農業普及開発員の監督者。

（2）指標 2-2：SLM 技術の研修マニュアルが編纂される。

本指標は協力終了までに達成が見込まれる。

プロジェクトは“Training Module for Field Trails on Compost Making & Application Trails”のドラフト第 3 版まで作成した（活動 2-1）。

（3）指標 2-3：ムズズ ADD の LRCD の専門技術員が SLM 技術に関する研修を受け普及員を指導できるようになる[9]。

本指標はおおむね達成されている。

県農業事務所の土地資源保全局職員（LRCO）向けの研修やワークショップ（活動 2-5）をプロジェクトでは実施していないが、LRCO はプロジェクト開始後から現在まで日本人専門家と協力しつつプロジェクト活動を実施してきた。彼らは活動のプロセスにおいて、適切な施肥技術の推進のための知識や経験を積み重ねている。こうした現場での活動に加え、2 県（ルンピ及びカタベイ県）の LRCO は帯広で実施された JICA 集団研修（2013 年、2014 年）にも参加し、土壌診断技術に関する知識を習得する機会も得た。集団研修で得た知識経験は SLM 技術に関する能力を大幅に向上させる結果となった。LRCO は普及員向けの 2 週間に 1 回開催される会合（兼研修[10]）や日常の業務において、自信をもって指導監督できるようになっている。

SLM 技術ハンドブックの作成（活動 2-6）は、現在進行中の試験が完成した後に本格的に開始される予定。

アウトプット 3：堆肥作りと施肥技術がパイロットサイトの農家によって適用される。

本プロジェクトの LF の堆肥作りと施肥技術能力向上は、以下のとおりプロジェクト終了までに達成される見込みである。

（1）指標 3-1：すべての LF の 80%以上が普及員より教えられた圃場試験場を設置する。

本指標は本調査時点で達成済みである。

プロジェクトは選定した 49 名の LF と各県の AEDO に対し、3 種類の堆肥の作成技術研修を 2013 年 7 月から行っている（活動 3-2）。こうして移転された技術を用い、LF は堆肥山を準備し、自らの圃場に設置した実証用の区画に 2013/14 作期及び 2014/2015 作期に堆肥を施用した。これら 2 期の LF による堆肥作成と施用に関する設置状況は表－7 及び表－8 のとおり。

[9] 各県の専門技術員（Subject Matter Specialist : SMS, LRCO と同義）は LRCD が実施する ADD レベルの研修に参加し、SLM 技術を含む個別の農業知識を習得している。四半期に 1～2 回程度、予算によって研修の開催状況は異なる。ドナーが開催する研修に参加することもある。

[10] Fortnight Meeting と呼ばれる。

表－７　2013/2014 作期（第 1 期実証）

県	LF 数		LF により作成された堆肥山数				堆肥を施用した区画数
	研修参加者数	圃場設置者数	チャング	ウィンドロー	ボカシ	合計	
カタベイ	12	8	41	47	48	136	160
ルンピ	13	13	53	34	55	142	173
南ムジンバ	12	12	40	32	64	136	209
北ムジンバ	12	12	68	20	75	163	246
合計	49	45（91%）	202	133	242	577	788

出所：SLMP プロジェクト（2015 年 4 月）

表－８　2014/2015 作期（第 2 期実証）

県	LF 数		LF により作成された堆肥山数				堆肥を施用した区画数
	研修参加者数	圃場設置者数	チャング	ウィンドロー	ボカシ	合計	
カタベイ	12	8	40	40	40	120	154
ルンピ	13	11	58	48	67	173	217
南ムジンバ	12	11	51	53	65	169	220
北ムジンバ	12	12	69	36	70	175	203
合計	49	42（86%）	218	177	242	637	794

出所：SLMP プロジェクト（2015 年 4 月）

プロジェクトの研修を受けた後、展示実証を行った LF の割合は 2013/2014 作期は 45 名（91%）、2014/2015 作期は 42 名（86%）であった。他方、LF の数は 1 年目の 45 名から 2 年目は 42 名に減少した。LF 数減少の主な理由は、不十分なモニタリングとフォローアップ、堆肥作成に必要な水や材料（特に家畜糞）の不足、労働力不足、堆肥を運ぶ交通費の支出などによるものである。

（2）指標 3-2：各 LF に教えられたフォロワー・ファーマー（Follower Farmer：FF）10 名が教えられた堆肥づくりや施肥技術を 1 つ以上自己圃場に導入する[11]。

本指標はおおむね達成されている。

プロジェクトが 2014 年 5 月に実施したアンケート調査の結果によると、多くの LF は堆肥づくりや施肥をグループ単位で行っている（活動 3-3）。グループの多くは 6～20 名のメンバ

[11] フィールド・デー（Field Day）は、作目の生育段階ごとに農家に紹介したい技術がある際、普及員、LRCO（SMS）、ムズズ ADD、農業試験場など現場のさまざまなレベルの関係者が開催する、最も一般的な普及活動。ADD と農業試験場の行政ラインは異なるが、現場では情報を交換しつつ、双方のフィールド・デー開催情報、技術の共同展示を行っている。フィールド・デーを通じた技術の伝達の流れは次のとおり。①フィールド・デーに集まった農家に対し、移転したい技術を LF や AEDO が見せ、実際自らの圃場で試したい農家は手を挙げる。②農家は AEDO とコンタクトをとる。③AEDO は LF の圃場に候補農家を呼び、実際の栽培方法を伝える。ここで FF となる農家もあり、FF へは LF による継続的な指導が開始される。フィールド・デーの参加人数は男女別に AEDO が記録している。FF 以外の一般農家で、フィールド・デーをきっかけに新しい技術を自らの圃場に適用する一般農家の数は把握されていない。

ーがおり、特に北ムジンバ県とルンピ県で活発なグループ活動が行われている。調査団による LF と FF へのインタビューでは、FF は LF から積極的に技術を学んでいることが確認された。他方、FF の数は正確な記録は残されておらず、かつ流動的である。本調査では、1 名の LF が保有する FF は 3～4 名から多い場合で 16 名以上と確認された。これらの状況から、指標 3-2 はおおむね達成されたといえる。

（3）指標 3-3：モニタリングを通じて、参加する農民の堆肥利用に関する正の効果が認識される。

本指標は本調査時点で達成済みである。

本調査でインタビューしたほとんどの LF は、2015 年は記録的な干ばつで作物に大きな影響が及んでいるにもかかわらず、2014 年の実証結果よりも 2015 年の方がメイズの生育がよいと回答した。堆肥の利用により化学肥料の使用を抑え、有機肥料の購入も始めた農家も確認された[12]。こうした現状から、指標 3-3 は既に達成されているといえる。

同時に、LF のプロジェクト活動を通じたメイズ栽培における行動変容の背景として、FISP による化学肥料の入手が困難[13]であること、化学肥料の価格が農家にとって高額[14]であること、化学肥料のみを投入してもメイズが十分育たない[15]状況も確認された。

（4）指標 3-4：MoAFS の普及活動を通じて、ムズズ ADD 管区の農民 1 万人が研究プロトコルに採用された堆肥づくりと施肥技術を利用する。

本指標の達成状況については本調査時点で判断不能である。

LF からプロジェクトの技術を用いた施肥作成・施用技術を習得した FF の数をプロジェクトでは把握していない。他方、普及員や農業試験場はフィールド・デーをムズズ ADD 管内で数回実施し、農家が肥料作製・施用を含む新しい農業技術を学ぶ機会を提供している。プロジェクトは 3 種類の堆肥作成･施用に関する普及用のリーフレットを作成した（活動 3-4）。支援終了までに、LF と FF に対する普及活動を更に推進する予定である（活動 3-5、3-6）。

アウトプット 4：SLM 技術を全国に普及するための方策が示される。

アウトプット 4 は、今後、残されたプロジェクト活動が円滑に行われれば、プロジェクト終了までに達成される見込みである。

（1）指標 4-1：セミナーやワークショップを通じて、参加した 90%の LRCD 専門員が SLM 技術についての知識を取得する。

本指標は協力終了までに達成が見込まれる。

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12 ある LF は、2013/14 作期は化学肥料のみ 13 袋購入、2014/15 作は化学肥料 8 袋と有機肥料 3 袋を使用した。2015/16 作期は化学肥料購入の予定はなく、有機肥料と堆肥のみ使用すると説明した。

13 FISP では、化学肥料を含む農業投資財は貧困層の農家から優先的に配付される。現在、マラウイ政府内で FISP 見直しの議論がなされており、市場価格の 5～50%まで農家の所得により段階的に価格を設置するなどの案が出されている（LRCD 局長聞き取り）。

14 50kg/MWK18,000（約 5,000 円）/作期。プロジェクトが対象 4 県で実施したベースライン調査では、95%の農家が化学肥料を購入し、投入資材のなかでも化学肥料費が最も高額（同調査では MWK20,000）。（櫃田専門家、ベースライン調査報告書 p.30、2012 年 9 月）。

15 複数の農家聞き取り

プロジェクトでは、LRCD 専門員向けに、堆肥作成技術、土壌肥沃度向上の必要性や、土壌特性を踏まえた施肥とその際の堆肥施用の推奨、化学肥料との併用の効果などに関するセミナー/ワークショップをプロジェクト終了前までに実施する予定（活動 4-1）。

（2）指標 4-2：プロジェクトの結果や成果を MoAFS 職員やステーク・ホルダーに共有するためのナショナルワークショップを開催する。

本指標は協力終了までに達成が見込まれる。

LRCD は年 1 回（5 月～6 月の間）実施している ADD 主催の農家対象堆肥キャンペーンなどの機会を通じ、堆肥技術の普及を推進している。今年の堆肥キャンペーンはムズズ ADD で実施し、プロジェクトの成果を示すことも一案として LRCD から提示された（活動 4-3）。加えて、プロジェクトは ASWAp の持続的土地・水管理技術ワーキンググループにおいても活動の成果を発表する予定。

３－４　プロジェクト目標の達成状況

プロジェクト目標：適切な SLM 技術を普及する MoAFS の能力が向上する。

以下の調査結果から、プロジェクト目標は残りの活動が予定どおり実施されれば達成されると見込まれる。

（1）指標 1：SLM 技術ハンドブックが普及局により承認され、28 県すべての LRCD の専門技術員に配付される。

本指標は協力終了までに達成が見込まれる。

プロジェクトは 2015 年 7 月中旬までに 2014/2015 作期の試験結果の分析を終了する。試験結果が明らかになり次第、SLM 技術ハンドブックに取りまとめる予定である。同ハンドブックに示される技術は、DAES によって普及プロセスに入る前に、MoAIWD の農業技術検討委員会にて検討・承認される[16]。同ハンドブックは全国 28 県の LRCD 及び専門技術員に配付される予定。他方、プロジェクトは今後、主にアウトプット 4 に関する実施計画を策定するが、プロジェクト期間内に 28 県の技術専門員と普及員（1,664 名[17]）に配付されるに至るには、時間的制約を見据えた働きかけが必要である。

現場では既に、プロジェクトが作成した普及用リーフレット“Technical Information Series（No.1～No.3）”は対象 4 県の LRCO により活用されている。

（2）指標 2：土壌・堆肥試験サービスが北部地域で提供され、普及員や農家がその結果を得ることができる。

本指標は本調査時点で達成済みである。

ルニャングワ試験場の分析室がプロジェクト支援により整備され、C/P への技術移転が進み、北部地域では初となる土壌・施肥分析サービスが既に開始されている。2012 年の設立から同試験場は土壌分析依頼を受け始め、2014 年には依頼数が顕著に伸びた。分析結果の利用

[16] マラウイでは堆肥技術は既に導入されている。今回プロジェクトが推奨する技術は、マラウイ側関係者は従来の堆肥作成技術を更に精査し、データを備えたものととらえているが、新しい技術が含まれている限り、諮問委員会の承認は必要（LRCD 聞き取り）。

[17] 2014 年の人数（DAES）。

については、農家まで伝わっていないケースと、農家は結果を得たものの内容が理解されていないケースが確認された。

３－５　上位目標の達成状況

上位目標：適切な SLM 技術が全国に普及される。

以下の理由から、上位目標の達成は限定的とみられる。調査団はいくつかの要因から、上位目標の指標をより現実的なものに再設定する必要性があると確認した。

（1）指標 1：SLM 技術が MoAFS やステーク・ホルダーのプログラムに導入される。

プロジェクト終了後も土壌肥沃度を向上するため、LRCD は有機肥料の全国レベルでの使用を推進する強い意向を示している。堆肥作成と施用は土壌肥沃度を高めるため必要な措置であり、マラウイの政策と合致している。プロジェクトが推奨する堆肥作成・施用技術が検討委員会で承認された後は、堆肥キャンペーンなどの国家的なプログラムや、NGO、他ドナーが実施するプロジェクトに導入される見込みはある。

（2）指標 2：80%以上の全国の農業普及員が専門技術員から研修を受けたのち、SLM 技術を農家に指導できるようになる。

各県の LRCO は普及員と 2 週間に 1 回､活動モニタリングのための会合（Fortnight Meeting）を行っている。同会合は LRCO から普及員へ新技術を移転する研修の場でもある。よって普及員向けの研修システムは基本的には整備されているといえる[18]。普及員は技術専門員から習得する堆肥作成・施用技術を展示圃場やフィールド・デーなどを通じて農家に伝える。農家のなかで LF となった農家は FF にその技術を移転していくであろうと見込まれる。

（3）指標 3：2020 年までに全国 XX 百万人の農民が SLM 技術を取り入れる。

前述のとおり、マラウイ政府は堆肥キャンペーンやフィールド・デーなどを通じ、SLM 技術を推進している。ある程度の農家はこれらの機会で 2020 年までに、SLM 技術を知り得ると考えられる。しかし、目標数値の XX は設定されておらず、現時点で 2020 年までの達成見込みを測ることはできない。「取り入れる」の定義も不明瞭である。

現在マラウイ政府では全省をあげて各事業のモニタリング・成果達成指標の見直しを図っている。従来の、作成された堆肥山の数、土壌肥沃が向上した耕地面積などで示される「アウトプットベース」から、より最終受益者である農家への便益に焦点を当てた「プログラムベース」への転換であり、2015 年度は MoAIWD がパイロット省の 1 つに選定された。2016 年度から順次全省において移行される予定[19]であり、本プロジェクトの指標もこの方針に沿った内容とする必要がある。

[18] 実際の会合の開催状況は地域や予算によってさまざまである、との声も聞かれた。正確な開催状況を知るためには、LRCO の会合記録を確認する必要がある。

[19] LRCD 聞き取り

（4）上位目標達成のための外部条件

PDM に示された上位目標（堆肥作成・施用技術の全国への普及）達成のための外部条件は、「MoAFS/県が、SLM 技術を普及するため提案されるプログラムの実施のために十分な予算を確保できる」である。プロジェクト期間中の状況を振り返ると、LRCD はプロジェクト活動を進めるための予算執行に課題があったことが確認されている。同時に、堆肥キャンペーンやフィールド・デーといった通常業務での定期的なプログラムも LRCD は実施している。よって、上記外部条件は上位目標達成のため現時点でも必要であり、論理的整合性は保たれているといえる。

３－６　実施プロセス

（1）報告システム

日本人専門家は JICA 本部、及び JICA マラウイ事務所、LRCD に対し半年ごとのプロジェクト進捗報告書と業務完了報告書を提出し、報告を行っている。JICA 本部及び JICA マラウイ事務所はこれら報告書、日本人専門家や C/P との議論を通じプロジェクトの進捗を把握し、必要に応じ支援を行っている。

普及員は LRCO に報告書を提出し、LRCO はムズズ ADD に報告を行っている。

（2）意思決定とモニタリングのメカニズム

JCC は MoAIWD 主席次官が議長を務めるプロジェクトの最高意思決定機関として、PDM の改訂を含むプロジェクトの計画の承認と実施に関する事項の決定を行っている。JCC は以下のとおり、これまで 3 回開催されている。

第 1 回 JCC 会合は 2012 年 12 月に開催された。同会合では、PDM の改訂について議論されたが、改訂内容に関する JCC メンバーの合意には至らなかった。その後、2013 年 2 月に PDM+1 として改訂版が合意された。

第 2 回 JCC 会合は 2014 年 2 月に実施された。同会合では PDM 第 2 版とともに、中間レビュー結果が承認された。

第 3 回 JCC 会合は 2015 年 4 月に実施された。同会合では、本終了時評価結果と上位目標改訂 PDM 第 3 版に関する提案が合同評価チームからなされた。終了時評価調査の時間的な制約もあり会合では最終合意には至らなかったが、今後 1 カ月以内（2015 年 5 月中）にマラウイ側とコンセンサスを形成のうえで、今回の JCC で承認された合同評価レポートとともに JICA、MoAIWD 間で M/M 署名を行う方向性が確認された。

（3）圃場実証レビューと計画会議

プロジェクトは 2014 年 6 月から、ムズズ ADD の担当職員、ルニャングワ農業試験場の技術者、日本人専門家が出席し、3 カ月に 1 回、実証レビューと計画会議を開催している。会議では、出席者は実証結果について議論、活動の進捗を報告し、AEDO 向け研修も会議の一環として実施された。会議はプロジェクトの管理グループ間での意見交換の場となっており、コミュニケーション醸成に役立っている[20]。

[20] 本会議は、中間レビューでの提言を受け実施され始めた経緯がある。他方、本調査中も日本人専門家から、ムズズ ADD での本会議のほか、プロジェクト管理レベルでの関係者間の日常的なコミュニケーション不足に関する問題点が指摘された。

(4) 週間プロジェクト内部会議

プロジェクトでは、プロジェクトスタッフと日本人専門家で毎週月曜日に週と月の予定及び主な課題に関し情報共有を行っている。

３－７　中間レビュー提言に対しての取り組み状況

2014 年 2～3 月に実施された中間レビュー調査の結果、協力期間後半のプロジェクト活動の円滑な実施に向け、技術的側面及び運営管理に関する 7 つの提言がなされた。各提言とプロジェクトの対応に関する詳細は付属資料 8 を参照のこと。

第４章　５項目評価結果

４－１　妥当性

以下の要因から、本プロジェクトの妥当性は「高い」と評価される。

（1）マラウイ政府の政策・制度との整合性

メイズ生産のための土壌肥沃度改善はマラウイの北部地域において最も優先順位が高い事項の 1 つである。SLM 技術は MoAIWD の最上位の投資プログラムである ASWAp の 3 本柱の 1 つである。マラウイ政府は堆肥作成と施用が FISP[21]による化学肥料の投入を補完するものと大きな期待を寄せている。

（2）日本の開発援助政策との整合性

日本国政府の対マラウイ共和国国別援助方針（2012）では、援助重点 3 分野の 1 つに、成長の負の側面に対処する「脆弱性への対応」を掲げている。脆弱性への対応の 1 つとして、貧困削減、格差是正を図るための「農村・地方開発」支援を謳っている。事業展開計画（2014）でも、本プロジェクトは、農村部の持続的な振興を図る「農村開発・自然資源管理プログラム」に貢献すると位置づけられている。これらの事項から、本プロジェクトとわが国の援助政策の整合性は確保されているといえる。

（3）対象地域・受益者ニーズとの合致

1）LRCD の開発ニーズとの整合性

LRCD は各県の農業事務所において、新しい技術や知識を普及員や農家に伝える責務がある。プロジェクト開始前までは、LRCO は科学的データに基づく確かな情報をもつことなく普及員や農家に対し有機肥料の重要性について伝えていた。プロジェクトの目的はこうした LRCO の課題に応えるものである。現在、LRCO は堆肥の作成・施用に関する知識や経験、データを普及員や農家と共有することが可能となり、自信をもって彼らに接することができている。

ルニャングワ農業試験場の設置により北部地域における土壌試験が可能となり、これまでチテゼ研究所など他 2 カ所に集中していた土壌試験が効率的に行われるようになった。こうした面においてもプロジェクトは地域のニーズに応えている。併せて、LRCO の土壌サンプリング技術も向上している。

2）LRCO（SMS）、普及員のニーズとの整合性

普及調整員や普及員の堆肥作成・施用技術や知識は、プロジェクト開始前は限定的であった。プロジェクトは彼らの能力向上に役立ち、農家の土壌肥沃度に関する考え方を変えるうえで貢献している。

3）農家のニーズとの整合性

対象地域の農家は土地の荒廃がメイズ生産減少に影響していると認識している。2014/2015 作期のように厳しい干ばつが発生しても、農家にとって生活や経済維持のため

[21] 農家の化学肥料費への負担は FISP 開始当初（2005/2006）のプログラムコストのうち 35%から 3%（2012/2013 年）に減少したとの報告もなされている（*Evaluation of the 2012/2013 Farm Input Subsidy Programme, Malawi, Final Report*, DfID, November 2013）。

安定したメイズ生産は極めて重要である。プロジェクトの LF になった理由を FISP により化学肥料を得られにくいと回答した農家が複数確認された。FISP による化学肥料を含む農業投資材はすべての農家にいきわたっているとはいえない状況のなか、プロジェクトは農家のニーズに応えているといえる。同様に、化学肥料の価格[22]は近年上がっており、多くの小規模農家には手が届きにくくなっている。化学肥料を堆肥に置き換えることで農業投資額を減らす経済的な理由も LF になる理由の 1 つとして確認された。

(4) 計画とアプローチの妥当性

PDM の指標は中間レビューの結果改訂され、プロジェクト活動の方向性が関係者間で合意された点においては、計画の妥当性は担保された。

LF 制度は普及アプローチの方法としてマラウイでは確立されている。本プロジェクトでも同制度が採用され、普及員の不足を補完する方法として機能していることから LF 制度の活用はアプローチとして妥当であったといえる。

４－２　有効性

以下の要因から有効性は「中程度」と評価される。

(1) プロジェクトの達成見込み

上記３－４で分析したとおり、プロジェクトはある程度 MoAIWD による SLM 技術の普及能力向上に寄与している。プロジェクト目標を達成し、全国普及を進めていくためには、アウトプット 4 の達成が待たれている。

(2) アウトプットの達成によるプロジェクト目標達成への貢献

ルニャングワ農業試験場の土壌試験ラボ設立以来、マラウイ北部地域での土壌試験が可能となった。プロジェクトは、チェナチェナ及びムコンデジ農業試験支場の農場圃場での堆肥作成を通じ、技術職員の能力向上にも貢献している。アウトプット 1 の達成はプロジェクト目標の研究部分に関し、明らかに貢献している。

LRCD と普及員の能力向上を図るアウトプット 2 において、プロジェクトは研究プロトコルに基づき、普及員向けの研修用マニュアルを開発中で、本調査時点で、第 3 版まで改訂を進めている。プロジェクトは研修マニュアルを基に堆肥作成・施用技術に関するリーフレット 3 種（ボカシ、チャング、ウィンドロー）も作成した。これらのリーフレットは写真や絵が多用され、農家レベルでも理解されるように工夫されている。プロジェクトでかかわった 4 県の LRCD はリーフレットを活用した堆肥作成・施用指導を行い、プロジェクトの最後のステップである SLM 技術ハンドブックの作成につなげている。

農家の圃場に堆肥作成・施用を進めるアウトプット 3 に関しては、プロジェクトは LF の圃場において実証試験を 2013/2014 作期に開始し、現在進行中の 2014/2015 作期では、著しい成果を上げている。調査団は今期の干ばつのなかでも LF の圃場のメイズの生育が際立って良いことを確認することができた。LF も 2014 年と比べて 2015 年の生育の良さに一様に満足している。今後収集・分析される今期のデータは SLM 技術ハンドブック開発のための

[22] 50kg/MWK18,000/season

非常に重要な情報として活用される。

アウトプット 4 はプロジェクト終了後の SLM 技術の全国展開（上位目標）をめざすうえで MoAIWD 職員に必要な能力や下地づくりを行うことを意図している。マラウイ側 C/P が主導的に関係者や対象地域以外の農家に SLM 技術を伝えていくことが期待される。

４－３　効率性

以下の要因から、効率性は「中程度」と評価される。

（1）各アウトプットの達成状況

上記３－３、及び４－４－２で述べたとおり、アウトプット 1～3 はほぼ達成したといえる。アウトプット 4 については、もし残りの活動が計画どおりに実施されれば、プロジェクト終了前までに達成される見込みである。

（2）投入

日本側、マラウイ側からなされた投入（人材、資機材/施設、資金）の質、量、タイミングは以下のとおり。日本側もマラウイ側もプロジェクト開始当時、人材の配置に課題があった。中間レビュー以降こうした課題は一部改善されてきたが、普及関連の活動は現在でもやや遅れが生じている。

1）日本側投入

日本人専門家の派遣やベースライン調査実施の遅れ、ルニャングワ農業試験場の土壌試験用資機材の提供の遅れは全体的なプロジェクト開始当時の活動進捗に影響を及ぼした。こうした遅れが普及活動開始の遅れにつながっている。2014 年度の JICA 予算は前年度に比して減少し、2015 年度は回復した。

2）マラウイ側投入

各対象県では十分な予算が配賦されておらず、LRCO や普及員による LF 圃場での普及・モニタリング用の燃料不足やフィールド・デー開催の遅延・未実施が生じている。2013/2014 年度には予算が充当され、LF が堆肥を作成する際に用いる防御用品が支給された[23]。

ルニャングワ農業試験場の運営については、土壌試験用の試薬購入や堆肥作成要員の傭上は主に日本側からの支援によりなされている。

４－４　インパクト

以下の要因からインパクトは「中程度」と評価される。

（1）上位目標の達成見通し

３－５で述べたとおり、上位目標の達成見込みは MoAIWD/県による十分な予算の確保に向けたコミットメントに大きくよっている。

予算が配賦されれば、既に確立されている機会（プロジェクト・レビュー会合、LRCD が議長を務める ASWAp の持続的土地・水管理技術ワーキンググループ、LRCD 年次総会など）

[23] グローブや長靴など。肥料や材料を運ぶ一輪車もマラウイ側により購入されたが、予算不足のため農家まで輸送できず、ムズズ ADD に留め置かれている（普及員などプロジェクト関係者聞き取り）。

を活用し、LRCD は堆肥作成・施用技術を推進していくものと見込まれる。

現場レベルでは、ムズズ ADD が中心的な組織となり、主体的に堆肥作成・施用技術を全国規模で広めていくことが望まれる。

ムズズ ADD 内で DF や Tiyeni、LIN など複数の NGO がプロジェクトで推奨しているボカシ肥、チャング肥などを適用した堆肥関連の活動を行っている。DF の LF は本プロジェクトが実施した堆肥作成・施用に関する研修に参加する機会も得るなど、プロジェクト活動の広がりも確認された。

（2）政策面でのインパクト

SLM 技術は ASWAp の主要課題の 1 つであるが、プロジェクトが ASWAp にインパクトを与えたとの観察は現時点ではなされなかった。今後、ASWAp の持続的土地・水管理技術ワーキンググループ等の場を通して、プロジェクト成果の周知とそれの面的展開への方策について議論されるべきである。

（3）環境、経済・社会的なインパクト

プロジェクトが推進してきた堆肥を活用した農業は対象 4 県における土壌肥沃度を向上させるうえで大きな貢献を果たした。LF の生産するメイズは記録的な干ばつのなかでも 2014 年よりも生育がよいことが確認されている。こうした成果から、堆肥は土壌に与える環境の影響を軽減する技術であるといえる。

堆肥は経済的にもプラスの影響を与えている。LF は堆肥を作成・施肥することで化学肥料のコストを抑えることに成功している。プロジェクトは、小規模農家による堆肥作成・施用にかかる費用対効果分析を行う予定である。

ムズズ ADD を拠点に活動する複数の NGO は本プロジェクトが推奨している堆肥作成・施用技術を自らのプロジェクトに取り入れている。DF の活動では、4,200 農家、Tiyeni では 1,500 の農家がムズズ地域で本プロジェクトが推進する技術により堆肥を作成・施用している。

（4）ネガティブインパクト

本調査中にプロジェクトからのマイナスのインパクトは確認されなかった。

４－５　持続性

以下の要因から持続性は「中程度」と評価される。

（1）政策面

ASWAp はマラウイの農業分野における最上位の投資プログラムである。ASWAp において、SLM 技術の向上は 3 本柱の 1 つと位置づけられている。マラウイ政府は堆肥作成・施用を SLM 技術の 1 つとして今後とも他ドナーとともに推進していく意向を示している。

（2）組織面

マラウイでは普及システムは確立されており、農業技術は県の LRCO から普及員へ、普及員から LF へ、LF から FF へとカスケード方式で伝播されている。本プロジェクトの技術ハンドブックが中央政府により承認されれば、こうした普及システムで技術は広まっていくと

見込まれる。他方、現在の普及員充足率は全国の普及計画区（Extension Planning Area：EPA）の 64%で、普及員不足は依然として課題である。

農業試験場については、プロジェクト開始以来土壌部門担当の研究員が不在のまま現場の技術者とプロジェクト雇用のアシスタントスタッフによって活動が進められてきた。2014 年末にルニャングワ農業試験場に 1 名の研究員（大卒レベル）が配属され体制は整った[24]。しかし、土壌試験ニーズが高まるなか、限られた人員で対応できるか、課題は残る。

（3）財政面

マラウイ政府はこれまでプロジェクト活動の実施に際し、予算面では大幅に日本側に依存してきた。財政的な持続性は LRCD や DAES の通常予算（Other Recurrent Transactions：ORT）や ASWAp の堆肥作成・施用向け予算獲得へのコミットメント次第といえる。

土壌/堆肥分析サービスや堆肥試験は SLM 技術の普及に必須の事業である。ルニャングワ農業試験場の土壌/堆肥分析サービスに関しては、試験場は小農以外の外部の民間組織からは定額に基づく料金の徴収を行っている。今後、公式の銀行口座開設に伴い、収益の 80%がルニャングワ農業試験場に配賦され、20%が国庫に納められることとなる。こうした徴収システムが確立すれば、財政面での自立性は大いに高まると期待される。

（4）ターゲットグループのオーナーシップ

インタビューに回答した多くの LF は堆肥作成のための材料、水、運搬費の負担があると現状を伝えていた[25]。一方で、堆肥作成・施用の効果も実感しており、プロジェクトが終了した後も継続的に堆肥を作成し、施用するとの強い意思を示した。LF は FF へ技術指導を行うことにも非常に熱心であり、プロジェクト終了後も継続的に FF に指導する意欲を示している。

（5）知識と技術

プロジェクトと活動をともにしてきた LRCD と普及員、農業試験場職員の技術は今後とも維持されていくと見込まれる。一方で、異動が頻繁に起きる[26]なか、新人職員に対し継続的な研修がなされない限り、組織全体として技術を保持していくことは困難であろう。

プロジェクトはできるだけ地元で採れる材料を用いた堆肥作成技術を移転してきた[27]。ルニャングワ農業試験場のラボで行う土壌分析技術は、研究スタッフがプロジェクト終了後も自ら継続できる技術が注意深く選択されている。

プロジェクトが推進してきた堆肥技術は全国で適用可能なものであり、幅広い普及が見込まれる技術である。

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[24] 日本人専門家向け質問票回答

[25] 材料（特に家畜糞と水）の入手容易性については対象地域によって状況が異なる。マラウイ湖に面するカタベイ県は農家の多くが漁師で家畜の保有数が限られる。降水量もあり水の問題は少ないが、キャッサバやコメを食する習慣でメイズ栽培は少なく堆肥作成に必要な植物残渣が不足している。一方、ムジンバ県では放牧が盛んで家畜糞の入手には問題ないが、乾燥しており水の入手が容易ではない。

[26] 本プロジェクトでも期間中 4 名の農業試験場職員が異動した。

[27] 研究プロトコルではメイズが主な植物残渣として活用されることになっている。プロジェクトではプロトコル外の研究として、コメの籾などを使用した実証も農業試験場で行っている。

４－６　効果発現にかかる貢献・阻害要因

（1）効果発現に貢献した要因

プロジェクトは 2014 年 9 月に初めて研究プロトコル・レビュー会合を各県で実施した。同会合には全 LF、普及員、LRCO、日本人専門家が参加した。会合において、プロジェクトは 2013 年 7 月から 2014 年 7 月までの活動報告と、次年次の活動計画について報告を行った。本会合は参加者間のコミュニケーションを醸成し、特に、LF にとって、プロジェクト活動として堆肥作成と施用を行っていく意義を明確にもつ有益な機会となった[28]。

今期のマラウイ北部地域には酷い干ばつが襲い、メイズ生産に大きな影響を及ぼした。そうした厳しい環境のなかでも、LF の圃場では昨期よりも良い生育を見せ、収穫量も増えた。干ばつ自体はすべての農家に更なる試練を与えたが、LF、FF、一般農家が堆肥の効果を知るうえでは大いに役立った。

（2）効果発現に係る阻害要因

ムズズ ADD のプロジェクト管理チーム（Project Management Team：PMT）の十分な合意形成がなされないままプロジェクトの意思決定がなされている。「定期会合を含めた協力的な意思決定プロセスを PMT が踏むことを提言する」[29]との指摘が中間レビュー時に阻害要因として挙げられている。その後上記提言への対応として、プロジェクトでは四半期ごとに PMT の会合を開催している。他方、本調査団は現在も PMT 内で日常のコミュニケーションに改善の余地があることを確認した。

LF の堆肥作成用の材料、水、運搬費が手に入りにくいことも本調査中に改めて確認された。家族の病気などを抱えた LF が途中で LF 活動から離脱する、もしくは十分な成果が上がらないといった事例もみられた。こうした環境的・社会的要因も農家にとっては堆肥作成・施用に障壁となっている。

普及員から土壌試験結果を受け取っていない LF、受け取ったが意味が理解できず放置している LF も散見された。土壌に関する情報は農家にとって非常に重要であり、土壌の科学的な現状把握から必要な施肥量を算出するなどの方法は極めて合理的である。土壌試験結果が農家に活用されるレベルに至るように、試験場技術者や普及員など分析サービス行政関係者の能力強化を推進するべきである。

[28] それまで、LF は他のプロジェクトの LF と条件が違う（DF の LF は普及用に自転車の配付があるが、本プロジェクトではない、など）ことで本プロジェクトへの違和感が伝えられていた。

[29] 中間レビュー報告書（JICA,2014 年 6 月）

第５章　結論

プロジェクトは堆肥作成・施用技術の科学的検証と農家への普及をつなぐという意味において価値あるものである。活動は PDM 改訂版に沿って進捗し、プロジェクト目標は残りの活動が予定どおり実施されれば達成されると見込まれている。

土壌/堆肥分析サービスが北部地域で開始された点はプロジェクトの大きな成果である。今後ムズズ ADD のオーナーシップにより普及活動が進められることが期待され、それはプロジェクトの持続性につながるものである。

また、5 項目評価についても中程度もしくは高い判定結果に至った。

上記の現状を踏まえ、調査団は本プロジェクトが予定どおり終了することが適切である、との結論に至った。

第６章　提言・教訓

６－１　提言

以下の提言につき終了時評価調査団としてプロジェクト及びマラウイ側に提案し、第 3 回合同調整員会（JCC）において承認された。

（1）今後の活動計画の策定（協力期間中、協力終了後）

ルニャングワ試験場における土壌・堆肥分析や堆肥圃場試験に係る技術能力向上など成果が上がった分野がある反面、技術資料の作成、SMS や普及員の能力強化、SLM 技術の全国普及に向けた活動など今後一層加速化が求められる活動も残されている。したがって、①協力期間中、②協力終了後に実施すべき活動を具体化し、活動計画を策定することが求められる。上記活動計画の策定はマラウイ側が中心となり、本評価終了後 1 カ月以内に作成するとともに、個々の活動の進捗管理を行っていくことが求められる。また、成果がまとまった段階で“ASWAp：Sustainable Land and Water Management Technical Working Group”で積極的に発信していくことが求められる。

（2）持続性の向上

1）SLM 技術の全国への普及

SLM 技術の全国への普及が求められているものの、マラウイ側予算の不足が大きな不安材料となっている。したがって、LRCD、DAES、ムズズ ADD 等関係部局が連携してマラウイ政府の他のプログラム/プロジェクト等から必要な予算を確保するよう働きかけていくことが求められる〔Other Recurrent Transactions（ORT）と呼ばれる政府予算、ASWAp からの予算確保など〕。また、SLM 技術の普及を推進する他機関（援助機関、NGO など）との連携の可能性を具体的に探っていくことが求められる。

2）ルニャングワ農業試験場における継続的な活動

土壌/堆肥分析サービスの実施や堆肥圃場試験は SLM 技術の普及を進めるうえで重要性が高い。土壌/堆肥分析サービスに関してルニャングワ農業試験場では分析料の徴収を開始したが（80%は同試験場で活用し 20%は国庫に納める予定）、これは今後の分析活動の持続性を高めるうえで有効である。ただし、現状では分析料の徴収を通じて十分な資金を確保できるか不透明である。また圃場堆肥試験に関しては今後の予算措置のめどが立っていない。

したがって、SLM 技術の普及と同様にマラウイ政府の他のプログラム/プロジェクト等から必要な予算を確保するよう働きかけていくことが求められる（ASWAp からの予算確保など）。

（3）技術資料の作成

1）作成すべき技術資料の明確化

現段階では、プロジェクト活動の成果を基に①どのような技術資料を、②だれ向けに、③いつまでに、④どれくらい作成するのか固まっていない。したがって、これらを明確に

するとともに、スケジュールを具体化することが求められる。なお、上記プロセスはマラウイ側の主体的な取り組みの下で進められることが望まれる。

2）農民にも分かりやすい SLM にかかる技術メッセージの取りまとめ

上記①で整理される技術資料のうち、SLM にかかる技術メッセージ（活動 1－13）は現在実施中の堆肥圃場試験の結果に基づき完成させることとなるが、既に得られた結果を基にできる業務を進めることが求められる。同業務は土地資源保全局（LRCD）とともに普及、研究部局を巻き込んで進めることが重要である。

なお、上記技術メッセージの作成の際には、SLM 技術が農民に取り入れられるよう、分かりやすさとメッセージ性を意識するなど農民にも理解できるものとするよう十分に配慮する必要がある。

（4）ムズズ ADD の主体性の強化

プロジェクト活動の推進にはムズズ ADD の役割が非常に重要となるが、これまでは日本側に依存する面が大きく、プロジェクト・マネジャーをはじめムズズ ADD の関与が限定的であった。プロジェクト活動の中心は研究（ルニャングワ農業試験場、他）から技術資料の作成や普及に軸足が移りつつあることもあり、ムズズ ADD の役割は一層重要性を増している。また、ムズズ ADD は協力終了後の活動の実施・全国に向けた拡大において中心的な役割が期待されている。

したがって、今後はムズズ ADD が中心的な役割を果たしたうえでプロジェクト活動に係る計画立案、実施及びモニタリングなどを進めていくことが求められる。

（5）提言事項の進捗の確認

上記提言事項の進捗を定期的（月 1 回など）に確認するためマラウイ側が中心となりプログレスレポートをまとめ LRCD の局長宛に提出することを想定している。各提言事項の進捗の確認は協力終了までにとどまらず、活動の持続性及び SLM 技術の幅広い普及を担保するため、協力終了後もマラウイ側により継続的に実施していくことが望まれる。

（6）その他

上位目標の見直し

上位目標はプロジェクトの正のインパクトとして協力終了後 3 年度をめどに達成が期待される目標である。しかし、これまでの上位目標の指標は「全国の XX 百万人の農家が持続可能な土地管理（SLM）技術を採用する」など（マラウイ側の強い意思を示すものではあるものの）実現可能性が不透明な過大な指標が含まれていた。したがって、現実的な指標を設定するべくマラウイ側調査団と協議を行い、改定案を取りまとめた（付属資料 9 参照）。

今回は時間的な制約もあり最終合意には至らなかったが、今後 1 カ月以内にマラウイ側とコンセンサス形成のうえで、今回の JCC で承認された合同評価レポートとともに JICA、MoAIWD の間で M/M 署名を行う方向性を確認した。

６－２　教訓

（1）農業セクターにおけるプロジェクト期間の設定

本プロジェクトは圃場試験において新技術を開発する活動が含まれたプロジェクトであり、農作期の数はターゲット目標の達成を左右する要因になる。マラウイの農作期は一期のみであり、また 2014 年には干ばつに見舞われたことも重なり、プロジェクト活動の一部には遅れが発生した。

農業セクターのプロジェクト形成の際は、農作期の数を考慮して、十分な協力期間が確保されること、または協力期間中の農作期で達成できる範囲の活動の枠組みに設定することなどに留意することが教訓として抽出された。

（2）人材確保の必要性

本プロジェクトは土壌・施肥試験及び圃場試験の実施、同試験を経て得られた堆肥を中心とする持続可能な土地管理技術の専門技術員、普及員及び農民への普及を進める案件であった。しかし、当該分野で活躍する日本人人材は極めて少なく、人材確保に時間を要したため、プロジェクト活動が軌道に乗るまでに時間を要した。今後は人材のめどをある程度つけたうえで協力枠組みを固めることが肝要である。

第７章　団長所感

７－１　マラウイ側の主体性の向上

中間レビューで課題として取り上げられたマラウイ側の主体的な取り組みに関して、本調査を通じて研究（ルニャングワ農業試験場及び Sub-stations)、現場レベルの普及員による活動（LFs 支援など）ではマラウイ側による前向きな取り組みが確認できた。他方、本来中核となるべきムズズ ADD の主体性はいまだ十分とはいえない状況にあり、プロジェクト運営管理は日本側専門家チームの尽力の下で進んでいる印象を受けた。この背景には、これまでの活動は（ムズズ ADD ではなく）ルニャングワ農業試験場等での土壌・堆肥分析及び堆肥圃場試験を中心に進んできたことがある。しかし、今後はムズズ ADD を中心に上記研究成果を踏まえた技術情報の取りまとめ、SMSs 及び普及員への研修を通じた SLM 技術の普及に注力していく必要があり、Project Manager のリーダーシップの下、一層ムズズ ADD の土地資源保全官（LRCO[30])、農業普及開発員（AEDO）の役割の重要性が増すこととなる。

協力終了後はすべての活動がマラウイ側により実施されていくこととなることから、今後は日本側専門家チームが手を下すのは最小限に抑え、少々時間を要したとしてもマラウイ側による活動計画立案・実施・モニタリングなどの主体的な取り組みを粘り強く促していく必要がある。

７－２　ルニャングワ農業試験場における財政面の自立性向上の取り組み

本プロジェクトを通じてマラウイ北部で唯一（マラウイ全土でも 3 カ所のみ）土壌・堆肥分析能力を獲得したルニャングワ農業試験場では、財政面の自立性強化に向けて 2014 年より土壌・堆肥サンプルの分析料として一要素ごとに 500MKW（約 140 円）の徴収を開始した[31]。この仕組みでは、徴収額の 20%を政府に納め、80%は同試験場の活動に充てることとなっている。

土壌・堆肥サンプルの分析は 2012 年より開始したが、2014 年には前年に比べ飛躍的に分析サンプル数が増加した。現在はマラウイ側の予算不足もあり分析に必要となる試薬類は日本側で供与しているが、今後分析サービスの有用性が広く認知され更に分析数が増加した場合には、財政面からは安定的な分析業務の実施につながることとなる。分析料の徴収は始まったところであり今後の動向を注視する必要があるものの、財政的に特に厳しいマラウイにおいては財政面の持続性を高める有効な方策と考えられる。

７－３　関連機関との連携の強化

今回の調査において、堆肥に関する活動を実施しているノルウェー開発基金（Development Fund of Norway：DF）と協議を行った。DF のプロジェクトでは広範な活動の 1 つとして堆肥の普及に取り組んでおり（ムズズも対象地の 1 つ)、これまでも DF 側の土壌サンプルをルニャングワ農業試験場で分析するなどの連係がなされてきた。今回の協議の結果、①本プロジェクトの技術的成果を DF 側に引き継いでいく、②（協力終了 2 カ月前となる）2015 年 9 月までに再度協議の場をもち相互に技術的成果を共有する、③DF 側で既に作成済みの堆肥に関するハンドブックのアップデート（2018 年を想定）の際に本プロジェクトの技術的成果を反映するなどの方向性を確認し

[30] LRCO は Subject Matter Specialist（SMS）とも呼ばれている。
[31] 普及員から持ち込まれた小農の土壌サンプルは分析料を徴収していない。

た。

今後本プロジェクトでは圃場試験の結果を踏まえて技術資料を作成していくこととなる。これら技術資料が適切に DF に引き継がれるよう密な情報共有を行っていく必要がある。

また、本プロジェクトの成果の広範な活用を図るため、「ASWAp 持続可能な土地・水資源管理技術委員会（Land and Water Management TWG）」をはじめ幅広いプログラム/Stakeholders に対する技術的成果の働きかけを積極的に行っていくことが求められる。

付　属　資　料

１．終了時評価調査日程

２．PDM（Ver.2）

３．PO（Ver.2）

４．評価グリッド（和文）

５．評価グリッド（英文）

６．投入実績表

７．プロジェクト活動進捗表

８．中間レビュー提言に対する取り組み状況一覧表

９．上位目標に係る指標の改定案

10．PDM（Ver.3）調査団による提案

11．合同評価報告書（英文）

12．M/M（協議議事録）

１．終了時評価調査日程

付属資料１：終了時評価調査日程

Schedule of the Terminal Evaluation Survey on the Sustainable Land Management Promotion Project

	Date			Leader	Planning	Consultant	Malawian Team		
				Mr. AMAMEISHI	Mr. TAMURA	Ms. SHIRAI	Mr. Liwimbi	Mr. Mlebe	Mrs. Mbakaya
1	2015/4/12	*Sun*	AM						
			PM			Departure from Japan			
2	2015/4/13	*Mon*	AM			Arrival at Lilongwe			
			PM			Meeting with JICA office			
3	2015/4/14	*Tue*	AM			Meeting with JICA office			
			PM			Interview in LLW (DAES)			
4	2015/4/15	*Wed*	AM			Meeting with LRCD Start up meeting with Evaluation members			
			PM			Travel to Mzuzu			
5	2015/4/16	*Thu*	AM			Interview in Mzuzu/ Luynangwa			
			PM						
6	2015/4/17	*Fri*	AM			Field Visit 1 (one district /sub-research station)			
			PM						
7	2015/4/18	*Sat*	AM			Report preparation			
			PM						
8	2015/4/19	*Sun*	AM			Report preparation			
			PM	Departure from Japan					
9	2015/4/20	*Mon*	AM	Arrival at Lilongwe		Interview with Mzimba North LRCO Visit/interview to LFs in Mzimba North district	Travel to Mzuzu		
			PM	Meeting with JICA Malawi office LRCD					
10	2015/4/21	*Tue*	AM	Travel to Mzuzu		Group interview with extension officers (4 AEDCs/8 AEDOs)			
			PM			Visit/Interview to NGOs (Tiyeni)			
				Internal Meeting among evaluation team					
11	2015/4/22	*Wed*	AM	Meeting with SLMP Project Manager Internal Meeting among evaluation team (Impression / findings through the survey)					
			PM	Visit to Lunyangwa ARS Meeting/Interview with Station Manager & C/Ps; Inspection of demo farm Mission team wrap-up meeting					

12	2015/4/23	*Thu*	AM	Move to Chinteche (Nkhata Bay district) Meeting/Interview with district officers (DADO, LRCO) Visit/interview to LFs in Nkhata Bay district			
			PM	Visit to Mkondezi sub-station, Field visit and interview with C/Ps Mission team wrap-up meeting			
13	2015/4/24	*Fri*	AM	Meeting with Mzuzu ADD C/Ps, project experts at ADD (Revewing Overall Goal and disucussing major issues) Courtesy call to PM of Mzuzu ADD Travel to Mzimba Boma			
			PM	Meeting/Interview with district officers (DADO, LRCO) Visit/interview to LFs in Mzimba South district (Kazomba EPA)			
				Internal Meeting among evaluation team (Major issues, Recomendations)			
14	2015/4/25	*Sat*	AM	Travel to Lilongwe via Kasungu	Travel back to Lilongwe		Travel back to Mzuzu
			PM				
15	2015/4/26	*Sun*	AM	Report preparation (Zero draft)			Travel to Lilongwe
			PM				
16	2015/4/27	*Mon*	AM	DAPS Evaluation team internal meeting			
			PM	Meeting with Director of LRCD			
				Report preparation			
17	2015/4/28	*Tue*	AM	Evaluation team internal meeting (finalize the Report) Preparation of presentation material			
			PM	Visit/interview to DF			
18	2015/4/29	*Wed*	AM	3rd JCC			
			PM	Wrap up meeting with the project experts			
19	2015/4/30	*Thu*	AM	(optional extra time for M/M Signing)			
			PM	Report to JICA Malawi office Report to Embassy of Japan			
20	2015/5/1	*Fri*	AM	Departure from Lilongwe			
			PM				
21	2015/5/2	*Sat*	AM				
			PM	Arrival at Japan			

付属資料 2: PDM (Ver.2)

Project Design Matrix (PDM) (Version 2)

Project Title:	Sustainable Land Management Promotion Project (SLMPP)
Period:	4 years from November 11th 2011 to November 10th 2015
Implementing Departments:	Land Resource Conservation Department (LRCD) involving Department of Agricultural Research Services (DARS) and Department of Agricultural Extension Services (DAES) under Ministry of Agriculture and Food Security (MoAFS), Government of Malawi
Main Sites & Target Areas:	4 Districts (Rumphi, Mzimba S & N, Nkata Bay) in Mzuzu ADD, Lunyangwa Agricultural Research Station and its sub-stations (Mbawa, Mkondezi, Bolero and Nchenachena)
Date Modified:	February 2013 (Ver. 1+), February 2014 (Ver. 2)

Project Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: Appropriate Sustainable Land Management (SLM) techniques [i] are diffused to nationwide.	1. The SLM techniques are applied in programs implemented by MoAFS and stakeholders [ii]. 2. More than 80% of AEDOs [iii] across the country are trained by subject matter specialists (SMSs) and are able to instruct farmers on the SLM techniques by MoAFS. 3. XX million of farmers are adopting SLM techniques across the country by 2020.	• LRCD annual report 2020 • Land management documents produced by government and stakeholders	
Project Purpose: Capacity of MoAFS to diffuse appropriate SLM techniques is enhanced.	1. The SLM technique handbook is reviewed by DAES and distributed to all the 28 districts' LRCD and Extension SMSs. 2. Services for soil and/or compost testing in Northern region become available and results are accessed by extension agents and farmers.	• SLM technique handbook • Confirmation of service	• MoAFS/districts are able to secure sufficient budget to implement proposed program to diffuse SLM techniques.
Expected Output: 1 Institutional and human capacity for soil and/or compost testing, and skills for field test in Mzuzu ADD are improved.	1.1 Manual for soil and compost analyses is prepared. 1.2 Recommendations on compost application for soil fertility improvement are compiled. 1.3 Lunyangwa Research Station provides soil and/or compost analysis services. 1.4 Field data is collected according to the research protocol. 1.5 Soil tests from the demonstration sites confirm improvements of soil fertility at the end of the project.	• Draft manual • Field trial site • Collected data • Soil and compost analysis results	• Diffusion of SLM remains priority issue of both central and local governments of Malawi. • Labour constraint in rural area does not become severe.

付属資料 2: PDM (Ver.2)

Project Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
2 LRCD SMSs and extension agents in Mzuzu ADD are equipped with the SLM techniques.	2.1 Extension agents in Mzuzu ADD are trained on existing compost making and application techniques to the level that they can back up Lead Farmers (LFs). 2.2 Training manual for the SLM techniques is produced. 2.3 All LRCD SMSs in Mzuzu are trained on the SLM techniques and are able to train extension agents.	• Training records • Training manual	• Prices of major agriculture products do not decline significantly. • Availability of animal dung does not decline significantly.
3 Compost making and application techniques are applied by pilot site farmers.	3.1 More than 80% of all the LFs mount SLMP demonstration trials taught by the extension agents. 3.2 Ten Follower Farmers (FFs) are trained by each LF on compost making and application techniques and apply more than one techniques in their farms. 3.3 Positive effects of using compost are recognized by participating farmers through monitoring. 3.4 10,000 farmers in Mzuzu ADD[iv] are using compost making and application techniques that are indicated in the SLMP research protocols.	• Monitoring reports • Field survey results • Mzuzu ADD annual report • Research protocol	
4 Measures to diffuse the SLM techniques nationwide are provided.	4.1 Through seminar/workshop, 90% of attended LRCD SMSs nationwide gain knowledge of the SLM techniques 4.2 Project results and achievements are shared among MoAFS officials and stakeholders through national workshop.	• Seminar/workshop records/evaluations • National workshop records	

Activities:	Inputs:	Important Assumption
1-1 Conduct baseline surveys on existing land management practices by farmers in Mzuzu ADD and nationwide. 1-2 Identify existing compost making and application techniques to be tested. 1-3 Develop research protocol for compost making and application trials. 1-4 Train lab researchers and technicians for soil and/or compost analysis. 1-5 Collect soil and compost samples from stations and farms. 1-6 Conduct element analysis of soil and compost samples. 1-7 Produce manual for soil and compost analysis. 1-8 Set up demo-trial field at research stations. 1-9 Conduct trainings for researchers on on-farm and on-station trials. 1-10 Implement on-farm and on-station trials and collect data. 1-11 Collect on-farm trial data from LFs.	From Malawi side 1) Personnel - Project Director (Director, LRCD) - Deputy Project Director (Deputy Director, LRCD) - Project Advisor Project Manager (Chief Land Resources Conservation Officer,, Mzuzu ADD) - Deputy Project Manager (Principal Land Resources Conservation Officer, Mzuzu ADD) - Head of research (Director, Lunyangwa Research Station) - Head of extension (Chief Agricultural Extension Officer, Mzuzu ADD)	• Rainfall pattern does not deviate greatly from usual pattern. • MoAFS does not lose significant proportion of staff. • Farmer's access to inputs does not deteriorate greatly.

1-12 Conduct data analysis to assess for appropriate level of organic matter content in soil and recommendable compost application rate for the improvement of soil fertility. 1-13 Compile technical messages on SLM techniques.	- District Coordinators (Land Resources Conservation Officers of Rumphi, Mzimba and Nkhata Bay District Agricultural Development Officers) - Personnel under DARS, DAES and Mzuzu ADD 2) Facilities - Office space for experts Mzuzu ADD DARS Chitedze Research Station - Training Venues - Experimental fields in Chitedze Research Station 3) Recurrent costs - Costs associated with MoAFS staff involved in project - Part of training cost - Utility and other basic expenses to run project From Japan side 1) Experts - Chief advisor, Coordinator, other experts 2) Counterpart Training - Training in Japan and/or the third country 3) Machinery and equipment - Vehicle(s) (4WD) - Bicycles / Motor Bikes - Soil analysis equipment - Training equipment (computer, projector, screen, etc.) - Office equipment (photocopier, scanner, etc.) - Other necessary equipment 4) Local costs - Part of training cost	**Precondition**
2.1 Develop training modules on compost making and application for extension agents and LFs. 2.2 Conduct trainings on compost making and application for extension agents. 2.3 Conduct soil diagnosis training for extension agents. 2.4 Conduct quarterly review meetings. 2.5 Conduct trainings/workshops on the SLM techniques to LRCD SMSs in Mzuzu ADD. 2.6 Prepare the SLM technique handbooks.		
3.1 Select on-farm demo areas and LFs. 3.2 Conduct trainings for LFs on compost making and application. 3.3 Monitor and backstop the progress of on-farm trials. 3.4 Prepare extension (Information, Education and Communication or IEC) materials. 3.5 Conduct refresher course for LFs and Extension agents. 3.6 Facilitate extension activities (i.e. field day, exchange visits) for FFs.		
4.1 Present project progress and obtain feedbacks at regular meetings (i.e LRCD meetings, technical working group). 4.2 Conduct seminar/workshop to diffuse the SLM techniques for LRCD SMSs nationwide. 4.3 Conduct national workshop to present the SLM techniques, project results and achievements to MoAFS officials and stakeholders.		

(i) Appropriate Sustainable Land Management Techniques (The SLM techniques) refer to scientifically tested existing compost makings and application techniques and knowledge that is promoted by the SLMP project.

(ii) Stakeholders refer to NGOs, other donors and private sectors.

(iii) The current number of extension agents is 2290 AEDOs as of 2012.

(iv) Including farmers under the government and other related extension programs.

PO (Ver. 2)

Year	11	2012				2013				2014				2015			
Plan of Operation (version 2) Month	11-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10
Output 1: Institutional and human capacity for soil and/or compost testing and skills for field test in Mzuzu ADD are improved.																	
1.1Conduct baseline surveys on existing land management practices by farmers in Mzuzu ADD and nationwide.																	
1.2Identify existing compost making and application techniques to be tested.																	
1.3Develop research protocol for compost making and application trials.																	
1.4 Train lab researchers and technicians for soil and/or compost analysis.																	
1.5 Collect soil and compost samples from stations and farms.																	
1.6Conduct element analysis of soil and compost samples.																	
1.7Produce manual for soil and compost analysis.																	
1.8Set up demo-trial fields at research stations																	
1.9Conduct trainingsfor researcherson on-station trials.																	
1.10 Implement on-farm and on-station trials and collect data.																	
1.11 Collect on-farm trial data from LFs.																	
1.12 Conduct data analysis to assess for appropriate level of organic matter content in soil and recommendable compost application rate for the improvement of soil fertility																	
1.13 Compile technical messages on SLM techniques.																	
Output 2:LRCD SMSs and extension agents in Mzuzu ADD are equipped with the SLM techniques.																	
2.1 Develop training modules on compost making and application for extension agents and LFs.																	
2.2 Conduct trainings on compost making and application for extension agents																	
2.3 Conduct soil diagnosis training for extension agents.																	
2.4Conduct quarterly review meetings.																	
2.5Conduct trainings/workshops on the SLM techniques to LRCD SMSs in Mzuzu ADD																	
2.6Preparethe SLM technique handbooks.																	
Output3:Compost making and application techniques are applied by pilot site farmers.																	
3.1 Select on-farm demo areas and LFs.																	
3.2 Conduct trainings for LFs on compost making and application.																	
3.3 Monitor and backstop the progress of on-farm trials.																	
3.4Prepare extension (Information, Education and Communication or IEC) materials.																	
3.5 Conduct refresher trainings for LFsand Extension agents.																	
3.6 Facilitate extension activities (i.e. field day, exchange visits) for FFs.																	

Year	11	2012				2013				2014				2015			
Plan of Operation (version 2) Month	11-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10
Output4:Measures to diffuse the SLM techniques nationwide are provided.																	
4.1 Present project progress and obtain feedbacks at regular meetings (i.e LRCD meetings, technical working group).																	
4.2 Conduct seminar/workshop to diffuse the SLM techniques for LRCD SMSs nationwide.																	
4.3 Conduct national workshop to present the SLM techniques, project results and achievements to MoAFS officials and stakeholders.																	

Note: December to March is rainy season of the year and major agriculture production period at rein fed farm land.

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド　実績の検証

評価項目：実績の検証				
評価設問		必要なデータ	情報源	調査結果
大項目	小項目			
投入は計画どおりか。	専門家は予定どおり派遣されたか。	実績と計画との比較結果	プロジェクト資料*専門家、JICAマラウイ事務所	・2011年11月～2015年1月末まで、本プロジェクトには延べ2名の長期専門家〔①業務調整/普及、②業務調整〕に加えて、8名の短期専門家（①チーフアドバイザー/土壌肥沃、②チーフアドバイザー、③チーフアドバイザー/普及、④土壌調査/計画(2名)、⑥ベースライン調査-全国、⑦ベースライン調査-対象地、⑧作物管理/施肥〕が派遣されている。
	予定どおりプロジェクトに必要な機材が供与されたか。	実績と計画との比較結果	専門家	・機材は2012年1月～2013年10月まで車両、PC、バイク、事務機器、検査機など総額、32,015,891円（MWK 118,778,955.61）がMzuzu ADD, DAO, Lunayngwa ARSなどに供与されている。
	機材の利用状況、管理体制に問題ないか。	専門家コメント観察結果	プロジェクト資料専門家、LRCD、DAES、DARS、ムズズADD	・PC1台が盗難、1台が国外持ち出しとなっているほかは使用されている。国外持ち出しの件は、LRCDから本人に何度か通知をしている。帰国後に返却される予定。
	C/P研修は予定どおり実施されたか。	実績と計画との比較結果	プロジェクト資料LRCD、DAES、DARS、ムズズADD、専門家	・本邦研修はC/P3名が参加した。 ・集団研修もLRCO2名（ルンピ、カタベイ県）が北海道帯広で土壌診断技術に関する研修に参加した（2013年、2014年）。
	日本側からのローカルコスト負担はどの程度何に対して行われたか。	実績と計画との比較結果	実績取りまとめ表専門家	・2011年11月～2014年12月まで：4,147万円（MWK150,252,191.98 ）支出。 ・LFは試験プロトコルに基づいた堆肥試験に協力してもらっているという考えから、堆肥を準備するのに必要となるプラスティックシートや、種子・化学肥料など最低限の資材をプロジェクトで調達し、渡している。 ・研修実施時に必要となる旅費・宿泊費以外の現金の支払いはない。
	プロジェクト運営に必要な予算がマラウイ側から配分され、効率的に執行されたか。	実績と計画との比較結果	プロジェクト資料LRCD、DAES、DARS、ムズズADD、専門家	・最近、マラウイ側（LRCD）の予算(MWK36,030202, うち2015年4月までの執行額MWK 17,907,790)で、一輪車やバケツなどがLF配付用に購入された。一方で、一輪車は輸送用の予算不足からムズズADD内に留め置かれている。
	C/P、運営管理スタッフはマラウイ側から予定どおり配置されたか。	実績と計画との比較結果	プロジェクト資料LRCD、DAES、DARS、ムズズADD、専門家	・マラウイ政府は、本プロジェクトのC/Pとして延べ23名（LRCD、DAES、DARS各本部、ムズズADD、4県農業事務所、ルニャングワ農業試験場、農業試験支場）を配置したが、異動、留学などにより、現在16名がC/Pとして配置されている。
	事務所、家具、通信手段及び業務用機材等は予定どおり配置されたか。	観察結果 提供資機材の状態	プロジェクト資料専門家、LRCD、DAES、DARS、ムズズADD	・マラウイ政府はムズズADD内に、プロジェクトオフィスを1室、専門家執務、会議などのため提供している。ムズズADD内施設（会議室など）の利用もなされている。
PDMの指標から見て、アウトプットは計画どおり産出されたか。	**アウトプット1：ムズズ農政局（ADD）における土壌・堆肥試験や圃場試験実施のための組織的・人的キャパシティが向上する。**			
	1-1：土壌・堆肥分析マニュアルが編纂される。	・土壌・堆肥分析マニュアル草案 ・作成プロセス	プロジェクト資料 専門家 LRCD、DARS、ルニャングワ農業試験場、試験支場	・土壌/肥料分析技術のためのマニュアル「Lunyangwa Laboratory Manual Ver.1」のドラフトは第3版まで改訂されている（活動1-6）。本マニュアルを活用し、ルニャングワ農業試験場やLF農家の実証圃場から土壌と肥料のサンプルが日本人専門家の指導の下、回収されている。
	1-2：土壌肥沃度向上のための堆肥の施肥に関する提言が取りまとめられる。	・提言内容 ・提言に対するC/Pの反応		・メイズの実証栽培の結果に基づく推奨されるべき技術メッセージはプロジェクト終了前までに取りまとめられる予定（活動1-13）。
	1-3：ルニャングワ試験場が土壌・堆肥成分分析サービスの提供を開始する。	・サービスの内容・体制		・2012年の設立以来、ルニャングワ農業試験場の土壌分析ラボではサンプルが分析されている。 表X ルニャングワ農業試験場の土壌分析ラボにおける分析業務の進捗 年 分析したサンプル数 サンプル採取場所 2012: 139 SLMPの LF 2013: 240 SLMP のLF、農業試験場、DF 農家 2014: 1,308 SLMPの LF、農業試験場 合計: 1,687 ・ルニャングワ農業試験場では、上記のプロジェクト関係者からのサンプル以外にも、既にNGOや民間セクター、警察など北部地域の外部組織から23件の土壌堆肥分析依頼を受け、サービスを開始している。

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド　実績の検証

評価項目：実績の検証				
評価設問		必要なデータ	情報源	調査結果
大項目	小項目			
	1-4:研究プロトコルに沿った圃場試験でのデータが収集される。	・収集された・圃場試験データ ・収集プロセス ・分析結果		・2013年3月に策定された研究プロトコル"Comparison of Composting Techniques and Biomass Combinations on Quantity of Compost, Soil Fertility Improvement and Crop Yield in Mzuzu ADD"(活動1-3)に基づき、ルニャングワ農業試験場、農業試験支場、LFの実証圃場から2013/2014作付け期の土壌分析のための生育と収穫に関するデータが普及員や研究農場職員の協力の下、プロジェクトにより回収された。
	1-5:プロジェクト終了時の土壌試験でデモンストレーション圃場の土壌肥沃度が増加する。	・土壌肥沃分析結果(当初及び中間の分析データ)		・今シーズン(2015/16)の土壌肥沃度の推移についてはまだ結果が出ていないが、昨シーズン(2014/15)の作物の生育状態には明確な改善がみられる。
	アウトプット2:ムズズ農政局(ADD)の土地資源保全局の専門技術員と普及員がSLM技術を習得する。			
	2-1:ムズズ農政局の普及員がLFの技術サポートができるレベルまで現存の堆肥づくりと施肥技術を習得する。	・普及員の技術習得状況	プロジェクト資料 専門家 LRCD, DAES,DARS, ムズズADD,LRCO、普及員、LF	・プロジェクトにより開発された(活動2-1)研修マニュアルに基づき、各県の普及員やプロジェクトのLFなどを対象に2012年10月から2015年2月にかけて研修が実施された(活動2-1～2-3)。研修では土壌サンプル採取技術、堆肥作成技術、圃場整備と堆肥施用、昨年のレビューと今期の計画づくり、土壌診断技術が主なテーマとして取り上げられた。これまでの参加者は延べ585名。 ・普及員への研修の成果として、LFに技術的サポートができるまでに達した。ただし、その判断に至る客観的な判断基準はない。研修後の参加者の意見やアンケートの回答などから、何を学んだということまでは把握できるが、その先の普及現場での活動まで踏み込んだ情報の収集まではできていない。
	2-2:SLM技術のトレーニングマニュアルが編纂される。	・トレーニングマニュアル ・作成プロセス		・"Training Module for Field Trails on Compost Making & Application Trials"を普及員・LF研修用に作成し、改訂してきた。 ・上記マニュアルは、研究プロトコルに即していることから、現在実施しているプロトコル以外の実証試験に関しては含まれていない。
	2-3:ムズズ農政局の全土地資源保全局のLRCOがSLM技術に関する研修を受け普及員を指導できるようになる。	・研修を受けたLRCOの数 ・LRCOへの指導内容 ・LRCOの技術習得状況		・LRCO向けの研修やワークショップ(活動2-5)をプロジェクトでは実施していない。 ・LRCOはプロジェクト開始後から現在まで日本人専門家と協力しつつプロジェクト活動を実施してきた。彼らは活動のプロセスにおいて、適切な施肥技術の推進のための知識や経験を積み重ねている。こうした現場での活動に加え、2県(ルンピ及びカタベイ県)のLRCOは帯広で実施された集団研修(2013年、2014年)にも参加し、土壌診断技術に関する知識を習得する機会も得た。集団研修で得た知識経験はSLM技術に関する能力を大幅に向上させる結果となった。LRCOは普及員向けの2週間に1回開催される会合(兼研修)や日常の業務において、自信をもって指導監督できるようになっている。 ・SLM技術ハンドブックの作成(活動2-6)は、現在進行中の試験が完成した後に本格的に開始される予定。
	アウトプット3:堆肥作りと施肥技術がパイロットサイトの農家によって適用される。			
	3-1:すべてのLFの80%以上が普及員より教えられた圃場試験場を設置する。	・LFの数 ・圃場試験場の設置数	プロジェクト資料 専門家 LRCD、DAES、ムズズADD、LRCO、普及員、LF、FF	・プロジェクトの研修を受けたLFのうち、堆肥の準備をしたLFは2013/2014年次(92%)よりも2014/2015年次は39人(80%)に減少した。特にNkhata Bay県とRumphi県では、それぞれ75%、54%。直接的な原因としては、2年目の昨シーズン(2014/15)は1年目に比べ、十分な農家巡回(モニタリングやフォローアップ)ができなかったこと。より根本的な原因は、農家によっては堆肥の材料入手が容易でない、堆肥に供給する水の確保が難しい、労力に余裕がないなど、堆肥を作るうえでの課題があることが、定期ミーティングやモニタリングの際に報告されている。
	3-2:各LFに教えられた周辺農家(FF)10名が教えられた堆肥づくりや施肥技術を1つ以上自己圃場に	・FFの数 ・自己圃場での導入状況		・プロジェクトが2014年5月に実施したアンケート調査の結果によると、多くのLFは堆肥づくりや施肥をグ ループ単位で行っている(活動3-3)。グループの多くは6～20名のメンバーがおり、特に北ムジンバ県とルンピ県で活発なグループ活動が行われている。調査団によるLFとFFへのインタビューでは、FFはLFから積極的に技術を学んでいる。
	3-3:モニタリングを通じて参加する農民の堆肥利用に関する正の効果が認識される。	・モニタリング方法 ・農家の意見		・参加型モニタリング方式を導入しているわけでなく、主に普及員、日本人専門家、LRCOがLF圃場を訪問している。 ・ほとんどのLFは、2015年は記録的な干ばつで作物に大きな影響が及んでいるが、2014年の実証結果よりも2015年の方がメイズの生育がよいと回答。堆肥の利用により化学肥料の使用を押え、有機肥料の購入も始めた農家も。
	3-4:MoAIWDの普及活動を通じて、ムズズ農政局管区の農民1万人が研究プロトコルに採用された堆肥づくりと施肥技術を利用する。	・モニタリング記録 ・フィールド調査結果 ・ムズズ農政局年次報告書 ・研究プロトコル		・調査規模が大きく検証できない。LF訪問調査のサンプルとしてなどを通じ、LFの状況は把握しているが、その先のことはLFや普及員に会った際に話を聞く程度のみ。プロジェクトのこれまでの活動内容から考えて、プロジェクトが普及する技術を実践する農家が数年の間に数百、数千世帯のペースで増加するといった事態まで想定することはできず、たとえ大規模な調査を行っても、プロジェクトの効果を示す意味のあるデータを得るのは難しい。 ・農家10,000人への普及は、現在実施中の実証が終了した時点でデータを得られる。そこから技術メッセージを抽出し政府として推奨する技術を作成する。推奨技術は全国レベルで普及員へ伝達されるのであり、10,000人はチャレンジングではあるが達成可能。 ・Fortnight Meetingでは隔週で政府から普及員をつうじ、農家に伝えたい技術を普及員に教育している。この研修は以前伝えた技術が現場の農家でどのような反応であったかを普及員に伝えてもらう機会でもある。こうしたMeetingを活用すれば10,000人は可能。 ・「10,000人」は、プロジェクトが現在の活動をもっと早く開始していれば、十分達成可能であったと考える。「200農家/LF/4年間 」は現実的な数値。

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド　実績の検証

評価項目：実績の検証				
評価設問		必要なデータ	情報源	調査結果
大項目	小項目			
	アウトプット4:SLM技術を全国に普及するための方策が示される。			
	4-1.セミナーやワークショップを通じて、参加した90%の土地資源保全局専門員がSLM技術についての知識を取得する。	・知識の取得状況	プロジェクト資料 専門家 LRCD、LRCO	・プロジェクトでは、堆肥作成と施用に関するセミナー/ワークショップをプロジェクト終了前までに土地資源保全局専門員向けに実施する予定。
	4-2.プロジェクトの結果や成果を農業食料安全保障省職員やステークホルダーに共有するためのナショナルワークショップを開催する。	・セミナー、ワークショップ記録、評価表 ・ナショナルワークショップ記録	プロジェクト資料 専門家 MoAIWD職員、 LRCD	・LRCDは年1回(5月～6月の間)実施しているADD主催の農家対象堆肥キャンペーンなどの機会を通じ、堆肥技術の普及を推進している。今年の堆肥キャンペーンはムズズADDで実施し、プロジェクトの成果を示すことも一案としてLRCDから提示された(活動 4-3)。加えて、プロジェクトはASWApの持続的土地・水管理技術ワーキンググループにおいても活動の成果を発表する予定。
PDMの指標から見て、【適切な持続的土地管理技術を普及するMoAIWDの能力が向上する】(プロジェクト目標)見込みはあるか。	指標1：SLM技術ハンドブックが普及局により承認され、28県すべての土地資源保全局のLRCOに配付される。	SLMハンドブック LRCO数 配付計画	プロジェクト資料 専門家 LRCD、LRCO	・プロジェクトで実施支援している昨シーズン(2014/15年)栽培試験の結果は、土壌調査担当専門家の次回任期(4月中旬～7月中旬)中に集計分析され、その後、推奨される技術情報をハンドブックなどの形でまとめる段取りになるので、2015年11月の終了時までに「普及局で承認」というところまでもっていくのは時間的に困難と予測される。 ・プロジェクト終了までに、28県すべての土地資源保全局のLRCOにSML技術ハンドブックが配付される見込みは残る予算次第だが見込みはある。 ・技術ハンドブックに示される技術は、DAESによる普及プロセスに入る前に、MoAIWDの農業技術検討委員会にて検討・承認される。 ・プロジェクトが推奨する技術は、マラウイ側関係者は従来の堆肥作成技術を更に精査し、データを備えたものととらえているが、新しい技術が含まれている限り、諮問委員会の承認は必要。
	指標2：土壌・堆肥試験サービスが北部地域で提供され、普及員や農家がその結果を得ることができる。	・サービス内容、体制、料金 ・結果を得た普及員やLFの数、意見	プロジェクト資料 専門家、普及員、LF	・マラウイの特に北部地域では、これまで土壌分析を行う設備がなかったが本プロジェクトの支援により分析室が整備され、分析サービスの提供が可能となった、ただ、現状では人材面と予算面の運営体制がまだ弱く、これを強化することがこの後も課題。 ・サービスの内容は土壌、堆肥の分析及び結果の解析。プロジェクト関係の分析は無料。外部からの分析に対しては、ルニャングワ試験場が決めた分析単価によって分析費を請求する。正式な課金システム(80%は試験場収入、20%は国庫返納)は政府の承認はまだ得られていない。 ・プロジェクト関連のサンプルだけでなく、外部からも分析依頼があり、それに対応している。 ・プロジェクトで対象となっているEPA(普及エリア)の普及員と農家(LF)に土壌、堆肥の分析結果は診断票の形で普及員を通じて農家に提供している。 ・結果を受け取っていない/結果の内容が判らないLFもいる。
適切な持続的土地管理技術が全国に普及される見込みか。(上位目標)	指標1：SLM技術が農業食料安全保障省やステークホルダーのプログラムに導入される。	・LRCD 2020年年次報告書入手可能性 ・政府やステークホルダーによるSLM関連文献 ・農業普及員向け研修の現状と見込み	プロジェクト資料、 LRCD、専門家、 LRCO、普及員、LF	・プロジェクト終了後も土壌肥沃度を向上するため、LRCDは有機肥料の全国レベルでの使用を推進する強い意向を示している。 ・堆肥作成と施用は土壌肥沃度を高めるため必要な措置であり、マラウイの政策と合致している。 ・プロジェクトが推奨する堆肥作成・施用技術が検討委員会で承認された後は、堆肥キャンペーンなどの国家的なプログラムや、NGO、他ドナーが実施するプロジェクトに導入される見込みはある。
	指標2：80%以上の全国の農業普及員がLRCOから研修を受けたのち、SLM技術を農家に指導できるようになる。			・各県のLRCOは普及員と2週間に1回、活動モニタリングのための会合(Fortnight Meeting)を行っている。同会合はLRCOから普及員へ新技術を移転する研修の場でもある。よって普及員向けの研修システムは基本的には整備されている 。 ・普及員は技術専門員から習得する堆肥作成・施用技術を展示圃場やフィールド・デーなどを通じて農家に伝える。農家のなかでLFとなった農家はFFにその技術を移転していく。
	指標3：2020年までに全国XX百万人の農民がSLM技術を取り入れる。			・政府は堆肥キャンペーンやフィールド・デーなどを通じ、SLM技術を推進している。ある程度の農家はこれらの機会で2020年までに、SLM技術を知り得ると考えられる。しかし、目標数値のXXは設定されておらず、現時点で2020年までの達成見込みを測ることはできない。「取り入れる」の定義も不明瞭である。

・土地資源保全局：Land Resource Conservation Department (LRCD)
・リードファーマー：Lead Farmer (LF)
・農政局：Agricultural Development Division (ADD)

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド　実施プロセスの検証

評価項目：実施プロセスの検証				
評価設問		必要なデータ	情報源	調査結果
大項目	小項目			
活動は計画どおりに実施されたか。	当初のPOと変更しながら行った活動の進捗と成果はどのようなものが出ているか。	・実績と計画との比較結果 ・PO	専門家、LRCD、ムズズADD	・活動2-5（SLM技術に関するムズズADDのLRCD、LRCO向け研修/ワークショップの開催）に関し、プロジェクト終了までに、プロジェクトの成果をフィードバックする何らかの催しを開催する予定。 ・活動2-6（SLMハンドブックの作成）は土壌調査専門家の2回目の任期期間中（9～10月）を予定。 ・活動3-4（普及教材の作成）の承認プロセスは、農業省本省レベルで実施される「技術検討員会（Technical Clearing Committee）」に提出され、推奨技術として承認されるという手順。PDMの最新版ではそのことには特にふれられていないが、中間レビュー前のPDM改定を検証するプロセスでその手順のことは議論された。
	PDMを改訂した効果はあったか。	プロジェクト運営上の効果	専門家、LRCD	・プロジェクトの活動内容と進捗から考えて、当初PDMにあったアプトプット4と5まで達成するのはとても現実的とはいえない状態だったのが、現実的な内容に整理された。 ・現行PDMの最後のアウトプット（4）はプロジェクト終了間近にしか実施できず、時間的にはかなりタイト。
技術移転の方法に問題はなかったか。	・技術移転の方法は適切か。 ・技術移転の対象者は適切か。	研修内容、方法、移転技術レベルに関する: ・専門家意見 ・LRCD、DAES、DARS、ムズズADD等意見 ・研修機関意見	プロジェクト資料 専門家、LRCD、DAES、DARS、ムズズADD、LRCO、普及員、対象地域LF、研修機関等	【LF制度の適用】 ・2011年にLFが選出された当時、研究プロトコルは明確に示されていなかった。 ・地域の農家の間では、LFは「新しい技術を習得し、周りの農家に伝える義務がある」と理解されている。本プロジェクトでも「LF」として農家が選出され、農家は従来のLFの役割を担うと理解していた。 ・他のプロジェクトでは周りの農家への普及がLFの役割に含まれることから、LFは自転車を支給される。本プロジェクトではLFは研究プロトコルに従い実証を行う役割を担うが、10名のFFを教育する義務もある。 ・LFは他のプロジェクトとの違いを理解することが難しく、自転車の支給がない本プロジェクトのLFは当初不満を抱えていた。 【研修】 ・普及員とLFはともに堆肥研修に参加し、理解を深めている。
プロジェクトのマネジメント体制（モニタリングの仕組み、意思決定過程、JICAマラウイ事務所の機能、プロジェクト内のコミュニケーションの仕組みなど）に問題はなかったか。	・実施中のモニタリングによる軌道修正へJICA本部、マラウイ事務所が迅速に対応、助言しているか、コミュニケーションを十分取れていたか。	・専門家意見 ・JICA本部、マラウイ事務所意見	プロジェクト資料 専門家、JICA本部、マラウイ事務所	・JICA本部、JICAマラウイ事務所とプロジェクトは緊密に連絡をとり合っている。本部では報告書のほか、毎回の専門家帰国時の報告などから状況を把握、アドバイスしてきた。 ・鈴木チーフが赴任した頃はムズズADDのMr.Kupundaとの行き違いに事務所が介入し、状況をともに改善した。
	・モニタリングの課題と改善、今後の対応	・専門家意見 ・JCC議事録 ・定期ミーティング議事録、活動進捗記録 ・LRCD、DAES、DARS、ムズズADD等意見	プロジェクト資料 専門家 プロジェクト関係者 ・モニタリング関連記録 ・事業完了報告書	・プロジェクトは中間レビュー以降、ムズズADD、県、試験場レベル関係者による定期ミーティングの開催を支援し、各サイトにおけるプロジェクト関連活動の進捗を確認し、今後の計画について話し合う場をもっている（2014年6月、9月、2015年2月開催）。 ・プロジェクト最初の2年間は、現場レベルの関係者（C/P）が情報共有する機会が全くないままプロジェクトが進んでいたのが、少なくとも定期的にミーティングの場で各サイトでの活動を知って、課題を議論できるようになった。 ・2013/14年作物シーズンの堆肥施用・栽培試験結果、リード農家へのアンケート結果を「中間報告書（Preliminary Report）」として取りまとめ、プロジェクト関係者と共有した。 ・活動進捗を定期的に報告書（英）に取りまとめ、関係者と共有した。今年度業務期間中に作成した進捗報告書は、2014年1～2月、3～6月、7～10月、2014年11月～2015年2月の4回分。 ・LRCD局長（2014年10月）、副局長（2015年2月）によるプロジェクトサイト訪問に同行し、関連情報の提供を行った。 ・LRCD本省、JICA現地事務所に対し、活動進捗や課題について定期報告を行った。また、マラウイ側からの活動費の支出を働きかけた。
実施機関やC/Pのプロジェクトに対する認識/参加度は高いか。	LRCD、DAES、DARS、ムズズADDはプロジェクト活動に対しどのように認識してきたか。	・LRCD、DAES、DARS、ムズズADDの意見	プロジェクト資料 LRCD、DAES、DARS、ムズズADD関係者	・アウトプット1は土壌と堆肥分析を改修したラボで行い、顕著な成果を上げた。アウトプット2はLyrongwa ARSと4つの支部で実証圃を設置し、研究が進みデータが収集できた。研修の場として実証圃が活用されたことも認識。アウトプット3はLFの収集したデータが研究に役立っている。アウトプット4（SLM技術の全国普及への方策が示される）はC/P側で実施することができるが、そのための車両、バイク、PC、プリンター、コピー機が必要。 ・Project ManagerであるムズズADDのC/Pが本プロジェクトの現場活動を実施するうえでマラウイ側のキー・パーソンだが、他の業務でオフィスを不在にすることが多く、意思決定が難しい状況は、中間レビュー後、多少改善されたが問題は依然として続いている。少なくとも、お互いの直近の行動予定（どこに行くか）は共有できないかと何度も申し入れを行うも改善の兆しがみられていない。

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド　実施プロセスの検証

評価項目：実施プロセスの検証				
評価設問		必要なデータ	情報源	調査結果
大項目	小項目			
	T/Gの参加度は高かったか。	・普及員、LRCO、LF、FFの意見	プロジェクト報告書 専門家 LRCO、普及員、LF、FF	・2011年にLFが選出された当時、研究プロトコルは明確に示されていなかった。 ・地域の農家の間では、LFは「新しい技術を習得し、周りの農家に伝える義務がある」と理解されている。本プロジェクトでも「LF」として農家が選出され、農家は従来のLFの役割を担うと理解していた。 ・他のプロジェクトでは周りの農家への普及がLFの役割に含まれることから、LFは自転車を支給される。本プロジェクトではLFは研究プロトコルに従い実証を行う役割を担うが、10名のFFを教育する義務もある。 ・LFは他のプロジェクトとの違いを理解することが難しく、自転車の支給がない本プロジェクトのLFは当初不満を抱えていた。 ・その後、2014年9月にLFやAEDO、LRCOが集まって実施したReview Meetingを通じ、LFはプロジェクトの趣旨を十分に理解した後は努力するようになった。
適切なC/Pが配置されたか。	C/P（LRCD、DAES、DARS、ムズズADD職員）は計画どおり配置されたか。	配置状況	プロジェクト資料 専門家 LRCD、DAES、DARS、ムズズADD	・プロジェクト対象県の普及員は配置されているが、予算がないことから専門家が現場に来るときのみ活動している。各県のLRCOも同じ状況。 ・カタベイ県では、53EPAのうち、39名の普及員しか配置されていない。政府には雇用する予算がない。 ・ルニャングワ農業試験場、試験支場の職員はこれまで4名が異動。最近、大卒レベルの若手研究員がルニャングワに配属された。 ・国全体の普及員の充足率＝64%
	C/Pの人数、位置づけ、肩書き、能力及び配属先は妥当であったか。	関係者意見	プロジェクト資料 専門家、LRCD、DAES、DARS、ムズズADD	・ムズズADDの管理レベルのC/Pの参加意識は低い。日常的なコミュニケーションが十分とれていない。 ・研究分野では、データを収集しても分析能力がある職員が不在。最近、大卒レベルの若手研究員がルニャングワに配属された。
	直接的裨益者以外の組織の巻き込み状況はどの組織にどの程度あったか。	・T/G以外の組織でプロジェクトに大きくかかわっている組織と活動内容 ・留意点	プロジェクト資料 専門家、LRCD、DAES、DARS、ムズズADD	・プロジェクトでは複数のNGO（DF、Tiyeniなど）と連携している。 ・VDCなど地域の組織もプロジェクトの活動に対し評価しているが、特に連携事例はない。

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド　実施プロセスの検証

評価項目：実施プロセスの検証				
評価設問		必要なデータ	情報源	調査結果
大項目	小項目			
中間レビュー調査時の提言に対し適切な対応が取られたか。	①PDMの改訂（成果4と成果5の統合）はプロジェクト運営に効果的であったか。	・専門家意見 ・C/P意見	プロジェクト資料 専門家 LRCD、DAES、DARS	より現実的な指標を設定し、成果4と5が1つにまとまって分かりやすくなった。
	②マラウイ側関係機関の研究部門と普及部門連携が強化されているか。	・プロジェクト実施体制のなかでDARSとDAESの位置づけ	プロジェクト資料 専門家 LRCD、DAES、DARS	・土壌分析、展示・試験関係の活動は試験場スタッフの所掌業務であることから現場レベルでのDARS職員の参加は不可欠。普及活動にはDAESのラインの普及員（AEDCs、AEDOs）の関与が不可欠なため、プロジェクトとしても可能な範囲で彼らを活動に巻き込むよう働きかけている。**現場レベルではDARS、DAESの位置づけは明確であり、活動上のつながりも強くなっているが、本省（リロングウェ）やADDレベルでの関係は不十分。**
	③研究の枠組みは社会経済的要素を考慮し、必要に応じ柔軟に改善されるべき。	研究プロトコル、専門家意見、DARS意見、改善された研究の枠組み	プロジェクト資料 専門家 DARS	・LFによる堆肥作成、圃場設置活動は、2013/14年作物シーズンより「試験プロトコル」に基づく試験活動の一部と位置づけられて支援されてきた。「プロトコル」によれば、試験はLFレベルでも試験場で行うのと同じ目的、内容で実施することになっていたことから、農家に期待することが複雑で過大になっていた。もう少し小規模農家の置かれた状況を考慮して実施すべきというのがこの提言の背景。農家レベルでの圃場設置は、試験目的より普及展示効果をより重視し、各農家が置かれた状況に応じ柔軟に対応できるよう改善されている。
	④プロジェクトは中長期的技術普及戦略を作成し研究活動の成果が普及活動で有効活用される道筋を明確化すべき。	普及戦略	専門家、DAES、ムズズADD	・2014/2015では、LFの圃場に試験の種類を示す掲示版が設置された。 ・プロジェクトは2013年11月、2014年1月のフィールドデイに参加し、LFによる肥料作成の様子を披露した ・2014年9月には、2013/2014年期の試験に参加したLFの堆肥作成と施用の嗜好に係るレポートを作成した。 ・プロジェクトでは普及員向け研修マニュアルを作成し、同マニュアルに基づき農家向け堆肥作成に関するリーフレットを作成した。
	⑤普及分野で活動するDFなどの開発パートナーとの連携を図るべき。	・他ドナー事業内容 ・連携事例/経過/今後の方針	プロジェクト資料 専門家、他ドナー、LRCD、DAES、DARS、ムズズADD	・DFとはADDレベルで強いつながりがあり、当プロジェクトのC/Pも相当な時間をDF関連の活動に費やしている。C/P自身に連携のための調整を期待している。他にも、ムズズをベースにしているローカルNGOとの協力関係ができつつある。
	⑥実施プロセス	日常的なプロジェクトの運営管理の様子	専門家、ムズズADD、普及員	・プロジェクト開始後2年間のかかわりは薄かった。定期会合を開催するようになり、さまざまな課題を共同で検討するに従い、コミュニケーションは改善された。しかし、調査団はプロジェクト管理チームの日々のコミュニケーションにはいまだ改善の余地ありと確認した ・C/Pの一部からチームワークに課題有との発言もあった。
	⑦マラウイ政府の予算的、人的貢献	LRCDの予算額と執行額 C/Pの配置状況	LRCD、LRCO、普及員、専門家	・2014/2015は堆肥作成用の備品（ブーツ、グローブ、一輪車など）への支出があり、一部は既にLFに支給された。しかし、一輪車は予算不足によりムズズADDに留め置かれたままで農家の手に渡っていない。 ・これまでルニャングワ農業試験場に研究員が配置されていなかったが、近々大卒レベルの研究員が配置された。
その他、プロジェクトの実施過程で生じている貢献・阻害要因はあるか。その原因は何か。			プロジェクト資料 専門家 マラウイ事務所 LRCD、DAES、DARS、ムズズADD	・ウォーターゲート事件（公金横領事件）によるドナーの資金一斉引き上げによる、マラウイ政府予算の削減がプロジェクト予算配賦へ大きく影響を及ぼした。 ・干ばつによるメイズ生育への被害。他方、プロジェクトの技術による堆肥利用による生育の差が明らかとなり、功罪あり。

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド 妥当性

評価設問		判断基準方法	必要なデータ	情報源	調査結果
大項目	小項目				
必要性	「適切な持続的土地管理技術を普及するMoAIWDの能力向上」(プロ目標)は、マラウイ社会の農業開発の課題を解決する方策として現在も整合性があるか。	「適切な持続的土地管理技術を普及するMoAIWDの能力向上」(プロ目標)がマラウイの農業開発をつうじた食料安全保障、貧困削減に貢献している。	最新の貧困率 食料事情、土壌の状況	プロジェクト報告書 WBのWebサイト MVAC、Fews NET、WFP等の情報	・貧困率は51%(2011年)、農村部では56%と都市部の17. 3%。 ・マラウイの土壌は生産過多による栄養分(例えば炭素)の損失が進んでいる。自然の堆肥で土壌に栄養を与えることで土壌の肥沃度や物理性を改善していかなければならない。
	プロジェクトは現在もLRCD、DAES、DARS、ムズズADD(ターゲットグループ)のニーズに合致しているか。	LRCD、DAES、DARS、ムズズADDのミッション、ニーズにプロジェクトが合致している。	LRCD、DAES、DARS、ムズズADDのミッション、ニーズ確認	プロジェクト報告書 LRCD、DAES、DARS、ムズズADD	・LRCDは土壌肥沃度が全土で落ちていることに危機感をもっており、堆肥による肥沃度向上に対する意欲は高い。 ・本プロジェクトは、堆肥の効果に関するデータを示している。LRCOとして農家に接する際、自信をもって堆肥技術を推奨できる。 ・ルニャングワ試験場はもともと家畜のための試験場だった。土壌分析は他のラボに行かないとできなかった。
	プロジェクトは現在も関係機関のニーズに合致しているか。	プロジェクトは県議会、地域開発委員会、村落開発委員会など関係機関のニーズに合致している。	LRCD、DAES、DARS、ムズズADD以外の関係機関のニーズの変化	県議会、地域開発委員会、村落開発委員会	計画当初は県議会、地域開発委員会、村落開発委員会との連携が指摘されていたが、実際始まるとこうした関係者とのつながりは全くない。
	プロジェクトは現在も農家のニーズに合致しているか。	プロジェクトは現在も農家のニーズに合致している。	農家のニーズの変化	プロジェクト報告書 LF LRCO、LRCO、普及員	・農家は日頃から自分の畑の土壌は良くないと感じていたところ、プロジェクトが堆肥づくりと聞いて興味をもった。堆肥づくりの知識はピット堆肥程度で、ほとんどもっていなかった。 ・食糧を十分得られなかったので(メイズ増収のため)LFになった、FISPで得られる化学肥料には限りがあり、安定的な肥料を入手したいとの動機からLFになった農家も。
優先度	プロジェクトは、終了時評価時点においても、マラウイの開発政策における農業農村開発の方針に合致しているか。	プロジェクトは、マラウイの農業開発の方針に合致している。	現行ASWApにおける土地水管理技術に関する位置づけ	ASWAp(2011-2015) マラウイ政府Budget statement 2014 マラウイ政府National Agriculture Policy、Priorities in Agriculture Sectorなどのドラフト文書	・SWApは、マラウイ政府による農業の成長を促進するための最上位の農業政策であり、優先的な投資プログラムである。ASWApのなかの3つのフォーカスエリアのうちの1つとして持続的土地水管理は位置づけられている。 ・NMTPFはFAOがマラウイ政府の要請に基づき策定されたもので、FAOとマラウイ政府が行う中間的な課題。NMTPFの優先課題の1つに持続的土地水管理は位置づけられている。
			FISPに関する現状と政府方針	FISP LRCD意見	・政府は150,000MTの化学肥料のSFFRFMを通じた配布をすることでコスト削減をめざす。 ・FISPは貧農に対し、農業インプットを提供し生産量を上げる、という施策。食料安全保障施策として2005年から続いている。1.5million農家がターゲット。化学肥料を低価格で提供(通常50kg15,000MWKを500MWKで提供。)メイズのハイブリッド種子も5kg無償で提供している(通常は2,000MWK) ・FISPで化学肥料を提供しても、上述の土壌荒廃は進んでいることからlegume(マメ)の生産も奨励している。食糧にしても、現金に換金しても、輪作用として活用してもよい。 ・食料安全保障の一環として当面は、FISPは維持されていく。Stakeholder meetingを開催し、最近は農家の負担を増やす議論がなされている。例えば、500MWKを1,500MWKにするなど、農家のレベルに合わせていくつかのカテゴリーを作る案も出ている。また、Agroforestry事業とFISPとの統合も検討されている。 ・政府がFISPを継続している理由は、食料安全保障の観点から、食糧を輸入するよりコストがかからないこともある。本プロジェクトで堆肥の改善がなされれば、化学肥料の投入量を減らすことができる。
	プロジェクトは日本の援助政策JICAの援助実施方針との整合性はあるか。	プロジェクトは日本の援助政策JICAの援助実施方針に沿っている。	・わが国の支援基本方針と重点分野 ・事業展開計画におけるプロジェクトの位置づけ ・TICAD IVの農業分野支援内容	国別援助方針(2012年4月) 事業展開計画(2014年4月) TICAD V「横浜行動計画(2013-2017)」(2013年6月)	・日本国政府の対マラウイ共和国国別援助方針(2012)では、援助重点3分野の1つに、成長の負の側面に対処する「脆弱性への対応」を掲げている。脆弱性への対応の1つとして、貧困削減、格差是正を図るための「農村・地方開発」支援をうたっている。事業展開計画(2014)でも、本プロジェクトは、農村部の持続的な経済振興を図る「農村・地方開発プログラム」に貢献するとの位置づけ。 ・TICAD Vの「横浜行動計画」では、アフリカ大陸における食料需要の増加及び農業の変革のためには、例えば肥料やその他の投入資材へのアクセス向上など、アフリカ諸国及び多様な国際的パートナー間の更なる協調した取り組みが求められている、としている。

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド　妥当性

評価項目：妥当性					
評価設問		判断基準/方法	必要なデータ	情報源	調査結果
大項目	小項目				
手段としての適切性	プロジェクトはマラウイの農業分野の開発課題に対する戦略として適切か。	対象県は適切に選択された(不適切と判断される証拠はない)。	・パイロット4県の選択の妥当性の変化 ・4県の他ドナー事業の増減	プロジェクト報告書 専門家 JCC記録、LRCO、普及員、LF	・対象はカタベイ、ムシンバ南、ムシンバ北、ルンピの4県。さまざまな環境で実証ができる点では4県の選択の妥当性はある。 ・他方、専門家の移動に時間と経費が費やされている。
		対象村落は適切に選択された。	対象村落選択基準		ベースライン調査を通じ、他ドナーによる協力状況、普及員の配置状況、土壌の性質、農家の参加意欲、水源等の情報収集の結果基準を設定し選定された。 ・対象LFは各県のコミュニティで選定された。それぞれが離れている県では、専門家の効率的な動き、LFからFFへの指導の足かせになっている。
		対象作目は適切に選択された。	メイズを選択した妥当性の変化		・研究プロトコルでは、主食のメイズが対象作目になっている。 ・堆肥はメイズよりも野菜などに即効性があるともいわれている。
		選択したアプローチは妥当か。	・LF制度と適用の妥当性 ・農家による参加型モニタリング ・土壌肥沃度向上技術強化と普及強化を通じたMoAIWDの普及能力強化	プロジェクト報告書 専門家、LRCO、普及員	・普及員の充足率が64%と十分でない状況において、LF制度は普及員活動を補完するものとして農家に定着している。 ・複数あるSLM技術のうち特に堆肥の施用をとおした土壌肥沃改善に焦点を当てた活動をしているが、土壌肥沃度改善は、マラウイ農業(おもに主食メイズの生産)にとって最重要開発課題の1つであることに変わりはない。マラウイ政府も化学肥料補助に大きな予算を使っており補助予算を削減していくのに貢献できる技術に対する期待は大きい。 ・土壌肥沃度の実際の改善には10年、20年、それ以上の長い時間が必要。4年間のプロジェクトで取り組むには難しい課題も。土壌肥沃度改善アプローチが必ずしも妥当でなかったか。 ・詳細実施計画調査報告書から、本プロジェクトが形成された背景と当初想定されていた大きな目的は、既にある技術の「普及」であった。しかし、プロジェクト2年目に幅広い関係者から意見を得て「試験プロトコル」が作成され、それに基づいた活動を3年目(2013/14年)から実施することがプロジェクトメンバーの間で合意され、それに沿って活動が動き始めたことで、当初はあまり想定されていなかった「技術の検証(試験)」にフォーカスが移った。プロジェクトには流れがあり、その後、急に活動のフォーカスを普及に戻すことは難しかった。 ・普及活動は、専門家が直接関与しない村や農家レベルでの現場活動に業務費を支出することになるため、JICAの会計規則に則って現金の支出、精算手続きをどうするかという点で良い方法を見い出せないことも、普及活動への支援を具体化できない1つの要因。

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド　妥当性

評価設問		判断基準方法	必要なデータ	情報源	調査結果
大項目	小項目				
手段としての適切性	C/P機関(LRCD、DAES、DARS、ムズズADD)の選択は適切であったか。	C/P機関(LRCD、DAES、DARS、ムズズADD)の選択は適切であった(協力内容に対するニーズは高い)。	LRCD、DAES、DARS、ムズズADDに決定した経緯と現状での適切性	プロジェクト資料 専門家 マラウイ事務所	・プロジェクトが研究に重点を置くのであればDARS、普及ならばDAESと内容によってC/Pは決まるはずである。 ・他方、SLM技術に関する政策の実施はLRCDであることから、政策への打ち込みという面からLRCDがC/Pとなったことは妥当とも考えらえる。 ・3機関(LRCD、DAES、DARS)の役割分担が詳細計画策定調査当時から不明確であった点は本プロジェクトの円滑な運営に影響を及ぼした。
	T/G(LRCD、DAES、DARS、ムズズADDの選定は適切か(対象、規模、男女比等)。	T/G(LRCD、DAES、DARS、ムズズADD)の選定は適切であった。	各機関の対象者のTOR プロジェクトにおける役割	プロジェクト資料 専門家 LRCD、DAES、DARS、ムズズADD	<2つのSub-stationを対象から外した経緯> ・距離が離れていて十分な指導ができなかった ・収穫データが提出されなかった。 ・JICAの予算削減
	T/G以外への波及性はあったか。	T/G以外への波及効果があった。	県議会、地域開発委員会、村落開発委員会などT/G以外への波及効果事例	プロジェクト資料 専門家 T/G以外の関係者	・Project Target areaとして、プロジェクト開始当初、VDC(Village Development Committee)を対象とするという考えがあったかもしれない。その後、活動が本格的になるプロセスでそれは失われた。現在、特定なVDCを対象とするアプローチで活動は行われていない。
	日本の技術の優位性はあるか。(対象技術のノウハウが蓄積されているか、日本の経験を活用できるか。)	ボカシ肥料製造適用普及など日本の技術や経験が活かされている。	関連案件を通じた経験 ノウハウの活用状況	プロジェクト資料 JICAWebサイト 専門家 マラウイ政府関係者	・日本には肥料、堆肥に詳しい「土壌の専門家」は存在しているが、「堆肥の専門家」は極めて少ない。
中間レビュー以降、プロジェクトを取り巻く環境の変化	日本の対マラウイ政策に大きな変化が生じていないか。	対マラウイ支援方針の変化の有無の確認	国別援助方針 事業展開計画	プロジェクト資料 外務省HP JICA本部、JICAマラウイ事務所	・JICAマラウイ事務所では、「本プロジェクトで土壌改善技術を移転→中規模灌漑技術プロジェクト(新規)で水の改善→SHEP技術プロジェクト(新規)で換金作物栽培をめざす」との方向性。
	マラウイの農業農村開発分野政策に大きな変化は生じていないか。	・関連政策の変異の有無の確認	MoAIWDの方針 LF、普及員、LRCOなど意見	詳細計画策定調査報告書、政策文書、LRCD JICAマラウイ事務所	・マラウイ国全省をあげて、予算づけのための目標値の見直しがこれまでのOutput based budgetから(ha数、堆肥山の数など)から、より農家の便益を示すProgram based budget(生産量、土壌肥沃度など)への転換中。2015/2016はMoAIWDがパイロット省の1つとして選ばれ、次年度以降全省での移行を進める。 ・次期ASWAp(2016年～)の方針、資金額などは不明。
	マラウイの経済社会状況に伴う大きな変化が生じていないか。	・気候変動の作物栽培への影響	LF、普及員、LRCO、DARS、LRCO意見	プロジェクト資料 専門家 LRCD、DAES、DARS、ムズズADD、LRCO、普及員、JICAマラウイ事務所	・洪水、干ばつが進んでいる(特に南部地域の状況は厳しい)。

★ASWp: Agriculture Sector Wide Approach (2011-2015)
★NMTPF: National Medium-Term Priority Framework (2010-2015)
★FISP:Farm Input Subsidy Programme
★SFFRFM: the Smallholder Farmers Fertilizer Revolving Fund of Malawi

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド　有効性

評価項目：有効性（予測）					
評価設問		判断基準・方法	必要なデータ	情報源	調査結果
大項目	小項目				
プロジェクト目標の達成	「適切な持続的土地管理（SLM）技術を普及するためのMoAIWDの能力が向上する」（プロ目）は達成されるか。	①SLM技術ハンドブックが普及局（DAES）に承認される。 ②28県の土地資源保全局の専門員に配付される。 ③土壌堆肥試験サービスが北部地域に提供されるための体制が整っている。 ④サービスを受けた普及員や農家が結果を得ている。	①承認プロセス、承認されたハンドブック ②配付状況・予定 ③サービス内容、体制、LF数 ④実際にサービスを受けた農家数、サービス内容	プロジェクト資料 専門家 LRCD、DAES、DARS、ムズズADD、LF （LF数：ASWAp M&E dataの項目にあるが、DAESでの集計ができていない状況）	・プロジェクトで実施支援している昨シーズン（2014/15年）栽培試験の結果は、土壌調査担当専門家の次回任期（4月中旬～7月中旬）中に集計分析され、その後、推奨される技術情報をハンドブックなどの形でまとめる段取りになるので、11月の終了時までに「普及局で承認」というところまでもっていくのは時間的に困難と予測される。 ・プロジェクト終了までに、28県すべての土地資源保全局のLRCOにSML技術ハンドブックが配付される見込みはプロジェクト終了に向け残る予算次第だが見込みはある。ただし、それは「普及局で承認された」技術ではなく、プロジェクトとして推奨する技術について。 ・マラウイ、特に北部地域では、これまで土壌分析を行う設備がなかったが本プロジェクトの支援により分析室が整備され、分析サービスの提供が可能になった。 ・サービスの内容：土壌、堆肥の分析及び結果の解析。 ・費用：プロジェクトの関係の分析は無料。外部からの分析に対しては、ルニャングワ試験場が決めた分析単価によって分析費を請求しているも正式な課金システムは政府の承認はまだ得られていない様子。 ・プロジェクト関連のサンプルだけでなく、外部からも分析依頼に対応中。 ・プロジェクトで対象となっているEPA（普及エリア）の普及員と農家（LF）が中心だが土壌、堆肥の分析結果は診断票の形で普及員を通じて農家に提供している。
	JICAの他のスキームとの連携、他の援助機関の案件との協力による相乗効果はあったか。	・類似案件の教訓の活用事例がある。 ・研修の効果が発現している。	・各種類似案件の現状 ・連携の事例 ・参加した研修の内容	プロジェクト資料 専門家 JICAマラウイ事務所、DF、集団/課題別研修参加者	①シレ川中流域における村落振興・森林復旧プロジェクト（COVLRCOフェーズ2） ②ノルウェイNGO（LIN）との連携活動の一環として、農民グループへの堆肥作成・施用にかかわる研修実施を支援した。こうした研修を行うことで、プロジェクトが直接対象とできる農家だけでなく受益者の幅を広げることが可能となる。プロ目の「農業省の能力向上」ということに直接的に結びつくことではないかもしれないが、本プロジェクトの究極的な目標（SLM技術の普及）には貢献する。 ③小規模灌漑開発リーフレット（JICA）を参照した。
因果関係	「適切な持続的土地管理技術を普及するMoAIWDの能力向上」はアウトプット達成によって引き起こされたか。	・各アウトプットとプロ目の間のロジックが整合している。 ・各アウトプットがプロ目達成に貢献している。 ・各アウトプットが相互に影響している。	・関係者のPDM理解の度合い ・家畜の数、水へのアクセス	プロジェクト資料 専門家、LRCD、DAES、DARS、ムズズADD、LF	・ルニャングワ農業試験場の土壌試験ラボ設立以来、マラウイ北部地域での土壌試験が可能となった。プロジェクトは、チェナチェナとムコンデジ農業試験支場の農場圃場での堆肥作成を通じ、技術職員の能力向上にも貢献（アウトプット1）。 ・プロジェクトは研究プロトコルに基づき、普及員向けの研修用マニュアルを開発中で、本調査時点で、第3版まで改訂を進めている。プロジェクトは研修マニュアルを基に堆肥作成・施用技術に関するリーフレット3種（ボカシ、チャング、ウィンドロー）も作成した。これらのリーフレットは写真や絵が多用され、農家レベルでも理解されるように工夫されている。プロジェクトでかかわった4県のLRCDはリーフレットを活用した堆肥作成・施用指導を行い、プロジェクトの最後のステップであるSLM技術ハンドブックの作成につなげている（アウトプット2）。 ・プロジェクトはLFの圃場での実証試験を2013/2014作期に開始し、現在進行中の2014/2015作期では、著しい成果を上げている。今期の干ばつのなかでもLFの圃場のメイズの生育が際立って良い。LFも2014年と比して2015年の生育の良さに一様に満足している。今後収集・分析される今期のデータはSLM技術ハンドブック開発のための重要な情報として活用される（アウトプット3）。 ・アウトプット4はプロジェクト終了後のSLM技術の全国展開（上位目標）をめざすうえでMoAIWD職員に必要な能力や下地づくりを行うことを意図している。マワウイ側C/Pが主導的に関係者や対象地域以外の農家にSLM技術を伝えていくことが期待される（アウトプット4）。
	アウトプット→プロ目への外部条件が満たされる見込みは高いか。 タイムスパンはどの程度か。 →アウトプット→プロ目への外部条件はプロジェクト達成に必要な条件なので、プロジェクト期間内に満たされている必要がある。	①持続的土地管理技術の普及がマラウイの中央・地方政府の優先課題であり続ける。	下記政策におけるSLM技術普及の位置づけ ・ASWAp、National Agriculture Policy、Priorities in Agriculture Sector ドラフト文書	プロジェクト資料 MoAIWD、LRCD、ムズズADD	・SLM技術の普及がマラウイの中央（LRCD）・地方政府の優先課題であり続けている。 ・SLM技術の向上はASWApの3本柱のうちの1つ。 ・NAPは次期ASWAp策定の際、使用される。NAPは2015年2月にコンサルテーションのための発表がなされた。その時点においては、NAPでは持続的水管理と土地利用を推進する政策案が提示されている。

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド　有効性

評価設問		判断基準・方法	必要なデータ	情報源	調査結果
大項目	小項目				
評価項目：有効性（予測）					
		②農村部の労働力不足が深刻化しない。	農村部の労働力の流出状況	プロジェクト資料 ムズズADD、普及員、LF	・特に流出している、との情報はない。 ・家族の病気などによる堆肥づくりへの影響はある。
		③主要農作物の価格が大きく低下しない。	主要農作物の価格推移	プロジェクト資料 DAES、ムズズADD、LRCO、LF	・「農産物価格が大きく低下しない」というのは、推奨するSLM技術が（全国に）普及するということに対する外部条件ということでPDMに入れられたが、影響なし。
		④家畜糞の入手が極端に困難にならない。	・家畜の数 ・地域による違い	プロジェクト資料 専門家、普及員、LRCO、LF	・現在でも家畜糞の入手は困難であり、数名のLFが途中でやめた主な理由の1つ。 ・カタベイ県は湖に面し、漁業が盛ん。家畜は少ない。ムジンバ県は家畜数が多い。
	アウトプット以外のプロ目達成への阻害要因は。	阻害要因があった場合、解消・軽減されている。			・ウォーターゲート事件（公金横領事件）によるドナーの資金一斉引き上げによる、マラウイ政府予算の削減。

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド　効率性

評価項目：効率性					
評価設問		判断基準・方法	必要なデータ	情報源	調査結果
大項目	小項目				
アウトプットの算出	4つのアウトプットは達成したか。	4つのアウトプットがそれぞれ達成した/される見込み	・アウトプットの内容、プロ目とのロジック確認と、各指標の目標数値の設定結果	プロジェクト資料 専門家 LRCD、DAES、DARS、ムズズADD	【アウトプット1】：ほぼ達成された 分析マニュアルのドラフトが作成され、ルニャングワ農業試験場では土壌と堆肥分析サービスを開始した。研究プロトコルに基づき1,700近くのメイズ生育に関するデータが収集された。NGO、民間セクター、警察など外部組織からも787件の試験が依頼された。2014/2015期の試験結果は分析中だが、LF、試験場でのメイズ生育は干ばつのなかでも2014年よりも明らかに向上した。 【アウトプット2】：ある程度達成した プロジェクト開始から2015年2月までに585名のムズズADD、県LRCO、普及員が堆肥作成と施用に関する研修を受講した。普及員、LF向け研修マニュアルも第3版まで作成され、県LRCOの堆肥作成と施用に関する普及員向け指導能力は向上。 【アウトプット3】：プロジェクト終了までに達成される予定 プロジェクトでは49名のLFを対象に圃場実証を行っている。研修を受けたLFのうち2013/2014期45名（91%）、2014/2015期42名（86%）の2回、展示圃場で堆肥を施用したメイズを栽培。水、堆肥作成に必要な材料（特に家畜糞）、運搬費の不足などがLF数の減少の主な理由。LFはFFを指導している。プロジェクトはプロジェクト終了までにLFとFF向け普及活動を重点的に行う予定。10,000人の農家調査はされていない。 【アウトプット4】：予定された活動が実施されれば達成される見込み。 プロジェクトは土壌/堆肥分析の結果を踏まえ、推奨する堆肥作成技術を全国に普及するためのワークショップ/セミナーをプロジェクト終了前までに開催する予定である。
達成されたアウトプットから見て投入の質・量・タイミングは適切か	専門家派遣人数、専門分野、派遣時期は適切か。	計画値と比較し、専門家の投入量/タイミング、活動スケジュール、専門性、成果品の質に問題がなければ妥当とする。	派遣実績 専門家の働きぶり C/P	派遣者リスト、専門家	・プロジェクト開始当初、適切な専門家の派遣が遅れた。 ・初代チーフは土壌の専門家でもあったが、鈴木チーフは本プロジェクトでは主に総括業務を行うことが求められている。松井専門家は土壌分析の技術指導がおもなTOR。 ・ 鈴木リーダーが派遣された段階で「たい肥製造・圃場管理」について助言できる体制が弱かった。それを補完すべく、中田専門家は「たい肥製造・圃場管理」の専門家として派遣された。それ以降、プロトコルに沿った栽培試験のスムーズな実施が可能になり、専門家の体制は現場のニーズに合った形となった。
	供与機材の種類、量、設置時期は適切か。	計画値との比較 プロジェクト活動への影響	機材実績 利用状況 機材が配置されたC/P	機材リスト、管理状況、専門家	・PCが1台盗難にあった。別の1台はC/Pの海外留学により持ち出された。近々帰国し返却される予定。それ以外は適切に使われている。 ・供与したバイクは、C/P側からの燃料費がでないため有効活用されていない県もみられる。
	研修員受入人数、分野、研修期間、受入時期は適切か。	計画値との比較	研修員受入実績 帰国研修員意見	研修リスト、報告書 専門家、研修員	2013年11月22日～30日3名（LRCD、Lunyangwa ARS, MzuzuADD)が参加。帯広畜産大学受入。土壌診断技術、SLM技術について習得。
	LRCD、DAES、DARS、ムズズADD人数、配置状況、能力は適切か。	計画値との比較 プロジェクト活動への影響がなければ妥当とする。	農政局普及員、LRCDLRCO、農業試験場職員配置状況	専門家 C/Pの配置リスト	**＜2カ所のサブステーションが削減された理由や経緯＞** ・Mbawaステーション（ムジンバ南部県）はムズズから距離があり（200km以上）、専門家が訪問できる頻度も限られていたことから担当オフィサーへの十分な指導ができなかった。Boleroステーション（ルンピ県）の担当オフィサーは、ルニャングワ試験場にいるアシスタント研究員で、現場へ行くのは月に1～2回程度で試験活動の管理自体が十分にできる体制になっていなかった。 ・専門家側からの再三の依頼にもかかわらず、担当したオフィサーからは収穫データなどは結局提出されなかった。（データが取れていなかった模様）。JICA側の予算が減ったことも大きかったが、このように1年目のパフォーマンスが投入した経費の割に満足できるものではなかったことが、2カ所を削った理由でもあった。 ・1年目（2013/14年シーズン）に試験を始める前から、試験サイトがあまりに遠隔地に分散しすぎているので、もう少し数を減らせないか、少なくとも常駐研究員のいないBoleroは難しいので落とせないかという提案を専門家側から出したが、C/P側からは「プロトコル」で決まっていることだからということで同意が得られず、1年目はプロトコルにあるとおり、5カ所でやってみた結果、上記のような顛末になった。2年目もそのまま続けるようC/P側は主張したが予算不足を理由に2カ所を削ったのが経緯。 ・ 現場の分析技術者レベルのC/Pは、最初から配置されていたので、全く存在しない訳ではない。他方、土壌セクションを担当する「研究員」は、ルニャングアには場長（Dr. Chilimba）しかおらず、場長自ら現場の活動を行うことはあり得なかったので、分析や圃場試験の試験を実質的にマネジメントする「研究員」レベルのC/Pがつい最近まで配置されなかったことになる。なお、同研究員レベルのC/Pは、本邦研修への参加が決まった。 ・ ルニャングワ試験農場に研究者が配置されていないなか、研究プロトコルはDr. Chilimbaがドラフトし、リロングウェ大学の先生や他のADDのLRCOからコメントを得て最終化した。研究プロトコルに基づく現場活動を取りまとめる研究員がDARS側に実質的にいないなかで、本来、研究員が率先して行うべき試験活動にMr. Kupunda自身が意思決定を行ってきた（そうせざるを得なかった）。 ・ルニャングワ試験農場の人員体制は人の異動が多かったが専任スタッフが配属されほぼ体制が固まってきた。
	建物、施設の質、規模、利便性に問題はないか。	建物、施設の質、規模、利便性に問題はない。	建物、施設、首都とプロジェクト事務所の距離、移動時間、道路事情	施設、状況などの直接観察、利用者	・建物、施設に問題はみられていないが、プロジェクト事務所のあるムズズADDから各県の現場、首都リロングウェの距離が離れていることから利便性は低い。 ・道路事情は幹線道路は問題なし。支線は未舗装道路が多い。

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド　効率性

評価項目:効率性					
評価設問		判断基準・方法	必要なデータ	情報源	調査結果
大項目	小項目				
	プロジェクトの予算は適正規模か。	LRCD、DAES、DARS、ムズズADDによる予算配分額、配分時期は適切である。 ・JICAからの予算額は適切である。	LRCD、DAES、DARS、ムズズADDによるコスト負担実績、JICA本部/マラウイ事務所からの情報	プロジェクト資料 LRCD、DAES、DARS、ムズズADD、専門家、JICA本部、マラウイ事務所	【マラウイ予算】 ・プロジェクト開始から現在まで、マラウイ側予算は2014/2015予算にて堆肥作成用の備品(グローブ、長靴など)の購入費以外は日本側に依存。LF向け一輪車も購入されたが、輸送費がなく届けられていない状況。 【JICA予算】 ・2014年度のJICA予算が削減された。アフリカ向け予算のひっ迫から、予算管轄部の地域部(アフリカ部)から一律減額の指示があり、その範囲内での実施を余儀なくされた。具体的には、短期専門家の人/月の削減、在外事業強化費の削減に及んだ。本プロジェクトに限らず、アフリカ他国の案件においても同様の措置が取られた。2015年度は2014年度以前の水準に回復。
因果関係	アウトプットを産出するために十分な活動であったか。	活動の追加によるアウトプット産出への影響	活動記録 関係者意見	プロジェクト資料 専門家 LRCD、DAES、DARS、ムズズ	PDM Ver.2に記載されている活動はアウトプット産出に十分な内容である。
	活動→アウトプットへの外部条件は満たされているか。	①通常の降雨パターンが維持される。	気象状況と作物の生育への影響	プロジェクト資料 専門家、LRCD、DAES、DARS、ムズズADD、LRCO、普及員、LF	・2014/2015 は記録的な干ばつに見舞われ、メイズが大量に枯れている。 ・プロジェクトのLFのメイズは2013/2014よりも更に順調に生育している。
		②MoAIWDの職員が大量に退職しない。	職員の移動・退職状況	プロジェクト資料 MoAIWD、専門家、LRCD、DAES、DARS、ムズズADD	・職員の異動が頻繁に起きている。本プロジェクトのC/Pはこれまで6名(特にルニャングワARS)異動となった。
		③農家の農業投資材へのアクセスが悪化しない。	農家の農業投資財へのアクセス状況	プロジェクト資料 専門家、普及員、LF	・化学肥料の価格が上がっている。 ・化学肥料は全LFに配賦されていない。
	外部条件には記載されていない他の阻害要因はあるか。	投入の阻害に関するものとして影響が大きいものがあれば、その原因と影響を分析	LRCDの財政状況	プロジェクト資料 専門家、LRCD、DAES、DARS	・ウオーターゲート事件を契機にドナーからの資金が落ちたことが原因でマラウイ政府は財政的にひっ迫した。2014/2015年予算は多少回復傾向にあるが、事件前の水準には戻っていない。
コスト	アウトプットは投入しているコストに見合っているか。	より低いコストで達成できる代替手段はなかったか。	・プロジェクト費用 ・類似案件費用 ・経費節約に工夫した点	プロジェクト資料 専門家、類似案件情報	・COVAMSプロジェクト(2007-2012)での研修費用:66.8KW/人(約18円)
	先行実施した/実施中の各種プロジェクトで育成した人材、成果、資機材は活用されているか。	先行実施した/実施中の各種プロジェクトで育成した人材、成果、資機材は活用されている。	①シレ川中流域における農民による流域保全活動推進プロジェクトフェーズ2 ②農業政策モニタリング評価専門家 ③課題別研修 ④既存のマニュアル類	プロジェクト資料 専門家、JICAマラウイ事務所	①プロジェクト1年目に何らかの連携をという話があったようだが両プロジェクトの対象地域は南部と北部で距離も離れていることから意見交換も難しいため、実質的に進んでいない。 ②専門家と2回ほど意見交換を行った。 ③2県(ルンピ及びカタベイ県)のLRCOは帯広で実施された集団研修(2013年、2014年)にも参加し、土壌診断技術に関する知識を習得する機会も得た。集団研修で得た知識経験はSLM技術に関する能力を大幅に向上させた。 ④小規模灌漑開発リーフレット(JICA)を参考資料として活用した。 ⑤Agricultural Development Programme Support Project (2008-2016)(世銀)とは関係した活動なし。 ⑥ノルウェイNGO(LIN)との連携活動の一環として、農民グループへの堆肥作成・施用にかかわる研修実施を支援した結果、重複した活動を回避できた。成果をプロジェクトが直接対象とする地域、農家から広げることができた。
	・他ドナー・マラウイ国家プロジェクトとの重複はないか。 ・連携の内容やコスト面での協力効果は。 ・マラウイ関連機関との連携	・他ドナー/マラウイ国家プロジェクトとの重複はない。 ・コスト面での協力がある。	・他ドナー援助方針とプログラムの最新状況 ・研修のT/Gと内容面での棲み分け	プロジェクト資料 専門家、JICAマラウイ事務所、MoAIWD、LRDC、県農業事務所	・DF、TiyeniなどNGOもムズズADDで堆肥づくりを含むプロジェクトを実施している。DFやTiyenはプロジェクトで推進しているポカシづくりを取り入れている。 ・本プロジェクトがDFのLFを呼んで研修をするなど連携もある。

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド　インパクト

評価項目：インパクト（予測）

評価項目		判断基準・方法	必要なデータ	情報源	調査結果
大項目	小項目				
上位目標の達成予測	プロジェクト終了後3年程度の時点で、「適切な持続的土地管理技術が全国に普及される（上位目標）」見込みか。	指標1：SLM技術がMoAIWDやステークホルダーのプログラムに導入される。	・年次報告書の入手可能性 ・導入されたSLM技術の内容 ・導入される見込みの地域、農家数	LRCDの2020年年次報告書 政府やステークホルダーによるSLM関連文献 ASWApのSustainable Land and Water Management Technical Working Groupの会合記録	・プロジェクトではSLM技術のなかでも、堆肥作成・施用に焦点を絞っている。 ・LRCDでは堆肥キャンペーンを年1回5～6月にADD主導で実施している。 ・LRCDの年次報告書は普及員→LRCO→ADD→LRCDの流れで堆肥施用面積や堆肥山の数、農家数などが集計されている模様。
		指標2：80%以上の全国の農業普及員がLRCOから研修を受けたのち、SLM技術を農民に指導できるようになる。	・全国の農業普及員の数 ・LRCOから受けるべき研修の内容 ・SLM技術を指導できる農業普及員の想定数 ・農業普及員の技術習得状況	研修実績 ムズズADD資料	・普及員の数＝1,664人（2014年） ・各県のLRCO（LRCO）は毎月2回実施される普及員へのモニタリング会合で新技術を伝えることができる。 ・1,664人x80%=1,331人=目標人数
		指標3：2020年までに全国XX百万人の農民がSLM技術を取り入れる。	・年次報告書の入手可能性 ・全国の農家数 ・取り入れられると想定されるSLM技術の内容	・LRCDの2020年年次報告書 ・LF	・1名の普及員が指導できる農家の数=750名 ・堆肥改善が行われている面積＝全土の5%程度（288,000ha*1 /5,580,000ha*2)=導入される農家数 ・750人x5%=37.5人 ・37.5人x1，331人=49,912人≒50,000人
		上位目標を達成するための取組が行われている/計画されている。	DAES、DARS、ムズズADD、意見、計画内容	プロジェクト資料 専門家、LRCD、DAES、DARS、ムズズADD	・伝えるべき推奨技術を7月までに取りまとめる。 ・アウトプット4の活動として、ナショナルレベルのワークショップがプロジェクト終了時までに実施される。
		上位目標の達成を阻害する要因はない。	LRCD、DAES、DARS、ムズズADD意見	プロジェクト資料 専門家、LRCD、DAES、DARS、ムズズADD	・LRCDの予算 ・ムズズADDのプロジェクト管理チームレベル、LRCD、DAES、DARSのコミットメント ・堆肥の効力以上の干ばつなど自然災害
因果関係	適切な持続的土地管理技術の全国への普及（上位目標）と全国普及のためのMoAIWDの能力向上（プロ目）はかい離していないか。	普及に向けたLRCD、DAES、DARS、ムズズADDの意識レベル C/P機関のイニシアティブにより、SLM技術の全国普及のための方策が検討されている。	LRCD、DAES、DARS、ムズズADD、専門家意見	プロジェクト資料 専門家、 LRCD、DAES、DARS、ムズズADD、LRCO、普及員	・指標3：現在のプロジェクトの対象LF人数が49名であるところ、「3年後にXX百万人」は非現実的な数値。 ・調査時点では、LRCD、ムズズADDのイニシアティブで、SLM技術の全国普及のための方策が検討されているとはいえない。
	プロジェクト目標→上位目標の外部条件は現在でも正しいか。外部条件が満たされる可能性は高いか。	MoAIWD/県がSLM技術を普及するため提案されるプログラムの実施のために十分な予算を確保できる。	専門家、MoAIWD、LRCD、DAES、DARS、ムズズADD意見	プロジェクト資料 専門家、 MoAIWD、LRCD、DAES、DARS、ムズズADD	MoAIWD(LRCD)の予算はASWApに大きく依存している。現在プロジェクトで取りまとめている技術のASWAp関係者へのできる限りの周知が必要。 堆肥キャンペーンやField Dayなど実施しているプログラムもある。
波及効果	上位目標以外の効果・影響は想定されるか。 ・政策策定、法律・制度、基準等への影響 ・ジェンダー、人権、貧富等社会・文化的側面への影響 ・環境、技術、社会、プロジェクト関係者、受益者等への経済的影響	＜想定されるインパクト＞ ・地域別性肥料の目安が記された農業従事者向けガイドの改訂につながった。 ・化学肥料削減により生産コストの削減につながった。 ・農作物の収量が増えた。 ・FISPなど既存プログラムに影響を及ぼした。 ・他ドナーの事業に技術が活用された。	・政策、法律、制度、基準への影響 ・環境、経済への影響の有無 ・女性、貧困層の変化	プロジェクト資料 専門家 LRCD、DAES、DARS、ムズズADD、LRCO、普及員、LF、FF	・"Guide to Agriculture Production and natural resources management"は全国規模で普及員や農家に使われているテキストに類似するものだが、堆肥をつくる、施用する教材としては一般的すぎる。 ・マラウイでは化学肥料の投与によってメイズの収量を増やしてきた。その化学肥料は政府の補助金によって2006年から市販価格の10%程度で購入できていたが、政府の財政難により補助を続けることは難しくなっている。堆肥の施用は従来の化学肥料の投与量を減らし化学肥料の施肥効果を高めることに効果があった。 ・マラウイでは農家の経営コストの半分以上は種子と肥料の購入であるとの報告あり。 ・本当に土壌の質が改善されたと実感できるには数十年の年月が必要。堆肥の施用によって肥料の効きが良くなったとはいえる。

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド　インパクト

評価項目		判断基準・方法	必要なデータ	情報源	調査結果
大項目	小項目				
【観点項目：インパクト（予測）】					
		マイナスの影響がある場合、それを軽減するための対策は取られている。	・プロジェクトにより地域の経済格差を生み出していないか。	専門家、プロジェクト関係者	プロジェクトのLFでは干ばつにもかかわらずメイズの生育がよく、収穫量も2014年に比して改善されている。他方、LFの圃場の一部を今回の試験用圃場に活用しているのみ。収穫量については現在データを収集し分析予定。

*1: ADDs reports. Key Performance Indicator No.16 "Area under soil fertility improvement" on "Agricultural area under sustainable land management"（ASWAp M&E Data Collection 2014年9月）
*2: FAO Statistical Yearbook 2014" 数値は2011年次のもの

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド　持続性

評価項目：持続性（見込み）					
評価設問		判断基準・方法	必要なデータ	情報源	調査結果
大項目	小項目				
政策・制度面	現在の政策支援は協力後も継続するか。	現在の政策支援は協力後も継続する。	ASWp、FISPなど政策・施策、プログラムの見通しに関する意見	プロジェクト資料 MoAIWD、LRCD マラウイ事務所	・ASWApはマラウイの最も最上位の投資プログラム。ASWApの3本柱にSLM技術の推進が含まれている。土壌肥沃度向上はSLM技術のうちの1つ。 ・FISPは化学肥料を市場価格の5%程度の価格で小規模農民に配付し食糧増産をめざすもの。 ・化学肥料の長年の使用は土壌の質を落とし、生産量を下げる一要因となっている。 ・National Agricultural Policyは次期ASWAp策定の際、使用される。NAPは2015年2月にコンサルテーションのための発表がなされた。その時点においては、NAPでは持続的水管理と土地利用を推進する政策案が提示されている。
	関連規制、法制度は整備されているか。整備される予定か。	・整備されるべき関連規制、法制度が明確である。 ・上記規制、法制度は整備される・されている。	・関連規制、法制度 ・MoAIWD、LRCD意見	プロジェクト資料 MoAIWD、LRCD DAES、DARS 専門家	・マラウイ国全省をあげて、予算づけのための目標値の見直しがこれまでのOutput based budgetから（ha数、堆肥山の数など）から、より農家の便益を示すProgram based budget（生産量、土壌堆肥沃度など）への転換中。2015/2016はMoAIWDがパイロット省の1つとして選ばれ、次年度以降全省での移行を進める。（国家事業の制度にまつわる転換）
	パイロットサイト外への広がりを支援する取り組みは担保されているか。	パイロットサイト以外の地域への広がりが進む仕組みが普及計画に入っている（具体的な普及（支援）戦略がある）。	・LRCD、LRCO、普及員、県農業開発事務所 ・普及計画/普及戦略	プロジェクト資料 専門家、LRCD、DAES、ムズズADD、県農業開発事務所	・マラウイの普及制度（LF→FF→一般農家、Field Dayの開催など）はある程度確立している。 ・本プロジェクトの終了後の具体的な普及計画はつくられていない。
組織・財政面	協力終了後も、効果を上げていくための活動を実施するに足る人材配置、意思決定プロセス、他組織との連絡調整など実施機関としての組織能力はあるか。	プロジェクト終了後もプロジェクト活動を維持するための組織としてC/Pは存続する。	LRCD、DAES、ムズズADD、県農業開発事務所、専門家の意見	プロジェクト資料 LRCD、DAES、ムズズADD、県農業開発事務所 専門家	・プロジェクト終了後、政府の意向としては、全国8県で自然の堆肥の活用を進めたい。土壌の荒廃が進んでおり化学肥料を使っているが効力が落ちてきているからである。土壌の質を改善するために堆肥の使用は欠かせないのであり、LRCDとしては、全国的な土壌改善をめざしている。 ・持続可能な土地管理（SLM）は、マラウイの農業行政において重要課題の1つとして位置づけられているので、技術の持続性、普及のための仕組み・体制は整っている。 ・局レベルのDAES、DARS、LRCD連携は取れている。DAESは関係局をつなげる役を担っている。 例えば、“Guide to Agriculture Production” は重要な情報が詰まったガイドブックである。このガイドブックの中のSLM技術に関する章はLRCDが、他のサブジェクトに関する章は他局が執筆し、DAESがまとめた。 ・現場レベルでは、AEDOはEPAでの研修で伝えるべき技術メッセージを学んでいる（DAESのライン）。講師は県のLRCO（LRCD）が務めている。研修の内容は栽培カレンダーに沿ったものである
		LRCO、普及員の配置状況が改善する。	LRCO、普及員数の推移	プロジェクト資料 LRCD、DAES、 LRCO、普及員	・2012年時点の普及員（AEDO）数は2,290名
	実施機関（LRCD、DAES、DARS、ムズズADD）の将来に向けてのオーナーシップは十分に確保されているか。	LRCD、DAES、DARS、ムズズADD、県農業開発事務所の将来に向けてのオーナーシップは十分に確保されている。	・LRCD、DAES、DARS、ムズズADD、県農業開発事務所意見	プロジェクト資料 専門家 LRCD、DAES、DARS、ムズズADD	・実質的な地域のオフィサーたちのコミットメントは高いといえない。多くの活動がJICA側の予算に依存している、あるいは専門家任せになってしまっている。例えば、「試験プロトコル」に基づいた試験活動を行うことは決定しておきながら、具体的にどう実施するかにはほとんど関与してこない。

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド　持続性

評価項目：持続性（見込み）					
評価設問		判断基準・方法	必要なデータ	情報源	調査結果
大項目	小項目				
	受益者の将来に向けてのオーナーシップは芽生えているか。	LFが自発的にプロジェクトの学んだことを実践している。	LF意見 LFの圃場	プロジェクト資料 専門家 LF	・LFの多くはプロジェクトが終了した後も継続的に堆肥をつくる、と表明している。 ・LFとAEDOがField Dayに参加し、堆肥の使用を一般農家にアピールする機会もあった。LRCOが支援しなくてもLFはAEDOとともに堆肥づくりを続けていくのでは。
組織・財政面	LRCD、DAES、DARSの連携は取れているか。	ムズズADDレベルで、情報共有・活動調整・共同計画立案など3局の連携が取れていれば妥当とする。	・土壌サービス提供における連携状況 ・SLM技術普及における連携状況 ・研究所・LFでの圃場試験における連携状況	プロジェクト資料 専門家 LRCD、DAES、DARS、ムズズADD（管内、EPAを含む）	・持続可能な土地管理（SLM）は、マラウイの農業行政において重要課題の1つとして位置づけられているので、技術の持続性、普及のための仕組み・体制は整っている。
	経常経費を含む予算確保は行われているか。	将来プロジェクトの成果を持続させていくための予算確保のための対策がとられている。	・ASWApの予算の流れと長期的見通し（？） ・土地管理を主要課題とする県の開発計画 ・ASWAp-SPなどドナーによる支援 ・NGOによる支援	プロジェクト資料 MoAIWD、LRCD 県議会、ムズズADD、県農業開発事務所	・多くの活動がJICA側の予算に依存している点、あるいは専門家任せになってしまっている。例えば、「試験プロトコル」に基づいた試験活動を行うことは決定しておきながら、具体的にどう実施するかにはほとんど関与してこない。 ・プロジェクト全体として、予算はついても人件費程度であり、事業費はほとんどドナーの事業に頼っている。 ・ルニャングワARSの2015年度予算は3番目の土壌分析可能機関として計上されている。 ・土壌/堆肥試験サービス収益の80%はルニャングワARSの収入に振り分けられる予定。
		プロジェクト実施により将来、プロジェクトで実施した活動を維持、普及させる予算が増える可能性がある。			・プロジェクト終了までと終了後のASWAp関係者への、プロジェクトが推奨する土壌肥沃度改善技術の周知の度合いによる。

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド　持続性

評価項目：持続性（見込み）					
評価設問		判断基準・方法	必要なデータ	情報源	調査結果
大項目	小項目				
技術面	プロジェクトで用いられる技術移転の手法は受容されつつあるか/プロジェクト終了後も活用される見込みは高いか。	・新技術の移転にかかる手法（カスケード方式）自体が適切である、将来も継続できる。 ・LFがプロジェクトが導入している技術を受け入れている。 ・土壌・堆肥分析マニュアルや研究プロトコルが活用されている。 ・プロジェクト終了後の継続的活用の見込みが高い。	・技術の移転方法 ・LF、LRCO、普及員、DAES、農業開発事務所の意見	プロジェクト資料 専門家、LRCD、DAES、DARS、ムズズADD、LRCO、普及員、県農業開発事務所	・LRCDの年次総会でプロジェクトが発表を行ったことがある。この総会には全国のLRCOが集まる。これまでLRCDがもっていたデータは20年前のもので古すぎていたことから、総会で発表された土壌のデータは誰もが役立ったと感じているのでは。JICAは土壌データを更新しているのであり、その意味で大変貴重である。ムズズADDの土壌とはいえ、全国のLRCOに現状のイメージをもたせている。 ・プロジェクトが作成した“Technical Information Series No1～3”は現在正式な承認はされていないので配付はできないが、農家に説明する際に活用している。内容はもとより、写真や絵を多用し、小さなサイズで持ち運びも便利なつくりで使いやすい。英語と現地語で作成されているので、農家にとっても非常に分かりやすい。
	これまでプロジェクトで投入した資機材はプロジェクト終了後も適切に管理される見込みか。	資機材の供与先が決まっている。 現行の機材管理状況。	関係者意見 機材管理リスト	プロジェクト資料 専門家、LRCD、DARS、ムズズADD、県農業事務所	・1台のPCが盗難にあい、1台のPCが海外留学の際持ち出された。それ以外は適切に使われている。ただし、バイクは燃料の問題からあまり使われていない。
	SLM技術普及のメカニズムはプロジェクトに取り込まれているか。	・普及計画がプロジェクトで策定された、される予定。 ・LFからFFへの普及が計画に含まれている ・「普及戦略に関する提言」が検討・実施されている。	・普及計画 ・中間レビューで出された「普及戦略に関する提言」の検討・実施状況	プロジェクト資料 専門家、MoAIWD、LRCD、DAES、LRCO、普及員	・アウトプット4に関する活動は今後、プロジェクト終了まで行われる予定。
	LRCD、DAES、DARS、ムズズADDがSLM技術普及のメカニズムを維持できる可能性はどの程度あるか。	・普及のメカニズムが確立している、する予定である。 ・LRCD、DAES、DARS、ムズズADDが普及のメカニズムを維持できる可能性は高い。	MoAIWD、LRCD、DAES、DARS、ムズズADD意見 普及計画	プロジェクト資料 専門家、MoAIWD、LRCD、DAES、DARS、ムズズADD	・月2回、普及員向けに実施している研修では政府から普及員を通じ、LFに伝えたい技術を普及員に教育している。 この研修は以前伝えた技術が現場のLFでどのような反応　であったかを普及員に伝えてもらう機会でもある。研修はモニタリングの機能を果たしている。こうした研修を活用すれば、10,000人のLFに伝えることは可能。 ・アウトプット4について、LRCDではできるだけプロジェクトで検証している堆肥技術を広めていくため、さまざまな方策を考えている。例えば、堆肥キャンペーンを毎年1回5～6月に行っている。キャンペーンではLFに堆肥使用を推奨し、普及員へ堆肥にもっと関心をもってもらうよう働きかけている。キャンペーンはADDが実施するが、今年はムズズADDを選んで、プロジェクトの成果を発表することも可能。

マラウイ国持続可能な土地管理促進プロジェクト終了時評価調査
評価グリッド　持続性

評価項目：持続性（見込み）					
評価設問		判断基準・方法	必要なデータ	情報源	調査結果
大項目	小項目				
	対象県から非対象県に普及できる技術か。	・技術レベルが継続的に普及するのに高すぎない。 ・全国レベルでは土壌の性質が異なるが普及できる技術である。	LRCO、普及員意見 LF意見、LRCD、DAES、DARS意見	プロジェクト資料 専門家、LRCO、普及員、LF、LRCD、DAES、DARS	・移転を図ってきた技術レベルは高すぎることはなく、全国の土壌の性質が異なるものの、汎用性が高い。 ・地域によって材料の入手の困難な度合いは異なることから、地域で多く生産される作物の残渣を活用した堆肥づくりの試験は今後も幅広くなされるべきである。
社会・文化・環境面	女性、貧困層、社会的弱者、伝統的組織への配慮不足により、持続的効果を妨げる可能性はないか。	・民族の違いからくる問題がない。 ・LFと非LFの争いがない。	・LRCD、DAES、DARS、ムズズADD、普及員、LF意見	プロジェクト資料 専門家、LRCO、普及員、LF	・民族の違いから起因する問題やLFと非LFの争いは起きていない。 ・VDCなど地域の組織からもプロジェクトの効果は一定の認知を得ている。
	環境への配慮不足により持続的効果を下げる可能性はないか。	環境への配慮不足により持続的効果を下げる可能性はない/低い。	・土壌への長期的な影響 ・気候変動の影響	プロジェクト資料 専門家、LRCO、普及員、LF	・本プロジェクトは有機肥料による土壌の肥沃度改善を図るものであり、環境改善を意図していることから、持続的効果を下げる可能性は極めて低い。 ・堆肥を同じ場所で使い続けることの環境への効能は更なる研究が必要。

Evaluation Grid for Terminal Evaluation for Sustainable Land Management Promotion Project in Malawi
Verification of Performance

Verification of Performance

Evaluation Questions		Information needed	Information source	Survey Results
Main Questions	**Sub-Questions**			
Were the Inputs allocated as planned?	Have Experts been dispatched as planned?	Comparison of plans and results	Project documents Experts, JICA Malawi Office	Total 2 long-term experts, 8 short-term experts have been dispatched from November 2011 to January 2015. Long-term experts specialized in i)Coordination/dissemination, 2)Coordination, Short-term experts specialized in 1)Chief advisor/soil fertility, 2)Chief advisor, 3)Chief advisor/extension,)4)soil survey/planning x 2 persons, 6)Baseline survey-nationwide, 7)Baseline survey-target area, 8)Crop management/compost application
	Have necessary equipment been installed / provided as planned?	Comparison of plans and	Project documents	Vehicles, PC, Motor bikes, office equipment, testing devices, equivalent to 32,015,891Yen (MWK118,778,955.61) were provided with C/P such as Mzuzu ADD and Lunyangwa ARS.
	Have the installed/ provided equipment been properly used and maintained?	Comments from experts Observation	Project documents Experts, LRCD, DAES, DARS,	Most provided equipment has been used properly.
	Were the C/P Trainings conducted as planned?	Comparison of plans and results	Project documents Experts, LRCD, DAES, DARS,	# 3 C/Ps participated in the training in Japan (C/P training) # 2 LRCOs (Rumphi, Nkhata Bay districts) participated in the group training in Japan in 2013 $& 2014.
	For what and how much were local costs paid by the Japanese side?	Comparison of plans and results	Performance table Experts	41,470,000 (MWK 150,252,191.98) was paid as the local cost for testing materials such as plastic sheets, chemicals, and accommodation for domestic training.
	Has the adequate budget been allocated for project management by the Malawian side? Has the allocated budget been efficiently executed?	Comparison of plans and results	Project documents Experts, LRCD, DAES, DARS,	Budget of MWK 36,030,202 was allocated for the protective wares such as boots, globes, as well as wheelbarrow for compost making, in which MWK 17,907,790 was disbursed up to April 2015
	Were the C/P and management staff appointed as planned?	Comparison of plans and results	Project documents Experts, LRCD, DAES, DARS,	GoM initially appointed 23 C/Ps from LRCD, DAES, DARD, Mzuzu ADD, LRCO at 4 districts, Lunyangwa ARS, sub-stations. 16 C/Ps are remained at present due to transfer and study abroad.
	Were the Project office, furniture, telecommunication network, and facilities equipped as planned?	Observations Conditions of equipment	Project documents Experts, LRCD, DAES, DARS,	GoM has provided one office space in Mzuzu ADD for Japanese experts. Conference room in Mzuzu ADD is also available for meeting.
Comparing with indicators in PDM, have the **Outputs** been produced as planned?	**Output1 : nstitutional and human capacity for soil and/or compost testing, and skills for field test in Mzuzu ADD are improved.**			
	1-1.Manual for soil and compost analyses is prepared.	# Draft Manual # Development process of the manual	Project documents Experts, LRCD, DAES, DARS, Lunyangwa ARS, Sub-	A technical manual fr Soil/Compost analysis technologies Lunyangwa Laboratory manual Ver.1 was drafted up to the 3rd version. By using the manual, soil and compost samples are collected from Lunyangwa ARS, sub-stations, and LF's trial farms under the instruction by Japanese experts.
	1-2:Recommendations on compost application for soil fertility improvement are compiled.	# Contents of recommendation # C/P's reactions to		Recommendation on compost application for soil fertility improvement will be compiled by the end of the Project (around July 2015)
	1-3: Lunyangwa Research Station provides soil and/or compost analysis services.	Contents and institutional structure of services		Since its establishment in 2012, soil analysis laboratory in Lunyangwa ARS has conducted soil analysis. 2012: 139 samples from LF of SLMP 2013: 240 samples from LF, ARS, farmers of DF In addition to the above samples, Lunyangwa ARS has received requests for testing from NGOs, Private sectors, and even police stations in northern region.

Evaluation Grid for Terminal Evaluation for Sustainable Land Management Promotion Project in Malawi
Verification of Performance

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Evaluation Questions		Information needed	Information source	Survey Results
Main Questions	**Sub-Questions**			
	1-4: Field data is collected according to the research protocol.	#Collected data # Collection process # result of analysis	stations	Based on the research protocol, 'Comparison of Composting Techniques and Biomass Combinations on Quantity of Compost, Soil Fertility Improvement and Crop Yield in Mzuzu ADD', data on maize growth and harvest for soil analysis in 2013/2014 crop season with cooperation from AEDOs and ARS staff.
	1-5:Soil tests from the demonstration sites confirm improvements of soil fertility at the end of the project.	Result of soil fertility analysis (baseline & intermediate)		The results of 2014/2015 crop season is under analysis yet, the apparent improvement in growth has been identified.
	Output2:2 LRCD SMSs and extension agents in Mzuzu ADD are equipped with the SLM techniques.			
	2-1: Extension agents in Mzuzu ADD are trained on existing compost making and application techniques to the level that they can back up Lead Farmers (LFs)	# Present status of extension agents	Project documents Experts, LRCD, DAES, DARS, Mzuzu ADD, extension agents, LF, FF	Based on the training manual developed by the Project, the training for AEDOs and LFs was conducted from October 2012 to February 2015. Total number of participants is 585. As the result of training, AEDO's capacity to instruct LFs improved, but it is difficult to measure to what extent the level improved.
	2-2: Training manual for the SLM techniques is produced.	# Training manuals # Development process		Training Module for Field Trials on Compost Making & Application Trials was developed based on the research protocol.
	2-3: All LRCD SMSs in Mzuzu are trained on the SLM techniques and are able to train extension agents.	Number of trained SMS # Contends of training for SMS #Present status of SMS		The Project has not conducted training or W/S particularly for LRCO. LRCOs have worked with Japanese experts since the commence of the Project. Through the OJT, they have gained experience and knowledge on appropriate compost application. 2 LRCOs participated in the Training in Obihiro, Hokkaido as well. Technical Handbook will be developed after the analysis is completed.
	Output3: 3 Compost making and application techniques are applied by pilot site farmers			
	3-1: More than 80% of all the LFs mount SLMP demonstration trials taught by the extension agents.	# Training record # Extension method	Project documents Experts Extension worker, Agriculture Promotion Center, Commune leaders, villagers	Out of participants of the training, 92 % of LF prepared compost trial in 2013/2014 season. In 2014/2015 season, the number reduced as 86% especially in Nkata Bay and Rumphi districts. The main reasons are inadequate monitoring and follow ups, inaccessibility of materials for compost making such as cow dung and water, and labor problem.
	3-2:Ten Follower Farmers (FFs) are trained by each LF on compost making and application techniques and apply more than one techniques in their farms.	Training record of Plant protection, agricultural		Many LFs make compost by group of 6 to 20 members. LFs actively instruct FFs.
	3-3: Positive effects of using compost are recognized by participating farmers through monitoring.	# Record of FB seminar # Opinions of participants		LFs have recognized better growth of maize in trial plots than last year. Some of LF switched from using compost instead of chemical fertilizers due to its effectiveness and economic reason.
	3-4: 10,000 farmers in Mzuzu ADD are using compost making and application techniques that are indicated in the SLMP	# Action plan # district leaders		10,000 farmers are too large to measure the level of compost application. It can be possible to obtain the data on dissemination from AEDO to LF Reaching 10,000 could have been possible if the Project commenced without any delays in activities.
	Output 4: 4.1 Through seminar/workshop, 90% of attended LRCD SMSs nationwide gain knowledge of the SLM techniques			
	4-1:Through seminar/workshop, 90% of attended LRCD SMSs nationwide gain knowledge of the SLM techniques	Present status of SMS nationwide	Project documents Experts, LRCD SMS	The Project plans to conduct seminar/workshops for LRCO before the end of the Project

Evaluation Grid for Terminal Evaluation for Sustainable Land Management Promotion Project in Malawi
Verification of Performance

Verification of Performance

Evaluation Questions		Information needed	Information source	Survey Results
Main Questions	**Sub-Questions**			
	4-2:Project results and achievements are shared among MoAFS officials and stakeholders through national workshop.	Record of seminar, WS, evaluation	Project documents Experts, MoAFS, LRCD	LRCD considers to disseminate the technologies through the Manure campaign by ADD. The Project will present its achievement to Sustainable Land and Water management technologies Working Group under ASWAp.
Comparing with the indicators in PDM, will objectives of the Project be achieved? :[Capacity of MoAFS to diffuse appropriate SLM techniques is enhanced.]	**Indicator 1:**The SLM technique handbook is reviewed by DAES and distributed to all the 28 districts' LRCD and Extension SMSs.	# SLM handbook # Number of SMS #Distribution	Project documents Experts, LRCD, SMS	The test result of 2014/15 crop season supported by the Project will be analyzed by mid-July in 2015. The Project will compile the result into the SLM technique handbook. The technique in the handbook needs to be discussed and approved by the Agriculture Technical Clearing Committee of MoAIWD before forwarding to DAES. The Project will confirm a timetable even though it may not reach to all 28 district LRCOs and extension agents by the end of the Project. Considering the period of time remaining for project implementation, distribution of the reviewed handbook to 28 districts' LRCD and Extension SMS may not be achieved by the end of the Project. On the field, LRCOs in target districts are already utilizing the Technical Information Series(No1.～No.3) when they train extension agents in the
	Indicator 2: 2. Services for soil and/or compost testing in Northern region become available and results are accessed by extension agents and farmers.	# Contents of services, fee #Number of extension agents and farmers who received	Project documents Experts, SMS, LF, FF	Soil and compost testing is now available in northern region by implementation of the Project activities at Lunyangwa ARS, which is the first soil lab in northern region. Since its establishment in 2012, requests for soil analysis have significantly increased in 2014. In some cases, soil analysis results were given to the farmers but not in a user friendly format. In others, soil analysis results were not given.

Evaluation Grid for Terminal Evaluation for Sustainable Land Management Promotion Project in Malawi
Verification of Performance

Verification of Performance

Evaluation Questions		Information needed	Information source	Survey Results
Main Questions	**Sub-Questions**			
Is it expected that the ALM techniques will be diffused nationwide?	**Indicator1:** The SLM techniques are applied in programs implemented by MoAFS and stakeholders	# availability of LRCD annual report (2020) # SLM related documents issued by GoM and stakeholders # Present status and likeliness of training for extension agents	Project documents Experts SMS, Extension agents, LF, FF	In order to improve soil fertility, LRCD has a strong will to promote usage of organic fertilizer nationwide after the end of the Project. Manure making and its application are indispensable to improve soil fertility, which is in line with the national policy. Once officially approved, the techniques introduced by the Project will likely be applied in national programs as well as in projects supported by NGOs and other development partners.
	Indicator 2: More than 80% of AEDOs (iii) across the country are trained by subject matter specialists (SMSs) and are able to instruct farmers on the SLM			The training system for AEDOs by SMSs (LRCOs in district) has been established in Malawi. It is likely expected that AEDOs will be trained by SMSs and are able to introduce farmers on manure making and application techniques nationwide through the on farm demonstration and Field Days. LFs will transfer these techniques to FFs.
	Indicator3: XX million of farmers are adopting SLM techniques across the			The GoM promotes SLM techniques through Manure Campaign and Field Day. Through these occasions, farmers may have a chance to adopt SLM techniques by 2020. However, the number of 'XX' farmers has not identified yet, nor is the definition of 'adopt' here yet clear.

*Project documents: Report of detailed planning survey, MM, documents from the first JCC meeting, summary table, project completion report and others

Evaluation Grid for Terminal Evaluation for Sustainable Land Management Promotion Project in Malawi
Verification of Implementation Process

Evaluation Questions		Information needed	Information source	Survey result
Main Questions	**Sub-Questions**			
Were activities implemented as planned?	Have the Project activities been implemented in line with the PO?	Comparison of plans and results PO	Project documents, Experts, JICA Malawi Office	Since the Mid-term Review in 2014, the Project has implemented its activities along with the PDM Ver2 and PO. Activity 2-5 (training/workshop on SLM technologies for LRCO in Mzuzu ADD will be conducted by the end of the Project. SLM handbook will be developed by October 2015.(activity 2-6) The approval process in LRCD was identified.(activity 3-4)
	Was there any effect from revising PDM?	Effects of revising PDM to project management	Experts LRCD	PDM was reasonably revised to make it more realistic to achieve the outputs. Even in the PDM ver2, the time schedule for output 4 will be very much limited.
Is there any problem in the measures to transfer skill/knowledge/techniques ?	Measures to transfer skill/knowledge/techniques	Opinions from C/P & T/G on appropriateness of LF system	Project documents Experts LRCD, DAES, Mzuzu ADD, extension agents, LF	**<LF approach>** The Project has taken the LF approach to supplement shortage of AEDOs. LF under the Project had difficulties to understand the objectifies of the Project and roles of LF at first, but after participating in the Review meeting, they became understand their responsibilities. They are now very much positive to carry out the trials on their plots and showed their appreciation for better growth of their maize this crop season. They are also very much active in sharing their new knowledge and skills on compost making and application with FFs.
Is there any problem in the project management system (monitoring system, decision-making process, functioning of JICA Malawi office, communication mechanisms among project staff)?	Does JICA HQ and JICA Malawi Office promptly adjust project activities, provide advice, and communicate with related agencies based on the	# Opinions from Experts & the staff in charge of the project in JICA HQ and JICA Malawi Office	Project documents Experts JICA HQ, Malawi Office	Both JICA HQ and JICA Malawi office have close communication with Japanese experts. The offices monitor the Project implementation through periodical reports as well as field visits and experts' report to the office.
	How is the Project monitored and what is improved as a result of the monitoring? Issues of the monitoring and actions to be taken to deal with the issues	# Comments from Experts & LRCD	Project documents Experts Stakeholders Monitoring record Project completion report	The Project started regular meeting among Mzuzu ADD, LRCO, ARS in which these stakeholders share the progress of the project and the plan to come. It should be noted that communication among the project management team became much closer after the Mid-term review. However, the daily base communication has much room to improve yet in the project management level.

Evaluation Grid for Terminal Evaluation for Sustainable Land Management Promotion Project in Malawi
Verification of Implementation Process

Evaluation Questions		Information needed	Information source	Survey result
Main Questions	**Sub-Questions**			
Do the implementing agency and C/P well understand/actively participate in the project?	How well does C/P recognize the Project activities?	Opinions of LRCD, DAES, DARS, Mzuzu ADD, LRCO	Project documents LRCD, DAES, DARS, Mzuzu	LRCD recognizes that the Project has achieved its objectives in terms of research parts. Regarding the dissemination part of the Project, LRCD has a strong will to take actions with their initiatives. However, involvement of management level at Mzuzu ADD is not strong enough.
	Does T/G actively participate in the activities?	Opinions of Extension agents, LRCO, LF, FF	Project documents Experts Extension agents, SMS, LF, FF	When LF was selected in 2011, the research protocol was not develop end yet. Therefor, the role of LF was not clearly directed by the Project at that time. After the Review meeting in 2014 with LF, AEDO and LRCO, LF understood the objectives of the Project, made great efforts to prepare the trials on their plots.
Are appropriate personnel assigned as C/P?	Are the C/P (LRCD, DAES, DARS, Mzuzu ADD) appointed as planned?	Staff allocation	Project documents Experts, LRCD	Although AEDOs are appointed in each target EPA, they visit only when the Japanese experts visit LF farms due to limitation of fuels. Only 39 AEDOs are appointed in 53 EPAs in Nkata Bay district. 4 technical staff at Lunyangwa ARS have transferred since the Project started in 2011. Recently, one research staff has been appointed to Lunyangwa ARS.
	Are the number of C/P, their roles, positions, capacity and assignment relevant?	Opinions of stakeholders	Project documents Experts, LRCD, DAES, DARS, Mzuzu ADD	Participation of management level at Mzuzu ADD in the Project implementation is not very high. Communication on the daily base needs to be improved. In the research part, there is very limited staff who is able to analyze the collected data.
	Which organizations are involved in this project other than the direct beneficiaries? How deeply are these organizations	Name of organizations and their activities deeply involved in the project other than T/G	Project documents Experts, LRCD, DAES, DARS, Mzuzu ADD	The Project has collaboration with some NGOs such as DF, Tiyeni which are actively conducting projects including compost making. Some VDCs in target districts recognize the Project positively, but not much of collaboration observed.

Evaluation Grid for Terminal Evaluation for Sustainable Land Management Promotion Project in Malawi
Verification of Implementation Process

Evaluation Questions		Information needed	Information source	Survey result
Main Questions	**Sub-Questions**			
Did the Project take appropriate actions to respond to recommendation from the Mid- term review?	1. Was revision of PDM and PO effective for better project management?	Opinions of Experts, C/P	Project documents Experts, LRCD, DAES, DARS, Mzuzu ADD	Considering the content and progress of the Project, it was not realistic to achieve Output4 and 5. PDM 1 was revised to PDM 2 as achievable by the end of the Project.
	2. Clarification of roles of Malawian C/P organizations and collaboration among them	Positions of DAES and DARS in the project implementation structure	Project documents Experts, LRCD, DAES, DARS	The activities on soil analysis, demonstration and trials are the ordinary TORs of research staff at ARS. Therefore, participation of DARS staff is indispensable. For the extension activities, AEDCs and AEDOs are the key players. The Project has tried to involve those staff. The roles of DARS and DARS are very clear on the field level and the collaboration among them has been strengthened through the Project activities. The collaborative relation is challenge in Head Quarters of those organizations in Lilongwe and ADD level.
	3. Has the research protocol been flexibly modified as needed?	# Research protocol # Opinions of Experts, DARS	Project documents Experts, DARS	The Project has supported on farm trials by LF as the part of testing activities based on the research protocol since 2013/14 season. According the Protocol, on farm trial was supposed to be implemented with the same objectives and contents as those in on research station trial. Since the Mid-term review, the on farm trials have been flexibly conducted with rather demonstration purpose, than research purpose.
	4. Does the Project make mid/long term extension strategy to clarify a roadmap to diffuse the research activities for	Extension strategy	Experts DAES, Mzuzu ADD	# The indications of trials are set in the farmers' testing plot to explain the variety of trial for trial 2014/15. # The Project has participated the Field Day twice in November 2013 and January 2014 to demonstrate compost making by LFs. # In September 2014, the Project made a report on the preference on compost making and application of LFs who participated on farm trials in 2013/14. # The Project has developed the training manual for AEDOs. Based on the manual, the Project produced Technical Information Series (No.1 ~No.3)
	5. Does the Project collaborate other development partners relating extension	# Contents of project supported by other DPs # Case of collaboration/present status/future goals	Experts DAES, Mzuzu ADD, JICA Malawi Office, Mzuzu ADD	# DF and Mzuzu ADD have been closely collaborate and C/Ps of the Project have shared their time with DF. It is expected that C/P take initiative to have collaboration with DF and the Project. The Project has also started to establish collaborative relation with local NGOs based in Mzuzu.
	6. Implementation process	# Daily communication among the Project Management Team	Experts DAES, Mzuzu ADD, LRCD	# There was scarce opportunity among the C/P and the Project for 2 years since commence of the Project. The communication among the C/P and the Japanese experts improved through discussion on issues and getting know the situation in the field in periodical meeting. However, the Mission observed that communication among the Project Management Team on daily bases has still a room to improve.
	7.Confirmation of budget and human resource of the Malawian Government	Amount of budget and disbursement of LRCD	LRCD, LRCO, LF	# The Malawian side disbursed the budget for provision of protective wears and wheelbarrows for LFs. However, the one wheelbarrows have not been reached to LFs due to shortage of transportation budget. # One researcher was appointed at Lunyangwa ARS recently.

Evaluation Grid for Terminal Evaluation for Sustainable Land Management Promotion Project in Malawi Verification of Relevance

Evaluation Questions		Judgment	Information needed	Information source	Survey Results
Main Questions	Sub-Questions				
Needs	Are objectives of the Project appropriate as a measure to solve issues of agricultural and rural development in Malawi at present? Objectives: [Capacity of MoAIWD to diffuse appropriate	The objectives of the Project are appropriate as a measure to solve issues of agricultural development in Malawi at	# Latest poverty rate # Present situation on Food security	Project documents WB's Website MVAC, Few NET, WFP	Poverty rate is 51% in 2011 nationwide. Rural area is 56%, urban area is 17.3%. Soil degradation such as nutrition (ex. Carbon) is decreasing in soil in Malawi. It is needed to improve soil fertility by giving nutrition through organic composting.
	Is the Project still in line with the needs of LRCD, DAES, DARD, Mzuzu ADD?	The Project is still in line with the needs of LRCD, DAES, DARD and Mzuzu ADD	Missions and Needs assessments of LRCD, DAES, DARS, Mzuzu ADD	Project documents LRCD, DAES, DARS, Mzuzu ADD	LRCD recognizes soil fertility has been degraded nationwide in Malawi. Therefore, they have a strong will to improve soil fertility by applying compost. LRCO now is able to instruct AEDOs and LF with data on compost effects. Lunyangwa ARS used to be a research farm for cattle. Therefore, People who want testing soil in Northern region had to send/visit the samples to Chitedze ARS or other stations.
	Is the Project still in line with the needs of farmers?	The Project is still in line with the needs of T/G	Changes in the needs of LF	Project documents Extension agents, LF	Farmers also feel that maize does not grow well due to soil. Some LF told their observation about growth of their maize, thinking that they wanted to improve their techniques and knowledge.
	Is the Project still in line with the needs of other relating groups / institutions than T/G and C/P	The Project is still in line with the needs of relating groups / institutions than T/G and C/P such as district councils, Village development committees	Changes of needs of other institutions / groups than LRCD, DAES, DARS, and Mzuzu ADD	District council, regional development committee, Village Development Committee	# The farmers in the target area have insufficient opportunities to gain information although facing various challenges in agricultural production. There is a lot of room to increase productivity as the traditional cultivation methods perpetuate #The project make demonstration plots in each pilot site and verify several technologies based on the needs of farmers and the local agricultural agencies. #The Farmers accept the activities of the Project, and show their willing to keep utilizing technologies that we have learnt from the Project
Priority	Is the Project in line with the direction of agricultural development under the development policies of Malawi?	The Project is in line with the direction of agricultural development under the development policies of Malawi	# Position of SLM technologies in the current ASWAp # Present status and directions of GoM on FISP	ASWAp (2011-2015) FISP Budget statement 2014 (GoM) National Agriculture Policy Priorities in Agriculture Sector	# ASWAp is the highest priority investment program for MoG to promote SLM technologies for agricultural development. Among three development pillars, SLM technologies are one of pillars. #LRCD maintains FISP since it is regarded as a effective measure for food security and save import of food. In order to save cost for fertilizers with low price, LRCD is taking consideration of setting new criteria for farmers. # Under the FISP scheme, LRCD also promotes production of legume as food, income generation, and crop rotation.

Evaluation Grid for Terminal Evaluation for Sustainable Land Management Promotion Project in Malawi Verification of Relevance

Evaluation Questions		Judgment	Information needed	Information source	Survey Results
Main Questions	Sub-Questions				
	Is the project in line with Japan's country assistance policy and JICA's implementation strategy?	The project is in line with Japan's country assistance policy and JICA's implementation strategy	Japan's country assistance policy and priority areas Role of this project in the rolling plan Contents of assistance in agriculture sector issued in TICAD IV	Country Assistance Policy (April 2012) Rolling Plan (April 2014) TICAD V Yokohama Action plan 2013-2017 (June 2013)	In the Assistant policy toward Malawi (2012), rural development is included as one of measures to tackle vulnerability of the country. In the rolling plan (2014), the Project is regarded as to contribute Rural development program for sustainable economic growth. TICAD IV expressed importance of harmonized collaboration among development partners and recipient countries in Africa for improvement in accessibility to agriculture inputs such as fertilizers.
Adequacy as a measure	Is strategy of the Project appropriate to tackle development issues in the area of agricultural development?	# Four districts are still appropriate as a target district	Changes of relevance in the selection of targeted areas Existence of other donors projects	Project documents Experts Report of the JCC meeting, Extension agents, LF	Four districts have each characteristics in soil, environment, economy and culture. Therefore, it is appropriate to conduct soil/compost test in different environment so as to make technical message widely disseminated.
		# Pilot sites are still appropriate as a target area	Selection criteria		Pilot sites in each district are too far to reach for Japanese experts. Time and cost is high for monitoring.
		Target crop is still appropriate as a target.	Change in relevancy of selection that chose maize		The research protocol fixed maize as the target crop, however, effect of compost may be more clearly seen in production of vegetables and other crops.
		Approaches of the Project are still appropriate at present	Relevancy of LF system Participatory monitoring system by LF MoAIWD's capacity development through technical and extension	Project documents Experts, LRCO, Extension agents	While the AEDOs cover only 63% of EPSs, LF system is well know by farmers and functioning in agriculture sector in Malawi. The Project has focused on soil fertility improvement through application of compost, among other SLM technologies. Improvement of soil fertility is one of the most important issues GoM tackles. Since LRCD expenses a large amount of budget for FISP, LRCD expects that compost can be a effective measure to save the cost for FISP. The Project covers from research of soil/compost to dissemination of technologies to farmers. The Project focused more on research part so far since its commencement and it has to shift its focus more on dissemination until the end of the project.
Adequacy as a measure	Is the selection of C/P organizations (LRCD, DAES, DARS, Mzuzu ADD) appropriate?	C/P institutions (LRCD, dates, DARS, Mzuzu ADD)'s selection was appropriate (needs for cooperation were high)	Process of determining LRCD, DAES, DARS, Mzuzu ADD as the C/P and relevancy of the C/P at	Project documents Experts, LRCD, DAES, DARS, Mzuzu ADD	Selection of C/P organization depends on which area the Project focus on. It was appropriate to select LRCD as it is a responsible organization to conduct SLM techniques. However, roles of three organizations (LRCD, DAES, DARS) were not clear.
	Is the selection of the target groups(LRCD, DAES, DARS, Mzuzu ADD) appropriate? (target, size, gender balance etc.)	The selection of the target groups was appropriate	TOR of appointed staff in each target group Roles in the Project	Project documents Experts T/G of each agency	<selection of sub-station> Initially there were 4 sub-stations for data collection/ However, 2 sub-stations are too far from Mzuzu ADD, which made monitoring by Japanese experts difficult. These 2 sub-stations' performance was also not satisfactory. Therefore, 2 sub-stations were not included as target site from 2014/2015 crop seasons.
	Is any spillover effect seen on non-T/G?	Some spillover effects have been seen in non-T/G	Some examples of spillover effects observed in non-	Project documents, Experts, non-T/G	In the beginning of the Project , VDC (Village Development Committee) was supposed to be included as T/G. However, the Project has not involve VDC as much as planned.
	Are Japanese technologies effective? (is the know-how of the necessary technology accumulated? Can Japanese experiences be effectively utilized?)	The Japanese technologies transferred are effective	Utilization of experiences accumulated from relevant projects, utilization of the know-how	Project documents JICA Website Experts Malawian Government officials	There are many experts specialized in soil, and have good knowledge on compost, however, it is very difficult to find out a Japanese expert who is specialized in compost itself.
Changes around the Project after Mid-term Review	Is there any significant change in Japan's development policy for Malawi?	Confirmation of Japan's development policy for Malawi	Assistant Policy of GoJ to Malawi Rolling plan	Project documents MOFA HP,JICA HQs, Malawi office	NO
	Is there any significant change in policies for agricultural development in Malawi?	Confirmation of Malawi's development policy	present status of ASWAp	Detailed Survey Report, Mid-term Review report, Policy documents, JICA	GoM shifts the indicator for targeting budget from Output base to Program base in 2015/2016. In output budget, number of ha, heaps are typical indicators. In program budget, direct benefits for farmers such as production and soil fertility are regarded as appropriate indicators. MoAIWD is one of the pilot ministries this year, and all the ministries will apply the new system from 2016/2017. The future direction and budget scale of next ASWAp (2016～) is not identified.
	Is there any significant social / economic change in Malawi?	There no negative social / economic change in Malawi	Present social/economic situation	Project documents Experts LRCD, DAES, DARS, Mzuzu ADD, LRCO, Extension agents	Serious drought and flood are occurring in Malawi in 2014/2015 crop season.

Evaluation Grid for Terminal Evaluation for Sustainable Land Management Promotion Project in Malawi Verification of Effectiveness

Effectiveness (Estimation)

Main Questions	Evaluation Questions Sub-Questions	Judgment Criteria/Method	Information needed	Information source	Survey Results
Achievement forecast for the Project Purpose	Is there a prospect to achieve the Project purpose?[Capacity of MoAFS to diffuse appropriate SLM techniques is enhanced.]	1. The SLM technique handbook is reviewed by DAES and distributed to all the 28 districts' LRCD and Extension LRCOs.	# Process of approval by DAES # Present status of handbook development # Contents of services, structure, # Number of LF who received services	Project documents Experts LRCD, DAES, DARS, Mzuzu ADD,	The test result of 2014/15 crop season supported by the Project will be analyzed by mid-July in 2015. The Project will compile the result into the SLM technique handbook. The technique in the handbook needs to be discussed and approved by the Agriculture Technical Clearing Committee of MoAIWD before forwarding to DAES. The Project will confirm a timetable even though it may not reach to all 28 district LRCOs and extension agents by the end of the Project. Considering the period of time remaining for project implementation, distribution of the reviewed handbook to 28 districts' LRCD and Extension SMS may not be achieved by the end of the Project. On the field, LRCOs in target districts are already utilizing the Technical Information Series(No1.~No.3) when they train extension agents in the fortnight training.
		2. Services for soil and/or compost testing in Northern region become available and results are accessed by extension agents and farmers.			Soil and compost testing is now available in northern region by implementation of the Project activities at Lunyangwa ARS, which is the first soil lab in northern region. Since its establishment in 2012, requests for soil analysis have significantly increased in 2014. In some cases, soil analysis results were given to the farmers but not in a user friendly format. In others, soil analysis results were not given.
	Was there any effect from collaboration with other JICA projects / donors' program?	There are some collaboration between the Project and others	Present status of other projects Contents of training conducted by other donors	Project documents, experts, JICA Malawi office, DF, participants of training in Japan	Collaboration with some NGOs such as DF, Tiyeni and LIN are active in compost training and exchange information. The Project referred leaflet of small scale irrigation development project
Causality	How much of the Outputs has contributed to achieve the Project Purpose?	Logicality between the Project Purpose and four outputs are sill valid. Each output contributes the achievement of Project Purpose	Recognition of C/P on PDM Contents of project purpose and outputs	Project documents Experts LRCD, DAES, DARS, Mzuzu ADD, LF	# Since the establishment of testing lab in Lunyangwa ARS, soil test has become available in northern region of Malawi. The Project also contributed to enhance competencies of research staff at sub-stations in Ntchenachena and Mkondezi through conducting manure making trials. Successful achievements of the Output1 directly contribute to achievement of the Project Purpose in research part. # The Project has developed a training manual for extension agents in line with the research protocol, and revised it up to the third version to date. Based on the training manual, the Technical Information Series No1 ~No3 have been developed and already utilized by LRCO in target districts. This handy leaflet is well evaluated among users as it contains lots of photos and pictures to make it easy to understand on farmers' level. All LRCD are now equipped with new techniques on manure making and application by using the leaflet, which contribute to development of the SLM technique handbook as the final step of the Project implementation. # As for Output 3, the on farm trials by LF started 2013/14 season has significant achievement in 2014/15 season. Visible improvement in crop stands in LFs' plots, and LFs appreciate such improvement. Data to be collected from on farm trials will be precious information for development of the SLM handbook when the contents are finalized. # The achievement of Output4 can be regarded as the preparation for dissemination of recommended techniques nationwide, which is the achievement of the Overall goal in near future. Malawian C/P needs to takes initiative to facilitate an opportunity to disseminate the technique to wider range of concerned people as well as the farmers outside of the Project target area.
	Is there a prospect to fulfill the important assumptions to achieve the Project Purpose by attaining the Outputs?	1.Diffusion of SLM remains priority issue of both central and local governments of Malawi.	Present status of diffusion of SLM techniques in documents of: ASWAp, National Agriculture Policy, Draft of Priorities in Agriculture Sector	Project documents LRCD, Mzuzu ADD	Dissemination of SLM technologies will be put high priority in near future as well SLM technology is one of the three pillars of ASWAp NAP will be used for formulating next ASWAp. At the presentation of NAP consultation, it indicated the policy draft to promote sustainable water management and land use.
		2. Labour constraint in rural area does not become severe.	Present status of Labour outflow	Project documents, DAES, Mzuzu ADD,	Labor is needed for compost making, but no info on outflowing from target villages Some LF expressed that family problem can be negative affect for compost making.
		3. Prices of major agriculture products do not decline significantly.	Price fluctuation of major crop	Project documents, DAES, Mzuzu ADD, LF, Market	No influence from price of major agriculture products

Evaluation Grid for Terminal Evaluation for
Sustainable Land Management Promotion Project in Malawi
Verification of Effectiveness

Effectiveness (Estimation)					
Main Questions	Evaluation Questions Sub-Questions	Judgment Criteria/Method	Information needed	Information source	Survey Results
		4. Availability of animal dung does not decline significantly.	Number of animal	Project documents, Experts, extension gents, LF	Shortage of animal dung (cow dung, in particular) was one of the problems for LF to make compost. Some of LF need to pay for cow dung and/or transportation. The situation differ in each district.
	Are there any contributing / hindering factor to achievement of the Project Purpose?	Other than output, there is significant factor(s) to achieve the project purpose Hindering factor, if any, is mitigated	Budget situation	Project documents Experts, JICA Malawi Office, LRCD,	The budget of GoM severely decreased once which caused delay in disbursement for the Project activities. The situation recovered in 2014/2015 to some extent.

Evaluation Grid for Terminal Evaluation for Sustainable Land Management Promotion Project in Malawi
Verification of Efficiency

Efficiency

Evaluation Questions		Judgment Criteria/Method	Information needed	Information source	Survey Results
Main Questions	Sub-Questions				
Achievement level of the Outputs	Has the Project been achieving the 4 Outputs?	Indicators for each output are already achieved / expected to be achieved	Check logical relation between outputs and project purpose Check the achievement level of targeted value for each indicator	Project documents Experts, LRCD, DAES, DARS, Mzuzu ADD	<Output1> A Manual for soil and compost analysis techniques was drafted. Technical recommendations and messages on compost application for soil fertility improvement will be compiled by the end of the Project Lunyangwa ARS started to provide soil and compost analysis services requested from varieties of entities. Nearly 1,700 of growth and harvest data on the effects of compost have been collected according to the research protocol from research stations and LFs. Although the trend in soil fertility in the 2014/15 crop season has been under analysis, crop stands in LFs' trial plots are visibly improved even in the heavy drought of this season. <Output2> Training for 585 of Mzuzu ADD officers, District officers, Technical staff, and Extension agents has been conducted. Training modules, titled "Training Module for Field Trails on Compost Making & Application Trials" was drafted up to the third version. LRCD SMSs in Mzuzu are trained on the SLM techniques through the project activities in collaboration with the Japanese experts and training in Japan. With self-confidence, LRCOs in target districts instruct compost related techniques for extension agents in the fortnight training. <Output3> After receiving training on 3 compost making in July 2013,91% of LF prepared the SLMP demonstration trials in 2013/14 season, and 86% in 2014/15 season. Inadequate monitoring and follow up, inaccessibility of materials and water, and shortage of labor for manure production caused some dropouts of LF. AEDOs hold Field Days in which LFs demonstrate their trial plots to farmers. Some of those farmers become FFs and receive instruction from LF on how to make and apply manure compost. LFs have recognized improvement of crop stands this year even in the heavy drought spell. Precise number of farmers in Mzuzu ADD is not surveyed by the Project. <Output4> The Project plans to hold seminar/workshop nationwide on compost making and application for LRCD SMSs by the end of the Project. The Project will present the results and achievement of the Project at the Sustainable Land and Water Management Technical Working Group o
Appropriateness of inputs in terms of quality, quantity and timing	Have the Experts been dispatched appropriately for achieving outputs in terms of its number, expertise, and timing?	Comparing with the plan, volume, timing, activities' schedule, expertise, quality of outputs are satisfactory.	Results of dispatch Attitudes of experts Opinion of C/P	List pf experts Experts LRCD, DAES, DARS, Mzuzu ADD	At the beginning of the Project, dispatch of appropriate experts was delayed. When the expert specialized in compost making and plot management was dispatched, trials were implemented smoothly
	Have the machineries and equipment been in good condition and operated in appropriate way?	Machineries, equipment and vehicles that the Project provided are in good condition	Condition of machineries, equipment provided by the Project	Project documents Experts LRCD, ADD	Some of motorbikes are not used satisfactory due to shortage of fuel. Other equipment is well used.
	Are C/P training appropriate in terms of the number of participants, target, field/sector, content, period, and timing?	The C/P training were appropriate in terms of the number of participants, target, field/sector, content, period, and timing	Review trainings already conducted Learnings from the trainings and application of the earnings	Project documents Experts Trainees	Three C/Ps from LRCD, Lunyangwa ARS, Mzuzu ADD participated in training in Japan. They learned soil diagnosis technology and SLM technologies in Hokkaido in November 2013.
	Have the C/P (LRCD, DAES, DARS, Mzuzu ADD) been allocated appropriately? Have the workload for other works, capacity and timing of appointment been appropriate?	The C/P and staff for operation and management have been allocated appropriately.	TOR of C/P (LRCD, DAES, DARS, Mzuzu ADD, Agriculture Research Station Allocation of C/P	Project documents Appointment list of C/P	<reasons to drop 2 sub-stations> # They were too far from the Project Office to monitor the activities closely # Some data was not collected. # Reduction of JICA budget
	Is there any problem in office, facilities and equipment provided by C/P?	There is no problems in office, facilities and equipment provided by C/P	Condition of office, facilities and equipment provided by C/P	LRCD Experts	No problem in building, facilities observed.
	Was the budget allocated appropriate for implementation of the project?	Amounts and timing of budget allocation from C/P and JICA were appropriate	Results of budget allocation by LRCD, DAES, DARS, Mzuzu ADD JICA HQ, Malawi Office	Project documents LRCD, DAES, DARS, Mzuzu ADD, JICA HQ, Malawi Office	<Budget from Malawi Side> Since the beginning of the Project, the budget has not been allocated for project activities except C/P and office. In 2014/2015, budget for equipment was delivered. <Budget from Japanese side> JICA budget was reduced in FY2014, however, in FY2015, the budget situation recovered.
Causality	Were the activities sufficient to achieve three Outputs?	The activities were sufficient to achieve 4 Outputs	Project documents Comments of LRCD, DAES, DARS, Mzuzu ADD	Project documents Experts LRCD, DAES, DARS, Mzuzu ADD	The activities indicated in PDM ver2 are sufficient to achieve four outputs.
	Has the Important Assumptions been fulfilled to achieve the outputs by implementing project activities?	1) Rainfall pattern does not deviate greatly from usual pattern.	Weather condition and effect to crop growth	Project documents LRCD, Extension staff, Mzuzu ADD, LRCO, LF	In 2014/2015, severe drought hit Malawi nationwide, which causes low production of maize. In case of project LF plots, maize growth is not much affected by drought.
		2) MoAFS does not lose significant proportion of staff.	Transfer of staff	Project documents Experts MoAIWD, LRCD, DAES, DARS, Mzuzu ADD	Staff transfer very often. 6 C/Ps transferred so far from the Project.

Evaluation Grid for Terminal Evaluation for Sustainable Land Management Promotion Project in Malawi
Verification of Efficiency

Efficiency

Evaluation Questions		Judgment Criteria/Method	Information needed	Information source	Survey Results
Main Questions	**Sub-Questions**				
		3) Farmer's access to inputs does not deteriorate greatly.	Present status of accessibility to agriculture inputs	Project documents Experts, extension agents, LF	Price of chemical fertilizer is increasing Chemical fertilizer is not available for all the small farmers due to shortage of allocation.
	Are there contributing / hindering factors other than project inputs for the achievement of the Outputs?	There are contributing factors other than project inputs for the achievement of the Outputs	Opinions of stakeholders	Project documents Experts Stakeholders	GoM's shortage of budget affects overall implementation of the Project
Cost	Have the Outputs been appropriately achieved in comparison to the cost?	The Outputs have been appropriately achieved in comparison to the cost	Expenditure of the Project up to now Expenditure of similar projects measures to save the expense	Project documents Experts, C/P	No info
	Are the human resources, outcomes, and equipment of former/ other on-going projects utilized?	The human resources, outcomes, and equipment of former/ other on-going projects are utilized	1. Project for Promoting Catchment Management Activities in Middle Shire 2. Expert on Agriculture Policy Monitoring Evaluation 3. Training in Japan	Project documents Experts, JICA Malawi Office	# Not much collaboration with COVAMS # Some information exchange with expert on Agriculture Policy Monitoring and Evaluation # 2 LRCO participated in training in Japan (group training), which enhanced their capacity in SLM technologies.
	Was there any duplication with projects implemented by other donors? Was there any collaboration with other projects? Was the collaboration cost effective?	There no duplication with projects implemented by other donors There is any case of collaboration with other projects to save the project cost	Latest information about assistance strategies and programs of other donors Demarcation of T/G in the training with other donors	Project documents Experts JICA Malawi Office, MoAIWD, LRCD,	DF and Tiyeni also conduct projects including compost making. The Project has collaborated with these NGOSs.

Evaluation Grid for Terminal Evaluation for Sustainable Land Management Promotion Project in Malawi
Verification of Impact

Impact					
Evaluation Questions		Judgment Criteria/Method	Information needed	Information source	Survey Results
Main Questions	Sub Questions				
Achievement forecast for the overall goal	Will the Overall goal, 'Appropriate Sustainable Land Management (SLM) techniques are diffused to national-wide.' be achieved three years after the completion of the Project?	1) The SLM techniques are applied in programs implemented by MoAFS and stakeholders	# Availability of LRCD annual report #Contents of SLM technology expected to be introduced # Expected area and number of farmers apply the technology	Latest annual report of LRCD SLM related documents issued by GoM and other stakeholders	In order to improve soil fertility, LRCD has a strong will to promote usage of organic fertilizer nationwide after the end of the Project. Manure making and its application are indispensable to improve soil fertility, which is in line with the national policy. Once officially approved, the techniques introduced by the Project will likely be applied in national programs as well as in projects supported by NGOs and other development partners.
		2) More than 80% of AEDOs across the country are trained by subject matter specialists (SMSs) and are able to instruct farmers on the SLM techniques by MoAFS.	# Number of extension agents nationwide # Possible Contents of training for extension agents by LRCO # Possible number of extension agents who can instruct farmers on the SLM techniques # Present status of extension agents' competencies on	training record Related documents of Mzuzu ADD	In order to improve soil fertility, LRCD has a strong will to promote usage of organic fertilizer nationwide after the end of the Project. Manure making and its application are indispensable to improve soil fertility, which is in line with the national policy. Once officially approved, the techniques introduced by the Project will likely be applied in national programs as well as in projects supported by NGOs and other development partners.
		3) XX million of farmers are adopting SLM techniques across the country by 2020.	# Availability of LRCD annual report # Number of farmers nationwide # Possible SLM technologies	Latest annual report of LRCD Farmers	The GoM promotes SLM techniques through Manure Campaign and Field Day. Through these occasions, farmers may have a chance to adopt SLM techniques by 2020. However, the number of 'XX' farmers has not identified yet, nor is the definition of 'adopt' here yet clear.
		Any action has already been taken to achieve overall goal	# Opinion of LRCD, DAES, DARS, Mzuzu ADD # Plan for future achievement of Overall goal	Project documents, Experts, LRCD, DAES, DARS, Mzuzu ADD	The Project will compile the technical message by July 2015. The Project will intensively implement activities for Output4.
		There is no possible hindering factor for achievement of overall goal	Opinion of LRCD, DAES, DARS, Mzuzu ADD	LRCD, DAES, DARS, Mzuzu	Budget of LRCD Commitment of Project management team (Mzuzu ADD and Japanese experts), LRCD, DAES and DARS
Causality	The Project Purpose will lead to the Overall Goal?	Recognition on a direction to the overall goal	Opinion of LRCD	LRCD, DAES, DARS, Mzuzu ADD, Project documents.	Long term direction is appropriate and based on LRCD's will. However, the indicator 3, 'XX million' is too ambitious when LF is only 49 in the Project
	Is there a high probability that important assumptions are fulfilled?	MoAIWD/districts are able to secure sufficient budget to implement proposed program to diffuse SLM techniques	Opinion of LRCD, DAES, DARS, Mzuzu ADD, Experts	Project document LRCD Experts	Budget of MoAIWD largely depends on ASWAp. It is necessary for MoAIWD (LRCD) and the Project to promote recommending technologies as much as possible to the stakeholders of ASWAp.
Ripple effects	Is there any influence of the Project other than overall goal? - Effects on policy making, legal and judicial institution and regulations - Effects on social and cultural aspects such as gender, human rights and poverty - Economic influence on environment, technology, society, stakeholders and beneficiaries	<Possible Impacts> # Guidebook for farmers was revised with the regional fertilizers volume # Production cost was reduced by reduction of chemical fertilizers # The Project gave impact to existing programs such as FISP # The Project's outputs were utilized by other programs supported by other DPs	Influence on policy, law, institution and regulations Influence on environment and economy Changes in women and the poor Influence on traditional institutions	Project documents Experts LRCD, DAES, DARS, Mzuzu ADD, LRCO, Extension agents, LF, FF	Some LF reduced cost for chemical fertilizer by making and applying manure compost. Guide to Agriculture Production and Natural resources management is well known book for AEDOs and farmers nationwide. However, The content is too general and not appropriate for including the transferred SLM techniques. DF and Tiyeni, NGOs have applied the transferred techniques to their LF in Mzuzu ADD. DF has a positive will to refer the technical messages from the Project for their revision of manuals.
	If there is any negative impact, has the Project dealt with it?	# There is no negative impact # Project has taken actions to mitigate negative impact	Possibility of causing income gap in the region due to the Project	Experts Stakeholders	No negative impact observed.

Evaluation Grid for Terminal Evaluation for Sustainable Land Management Promotion Project in Malawi
Sustainability

Sustainability (Prospects)					
Evaluation Questions		Judgment Criteria/Method	Information needed	Information source	Survey results
Main Questions	Sub-Questions				
Policies and Institutions	Will policy support continue after JICA's cooperation is finished?	The policy support will continue after the end of JICA's cooperation.	# Future direction of; ASWAp, FISP and other relating policies and programs in terms of SLM technologies	Project documents Experts MoAIWD, LRCD, JICA Malawi Office	ASWAp is the highest agricultural policy and highly prioritized investment program by the GoM to promote agricultural development in Malawi. SLM technique is one of the three pillars in ASWAp. The GoM will continue to promote SLM technologies including compost making and application based on ASWAp, collaborating with development partners.
	Have the relevant regulations and legal institutions been developed? Is there a plan for developing such institutions?	The relevant regulations and legal systems are clarified. Those regulations and legal system are/will be	# Relevant regulations and legal systems # Opinions from MoAIWD and LRCD	Project documents MoAIWD, LRCD, Experts	The target indicator for all the programs of ministries are shifting from output base to program base in Malawi from FY2015. MoAIWD is one of the pilot ministry to apply the new system. In output base indicator, ha of compost application or number of heaps were used and in program base indicator, more direct benefit such as production of crop or soil fertility will be considered as appropriate.
	Has the institutional structure been developed to disseminate benefit of the project to outside of the project sites?	The extension system has / will be developed There is a detailed extension plan.	# Comments from LRCD, agricultural station, Extension agents # Extension plan / strategy	Project documents Experts LRCD, District Agriculture Development Office	Extension system is well established in Malawi, but detailed extension plan has not been made yet.
Organization and Finance	In order to continue project activities to achieve positive impacts after the completion of the Project, is capacity of the implementing agency sufficient? Can implementing agency allocate sufficient human resource, maintain decision-making process, and coordinate with other organizations?	The capacity of LRCD is sufficient to continue project activities with sufficient human resources	Opinions from LRCD, DAES, Mzuzu ADD, , Experts	Project documents Experts LRCD, DAES, Mzuzu ADD,	After the end of the Project, LRCD is willing to promote compost making and application in all the 8 districts since soil is degrading even though farmers use much of chemical fertilizers. Using manure compost is essential to improve soil fertility not only in northern part but nation wide. Since SLM technologies are regarded one of 3 pillars of ASWAp, sustainability of SLM technologies are well secured. Collaboration in central level among DAES, DARS, and LRCD is well established.
		C/P will keep its functions to sustain the project's activities	Opinions from LRCD, Experts, Mzuzu ADD	Project documents Experts LRCD	Mzuzu ADD will continue to diffuse SLM techniques collaborating with NGOs.
		Appointment of Extension agent is expected to be improved.	Opinions from LRCD, , Extension agents	Project documents Experts, DAES LRCD, Extension agents	Number of AEDO in 2012: 2,290 in 2014:1664 It is difficult to recruit AEDOs because young people want to live in town, and budget is not enough.
	Is the ownership of beneficiaries sufficiently confirmed for future?	The ownership of LRCD, C/P and LF are expected to continue sufficiently for future	# Comments from LRCD, LF, Mzuzu ADD, DAES, DARD	Project documents Experts LRCD, DAES, DARS, Mzuzu ADD	Even though many of LFs have challenges in obtaining materials, water and transportation, they expressed their strong will to continue making and applying compost after the end of the Project. They are very positive to teach FFs as well.
	Has the collaborative relationship been established amount LRCD, DAES and DARS?	The collaborative relationship amount LRCD DAES and DARS is established to share information, coordinate	Present status of collaboration on soil analysis services, extension of SLM technologies, and testing in Agriculture Research Services and farmers plots	Project documents Experts LRCD, DAES, DARS, Mzuzu ADD	Collaboration at Mzuzu ADD management level was not well observed, however, in the field level, LRCO, AEDO, and ARS are working closely.
	Are there measures to secure future budget to sustain overall goal of the Project?	There are measures to secure future budget to sustain overall goal of the Project	Procedure of budget provision to LRCD and long-term forecasts District's development plan on land management Present status of ASWAp, NGO projects	Project documents MoAIWD, LRCD, District councils, Mzuzu ADD,	The GoM has largely depended on the budget from the Japanese side to implement the project activities. Financial sustainability for future depends on LRCD and DAES's commitment to allocate necessary budget such as Other Recurrent Transactions (ORT) and ASWAp to compost making and application. Regarding charges for soil/compost test in Lunyangwa ARS, the ARS has been paid by private entities based on the regulated rate. Soil and compost analysis services and compost trial activities are essentials for disseminating the SLM techniques. Regarding soil and compost analysis services, the Lunyangwa ARS has started collecting service charge from clients except small-holders via Extension Agents. When 80% of Lunyangwa service fee will be its own revenue after the bank account is officially open, financial sustainability will be enhanced. However it is still uncertain whether it secures sufficient financial resource for future
Technology	Are the skills and technologies transferred from the Project shared among stakeholders?	# Transference methodology such as cascade is and will be appropriate # Farmers accept techniques introduced by the Project # Guideline/Manual are	# Transference methodology # Opinions of farmers, LRCO, extension agents, DAES, # Current situation of producing the Guideline/Manual and action plans	Project documents Experts Farmers in pilot areas, Extension agents, LRCD, DAES, DARS,	LF system will be well maintained to supplement to shortage of AEDOs. LFs have accepted new techniques for compost making and application on their trial base. After the Project, they will chose several patterns of compost making by using skills and knowledge's from the Project. Leaflet of compost making is well utilized by AEDOs

Evaluation Grid for Terminal Evaluation for Sustainable Land Management Promotion Project in Malawi
Sustainability

Sustainability (Prospects)					
Evaluation Questions		Judgment Criteria/Method	Information needed	Information source	Survey results
Main Questions	Sub-Questions				
	Will the machineries and equipment provided by the Project be maintained appropriately after the Project is ended?	# The owners of machineries and equipment are fixed. # The present condition of machineries and equipment	# Opinions of organization which will take over the equipment provided by the Project # Maintenance list of machineries and equipment	Project documents Experts LRCD, Mzuzu ADD,	The owner of machineries and equipment are not fixed yet. The present condition of machineries and equipment provided by the Project is fine as a whole.
	Has the dissemination mechanism been included in the project activity?	# Extension plan is/will be made by the Project # Extension from LF to FF is included in the Plan # Recommendation on extension strategy is discussed / implemented	# Opinions of MoAIWD, LRCD, DAES, DARS, Mzuzu ADD, # Extension Plan	Project documents Experts MoAIWD, LRCD, DAES, DARS, Mzuzu ADD	Extension plan has not prepared yet by the Project. LF system for dissemination of new technologies is well established in agriculture sector in Malawi.
	Are the introduced techniques appropriate to disseminate to non-target districts?	# The technical level is not too high to maintain continuously # The techniques are disseminated in other areas with different soil conditions	Opinions of LRCO, extension agents, farmers, LRCD, DAES, DARS	Project documents Experts LRCD, LRCO, Extension agents, DAES, DARS	Techniques of LRDC, extension agents and staff at research station will likely be maintained. It will be difficult to maintain their level of skill and knowledge without continuous training for new staff as transfer of staff frequently occurs. The Project has transferred new techniques of compost making and application by using local materials. The techniques for soil analysis in the lab in Lunyangwa ARS have been carefully chosen as the research staff will be able to continue by themselves. Compost techniques that the Project has promoted can be used nationwide, which should be the advantage of technique to be disseminate nationwide.
Society, culture and environment	Is there any possibility to hinder project's sustainable effects due to the shortage of attention to women, the poor, the socially vulnerable and traditional organizations?	No ethnic conflict No conflict among farmers	Opinions of LRCD, DAES, DARS, Mzuzu ADD, Extension agents, LF	Project documents Experts, DARS, LRCD	No info observed.
	Is there any possibility to hinder sustainable effects due to the shortage of attention to the environment?	There is no / little possibility to hinder sustainable effects of the project in terms of environmental aspect	# Long-term effect on soil # Effect on land use for ensuring agricultural land (deforestation etc.)	Project documents Experts Extension agents, LRCO, farmers	The Project aims to improve environment by applying organic compost.

付属資料 6: 投入実績表

Record of Inputs

(1) Dispatch of Experts

Name	Field	Assignement Duration	Affiliation
Dr. Taisuke ONISHI	Project Coordinator/ Extension	10/11/2011 – 29//11/2013	
Mr. Shiro ARAI	Chief Advisor/ Soil Fertility	(1) 28/11/2011 – 28/01/2012 (2) 23/04 – 05/06/2012 (3) 15/08 – 31/10/2012 (4) 11/11/2012 – 06/01/2013	
Dr. Mineko KUBA	Soil Survey/ Planning	05/01 – 05/02/2012	
Mr. Naoyuki YAMAMOTO	Baseline Survey–Nationwide (Appropriate Technology/ Extension)	14/05 – 16/07/2012	
Dr. Kiyoko HITSUDA	Baseline Survey–Target Area (Agricultural Management/ Soil Conservation)	20/05 – 01/09/2012	
Dr. Naohiro MATSUI	Soil Survey/ Planning	(1) 30/09 – 18/11/2012 (2) 20/01 – 28/02/2013 (3) 22/05 – 21/07/2013 (4) 26/08 – 22/11/2013 (5) 15/01 – 13/03/2014 (6) 05/06 – 11/07/2014 (7) 16/10 – 05/12/2014 (8) 15/01 – 28/02/2015	
Mr. Atsushi SUZUKI	Chief Advisor	(1) 26/07 – 10/12/2013 (2) 15/01 – 10/03/2014	
Mr. Atsushi SUZUKI	Chief Advisor/ Extension	(1) 14/05 – 27/06/2014 (2) 21/08 – 31/10/2014 (3) 15/01 – 28/02/2015	
Mr. Nobuo SUGIURA	Project Coordinator	10/11/ 2013 – 09/11/2015	
Mr. Koji NAKATA	Crop Management/ Fertilization	(1) 17/11 2013 – 08/02/2014 (2) 14/05 – 11/07/2014 (3) 16/11/2014 – 30/01/2015	

(2) Counterparts' Participation in Training Overseas (include Third Country Training Program)

Name	Period of Participation	Field/Name of the Course	Content	Implementing Institution	Position at that time	Current Position, Date of turnover
Mr. James Banda	22 – 30/11/2013	Soil Diagnosis Technology and Sustainable Land Management	Lecture & Site visits	JICA Obihiro Center; Obihiro Univ. of Agriculture and Veterinary Medicine; Ministry of Agriculture, Forestry and Fisheries	Deputy Director of LRCD (Deputy Project Director)	Same as it is
Dr. Allan Chilimba					Deputy Director of DARS/Lunyangwa ARS Station Manager	ditto
Mr. Gilbert Kupunda					CLRCO of Mzuzu ADD (Project Manager)	ditto

(3) Provision of Equipment

1) List of Equipment Provided

No.	Purpose of Use	Arrival Date	Name of Machinery	Product No.	Maker	Price	Installation Place	Procurement Place	Current Condition
1	Monitoring/ General use	January 2012	4WDVehicle (BR6478)	Patrol	NISSAN	8,000,000	Mzuzu ADD SLMP Project Office	Lilongwe	in use
2	ditto	ditto	ditto (BR6889)	Patrol	ditto	ditto	ditto	ditto	in use
3	Documentation	ditto	Copy Machine	AR5127	SHARP	864,885	ditto	ditto	in use
4	ditto	ditto	Desktop PC2	ditto	ditto	ditto	ditto	ditto	in use
5	ditto	ditto	Desktop PC3	ditto	ditto	ditto	ditto	ditto	in use
6	ditto	ditto	Laptop PC1	HP 630	HP	228,527	Mzuzu ADD	ditto	stolen
7	ditto	ditto	Laptop PC2	ditto	ditto	ditto	ditto	ditto	out of country
8	ditto	ditto	Desktop PC1	optiplex 380	DELL	186,753	Rumphi DAO	ditto	in use
9	ditto	ditto	Desktop PC4	ditto	ditto	ditto	Nkhata Bay DAO	ditto	in use
10	ditto	ditto	Desktop PC5	ditto	ditto	ditto	Mzimba North DAO	ditto	in use
11	ditto	ditto	Laptop PC3	ditto	ditto	ditto	Nkhata Bay DAO	ditto	in use
12	ditto	ditto	Laptop PC4	ditto	ditto	ditto	Rumphi DAO	ditto	in use
13	ditto	ditto	Laptop PC5	ditto	ditto	ditto	Mzimba South DAO	ditto	in use
14	Analysis work	May 2013	Centrifuge	ROTINA 380	Hettich	6,200,000	Lunyangwa ARS	ditto	in use
15	Monitoring	October 2013	Motorcycle 1	XL125	HONDA	1,410,916	Rumphi DAO	ditto	in use
16	ditto	ditto	Motorcycle 2	ditto	ditto	ditto	Nkhata-Bay DAO	ditto	in use
17	ditto	ditto	Motorcycle 3	ditto	ditto	ditto	Mzimba North DAO	ditto	in use
18	ditto	ditto	Motorcycle 4	ditto	ditto	ditto	Mzimba South DAO	ditto	in use

2) Of the Principle Equipment, List of Equipment Currently Out of Service

Name of Machinery	Starting Date of Operation	Lifetime	Current Condition*	Reason/Period of Non-Operation
Laptop PC1	January 2012	5 years	Lost	Stolen on 7 September 2012
Laptop PC2	ditto	ditto	Taken by ex- C/P to abroad	On 26 August 2013, ex-C/P took it away to his study abroad

* "Not broken but not in use," "Broken but Repairable," "Not Repairable," etc.

3) Implementation of Seminars and Training

Year	Name of the Course	Date		No. of Participants	Target Participants	Remarks
		From	To			
2012	For the Baseline survey/ practical training of study on individual and group Farmers	May 19	21	21	Mzuzu ADD Planning Division staff	
2012	For the Baseline survey/ practical training of data collection and analysis	July 28	August 04	6	Mzuzu ADD Planning division staff	
2012	Soil sampling	October 08	October 11	54	4 District Officers and Extension Officers	
2013	Basic training on Soil analysis	March 03	March 10	6	Technical Staff of Lunyangwa ARS	Training at Bunbwe ARS
2013	Compost making in Rumphi	July 08	July 10	37	Extension Officers, LFs, AAROs	Lecturer: LRCD C/P, AARO in Lunyangwa
2013	Compost making in Nkhata-Bay	July 11	July 13	29	ditto	ditto
2013	Compost making in Mzimba North	July 25	July 27	32	ditto	ditto
2013	Compost making in Mzimba South	July 29	July 31	31	ditto	ditto
2013	Preparation of Plot layout/ compost application for Officers of Rumphi	November 11		23	Extension Officers, AAROs	Lecturer : LRCD C/P
2013	Preparation of Plot layout/ compost application for Officers of Mzimba South and Nkhata Bay	November 26	November 27	16	ditto	ditto
2013	Field day at Mkondezi substation/ compost making and application	November 27		80	Farmers, Students	
2014	First Trial Protocol Review, Planning and refresh training in Rumphi	September 18	September 19	31	LFs, Extension Officers	

付属資料 6: 投入実績表

Year	Name of the Course	Date		No. of Participants	Target Participants	Remarks
2014	First Trial Protocol Review, Planning and refresh training in Mzimba South	September 24	September 25	32	ditto	
2014	First Trial Protocol Review, Planning and refresh training in Mzimba North	September 26	September 27	27	ditto	
2014	First Trial Protocol Review, Planning and refresh training in Nkhata-Bay	September 29	September 30	24	ditto	
2014	Field day at Mkondezi substation/ compost making and application	January 09		68	Farmers	
2015	Soil Diagnosis Technique (plan)	February 09	February 19			

付属資料 7: プロジェクト活動進捗表

Summary of Activities in line with PO

Activity Plans		Objective	Progress	Current Status*	Reasons for Delayed Completion	Plan for the future
No.	Activity Contents					
Output 1: *Institutional and human capacity for soil and/or compost testing, and skills for field test in Mzuzu ADD are improved.*						
1-1	Conduct baseline surveys on existing land management practices by farmers in Mzuzu ADD and nationwide.	Baseline information necessary for the Project is compiled.	For purpose of assessing the present situation of soil conservation activities and farming, 2 baseline surveys were conducted from June to July 2012; one at the national level and the other in the target districts of Mzuzu ADD. The results were shared with stakeholders.	4	On schedule.	Completed.
1-2	Identify existing compost making and application techniques to be tested.	Techniques are identified.	Through the baseline surveys, all the composting techniques practiced in Malawi and Mzuzu ADD were listed-up, from which 3 types of techniques were identified for trials under the Project. They included Changu, Windrow and Bokasi composting methods.	4	On schedule.	Completed.
1-3	Develop research protocol for compost making and application trials.	A research protocol is prepared.	In consultation with various stakeholders, a research protocol for compost making and application trials (titled *"Comparison of Composting Techniques and Biomass Combinations on Quality of Compost, Soil Fertility Improvement and Crop Yields in Mzuzu ADD"*) was formulated in May 2013.	4	On schedule.	Completed.
1-4	Train lab researchers and technicians for soil and/or compost analysis.	Lab researchers and technicians have acquired analysis skills.	The Expert on soil survey has been giving technical guidance and instruction on soil and compost analysis to the lab researchers and technicians at Lunyangwa ARS since March 2013 after the soil lab was set-up with support from the Project.	3	On schedule.	Continue analysis up to the end.
1-5	Collect soil and compost samples from stations and farms.	Sufficient quantity of soil and compost samples are collected.	The project team members have been collecting soil and compost samples from DARS research stations and farmers in Mzuzu ADD. The lab researchers and	3	On schedule.	Continue sampling as required.

Activity Plans		Objective	Progress	Current Status*	Reasons for Delayed Completion	Plan for the future
No.	Activity Contents					
			technicians assigned at Lunyangwa soil lab has carried out analysis of collected samples. More than 1,500 samples have been collected and analyzed since inception of the lab in March 2013 to date.			
1-6	Conduct element analysis of soil and compost samples.	Analysis for collected samples are conducted.	Researchers and lab technicians have been carrying out analysis of soil and compost samples under supervision of the Expert on soil survey. Some results were compiled as the soil diagnosis sheet and handed back to the farmers.	3	On schedule.	Continue analysis up to the end.
1-7	Produce manual for soil and compost analysis.	A manual is compiled and adopted by DARS.	A manual for soil and compost analysis (titled *"Lunyangwa Laboratory Manual ver. 1"*) was drafted in November 2013.	3	On schedule.	Need to be officially approved.
1-8	Set up demo-trial field at research stations.	Research stations are able to demonstrate and conduct trials on composting technologies.	Facilities and equipment including crop fields, multi-purpose workshop, compost shed and nurseries were established and demo/trial fields have been set-up at Lunyangwa ARS and 4 sub-stations including Mkondezhi (Nkhata Bay), Mbawa (Mzimba), Ntchenachena and Bolero (Rumphi).	4	On schedule.	Completed.
1-9	Conduct trainings for researchers on on-farm and on-station trials.	Researchers are equipped with knowledge and skills for conducting compost trials.	The Expert on fertilization and crop management conducted trainings as well as gave technical guidance on management of field trials on compost application for researchers and technicians during 2013/14 and 2014/15 farming seasons.	4	On schedule.	Completed.
1-10	Implement on-farm and on-station trials and collect data.	Scientific evidence for the effects of compost is gathered.	Compost making and application trials were conducted both at station and farm levels in 2 farming seasons of 2013/14 and 2014/15.	3	On schedule.	Continue the ongoing trials during the current season. Technical messages
1-11	Collect on-farm trial data from LFs.	ditto	Harvest data was collected from LFs in 2013/14 season and has been continued in the current season.	3	On schedule.	

Activity Plans		Objective	Progress	Current Status*	Reasons for Delayed Completion	Plan for the future
No.	Activity Contents					
1-12	Conduct data analysis to assess for appropriate level of organic matter content in soil and recommendable compost application rate for the improvement of soil fertility.	Recommendations for appropriate composting methods are prepared.	Data collected through the compost making and application trials in 2013-14 was analyzed and a report on the analysis results was compiled (titled *"Progress and Results of Compost Making and Application Trials in 2013-14 Crop Season"*).	3	On schedule.	will be finalized based on the results of ongoing compost trials.
1-13	Compile technical messages on SLM techniques.	Recommended SLM techniques are disseminated.	Trials are in process of implementation.	3	On schedule.	
Output 2: *LRCD SMSs and extension agents in Mzuzu ADD are equipped with the SLM techniques.*						
2-1	Develop training modules on compost making and application for extension agents and LFs.	Information and methods needed for trainings are compiled as modules.	The 1st version of training modules for compost making & application trials was prepared in July 2013 and revised in August 2013 and June 2014.	4	On schedule.	Completed.
2-2	Conduct trainings on compost making and application for extension agents.	Extension agents are equipped with knowledge and skills on appropriate composting techniques.	3 Trainings have been organized for extension officers together with Lead Farmers in the 4 districts respectively; the 1st training conducted in July 2013 on compost making techniques, 2nd in November 2013 on compost application and 3rd in July 2014 to follow-up the previous season practices.	3	On schedule.	Continue the follow-up of trials.
2-3	Conduct soil diagnosis training for extension agents.	Extension agents are able to understand the importance of soil diagnosis.	1) Trainings on soil sampling were conducted in mid-October 2012 for extension officers (AEDCs & AEDOs) in the 4 districts. 2) Trainings on soil diagnosis technique are being planned in February 2015.	4	On schedule.	Completed.
2-4	Conduct quarterly review meetings.	All the project members are able to know the progress and issues of the Project.	Since the beginning of the Project, no review meetings were held regularly by the project members until early February 2014 when the 1st review meeting was held with participation of C/P officers from ADD,	3	On schedule.	Continue the meeting.

Activity Plans		Objective	Progress	Current Status*	Reasons for Delayed Completion	Plan for the future
No.	Activity Contents					
			district offices and research stations as well as Japanese Experts. Since then, review meetings have been organized every 3 to 4 months.			
2-5	Conduct trainings/workshops on the SLM techniques to LRCD SMSs in Mzuzu ADD.	LRCD SMSs in Mzuzu ADD are equipped with knowledge and skills on appropriate SLM techniques.	Not yet organized trainings or workshop for the LRCD officers; however, they are the C/P officers who have been carrying out the project, so they have already had sufficient knowledge on the techniques promoted by the project.	3	On schedule.	Technical messages to be compiled from the ongoing trials will be shared.
2-6	Prepare the SLM technique handbooks.			2	Technical messages have not been finalized until the ongoing trials are completed.	
Output 3: *Compost making and application techniques are applied by pilot site farmers.*						
3-1	Select on-farm demo areas and LFs.	Compost making and application techniques prompted by the Project are piloted in Mzuzu ADD.	Based on the information collected in the Baseline Surveys, 30 EPAs were selected as the target areas for extension where 49 farmers were identified as LFs.	4	On schedule.	Completed.
3-2	Conduct trainings for LFs on compost making and application.	Same as activity 2-2.	Refer to activity 2-2.	3	On schedule.	Continue the follow-up of trials.
3-3	Monitor and backstop the progress of on-farm trials.	On-farm trials are conducted in a proper way.	After conducting the 1st training on compost making in July 2013, the project team regularly visited LFs and gave technical advice. Monitoring reports were compiled based on the observation.	3	On schedule.	
3-4	Prepare extension (Information, Education and Communication or IEC) materials.	Farmers are able to obtain information on SLM techniques.	Extension booklets for compost making techniques have been drafted both in English and Tumbuka.	3	On schedule.	Need to be officially approved.

Activity Plans		Objective	Progress	Current Status*	Reasons for Delayed Completion	Plan for the future
No.	Activity Contents					
3-5	Conduct refresher course for LFs and Extension agents	LFs and extension agents are able to obtain knowledge and skills on SLM techniques promoted.	A refresher training for LFs and extension officers was organized in September2014 in the 4 districts respectively.	3	On schedule.	Organize a review meeting on the current season trials.
3-6	Facilitate extension activities (i.e. field day, exchange visits) for FFs.	More farmers are able to obtain knowledge and skills on SLM techniques promoted.	Not much activities have been undertaken. Some LFs had organized field days with their own initiative.	2	Insufficient budget to support extension activities both from Malawi and JICA.	Continue to make the best effort.
Output 4: *Measures to diffuse the SLM techniques nationwide are provided.*						
4-1	Present project progress and obtain feedbacks at regular meetings (i.e LRCD meetings, technical working group).	Information of the project progress and achievement is shared among stakeholders.	Presentation on progress have been made at several opportunities as follows: • LRCD Annual Conference (2013, 2014) • SALWM Technical Working Group meeting (2013, 2014) • ADD Annual Review meeting (2012, 2013, 2014)	3	On schedule.	Continue presentations on the progress.
4-2	Conduct seminar/workshop to diffuse the SLM techniques for LRCD SMSs nationwide.	The project results and achievement are shared by LRCD officers in other ADDs and disseminated to farmers across the country.	Not yet done.	1	The activity 4-2 and 4-3 are scheduled to take place just before the end of the project.	Organize functions to share the results and achievements before the end of the project.
4-3	Conduct national workshop to present the SLM techniques, project results and achievements to MoAFS officials and stakeholders.		Not yet done.	1		

*Status: 4-Completed; 3-Nearly Completed; 2-Partially Completed due to Notable Obstacles; 1-No activity

付属資料 8: 中間レビュー提言に対する取り組み状況一覧表

Recommendations from the Mid-Term Review and Measures Taken (Present Status)

Recommendations from the Mid-term Review	**Measures taken / Present Status**
1. Revision of PDM and PO	● Considering the content and progress of the Project, it was not realistic to achieve Output4 and 5. PDM 1 was revised to PDM 2 as achievable by the end of the Project.
2. Clarification of roles of Malawian C/P organizations and collaboration among them	● The activities on soil analysis, demonstration and trials are the ordinary TORs of research staff at ARS. Therefore, participation of DARS staff is indispensable. For the extension activities, AEDCs and AEDOs are the key players. The Project has tried to involve those staff. The roles of DARS and DARS are very clear on the field level and the collaboration among them has been strengthened through the Project activities. The collaborative relation is challenge in Head Quarters of those organizations in Lilongwe and ADD level.
3. Research Framework	● The Project has supported on farm trials by LF as the part of testing activities based on the research protocol since 2013/14 season. According the Protocol, on farm trial was supposed to be implemented with the same objectives and contents as those in on research station trial. Since the Mid-term review, the on farm trials have been flexibly conducted with rather demonstration purpose, than research purpose.
4. Implementation of the Road Map from testing research to extension activities	● The indications of trials are set in the farmers' testing plot to explain the variety of trial for trial 2014/15. ● The Project has participated the Field Day twice in November 2013 and January 2014 to demonstrate compost making by LFs. ● In September 2014, the Project made a report on the preference on compost making and application of LFs who participated on farm trials in 2013/14. ● The Project has developed the training manual for AEDOs. Based on the manual, the Project produced Technical Information Series (No.1～No.3) as extension materials for farmers.
5.Collaboration with other development partners (DPs)	● DF and Mzuzu ADD have been closely collaborate and C/Ps of the Project have shared their time with DF. It is expected that C/P take initiative to have collaboration with DF and the Project. The Project has also started to establish collaborative relation with local NGOs based in Mzuzu.
6. Implementation process	● There was scarce opportunity among the C/P and the Project for 2 years since commence of the Project. The communication among the C/P and the Project improved through discussion on issues and getting know the situation in the field in periodical meeting. However, the Mission observed that communication among the Project Management Team on daily bases has still room to improve.
7. Confirmation of budget and human resource of the Malawian Government	● The Malawian side disbursed the budget for provision of protective wears and wheelbarrows for LFs. However, the one wheelbarrows have not been reached to LFs due to lack of transportation budget. ● One researcher was appointed at Lunyangwa ARS recently.

付属資料 9: 上位目標に係る指標の改定案

Table of comparisons of Indicators for the Overall Goal

Items		Ver. 2 (February 2014 revised)	Proposal for Ver. 3	Reasons for modifications
Objectively Verifiable Indicators (OVIs) for the Overall Goal	1	The SLM techniques are applied in programs implemented by MoAFS and stakeholders.	**The SLM techniques are applied in agricultural programs implemented by MoAIWD and stakeholders in order to improve soil fertility.**	■ Specified the objectives for the application of techniques into other programmes.
		Means of Verification LRCD annual report 2020	**Programme reports by MoAIWD and stakeholders**	
	2	More than 80% of AEDOs across the country are trained by subject matter specialists (SMSs) and are able to instruct farmers on the SLM techniques by MoAFS.	(No modification)	■ In this opportunity, expression of the PDM will be changed from MoAFS to MoAIWD.
		Means of Verification LRCD annual report 2020	■ **Staff training report of LRCD SMSs** ■ **Farmer training report of AEDOs**	
	3	XX millions of farmers are adopting SLM techniques across the country by 2020.	**50,000 of farmers are adopting SLM techniques across the country by 2018.**	(a) The original OVI is beyond the actual achievable level. It is difficult to verify the quantitative impact of SLM techniques developed by the Project. (b) 50,000 comes from the following calculations 1. Percentage of land of soil fertility improvement is 5% (288,000ha/5,580,000ha) 2. The number of farm family per extension agent is 750. 3. The total number of extension agent is 1,664 4. 80 % of extension agents are trained 1,664×80%=1,331 750×5%=37.5 1,331×37.5=49,912≒50,000
		Means of Verification Land management documents produced by government and stakeholders	**Sample interview survey**	
	4	**New Indicator**	**Productivity of Maize increases by 20% on the LFs of the Project in Mzuzu ADD area.**	Soil fertility improvement can be measured by yield.
		Means of Verification	**Sample survey**	

付属資料 10: PDM (Ver.3)　調査団による提案

Project Design Matrix (PDM) Version 3 (Recommendation on Terminal Evaluation)

Project Title:	Sustainable Land Management Promotion Project (SLMPP)
Period:	4 years from November 11th 2011 to November 10th 2015
Implementing Departments:	Land Resource Conservation Department (LRCD) involving Department of Agricultural Research Services (DARS) and Department of Agricultural Extension Services (DAES) under Ministry of Agriculture, Irrigation and Water Development (MoAIWD), Government of Malawi
Main Sites & Target Areas:	4 Districts (Rumphi, Mzimba S & N, Nkhata Bay) in Mzuzu ADD, Lunyangwa Agricultural Research Station and its sub-stations (Mkondezi and Nchenachena)
Date Modified:	February 2013 (Ver. 1+), February 2014 (Ver. 2)

Project Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: Appropriate Sustainable Land Management (SLM) techniques [i] are diffused to nationwide.	1. The SLM techniques are applied in agricultural programs implemented by MoAIWD and stakeholders in order to improve soil fertility.[ii] 2. More than 80% of AEDOs across the country are trained by Subject Matter Specialists (SMSs) and are able to instruct farmers on the SLM techniques by MoAIWD. 3. 50,000 of farmers are adopting SLM techniques across the country by 2018. 4. Productivity of Maize increases by 20% on the LFs of the Project in Mzuzu ADD area.	• Programme reports by MoAIWD and stakeholders • Staff training report of LRCD SMSs • Farmer training report of AEDOs • Sample interview survey • Sample survey	
Project Purpose: Capacity of MoAIWD to diffuse appropriate SLM techniques is enhanced.	1. The SLM technique handbook is reviewed by DAES and distributed to all the 28 districts' LRCD and Extension SMSs. 2. Services for soil and/or compost testing in Northern region become available and results are accessed by extension agents and farmers.	• SLM technique handbook • Confirmation of service	• MoAIWD/districts are able to secure sufficient budget to implement proposed program to diffuse SLM techniques.

付属資料 10: PDM (Ver.3)　調査団による提案

Project Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Expected Output: 1 Institutional and human capacity for soil and/or compost testing, and skills for field test in Mzuzu ADD are improved.	1.1 Manual for soil and compost analyses is prepared. 1.2 Recommendations on compost application for soil fertility improvement are compiled. 1.3 Lunyangwa Research Station provides soil and/or compost analysis services. 1.4 Field data is collected according to the research protocol. 1.5 Soil tests from the demonstration sites confirm improvements of soil fertility at the end of the project.	• Draft manual • Field trial site • Collected data • Soil and compost analysis results	• Diffusion of SLM remains priority issue of both central and local governments of Malawi. • Labour constraint in rural area does not become severe. • Prices of major agriculture products do not decline significantly. • Availability of animal dung does not decline significantly.
2 LRCD SMSs and extension agents in Mzuzu ADD are equipped with the SLM techniques.	2.1 Extension agents in Mzuzu ADD are trained on existing compost making and application techniques to the level that they can back up Lead Farmers (LFs). 2.2 Training manual for the SLM techniques is produced. 2.3 All LRCD SMSs in Mzuzu are trained on the SLM techniques and are able to train extension agents.	• Training records • Training manual	
3 Compost making and application techniques are applied by pilot site farmers.	3.1 More than 80% of all the LFs mount SLMP demonstration trials taught by the extension agents. 3.2 Ten Follower Farmers (FFs) are trained by each LF on compost making and application techniques and apply more than one techniques in their farms. 3.3 Positive effects of using compost are recognized by participating farmers through monitoring. 3.4 10,000 farmers in Mzuzu ADD[iii] are using compost making and application techniques that are indicated in the SLMP research protocols.	• Monitoring reports • Field survey results • Mzuzu ADD annual report • Research protocol	
4 Measures to diffuse the SLM techniques nationwide are provided.	4.1 Through seminar/workshop, 90% of attended LRCD SMSs nationwide gain knowledge of the SLM techniques 4.2 Project results and achievements are shared among MoAIWD officials and stakeholders through national workshop.	• Seminar/workshop records/evaluations • National workshop records	

付属資料 10: PDM (Ver.3)　調査団による提案

Activities:

1-1 Conduct baseline surveys on existing land management practices by farmers in Mzuzu ADD and nationwide.
1-2 Identify existing compost making and application techniques to be tested.
1-3 Develop research protocol for compost making and application trials.
1-4 Train lab researchers and technicians for soil and/or compost analysis.
1-5 Collect soil and compost samples from stations and farms.
1-6 Conduct element analysis of soil and compost samples.
1-7 Produce manual for soil and compost analysis.
1-8 Set up demo-trial field at research stations.
1-9 Conduct trainings for researchers on on-farm and on-station trials.
1-10 Implement on-farm and on-station trials and collect data.
1-11 Collect on-farm trial data from LFs.
1-12 Conduct data analysis to assess for appropriate level of organic matter content in soil and recommendable compost application rate for the improvement of soil fertility.
1-13 Compile technical messages on SLM techniques.

2.1 Develop training modules on compost making and application for extension agents and LFs.
2.2 Conduct trainings on compost making and application for extension agents.
2.3 Conduct soil diagnosis training for extension agents.
2.4 Conduct quarterly review meetings.
2.5 Conduct trainings/workshops on the SLM techniques to LRCD SMSs in Mzuzu ADD.
2.6 Prepare the SLM technique handbooks.

3.1 Select on-farm demo areas and LFs.
3.2 Conduct trainings for LFs on compost making and application.
3.3 Monitor and backstop the progress of on-farm trials.
3.4 Prepare extension (Information, Education and Communication or IEC) materials.
3.5 Conduct refresher course for LFs and Extension agents.
3.6 Facilitate extension activities (i.e. field day, exchange visits) for FFs.

4.1 Present project progress and obtain feedbacks at regular meetings (i.e LRCD meetings, technical working group).
4.2 Conduct seminar/workshop to diffuse the SLM techniques for LRCD SMSs nationwide.
4.3 Conduct national workshop to present the SLM techniques, project results and

Inputs:

From Malawi side

1) Personnel
   - Project Director (Director, LRCD)
   - Deputy Project Director (Deputy Director, LRCD)
   - Project Advisor Project Manager (Chief Land Resources Conservation Officer,, Mzuzu ADD)
   - Deputy Project Manager (Principal Land Resources Conservation Officer, Mzuzu ADD)
   - Head of research (Director, Lunyangwa Research Station)
   - Head of extension (Chief Agricultural Extension Officer, Mzuzu ADD)
   - District Coordinators (Land Resources Conservation Officers of Rumphi, Mzimba and Nkhata Bay District Agricultural Development Officers)
   - Personnel under DARS, DAES and Mzuzu ADD
2) Facilities
   - Office space for experts
     Mzuzu ADD
     DARS Chitedze Research Station
   - Training Venues
   - Experimental fields in Chitedze Research Station
3) Recurrent costs
   - Costs associated with MoAIWD staff involved in project
   - Part of training cost
   - Utility and other basic expenses to run project

From Japan side

1) Experts
   - Chief advisor, Coordinator, other experts
2) Counterpart Training
   - Training in Japan and/or the third country
3) Machinery and equipment
   - Vehicle(s) (4WD)
   - Bicycles / Motor Bikes
   - Soil analysis equipment
   - Training equipment (computer, projector, screen, etc.)

Important Assumption

- Rainfall pattern does not deviate greatly from usual pattern.
- MoAIWD does not lose significant proportion of staff.
- Farmer's access to inputs does not deteriorate greatly.

Precondition

achievements to MoAIWD officials and stakeholders.	- Office equipment (photocopier, scanner, etc.) - Other necessary equipment 4) Local costs - Part of training cost	

(i) Appropriate Sustainable Land Management Techniques (The SLM techniques) refer to scientifically tested existing compost makings and application techniques and knowledge that is promoted by the SLMP project.

(ii) Stakeholders refer to NGOs, other donors and private sectors.

(iii) Including farmers under the government and other related extension programs.

THE JOINT TERMINAL EVALUATION REPORT ON THE SUSTAINABLE LAND MANAGEMENT PROMOTION PROJECT IN THE REPUBLIC OF MALAWI

Lilongwe, 29th April, 2015

JOINT TERMINAL EVALUATION TEAM

Mr. Shinjiro AMAMEISHI
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Rural Development Department
Japan International Cooperation Agency

Mr. Lloyd LIWIMBI
Leader
Malawian Terminal Evaluation Team
Department of Agricultural Research Services
Ministry of Agriculture, Irrigation and Water Development

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Annex

1 MWK=0.276JPY (JICA Official Rate of FY2015)

LIST OF ABBREVIATIONS

Abbreviations	Full Name
ADD	Agricultural Development Division
AEDC	Agricultural Extension Development Coordinator
AEDO	Agricultural Extension Development Officers
ASWAp	Agricultural Sector-Wide Approach
ARS	Agriculture Research Station
C/P	Counterpart
CLRCO	Chief Land Resource Conservation Officer
DADO	District Agricultural Development Officer
DAES	Department of Agricultural Extension Services
DARS	Department of Agricultural Research Services
DF	Development Fund of Norway
DAO	District Agricultural Office
EPAs	Extension Planning Areas
FFs	Follower Farmers
FISP	Farm Input Subsidy Programme
FY	Fiscal Year
GoJ	Government of Japan
GoM	Government of Malawi
JCC	Joint Coordinating Committee
JICA	Japan International Cooperation Agency
LFs	Lead Farmers
LRCD	Land Resources Conservation Department
LRCO	Land Resources Conservation Officer
MoAFS	Ministry of Agriculture and Food Security
MoAIWD	Ministry of Agriculture, Irrigation and Water Development
OVI	Objectively Verifiable Indicator
PDM	Project Design Matrix
PO	Plan of Operations
R/D	Record of Discussions
SLM	Sustainable Land Management
SMSs	Subject Matter Specialists

L.C.S.

1. PURPOSE OF TERMINAL EVALUATION

1-1 PURPOSE OF TERMINAL EVALUATION

In anticipation of the Project completion in the November 2015, Joint Terminal Evaluation Team (hereinafter referred to as "the Team") was dispatched to the Project in April 2015. The purpose of the Team was firstly to confirm achievement of project activities, outputs, project purpose and after Mid-term evaluation which was conducted from January to February 2014. And the Team will lead conclusion, recommendations and lessons learnt for further project implementation and evaluation results with 5 evaluation criteria (Relevance, Effectiveness, Efficiency, Impacts and Sustainability).

1-2 MEMBERS OF TERMINAL EVALUATION TEAM

The Terminal Evaluation was conducted by the Joint Evaluation Team comprised of the following members:

Malawian side

No.	Name	Field	Present Occupation
1	Mr. Lloyd Liwimbi	Team Leader	Chief Agricultural Research Scientist Chitedze Agricultural Research Station Department of Agricultural Research Services (DARS) Ministry of Agriculture, Irrigation and Water Development
2	Mr. Thaf Mlebe	Evaluation	Economist Department of Land Resources Conservation (LRCD) Ministry of Agriculture, Irrigation and Water Development
3	Mrs. Beatrice Mbakaya	Evaluation	Chief Agricultural Extension Officer Mzuzu Agricultural Development Division (Mzuzu ADD) Ministry of Agriculture, Irrigation and Water Development

Japanese side

No.	Name	Field	Present Occupation
1	Mr. Shinjiro Amamcishi	Team Leader	Director, Team 4, Rural Development Group 2, Rural Development Department Japan International Cooperation Agency (JICA)
2	Ms. Kazuko Shirai	Evaluation and Analysis	Evaluation and Analysis Consultant, Kaihatsu Management Consulting, Inc.
3	Mr. Shunsuke Tamura	Plan management	Special Advisor, Rural Development Group 2, Rural Development Department Japan International Cooperation Agency (JICA)

1-3 TERMINAL EVALUATION SCHEDULE

The Terminal Evaluation was carried out from 13th April to 1st May 2015. The details of the evaluation schedule are Annex 1.

1-4 METHODOLOGY OF EVALUATION

The Team conducted various interviews and field surveys through the evaluation.

(1) Joint Evaluation

The Project was jointly evaluated by the Japanese and Malawian Teams in accordance with the Record of Discussions (hereinafter referred to as "R/D"), the Project Design Matrix (hereinafter referred to as "PDM") and the Plan of Operations (hereinafter referred to as "PO"). The evaluation activities, including report analysis, field surveys, and interviews with staff of relevant institutions, beneficiaries, Japanese experts and other concerned personnel of the Project, were conducted based on the Five Evaluation Criteria described in the following section. The Team was composed of three (3) members from Malawian side and three (3) members from the Japanese side.

(2) Evaluation Framework: Five Evaluation Criteria

The evaluation is preceded along with the following five criteria, which are the major points of consideration when assessing development projects.

Table 1 Five Evaluation Criteria

Items	Components
(1) Relevance	Relevance is to question whether the project purpose and overall goal are still in line with the priority needs and concerns at the time of evaluation
(2) Effectiveness	Effectiveness concerns the extent to which the project purpose has been achieved, or is expected to be achieved, in relation to the outputs produced by the Project.
(3) Efficiency	Efficiency is a productivity of the implementation process: how efficiently the various inputs are converted into outputs.
(4) Impact	Impact is any intended and unintended, direct and indirect, positive and negative that is brought about as a result of the Project.
(5) Sustainability	Sustainability of the project is assessed in terms of institutional, financial and technical aspects by examining the extent to which the achievement of the Project will be sustained after the project is completed.

(3) Sources of Information Utilized for the Evaluation

The sources of information were shown in Table 2.

Table 2 Source of Information

1	Project planning documents such as R/D, PDM, and Minutes of Meetings (hereinafter referred as "M/M")
2	Periodical reports of the Project
3	Interviews and discussions with the Japanese experts
4	Interviews and discussions with the counterpart personnel
5	Record of inputs
6	Project documents on the progress and achievements of the Project
7	Field visits to target areas and discussion with the beneficiaries

(4) PDM for evaluation

The current PDM (ver. 2: as of February 2014) shown on Annex 2 is used as the PDM for the Terminal Evaluation.

2. OUTLINE OF THE PROJECT

2-1 BACKGROUND OF THE PROJECT

In the Republic of Malawi (hereinafter referred to as "Malawi"), 80% of the working population is engaged in agriculture, and more than 90 % of them are small farmers. The mean farmland area per household is around 0.8ha. The agricultural productivity is generally low because of the access to input agricultural materials or farming techniques, infrastructure such as irrigation facilities are limited. And the national poverty ratio is very high (39%, 2009), and, in particular, the value in rural areas (34%) is much higher than that in urban areas (14%).

As a way of resolving these issues, the Government of Malawi (hereinafter referred to as "GoM") formulated "Agricultural Sector Wide Approach (hereinafter referred to as "ASWAp")" in 2009, and has placed the dissemination of Sustainable Land Management techniques (hereinafter referred to as "SLM techniques") as one of the key issues in the development policy. The SLM techniques are consisted of soil fertility improvement, soil and water conservation, conservation agriculture, rainwater harvesting, and agroforestry. It is intended that farmers take proper techniques to meet each situation in their fields to improve their soil fertility and agricultural productivity. The Sustainable Land Management Promotion Project (hereinafter referred to as "the Project") focuses to soil fertility improvement in the SLM techniques.

Although Ministry of Agriculture, Irrigation and Water Development (hereinafter referred to as "MoAIWD") supports agricultural production through subsidies for quality seeds or fertilizers to farmers, the agricultural inputs are severely in shortage. While utilization of compost and prevention of soil erosion are required to improve agricultural productivity under the situation, but the techniques are not sufficiently prevailed up to the present.

Under these circumstances, the Project has been implemented since November 2011 as 4 years project based on the agreement between MoAIWD and Japan International Cooperation Agency (hereinafter referred to as "JICA"). Before the completion of the project period (November 2015), this terminal evaluation study has been carried out for evaluating the degree of achievement of the Outputs and the Project Purpose, etc.

2-2 SUMMARY OF THE PROJECT

2-2-1 Outline

Narrative summary of the Project are as follows: Table 3 PDM ver. 2 (see for detail Annex 2)

Overall Goal	Appropriate Sustainable Land Management (SLM) techniques*1 are diffused to nationwide.	
Project Purpose	Capacity of MoAFS*2 to diffuse appropriate SLM techniques is enhanced.	
Output	Output 1	Institutional and human capacity for soil and/or compost testing and skills for field test in Mzuzu ADD are improved.
	Output 2	LRCD SMSs and extension agents in Mzuzu ADD are equipped with the SLM techniques.
	Output 3	Compost making and application techniques are applied by pilot site farmers.
	Output 4	Measures to diffuse the SLM techniques nationwide are provided.

*1 From this point forward, Appropriate Sustainable Land Management Techniques ("The SLM techniques") refer to scientifically tested existing compost makings and application techniques and knowledge (soil fertility improvement techniques) that is promoted by the project.

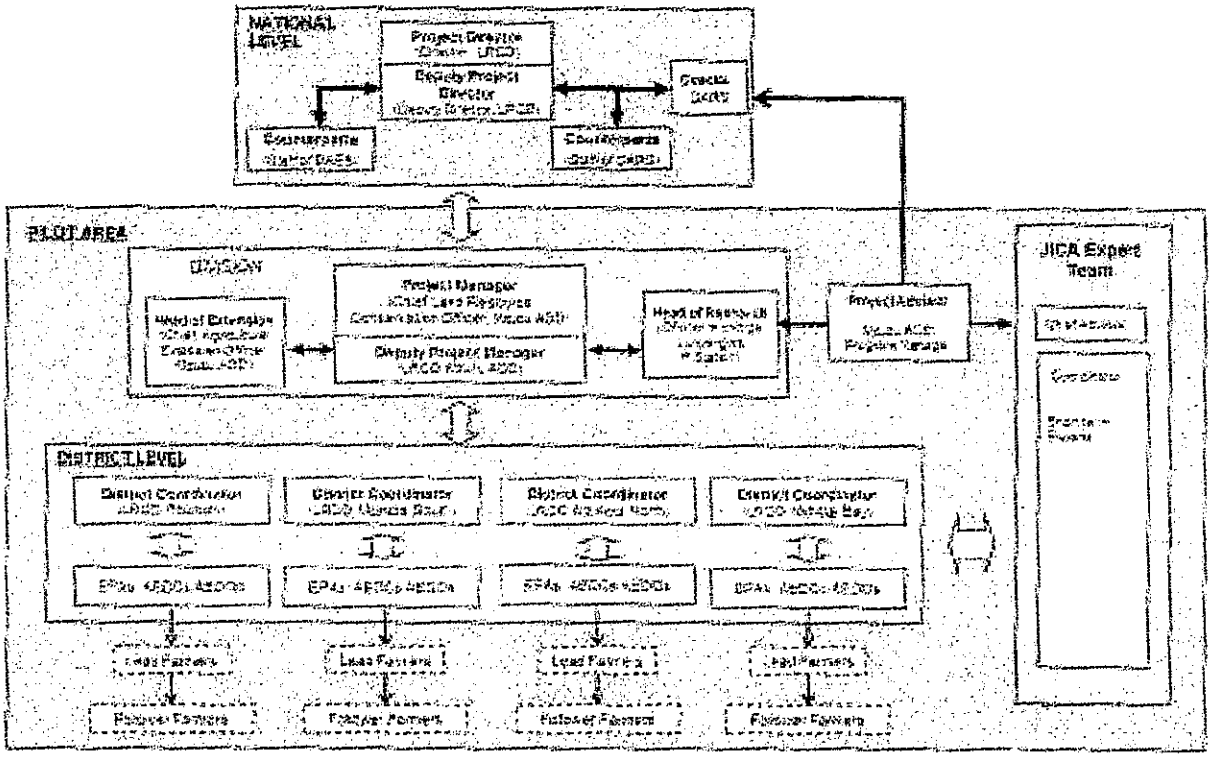
*2 It was reorganized into MoAIWD in 2014. In this report, refer to as "MoAIWD" except expression on the PDM.

2-2-2 Target area and Project sites

The target areas are 4 districts (Rumphi, Mzimba South, Mzimba North and Nkhata Bay) of Mzuzu ADD area out of a total of 28 districts in the entire nation of Malawi. Project sites on Output 1 are Lunyangwa Agricultural Research Station (hereinafter referred to as "Lunyangwa ARS") and its sub-stations (originally 4 sub-stations: Mbawa, Mkondezi, Bolero and Ntchenachena, currently 2 sub-stations: Mkondezi and Ntchenachena).

2-2-3 Implementation Structure of the Project

The organizational structure of the Project implementation is shown below.



Source: SLM Project Team

Joint Coordinating Committee (hereinafter referred to as "JCC") is established in order to facilitate inter-organizational coordination and composed of representatives from the implementing agencies (MoAIWD and JICA) and meets at least once a year and whenever deems it necessary. The functions of JCC are:

(1) To approve the plan of operations under the framework of the project
(2) To review achievements against the plan as well as the overall progress of the project
(3) To conduct monitoring and evaluation of the project
(4) To exchange opinions and major issues that arises during the implementation of project.

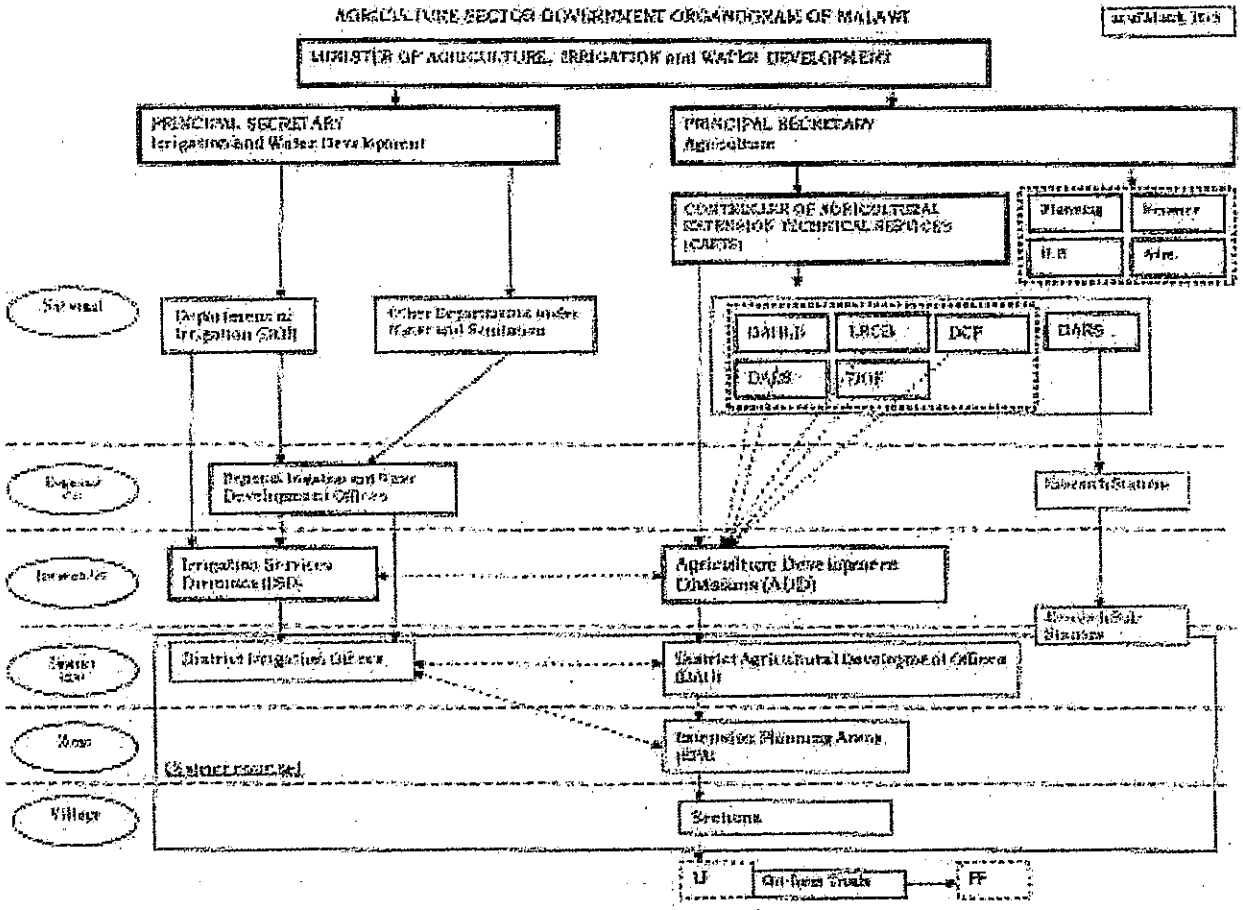
Project management team is composed of Project Director (Director of LRCD), Deputy Project Director (Deputy Director of LRCD) in MoAIWD where they are responsible of overall project coordination. Project Manager (CLRCO of Mzuzu ADD) and Deputy Project Manager (LRCO of Mzuzu ADD) coordinate day to day works along with Japanese Experts in Mzuzu ADD.

2-2-4 Counterpart Organization

Counterpart (hereinafter referred to as "C/P) organization is MoAIWD and its related agencies on the project as follow:

Land Resource Conservations Department (LRCD)
Department of Agricultural Research Services (DARS)
Department of Agricultural Extension Services (DAES)
Mzuzu Agricultural Development Division (Mzuzu ADD)

Ministry of Agriculture, Irrigation and Water Development Organogram



Source: Joint Evaluation Team

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3. ACHIEVEMENT OF THE PROJECT

3-1 INPUTS

3-1-1. Japanese side

The Team confirmed the following inputs based on PDM and the PO. The details of the inputs are shown in Annex 3.

(1) Dispatch of Japanese experts

Since the commencement of the Project, two (2) Japanese long-term experts such as 1) Project Coordinator/extension and 2) Coordinator, and eight (8) short-term experts with the fields such as 1) Chief Advisor/Soil Fertility, 2) Chief Advisor, 3) Soil Survey/Planning, 4) Soil Survey/Planning (2 persons), 5)Baseline Survey-Nationwide, 6)Baseline Survey-Target Area, 7) Crop Management/Fertilization have been dispatched to the Project for technical transfer.

(2) Training of counterpart personnel in Japan

Total three (3) counterpart personnel from LRCD, Mzuzu ADD, District Agricultural Office (hereinafter referred to as "DAO") and Lunyangwa ARS participated in the training in Japan on soil diagnosis technology and sustainable land management.

(3) Provision of equipment and machineries

Equipment and machineries, such as 2 vehicles, computers for project office and survey equipment, of the total value equivalent to JPY 32,015,891 (MWK118,778,955.61) were provided for the project activities by the end of March 2015.

(4) Bearing of local costs

A total sum of equivalent to MWK150,252,191.98 has been provided to supplement a portion of local expenditure for the project activities by the end of March 2015. This cost covered expenses for seminar/workshop/meetings, fees and honorarium for casual labors and project-employed staffs, and travel expenses for C/Ps, drivers and experts.

3-1-2. Malawian side

(1) Assignment of counterpart personnel

A total of twenty three (23) C/P personnel were assigned to the Project from LRCD, Mzuzu ADD, four (4) DAOs, DARS, Lunyangwa ARS, and substations. Details of C/P are listed in Annex 4.

(2) Provision of facilities and operational cost

Up to the end of March 2015, one office space and payment of utilities in Mzuzu ADD, tools and others for on farm trial, equivalent to MWK 32,858,390, have been provided for the Project.

3-2 ACHIEVEMENT OF ACTIVITIES

The activities for output 1 to output 3 have been implemented and nearly completed. The activities for output 4 are scheduled to take place before the end of the Project. PO and Summary of activities in line with PO are compiled as Annex 5 and 6.

3-3 ACHIEVEMENT OF OUTPUTS

Since the Mid-term Review Survey in February 2014, the Project has been implemented based on PDM Ver2 and PO. It is generally assumed that the output 1 to 3 will be achieved by the end of the project period. The Output 4 is yet to be achieved at this moment. The detailed information on the achievement of output is described as follows:

Output 1: Institutional and human capacity for soil and/or compost testing and skills for field test in Mzuzu ADD are improved

The Output 1 relating to research development is achieved as following detailed evaluation results.

(1) OVI 1-1: Manual for soil and compost analyses is prepared.

Manual for soil and compost analysis techniques titled "Lunyangwa Laboratory Manual Ver.1" has been drafted up to third version (activity 1-5). Using the manual, analysis of soil and compost samples collected from the stations and farmers' fields have been undertaken under supervision of the Expert on soil survey (activity 1-10, 1-11).

(2) OVI 1-2: Recommendations on compost application for soil fertility improvement are compiled.

Based on the results of the trials, technical recommendations and messages on compost application for soil fertility improvement will be compiled by the end of the project (activity 1-13).

(3) OVI 1-3: Lunyangwa Agricultural Research Station provides soil and/or compost analysis services.

Nearly 1,700 soil and compost samples from SLMP Lead Farmers (hereinafter referred to as "LFs") and Stations have been collected and analyzed at the lab as summarized in Table 4. The number of analytical work has increased significantly since 2014.

Table 4 Progress of analysis work at Lunyangwa Soil Laboratory

Year	No. of Samples Analyzed	Source
2012	139	SLMP LFs
2013	340	SLMP LFs, Stations, DF farmers
2014	1,308	SLMP LFs, Stations
Total	**1,687**	

Source: SLMP Project, February 6, 2015

The service for SLMP LFs, stations, and non-target smallholder farmers is free of charge, whereas test service is charged for NGOs and private sectors. Lunyangwa ARS has already received requests from 23 non-target entities for 787 samples since August 2013. Amount to be paid raised up to MWK1,416,500.00. The number of clients and income from the test service is listed in Table 5.

Table 5 Requests for soil test to Lunyangwa ARS from outside of the Project

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Organisation	Collection date	No. of samples	No. of elements	No. of analysis	Cost/element	Amount to be paid (MWK)	Status
1	12.06.14	70	7	490	500.00	245,000.00	
2	27.08.14	47	11	517	500.00	258,500.00	free
3	27.07.14	4	8	32	500.00	16,000.00	
4	06.10.14	7	7	49	500.00	24,500.00	
5	19.11.14	15	11	165	500.00	82,500.00	
6	Jan-April, 2015 2013 Dec and	312	7	2184	500.00	1,092,000.00	free
7	2014 Dec	48	7	336	500.00	168,000.00	free
8	07.11.13	3	8	24	500.00	12,000.00	free
9	07.11.13	139	7	973	500.00	486,500.00	free
10	08.07.14	64	11	704	500.00	352,000.00	free
11	20.11.14	11	2	22	500.00	11,000.00	
12	20.11.14	8	4	32	500.00	16,000.00	
13	07.11.14	18	4	72	500.00	36,000.00	
14	06.11.14	7	4	28	500.00	14,000.00	
15	07.07.14	45	5	225	500.00	112,500.00	
16	Oct-Nov, 2014	424	1	424	500.00	212,000.00	paid
17	Dec-14	5	8	40	500.00	20,000.00	free
18	27.03.15	1	3	3	500.00	1,500.00	
19	Aug-13	28	9	252	500.00	126,000.00	free
20	Apr-15	14	1	14	500.00	7,000.00	paid
21	Apr-15	2	1	2	500.00	1,000.00	paid
22	Apr-15	9	1	9	500.00	4,500.00	paid
23	Apr-15	9	1	9	500.00	4,500.00	paid
	Total	787		2,833		1,416,500.00	

Source: SLMP Project, April 24, 2015, organization name are omitted by the mission team

(4)OVI 1-4: Field data is collected according to the research protocol.

Growth and harvest data to see the effects of composts have been collected from LF and research stations by the project team in collaboration with extension and research officers. The data collection has been continued in the current season (activity 1-11).

(5)OVI 1-5: Soil tests from the demonstration sites confirm improvements of soil fertility at the end of the project.

Although the trend in soil fertility in the 2014/15 crop season has been under analysis, crop stands in LFs' trial plots are visibly improved even in the heavy drought of this season.

Output 2: LRCD Subject Matter Specialist (hereinafter referred to as "SMSs") and extension agents in Mzuzu ADD are equipped with the SLM techniques.

The Output 2 relating to extension is partially achieved as following:

(1)OVI 2-1: Extension agents in Mzuzu ADD are trained on existing compost making and application techniques to the level that they can back up Lead Farmers (LFs).

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Based on the training modules, training for extension agents together with LF has been conducted since October 2012 to February 2015 (activity 2-2~2-5). The major contents of training are soil sampling technique, compost making techniques, plot preparation and compost application, review of last season practice and plan for the coming season, and soil diagnosis techniques. A total 585 of Mzuzu ADD SMSs and AEDOs participated in the training.

(2) OVI2-2: Training manual for the SLM techniques is produced.

The Project first developed training modules, titled "Training Module for Field Trails on Compost Making & Application Trials" up to the third version (activity 2-1).

(3) OVI 2-3: All LRCD SMSs in Mzuzu are trained on the SLM techniques and are able to train extension agents.

Land Resource Conservation Officers (hereinafter referred to as "LRCOs") in each target district have been carrying out the project activities in collaboration with the Japanese experts since the beginning. They have gained knowledge and experience in the promotion of appropriate compost techniques in the process. In addition to these local activities, 2 district officers (Rumphi and Nkhata Bay) had opportunity to attend the JICA group training on the soil diagnosis technologies held in Obihiro, Japan in 2013 and 2014 which must have contributed to the capacity development for extension of the SLM techniques substantially. LRCOs in target districts instruct compost related techniques for extension agents in the meeting held every 2 weeks, and the Mission confirmed self-confidence in every one of LRCOs.

Output 3: Compost making and application techniques are applied by pilot site farmers.

The Output 3 relating to capacity development of leader farmers in the province is expected to be achieved by the end of the project period as following detailed evaluation results;

(1) OVI 3-1: More than 80% of all the LFs mount SLMP demonstration trials taught by the extension agents.

The Project conducted training on 3 compost making techniques for 49 LFs with Agricultural Extension Development Officers (hereinafter referred to as "AEDOs") in July 2013 (activity 3-2). Using the techniques, LFs prepared compost heaps and applied them into trial plots on their own farms in 2013/14 and 2014/15 seasons. The compost making and application practiced by LFs in 2013/14 and 2014/15 are shown below.

Table 6 Compost making and application practiced by Lead Farmers in 2013/14 season (1st year trials)

District	No. of LFs		No. of Compost Heaps Made by LFs				No. of Plots Mounted
	Trained	Prepared	Changu	Windrow	Bokasi	Total	
Nkhata Bay	12	8	41	47	48	136	160
Rumphi	13	13	53	34	55	142	173
Mzimba South	12	12	40	32	64	136	209
Mzimba North	12	12	68	20	75	163	246
Total	49	45(91%)	202	133	242	577	788

L.C.S.

Table 7 Compost making and application practiced by Lead Farmers in 2014/15 season (2nd year trials)

District	No. of LFs		No. of Compost Heaps Made by LFs				No. of Plots Mounted
	Trained	Prepared	Changu	Windrow	Bokasi	Total	
Nkhata Bay	12	8	40	40	40	120	154
Rumphi	13	11	58	48	67	173	217
Mzimba South	12	11	51	53	65	169	220
Mzimba North	12	12	69	36	70	175	203
Total	49	42(86%)	218	177	242	637	794

Source: SLMP Project, April, 2015

The ratios of LF who prepared the SLMP demonstration trials are 91% in 2013/14 season, and 86% in 2014/15 season. Accordingly, the indicator 3-1 has reached its goal. It is also true that the number of LF is reduced from 45 to 42 in the second year. The direct causes for decreasing the number of LF are inaccessibility of materials and water, lack of labor for manure production and family problems.

(2) OVI 3-2: Ten Follower Farmers (hereinafter referred to as "FFs") are trained by each LF on compost making and application techniques and apply more than one techniques in their farms.

According to the results of questionnaire survey conducted by the Project in May 2014, the majority of the LFs has carried out the compost making and application by a group (activity 3-3). Most groups had 6-20 members and are particularly active in North Mzimba and Rumphi. Through the interview with LF and FFs in Rumphi, FFs were found to be active to learn from LFs. Therefore, it can be regarded that the indicator 3-2 has been achieved.

The Mission team observed through the interview from LFs that it is not rigidly fixed among LFs whether they should have to ten FFs or not in the Project. Some LFs have around 3 to 4 FFs, the others 16 FFs, and the number of FF fluctuates.

(3) OVI 3-3: Positive effects of using compost are recognized by participating farmers through monitoring.

The Project has monitored the positive effects of using compost recognized by LFs (activity 3-3) which includes accumulation of organic matters, improved soil structure and increased water holding capacity. The majority LFs interviewed showed willingness to continue the practice. Particularly, farmers applied less amount of chemical fertilizers for 2014/15 season. They explained that the production of the second year of trial is much better than the first year even in the event of serious drought. Therefore, the indicator 3-3 can be assessed as already achieved.

(4) OVI 3-4: 10,000 farmers in Mzuzu ADD are using compost making and application techniques that are indicated in the SLMP research protocols

Although the Project has not grasped the actual number of FFs who learned how to use compost making and application techniques from LFs, the extension agents and research stations have organized Field Day several times in Mzuzu ADD in which farmers have opportunity to obtain information on new farming techniques, including compost making and application techniques introduced by the Project. The Project also plans to facilitate extension activities for LFs and FFs (activity 3-6) by the end of the Project period.

Output4: Measures to diffuse the SLM techniques nationwide are provided.

The Output 4 relating to human resource and institutional development for dissemination of the SLM techniques is expected to be achieved by the end of the project period as following detailed evaluation results if all the rest of activities are conducted as planned;

(1) OVI4-1: Through seminar/workshop, 90% of attended LRCD SMSs nationwide gain knowledge of the SLM techniques

The Project plans to hold seminar/workshop nationwide on compost making and application for LRCD SMSs (activity 4-2) by the end of the Project (tentatively scheduled from mid-September to early October 2015).

(2) OVI4-2: Project results and achievement are shared among MoAFS officials and stakeholders through national workshop

LRCD is considering several measures to disseminate the manure techniques, such as the Manure Campaign conducted by ADD once a year in May or June to promote use of manure to farmers. The Campaign can be done in Mzuzu ADD to present the achievement of the Project (activity 4-3).

The Project will present the results and achievement of the Project at the Sustainable Land and Water Management Technical Working Group of ASWAp (tentatively scheduled in mid-October 2015).

3-4 PROSPECT OF THE PROJECT PURPOSE

Project Purpose:Capacity of MoAFS to diffuse appropriate SLM techniques is enhanced.

It is considered that The Project Purpose will be achieved if the rest of activities are implemented as planned. The prospect of achievement is observed as follows:

(1) OVI 1: The SLM technique handbook is reviewed by DAES and distributed to all the 28 districts' LRCD and Extension SMSs.

The test result of 2014/15 crop season supported by the Project will be analyzed by mid-July in 2015. The Project will compile the result into the SLM technique handbook. The technique in the handbook needs to be discussed and approved by the Agriculture Technical Clearing Committee of MoAIWD before forwarding to DAES. The Project will confirm a timetable even though it may not reach to all 28 district LRCOs and extension agents by the end of the Project.

Considering the period of time remaining for project implementation, distribution of the reviewed handbook to 28 districts' LRCD and Extension SMS may not be achieved by the end of the Project. On the field, LRCOs in target districts are already utilizing the Technical Information Series (No1.~No.3) when they train extension agents in the fortnight training.

(2) OVI 2: Services for soil and/or compost testing in Northern region become available and results are accessed by extension agents and farmers.

As stated in 3-3, soil and compost testing is now available in northern region by implementation of the Project activities at Lunyangwa ARS, which is the first soil lab in northern region. Since its establishment in 2012, requests for soil analysis have significantly increased in 2014. In some cases, soil analysis results were given to the farmers but not in a user friendly format. In others, soil analysis results were not given.

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3-5 PROSPECT OF THE OVERALL GOAL

Overall Goal: Appropriate Sustainable Land Management (SLM) techniques are diffused to nationwide.

It is considered that the Overall Goal will be achieved to limited extent with the following reasons. The Mission considers the indicators should be revised with feasible targets, considering a lot of confounding factors.

(1)OVI 1: The SLM techniques are applied in programs implemented by MoAFS and stakeholders

In order to improve soil fertility, LRCD has a strong will to promote usage of organic fertilizer nationwide after the end of the Project. Manure making and its application are indispensable to improve soil fertility, which is in line with the national policy. Once officially approved, the techniques introduced by the Project will likely be applied in national programs as well as in projects supported by NGOs and other development partners.

(2)OVI 2: More than 80% of AEDOs across the country are trained by subject matter specialists (SMSs) and are able to instruct farmers on the SLM techniques by MoAFS.

The training system for AEDOs by SMSs (LRCOs in district) has been established in Malawi. It is likely expected that AEDOs will be trained by SMSs and are able to introduce farmers on manure making and application techniques nationwide through the on farm demonstration and Field Days. LFs will transfer these techniques to FFs.

(3)OVI 3: XX millions of farmers are adopting SLM techniques across the country by 2020.

The GoM promotes SLM techniques through Manure Campaign and Field Day. Through these occasions, farmers may have a chance to adopt SLM techniques by 2020. However, the number of "XX" farmers has not identified yet, nor is the definition of 'adopt' here yet clear.

(4) Important Assumptions

The Important Assumption for achievement of the Overall goal is that MoAIWD/districts are able to secure sufficient budget to implement proposed program to diffuse SLM techniques.

Considering the implementation of the Project, LRCD has faced challenges in budget disbursement for operating the Project activities. However the regular programs under LRCD includes conductions of Manure Campaign and Field Day at the same time, which makes this assumption valid.

3-6 IMPLEMENTATION PROCESS

3-6-1. Reporting System

JICA experts have reported to JICA Head Quarters, JICA Malawi Office and LRCD by submitting Semi-annual Progress Report and Work Completion Reports.

As for C/P side, extension agents report to LRCOs who report to Mzuzu ADD every month.

3-6-2. Joint Coordinating Committee

Joint Coordinating Committee (hereinafter referred to as "JCC"), as the highest decision making mechanism of the Project, chaired by Principal Secretary of MoAIWD, has been held twice to endorse the plan and to make a decision on the issues related to the Project implementation including the revision of PDM.

1st JCC meeting was held in December, 2012 and discussed revision of PDM. However, consensus

was not reached about the detailed revision of PDM within the JCC members at the meeting. Continuing discussion PDM+1 was finally agreed in February 2013.

2nd JCC meeting was held in February, 2014, approved the results of Mid-term Review including revision of PDM ver2.

3-6-3. Field Operation Review & Planning Meeting

The Project has held the regular meeting every three months since June 2014 with attendance of Officers in Mzuzu ADD, Research staff at Lunyangwa Agriculture Research Station, and Japanese experts. In the meeting, the participants discussed the results of trials, reported progress of activities, and training for AEDOs was also conducted. The meeting functioned as the place of exchange of views and information among the Project management group, and enhanced communication among the group members.

3-6-4. Weekly Internal meeting

The Project has held internal staff meeting at the project office every Monday morning to share weekly and monthly schedule, and discuss major issues.

3-6-5. Trial Protocol Practice Review Meeting

The Project has held the Trial Protocol Practice Review Meeting with LFs, AEDOs, and LRCO for the first time in each district in September 2014. Through the Review, LFs came to understand fully objectives of the Project, as well as the role of LF.

3-7. MEASURES TAKEN TO ADDRESS THE RECOMMENDATIONS MADE AT THE MID-TERM REVIEW

In the Mid-term Review in 2014, there were seven (7) issues raised as recommendations for the Project for smooth and effective implementation of the Project. The Team confirmed that the Project has taken countermeasures to cope with these recommendations as shown in Annex 7, and these actions largely attributed to improvement of capacity of C/Ps and LFs in the target districts.

L.C-5.

4. REVIEW OF FIVE EVALUATION CRITERIA

4-1 RELEVANCE

The relevance of the Project is evaluated as "High" based on the following findings:

4-1-1. Relevance to the development policies and sector programs of Malawi

Improvement in soil fertility for crop, especially maize, production is one of the highest priorities for agriculture in northern region of Malawi. SLM techniques have been one of three pillars in the ASWAp. It is largely envisaged by the GoM that manure making and application can supplement with the chemical fertilizers, to which the GoM has subsidized under the Farm Input Subsidy Programme (hereinafter referred to as "FISP").

4-1-2. Consistency with the Official Development Assistance (ODA) policies of Government of Japan

Support to improve soil fertility is included in the prioritized areas by the Government of Japan (hereinafter referred to as "GoJ") to Malawi. The Project has been implemented as a part of the Agriculture/Natural Resource Management Program, which provides technical support for land management. This Program is envisaged to contribute increase of agricultural production by small farmers in long term.

4-1-3. Relevance to Needs of target area and beneficiaries

(1) Needs of LRCO

The LRCO (SMSs) in each district is responsible to impart new knowledge and techniques to extension agents and farmers. LRCO used to instruct the importance of organic compost without concrete information based on scientific data. The Project's objectives are meeting the needs of LRCO who now is able to share the knowledge, experience and data on compost making and application to extension agents and farmers with self-confidence.

Establishment of the lab in Lunyangwa ARS improved accessibility for soil test, and LRCOs improved their soil sampling techniques.

(2) Needs of Agriculture Extension Development Coordinator & Officers (AEDC & AEDO)

AEDC, AEDO's knowledge and skills on compost making and application was limited before the Project commenced. The Project has contributed to enhancement of their competencies to change farmers' perception on soil fertility.

(3) Needs of Lead Farmers (LF)

Farmers in the target area recognize that land degradation causes decrease of maize production. It is crucial for farmers to produce maize for their life and economy even in a serious drought spell. Some farmers explained they became LF of the Project to substitute with chemical fertilizers which they can receive at very much low price through FISP, but uncertain to obtain due to limited amount.

The price of chemical fertilizer[*3] has been increasing to which many of small farmers cannot afford. Economic reason to save the cost for farming was also a motive of the farmers to be LF.

[*3] 50kg/MWK18,000/season

4-1-4. Relevance of the Project Plan and Approach

The Objectively Verifiable Indicator (hereinafter referred to as "OVI") in the PDM were modified as a result of the Mid-Term Review. The modifications have led to consensus on direction of the activities with reasonable and feasible indicators.

The Project's scope widely covers from cooperative trials of compost to extension. Moreover, it is said it takes long period to improve soil fertility. The Project period of four years can be evaluated as too short to tackle wide issues on improvement of soil fertility in Malawi with one crop season per year.

The LF approach for trials of new techniques and diffusion is still appropriate and functioning to develop and diffuse new techniques to other farmers since frontline staffs are not enough to cover all the farmers.

4-2 EFFECTIVENESS

The effectiveness of the Project is evaluated as "Medium" based on the following findings:

4-2-1. Achievement of the Project Purpose

As analyzed in 3-4, the Project contributed to capacity enhancement of MoAIWD to diffuse appropriate SLM techniques

4-2-2. Contribution of Outputs to achievement of the Project Purpose

Since the establishment of testing lab in Lunyangwa ARS, soil test has become available in northern region of Malawi. The Project also contributed to enhance competencies of research staff at sub-stations in Ntchenachena and Mkondezi through conducting manure making trials. Successful achievements of the Output1 directly contribute to achievement of the Project Purpose in research part.

The Project has developed a training manual for extension agents in line with the research protocol, and revised it up to the third version to date. Based on the training manual, the Technical Information Series No1 ~No3 have been developed and already utilized by LRCO in target districts. This handy leaflet is well evaluated among users as it contains lots of photos and pictures to make it easy to understand on farmers' level. All LRCD are now equipped with new techniques on manure making and application by using the leaflet, which contribute to development of the SLM technique handbook as the final step of the Project implementation.

As for Output 3, the on farm trials by LF started 2013/14 season has significant achievement in 2014/15 season. The Mission member observed visible improvement in crop stands in LFs' plots, and LFs appreciate such improvement. Data to be collected from on farm trials will be precious information for development of the SLM handbook when the contents are finalized.

The achievement of Output4 can be regarded as the preparation for dissemination of recommended techniques nationwide, which is the achievement of the Overall goal in near future. It is expected that Malawian C/P takes initiative to facilitate an opportunity to disseminate the technique to wider range of concerned people as well as the farmers outside of the Project target area.

4-3 EFFICIENCY

The efficiency of the Project is evaluated as "Medium" with a consideration of the following findings:

Both of Malawian and Japanese sides had several challenges on appropriate allocation of human resource at the beginning period of the Project. Although those issues have been partially solved since the Mid-term Review, delay in extension related activities still remains same at present.

4-3-1. Achievement of Output

As mentioned in 3-3, Output 1~3 have been almost achieved. It is expected that output 4 will be achieved before the end of the Project if all the rest of activities are conducted as planned.

4-3-2. Input

(1) Japanese Side

The delay in dispatch of Japanese experts and baseline survey, and delay of provision of equipment for soil test to Lunyangwa ARS caused overall delays of implementation of the Project in early stage of the Project. This affected start of extension activities at present.

The budget from JICA in FY2014 decreased comparing with the previous year. The budget for FY 2015 has recovered to satisfactory level to implement these activities.

(2) Malawian Side

There is insufficient budget allocated to district offices, which causes limited fuel provision for the LRCO and to monitor the field activities on farm trials by LFs and insufficient implementation of field day.

Some budget has been allocated for 2013/14, which enabled to provide protective wear for LF to make compost.

Regarding running Lunyangwa ARS, chemicals for soil test and casual labor were borne by mainly the Japanese side.

4-4 IMPACT

The impact of the Project is evaluated as "Medium" based on the following findings:

4-4-1. Prospect of Achievement of the Overall Goal

As mentioned in 3-5, prospect of achievement of the Overall Goal largely depends on the commitment of MoAIWD/districts to secure sufficient budget.

If the budget is secured, LRCD will likely promote compost manure through already established opportunities such as the Project Review Meeting, the Sustainable Land Management Technical WG of ASWAp, which LRCD chairs, and annual LRCD meeting.

On the filed level, it is expected that the compost making techniques and its application will be scaled up nationwide with an initiative of Mzuzu ADD as a core player.

NGOs conducting compost related activities in Mzuzu ADD, such as DF, Tiyeni and LIN, have applied Bokasi and Chungu manures to their own projects through collaboration with the Project. LFs of DF had opportunities to participate in training on compost making and application conducted by the Project.

4-4-2. Positive Impact on Policy

SLM technologies are one of the main issues in ASWAp, however, impact of the Project toward ASWAp was not observed at present.

4-4-3. Positive Impact on Environment, Economic and Society

The organic farming by utilizing compost that the Project has promoted largely contributes improvement of soil fertility in target districts. Maize of LFs of the Project is growing even in the record breaking draught this year. This achievement can be regarded as the technique mitigates environmental effect on soil.

It has brought economic impact on farming as it has reduced the cost for chemical fertilizer. The Project plans to conduct cost effectiveness of compost making and application by small farmers.

Several local NGOs have adopted compost making techniques for their project, which led 1,500 farmers utilize manure within Mzuzu.

4-4-4. Negative Impacts

The Team has not observed any negative impact of the Project reported or observed at the time of the evaluation.

4-5 SUSTAINABILITY

The sustainability of the Project is evaluated as "Medium" based on the following finding:

4-5-1. Laws and Policies

ASWAp is the highest agricultural policy and highly prioritized investment program by the GoM to promote agricultural development in Malawi. SLM technique is one of the three pillars in ASWAp. The GoM will continue to promote SLM technologies including compost making and application based on ASWAp, collaborating with development partners.

4-5-2. Institutional Aspect

The extension system is well established in Malawi, in which new farming techniques are transferred from SMSs to extension agents, who impart their knowledge to LFs and LFs teach FFs. The scarce numbers of extension agents still remain as challenge. Once the technical handbook is approved by the central government, the technique will be disseminated through this extension system.

With regard to research stations, one researcher has been recently appointed to Lunyangwa ARS. However, it might be challenge for Lunyangwa ARS with limited staff to meet the increasing needs for soil tests in future.

4-5-3. Financial Aspect

The GoM has largely depended on the budget from the Japanese side to implement the project activities. Financial sustainability for future depends on LRCD and DAES's commitment to allocate necessary budget such as Other Recurrent Transactions (ORT) and ASWAp to compost making and application.

Regarding charges for soil/compost test in Lunyangwa ARS, the ARS has been paid by private entities based on the regulated rate.

Soil and compost analysis services and compost trial activities are essentials for disseminating the SLM techniques. Regarding soil and compost analysis services, the Lunyangwa ARS has started collecting service charge from clients except small-holders via Extension Agents. When 80% of Lunyangwa service fee will be its own revenue after the bank account is officially open, financial sustainability will be enhanced.

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However it is still uncertain whether it secures sufficient financial resource for future activities.

4-5-4. Ownership of Target Group

Even though many of LFs have challenges in obtaining materials, water and transportation, they expressed their strong will to continue making and applying compost after the end of the Project. They are very positive to teach FFs as well.

4-5-5. Technical Aspect

Techniques of LRDC, extension agents and staff at research station will likely be maintained. It will be difficult to maintain their level of skill and knowledge without continuous training for new staff as transfer of staff frequently occurs.

The Project has transferred new techniques of compost making and application by using local materials. The techniques for soil analysis in the lab in Lunyangwa ARS have been carefully chosen as the research staff will be able to continue by themselves.

Compost techniques that the Project has promoted can be used nationwide, which should be the advantage of technique to be disseminate nationwide.

4-6 ANALYSIS OF FACTORS

4-6-1. Contributing factors

The Project conducted the First Trial Protocol Practice Review Meeting in each target district in September 2014 to which all the LFs, AEDO, district LRCO, and Japanese experts participated. The Project reported its activities from July 2013 to June 2014, as well as presented action plan for the next year in the meeting. This meeting fostered communication among the participants, and positively changed LFs' perception toward the project activities on manure making and application.

The serious drought has hit the country including northern part of Malawi in this crop season, which largely affected the production of maize. Even in such a harsh environment, the LFs have produced maize better yield than last season. Although drought itself makes extra burden for all the farmers, the effects of compost manure were clearly acknowledged by LF, FF and non-targeted farmers.

4-6-2. Hindering Factors

The hindering factor was pointed out in the Mid-term Review as 'Decisions were made without enough consultation in the Project Management Team (PMT) in Mzuzu ADD. The Team recommend the PMT should build up cooperative decision making process including setting up or regular meeting.'[*1] The quarterly meeting has been held as a response to the recommendation. However, the Mission observed that there is a room to improve communication among the PMT at present.

The challenges of LFs on access to materials, water and transportation were pointed out by LFs during this terminal evaluation survey as well. Performance of on farm trials by LFs who had family problems was not satisfactory. Such environmental and social challenges affect compost making and application by farmers.

Some LFs also pointed out that they have not received the feedback from AEDO who took their soil for test. Information of soil is important for LF, and getting to know about the scientific situation of soil is an opportunity for farmers to improve their knowledge and skill on farming. It is concerned that they may lose their motivations to conduct trials without appropriate feedback.

[*1] Mid-term Review Report, JICA, June 2014

5. CONCLUSIONS

The Project has been valuable as a joint programme covering laboratory research services and extension services on the field. The team confirmed that the Project has so far been implemented in line with the revised PDM, and progressed to achieve the Outputs and the Project Purpose.

The soil test services are now provided in the northern region. It is expected that all the rest of activities for dissemination of composting technique with the initiatives of Mzuzu ADD, which confirm sustainability of the outputs generated by the Project.

Considering these factors, the Team concluded that it was reasonable that the Project would be completed as scheduled.

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6. RECOMMENDATIONS

Issues to be addressed as recommendations during the current project period and after the completion of the project are as follows.

6-1. Revising the overall goal of PDM

"Overall Goal" is the target which is to be achieved three (3) years after the completion of the Project as positive impact of the Project. Taking into account the definition of "Overall Goal" and progress of the Project activities, the present indicators set for the Overall Goal are considered beyond the actual achievable level. Therefore it is recommended that, although the Overall Goal remains unchanged, the present indicators for the Overall Goal be replaced with newly proposed realistic ones, which are shown in attached Annex 8 for proposed revised PDM (ver. 3) and Annex 9 for table of comparisons of indicators for the Overall Goal.

6-2. Making action plans

The mission found that some activities have shown the remarkable progress such as soil/compost analysis and field tests on the effectiveness of compost, etc. However there are several areas which should be further accelerated such as compilation of research findings, making technical materials, training for LRCD SMSs and Extension Agents, nationwide dissemination of technical outputs on the SLM techniques (soil fertility improvement) and collaboration with other organizations, etc.

In order to achieve the Project Purpose and the Overall Goal, it is recommended to materialize future activities as concrete as possible and make detailed action plans for (a) the remaining project period and (b) after the completion of the project under the ownership of Malawian counterpart. Especially, dissemination and extension plans of the SLM techniques (soil fertility improvement) are essential. DAES is recommended to make the plans together with LRCD as soon as the "technical messages" is finalized.

It is expected for the Project to finalize the above process within one month after this evaluation and conduct the monitoring activities based on the the action plans mainly by the Malawian side. It is hoped that, whenever outcomes of the SLM techniques (soil fertility improvement) are created, these will be presented at the Sustainable Land and Water Management Technical Working Group of ASWAp.

6-3. Ensuring sustainability

(1) For extension/dissemination activities

The project is aims at disseminating the SLM techniques (soil fertility improvement) nationwide. However it is unclear whether the Malawi Government secures enough budgets to provide necessary extension services for disseminating the SLM techniques (soil fertility improvement). It is recommend that relevant Departments/Divisions such as LRCD, DAES and ADDs should work together to secure the necessary budget by utilizing the fund of other Government programmes /projects related SLM (ASWAp, etc) and seek to collaborate with other stakeholders such as NGOs in order to expand the outputs created by the Project.

(2) For the activities of Lunyanguwa ARS and its substations

Soil and compost analysis services and compost trial activities are essentials for disseminating the SLM techniques (soil fertility improvement). Regarding soil and compost analysis services, the Lunyangwa ARS has started collecting service charge from clients except small-holders via Extension Agents. As 80% of service charge is supposed to be utilized for the ARS's activities such as purchasing of reagents and other consumables, it will contribute to enhancement of its financial sustainability. However it is still uncertain whether it secures sufficient financial resource for future activities. Regarding compost trial activities, although these activities are important

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in order to identify better techniques of compost making and application, the budget has not yet been fully secured.

It is recommended to ensure necessary budget for continuation of above activities from the Government programmes /projects (ORT and ASWAp, etc), as well as for above-mentioned extension/dissemination of the SLM techniques (soil fertility improvement).

6-4. Output materials

(1) Clarifying the technical materials to be made

As a result of a series of Project activities, it is not clear that (a) what kind of technical materials will be made, (b) for whom (Researchers, LRCD SMSs, Extension Agents and farmers), (c) when and (d) how many sets. It is recommended the Project clarifies the points mentioned above and set the schedule. It is hoped that these will proceed under the leadership of the Malawian counterpart.

(2) Making the "technical messages on SLM techniques" for easy understanding by farmers

Although the "technical messages on SLM techniques (soil fertility improvement) (activity 1-13)", which is one of the technical materials mentioned above (1), will be concluded based on the results of the on-going compost application trials 2014/15 crop season, preparation works can start from now on by using results already obtained. Therefore it is recommended that as soon as possible the Project including LRCD begins to materialize the contents of the "technical messages" under the involvement of extension division and research stations.

It should be noted that the "technical messages" be easily understandable for farmers, namely drawing with simple and impressive messages, so that farmers can understand their effectiveness and apply for them through their farming activities. The "technical messages" will be reflected in the extension materials (activity 3-4).

6-5. Strengthening ownership of Mzuzu ADD

In order to secure the continuation of the relevant activities even after the completion of the Project period, it is high time to gradually shift the managerial role from the Japanese side, which has played the key role from the commencement of the Project, to the Malawian side, namely the Mzuzu ADD. The Mzuzu ADD at Mzuzu management unit level (both land resource conservation and extension divisions) is expected to take the lead in planning and implementing the Project activities and conducting monitoring to measure the progress, etc.

It is recommended that Mzuzu ADD at Mzuzu management unit level should enhance their ownership for the Project, so that the Overall Goal "appropriate SLM techniques (soil fertility improvement) are diffused to nationwide" can be achieved.

6-6. Monitoring the recommendations

The progress of the implementations of the recommendations mentioned above should be monitored and reported on regular basis (e.g. once a month) by making progress reports. The progress report should be made under the ownership of the Malawian side and submitted to the Director, LRCD for securing sustainable activities and extension / dissemination of the Project outcomes.

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7. LESSONS LEARNT

7-1 Securing sufficient technical cooperation period taking into account the number of crop season

In agricultural sector, the number of crop season might become a limiting factor for the achievement of the original target, in particular the projects like SLMP that new techniques are supposed to be developed through the field trials. Since the cropping season is only once a year and in 2014 the target areas were hit by the dry spell, a part of the Project activities is lagging behind the original schedule.

A lesson learnt through the Project is that, taking into account the number of crop season, sufficient technical cooperation period should be secured in formulating the project in agricultural sector.

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Annex 1: Terminal Evaluation Schedule

Schedule of the Terminal Evaluation Survey on the Sustainable Land Management Promotion Project

	Date		Leader	Planning	Consultant	Malawian Team		
			Mr. AMAMEISHI	Mr. TAMURA	Ms. SHIRAI	Mr. Liwimbi	Mr. Mlebe	Mrs. Mbakaya
1	2015/04/12 Sun	AM						
		PM			Departure from Japan			
2	2015/04/13 Mon	AM			Arrival at Lilongwe			
		PM			Meeting with JICA office			
3	2015/04/14 Tue	AM			Meeting with JICA office			
		PM			Interview in LLW (DAES)			
4	2015/04/15 Wed	AM			Meeting with LRCD Start up meeting with Evaluation members			
		PM			Travel to Mzuzu			
5	2015/04/16 Thu	AM			Interview in Mzuzu/ Luyangwa			
		PM						
6	2015/04/17 Fri	AM			Field Visit 1 (one district /sub-research station)			
		PM						
7	2015/04/18 Sat	AM			Report preparation			
		PM						
8	2015/04/19 Sun	AM			Report preparation			
		PM	Departure from Japan					
9	2015/04/20 Mon	AM	Arrival at Lilongwe		Interview with Mzimba North LRCO Visit/Interview to LFs in Mzimba North district	Travel to Mzuzu		
		PM	Meeting with JICA Malawi office LRCD					
10	2015/04/21 Tue	AM	Travel to Mzuzu		Group Interview with extension officers (4 AEDCs/8 AEDOs)			
		PM			Visit/Interview to NGOs (Tiyeni)			
			Internal Meeting among evaluation team					
11	2015/04/22 Wed	AM	Meeting with SLMP Project Manager Internal Meeting among evaluation team (Impression / findings through the survey) Courtesy call to PM or DPM of MZADD					
		PM	Visit to Lunyangwa ARS Meeting/Interview with Station Manager & C/Ps; Inspection of demo farm Mission team wrap-up meeting					

12	2015/04/23 Thu	AM	Move to Chintechе (Nkhata Bay district) Meeting/Interview with district officers (DADO, LRCO) Visit/interview to LFs in Nkhata Bay district				
		PM	Visit to Mkondezi sub-station. Field visit and interview with C/Ps Mission team wrap-up meeting				
13	2015/04/24 Fri	AM	Meeting with Project manager, C/Ps, project experts at ADD (Revewing Overall Goal and disucussing major issues) Travel to Mzimba Boma				
		PM	Meeting/Interview with district officers (DADO, LRCO) Visit/interview to LFs in Mzimba South district (Kazomba EPA)				
			Internal Meeting among evaluation team (Major issues, Recomendations)				
14	2015/04/25 Sat	AM PM	Travel to Lilongwe via Kasungu	Travel back to Lilongwe			Travel back to Mzuzu
15	2015/04/26 Sun	AM PM	Report preparation (Zero draft)				Travel to Lilongwe
16	2015/04/27 Mon	AM	DAPS **Evaluation team Internal meeting** Meeting with Director of LRCD				
		PM	Report preparation				
17	2015/04/28 Tue	AM	**Evaluation team Internal meeting** (finalize the Report)				
		PM	Preparation of presentation material DF				
18	2015/04/29 Wed	AM	3rd JCC				
		PM	Wrap up meeting with the project experts				
19	2015/04/30 Thu	AM	(optional extra time for M/M Signing)				
		PM	Report to Embassy of Japan Report to JICA Malawi office				
20	2015/05/01 Fri	AM PM	Departure from Lilongwe				
21	2015/05/02 Sat	AM PM	Arrival at Japan				

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Annex 2: PDM (Ver.2)

Project Design Matrix (PDM) (Version 2)

Project Title:	Sustainable Land Management Promotion Project (SLMPP)
Period:	4 years from November 11th 2011 to November 10th 2015
Implementing Departments:	Land Resource Conservation Department (LRCD) involving Department of Agricultural Research Services (DARS) and Department of Agricultural Extension Services (DAES) under Ministry of Agriculture and Food Security (MoAFS), Government of Malawi
Main Sites & Target Areas:	4 Districts (Rumphi, Mzimba S.& N, Nkata Bay) in Mzuzu ADD, Lunyangwa Agricultural Research Station and its sub-stations (Mbawa, Mkondezi, Bolero and Nchenachena)
Date Modified:	February 2013 (Ver. 1+), February 2014 (Ver. 2)

Project Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: Appropriate Sustainable Land Management (SLM) techniques [1] are diffused to nationwide.	1. The SLM techniques are applied in programs implemented by MoAFS and stakeholders [2]. 2. More than 80% of AEDOs [3] across the country are trained by subject matter specialists (SMSs) and are able to instruct farmers on the SLM techniques by MoAFS. 3. XX million of farmers are adopting SLM techniques across the country by 2020.	• LRCD annual report 2020 • Land management documents produced by government and stakeholders	
Project Purpose: Capacity of MoAFS to diffuse appropriate SLM techniques is enhanced.	1. The SLM technique handbook is reviewed by DAES and distributed to all the 28 districts' LRCD and Extension SMSs. 2. Services for soil and/or compost testing in Northern region become available and results are accessed by extension agents and farmers.	• SLM technique handbook • Confirmation of service	• MoAFS/districts are able to secure sufficient budget to implement proposed program to diffuse SLM techniques.
Expected Output: 1. Institutional and human capacity for soil and/or compost testing, and skills for field test in Mzuzu ADD are improved.	1.1 Manual for soil and compost analyses is prepared. 1.2 Recommendations on compost application for soil fertility improvement are compiled. 1.3 Lunyangwa Research Station provides soil and/or compost analysis services. 1.4 Field data is collected according to the research protocol. 1.5 Soil tests from the demonstration sites confirm improvements of soil fertility at the end of the project.	• Draft manual • Field trial site • Collected data • Soil and compost analysis results	• Diffusion of SLM remains priority issue of both central and local governments of Malawi. • Labour constraint in rural area does not become severe.

Annex 2: PDM (Ver.2)

Project Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
2 LRCD SMSs and extension agents in Mzuzu ADD are equipped with the SLM techniques.	2.1 Extension agents in Mzuzu ADD are trained on existing compost making and application techniques to the level that they can back up Lead Farmers (LFs). 2.2 Training manual for the SLM techniques is produced. 2.3 All LRCD SMSs in Mzuzu are trained on the SLM techniques and are able to train extension agents.	• Training records • Training manual	• Prices of major agriculture products do not decline significantly. • Availability of animal dung does not decline significantly.
3 Compost making and application techniques are applied by pilot site farmers.	3.1 More than 80% of all the LFs mount SLMP demonstration trials taught by the extension agents. 3.2 Ten Follower Farmers (FFs) are trained by each LF on compost making and application techniques and apply more than one techniques in their farms. 3.3 Positive effects of using compost are recognized by participating farmers through monitoring. 3.4 10,000 farmers in Mzuzu ADD[*1] are using compost making and application techniques that are indicated in the SLMP research protocols.	• Monitoring reports • Field survey results • Mzuzu ADD annual report • Research protocol	
4 Measures to diffuse the SLM techniques nationwide are provided.	4.1 Through seminar/workshop, 90% of attended LRCD SMSs nationwide gain knowledge of the SLM techniques 4.2 Project results and achievements are shared among MoAFS officials and stakeholders through national workshop.	• Seminar/workshop records/evaluations • National workshop records	

Activities:	Inputs:	Important Assumption
1-1 Conduct baseline surveys on existing land management practices by farmers in Mzuzu ADD and nationwide. 1-2 Identify existing compost making and application techniques to be tested. 1-3 Develop research protocol for compost making and application trials. 1-4 Train lab researchers and technicians for soil and/or compost analysis. 1-5 Collect soil and compost samples from stations and farms. 1-6 Conduct element analysis of soil and compost samples. 1-7 Produce manual for soil and compost analysis. 1-8 Set up demo-trial field at research stations. 1-9 Conduct trainings for researchers on on-farm and on-station trials. 1-10 Implement on-farm and on-station trials and collect data. 1-11 Collect on-farm trial data from LFs.	From Malawi side 1) Personnel - Project Director (Director, LRCD) - Deputy Project Director (Deputy Director, LRCD) - Project Adviser/ Project Manager (Chief Land Resources Conservation Officer,, Mzuzu ADD) - Deputy Project Manager (Principal Land Resources Conservation Officer, Mzuzu ADD) - Head of research (Director, Lunyangwa Research Station) - Head of extension (Chief Agricultural Extension Officer, Mzuzu ADD)	• Rainfall pattern does not deviate greatly from usual pattern. • MoAFS does not lose significant proportion of staff. • Farmer's access to inputs does not deteriorate greatly.

1-12 Conduct data analysis to assess for appropriate level of organic matter content in soil and recommendable compost application rate for the improvement of soil fertility. 1-13 Compile technical messages on SLM techniques.	- District Coordinators (Land Resources Conservation Officers of Rumphi, Mzimba and Nkhata Bay District Agricultural Development Officers) - Personnel under DARS, DAES and Mzuzu ADD 2) Facilities - Office space for experts Mzuzu ADD DARS Chitedze Research Station - Training Venues - Experimental fields in Chitedze Research Station 3) Recurrent costs - Costs associated with MoAFS staff involved in project - Part of training cost - Utility and other basic expenses to run project From Japan side 1) Experts - Chief advisor, Coordinator, other experts 2) Counterpart Training - Training in Japan and/or the third country 3) Machinery and equipment - Vehicle(s) (4WD) - Bicycles / Motor Bikes - Soil analysis equipment - Training equipment (computer, projector, screen, etc.) - Office equipment (photocopier, scanner, etc.) - Other necessary equipment 4) Local costs - Part of training cost	**Precondition**
2.1 Develop training modules on compost making and application for extension agents and LFs. 2.2 Conduct trainings on compost making and application for extension agents. 2.3 Conduct soil diagnosis training for extension agents. 2.4 Conduct quarterly review meetings. 2.5 Conduct trainings/workshops on the SLM techniques to LRCD SMSs in Mzuzu ADD. 2.6 Prepare the SLM technique handbooks.		
3.1 Select on-farm demo areas and LFs. 3.2 Conduct trainings for LFs on compost making and application. 3.3 Monitor and backstop the progress of on-farm trials. 3.4 Prepare extension (Information, Education and Communication or IEC) materials. 3.5 Conduct refresher course for LFs and Extension agents. 3.6 Facilitate extension activities (i.e. field day, exchange visit(s) for FFs.		
4.1 Present project progress and obtain feedbacks at regular meetings (i.e LRCD meetings, technical working group). 4.2 Conduct seminar/workshop to diffuse the SLM techniques for LRCD SMSs nationwide. 4.3 Conduct national workshop to present the SLM techniques, project results and achievements to MoAFS officials and stakeholders.		

(i) Appropriate Sustainable Land Management Techniques (The SLM techniques) refer to scientifically tested existing compost makings and application techniques and knowledge that is promoted by the SLMP project.
(ii) Stakeholders refer to NGOs, other donors and private sectors.
(iii) The current number of extension agents is 2290 AEDOs as of 2012.
(iv) Including farmers under the government and other related extension programs.

List of Inputs

(1) Dispatch of Experts

Name	Field	Assignement Duration	Affiliation
Dr. Taisuke ONISHI	Project Coordinator/ Extension	10/11/2011 – 29/11/2013	
Mr. Shiro ARAI	Chief Advisor/ Soil Fertility	(1) 28/11/2011 – 28/01/2012 (2) 23/04 – 05/06/2012 (3) 15/08 – 31/10/2012 (4) 11/11/2012 – 06/01/2013	
Dr. Mineko KUBA	Soil Survey/ Planning	05/01 – 05/02/2012	
Mr. Naoyuki YAMAMOTO	Baseline Survey–Nationwide (Appropriate Technology/ Extension)	14/05 – 16/07/2012	
Dr. Kiyoko HITSUDA	Baseline Survey–Target Area (Agricultural Management/ Soil Conservation)	20/05 – 01/09/2012	
Dr. Naohiro MATSUI	Soil Survey/ Planning	(1) 30/09 – 18/11/2012 (2) 20/01 – 28/02/2013 (3) 22/05 – 21/07/2013 (4) 26/08 – 22/11/2013 (5) 15/01 – 13/03/2014 (6) 05/06 – 11/07/2014 (7) 16/10 – 05/12/2014 (8) 15/01 – 28/02/2015	
Mr. Atsushi SUZUKI	Chief Advisor	(1) 26/07 – 10/12/2013 (2) 15/01 – 10/03/2014	
Mr. Atsushi SUZUKI	Chief Advisor/ Extension	(1) 14/05 – 27/06/2014 (2) 21/08 – 31/10/2014 (3) 15/01 – 28/02/2015	
Mr. Nobuo SUGIURA	Project Coordinator	10/11/ 2013 – 09/11/2015	
Mr. Koji NAKATA	Crop Management/ Fertilization	(1) 17/11 2013 – 08/02/2014 (2) 14/05 – 11/07/2014 (3) 16/11/2014 – 30/01/2015	

(2) Counterparts' Participation in Training Overseas (include Third Country Training Program)

Name	Period of Participation	Field/Name of the Course	Content	Implementing Institution	Position at that time	Current Position, Date of turnover
Mr. James Banda	22 – 30/11/2013	Soil Diagnosis Technology and Sustainable Land Management	Lecture & Site visits	JICA Obihiro Center; Obihiro Univ. of Agriculture and Veterinary Medicine; Ministry of Agriculture, Forestry and Fisheries	Deputy Director of LRCD (Deputy Project Director)	Same as it is
Dr. Allan Chilimba					Deputy Director of DARS/Lunyangwa ARS Station Manager	ditto
Mr. Gilbert Kapunda					CLRCO of Mzuzu ADD (Project Manager)	ditto

(3) Provision of Equipment

1) List of Equipment Provided

No.	Purpose of Use	Arrival Date	Name of Machinery	Product No.	Maker	Price	Installation Place	Procurement Place	Current Condition
1	Monitoring/ General use	January 2012	4WDVehicle (BR6478)	Patrol	NISSAN	8,000,000	Mzuzu ADD SLMP Project Office	Lilongwe	in use
2	ditto	ditto	ditto (BR6889)	Patrol	ditto	ditto	ditto	ditto	in use
3	Documentation	ditto	Copy Machine	AR5127	SHARP	864,885	ditto	ditto	in use
4	ditto	ditto	Desktop PC2	ditto	ditto	ditto	ditto	ditto	in use
5	ditto	ditto	Desktop PC3	ditto	ditto	ditto	ditto	ditto	in use
6	ditto	ditto	Laptop PC1	HP 630	HP	228,527	Mzuzu ADD	ditto	stolen
7	ditto	ditto	Laptop PC2	ditto	ditto	ditto	ditto	ditto	out of country
8	ditto	ditto	Desktop PC1	optiplex 380	DELL	186,753	Rumphi DAO	ditto	in use
9	ditto	ditto	Desktop PC4	ditto	ditto	ditto	Nkhata Bay DAO	ditto	in use
10	ditto	ditto	Desktop PC5	ditto	ditto	ditto	Mzimba North DAO	ditto	in use
11	ditto	ditto	Laptop PC3	ditto	ditto	ditto	Nkhata Bay DAO	ditto	in use
12	ditto	ditto	Laptop PC4	ditto	ditto	ditto	Rumphi DAO	ditto	in use
13	ditto	ditto	Laptop PC5	ditto	ditto	ditto	Mzimba South DAO	ditto	in use
14	Analysis work	May 2013	Centrifuge	ROTINA 380	Hettich	6,200,000	Lunyangwa ARS	ditto	in use
15	Monitoring	October 2013	Motorcycle 1	XL125	HONDA	1,410,916	Rumphi DAO	ditto	in use
16	ditto	ditto	Motorcycle 2	ditto	ditto	ditto	Nkhata-Bay DAO	ditto	in use
17	ditto	ditto	Motorcycle 3	ditto	ditto	ditto	Mzimba North DAO	ditto	in use
18	ditto	ditto	Motorcycle 4	ditto	ditto	ditto	Mzimba South DAO	ditto	in use

2) Of the Principle Equipment, List of Equipment Currently Out of Service

Name of Machinery	Starting Date of Operation	Lifetime	Current Condition*	Reason/Period of Non-Operation
Laptop PC1	January 2012	5 years	Lost	Stolen on 7 September 2012
Laptop PC2	ditto	ditto	Taken by ex- C/P to abroad	On 26 August 2013, ex-C/P took it away to his study abroad

* "Not broken but not in use," "Broken but Repairable," "Not Repairable," etc.

3) Implementation of Seminars and Training

Year	Name of the Course	Date		No. of Participants	Target Participants	Remarks
		From	To			
2012	For the Baseline survey/ practical training of study on individual and group Farmers	May 19	21	21	Mzuzu ADD Planning Division staff	
2012	For the Baseline survey/ practical training of data collection and analysis	July 28	August 04	6	Mzuzu ADD Planning division staff	
2012	Soil sampling	October 08	October 11	54	4 District Officers and Extension Officers	
2013	Basic training on Soil analysis	March 03	March 16	6	Technical Staff of Lunyangwa ARS	Training at Bunbwe ARS
2013	Compost making in Rumphi	July 08	July 10	37	Extension Officers, LFs, AAROs	Lecturer: LRCD C/P, AARO in Lunyangwa
2013	Compost making in Nkhata-Bay	July 11	July 13	29	ditto	ditto
2013	Compost making in Mzimba North	July 25	July 27	32	ditto	ditto
2013	Compost making in Mzimba South	July 29	July 31	31	ditto	ditto
2013	Preparation of Plot layout/ compost application for Officers of Rumphi	November 11		23	Extension Officers, AAROs	Lecturer : LRCD C/P
2013	Preparation of Plot layout/ compost application for Officers of Mzimba South and Nkhata Bay	November 26	November 27	16	ditto	ditto
2013	Field day at Mkondezi substation/ compost making and application	November 27		80	Farmers, Students	
2014	First Trial Protocol Review, Planning and refresh training in Rumphi	September 18	September 19	31	LFs, Extension Officers	

Annex 3: List of Inputs

Year	Name of the Course	Date		No. of Participants	Target Participants	Remarks
2014	First Trial Protocol Review, Planning and refresh training in Mzimba South	September 24	September 25	32	ditto	
2014	First Trial Protocol Review, Planning and refresh training in Mzimba North	September 26	September 27	27	ditto	
2014	First Trial Protocol Review, Planning and refresh training in Nkhata-Bay	September 29	September 30	24	ditto	
2014	Field day at Mkondezi substation/ compost making and application	January 09		68	Farmers	
2015	Soil Diagnosis Technique (plan)	February 09	February 19			

Details of C/Ps

Institution	Name, Position	Area of Specialty	Assigned Period	Name of Expert in Charge	Employment Period in the Institution		Remarks: e.g. level of involvement in project
					From	To	
MOAFS LRCD	Mr. James Mussa Director of LRCD	Land Resource Conservation/ Management	11/11/2011	Mr. S. ARAI Ms. A. SUZUKI Dr. T. ONISHI Mr. N. SUGIURA			Project Director
ditto	Mr. S. Mkwinda Deputy Director of LRCD	ditto	11/11/2011 – 31/05/2012	ditto			Deputy Project Director Left office due to health condition in May 2012
ditto	Mr. James Banda ditto	ditto	01/06/2012 -	ditto			Deputy Project Director
ditto	Mr. Gilbert Kapunda CLRCO of Mzuzu ADD	ditto	11/11/2011 –	ditto			Project Manager
ditto	Mr. Patrick Kombe LRCO of Mzuzu ADD	ditto	11/11/2011 – 23/08/2013	ditto			Deputy Project Manager (Left office for study in India in August 2013)
ditto	Ms. Emily Thera LRCO of Mzuzu ADD	ditto	09/12/2013 -	ditto			Deputy Project Manager
ditto	Mr. Oswald Mulenga LRCO Rumphi DAO	ditto	11/11/2011 –	ditto			Project Desk Officer at district level
ditto	Mr. Boyd Msowoya SALRCO Nkhata-bay DAO	ditto	11/11/2011 -	ditto			ditto
ditto	Mr. Franco Gondwe SALRCO Mzimba/N DAO	ditto	11/11/2011 -	ditto			ditto
ditto	Mr. Davie Kaonga SALRCO Mzimba/S DAO	ditto	11/11/2011 -	ditto			ditto
MOAFS DARS	Mr. Chandiona Munthali AARS of Chitedze ARS/DARS	Forest Soil	01/12/2011 – 31/03/2012	Dr. M. KUBA			Contact Officer at Chiteze ARS
ditto	Mr. Fanuel Matawale Ditto	Coffee production	01/01 – 31/03/2012	Dr. M. KUBA			

Annex 4: Details of C/Ps

Institution	Name, Position	Area of Specialty	Assigned Period	Name of Expert in Charge	Employment Period in the Institution		Remarks: e.g. level of involvement in project
ditto	Dr. Alan Chilimba SDDARS/ Station Manager of Lunyangwa ARS	Soil Science	01/02/2012	Dr. M. KUBA Dr. N. MATSUI			
ditto	Mr. C. Njombwa ARO of Lunyangwa ARS	Livestock, Grassland science	01/10/2012 - 30/04/2014	Mr. S. ARAI Mr. A. SUZUKI Dr. T. ONISHI			Contact Officer at Lunyangwa ARS
ditto	Mr. M. Chisale ARO of Lunyangwa ARS (Head of Soil section)	Water Management	01/05/2014 - 31/07/2014	Dr. N. MATSUI Mr. K. NAKATA			ditto (transferred to other station)
ditto	Mr. C. Chisambi ARO of Lunyangwa ARS (Head of Soil section)	Soil Science	01/12/2014 -	ditto			ditto (-11/2014 school leave)
ditto	Mr. O. Nakoma Ditto AARO of Lunyangwa ARS	Water Management	01/10/2012 - 31/08/2014	ditto			ditto (transferred to other station)
ditto	Mr. D. Mphiondani AARO of Lunyangwa ARS	Agronomy	01/09/2013 -	ditto			ditto
ditto	Mr. T. Mughandira AARO of Lunyangwa ARS	ditto	01/10/2012 - 30/09/2013	ditto			01/10/2013 – school leave)
ditto	Mr. C. Gondwe AARO of Nchenachena station	ditto	01/07/2013 -	ditto			
ditto	Mr. I. Gomani AARO of Bolero trial-site	ditto	01/07/2013 - 31/12/2014	ditto			
ditto	Mr. M. Moyo Senior Research Assistant of Mkondezi station	ditto	01/07/2013 -	ditto			
ditto	Mr. I. Chiguwo AARO of Mbawa station	ditto	01/07/2013 - 31/03/2014	ditto			

LRCD: Land Resources Conservation Department, DAO: District Agricultural Office, LRCO: Land Resources Conservation Officer, SALRCO: Senior Assistant Land Resources Conservation Officer, SDDARS: Senior Deputy Director of DARS, ARO: Agricultural Research Officer, AARO: Assistant Agric. Res. Officer, ARS: Agricultural Research Station

PO (Ver. 2)

Year	11	2012				2013				2014				2015			
Plan of Operation (version 2) Month	11-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10
Output 1: Institutional and human capacity for soil and/or compost testing and skills for field test in Mzuzu ADD are improved.																	
1.1Conduct baseline surveys on existing land management practices by farmers in Mzuzu ADD and nationwide																	
1.2Identify existing compost making and application techniques to be tested																	
1.3Develop research protocol for compost making and application trials.																	
1.4 Train lab researchers and technicians for soil and/or compost analysis.																	
1.5 Collect soil and compost samples from stations and farms.																	
1.6Conduct element analysis of soil and compost samples.																	
1.7Produce manual for soil and compost analysis.																	
1.8Set up demo-trial fields at research stations																	
1.9Conduct trainingsfor researcherson on-station trials.																	
1.10 Implement on-farm and on-station trials and collect data.																	
1.11 Collect on-farm trial data from LFs.																	
1.12 Conduct data analysis to assess for appropriate level of organic matter content in soil and recommendable compost application rate for the improvement of soil fertility																	
1.13 Compile technical messages on SLM techniques.																	
Output 2:LRCD SMSs and extension agents in Mzuzu ADD are equipped with the SLM techniques.																	
2.1 Develop training modules on compost making and application for extension agents and LFs.																	
2.2 Conduct trainings on compost making and application for extension agents																	
2.3 Conduct soil diagnosis training for extension agents																	
2.4Conduct quarterly review meetings.																	
2.5Conduct trainings/workshops on the SLM techniques to LRCD SMSs in Mzuzu ADD.																	
2.6Prepare the SLM technique handbooks.																	
Output3:Compost making and application techniques are applied by pilot site farmers.																	
3.1 Select on-farm demo areas and LFs.																	
3.2 Conduct trainings for LFs on compost making and application.																	
3.3 Monitor and backstop the progress of on-farm trials.																	
3.4Prepare extension (Information, Education and Communication or IEC) materials.																	
3.5 Conduct refresher trainings for LFsand Extension agents.																	
3.6 Facilitate extension activities (i.e. field day, exchange visits) for FFs.																	

Annex 5: PO (ver.2)

Year	FI	2012				2013				2014				2015			
Plan of Operation (version 2) Month	11-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10
Output4:Measures to diffuse the SLM techniques nationwide are provided.																	
4.1 Present project progress and obtain feedbacks at regular meetings (i.e LRCD meetings, technical working group).																	
4.2 Conduct seminar/workshop to diffuse the SLM techniques for LRCD SMSs nationwide.																	
4.3 Conduct national workshop to present the SLM techniques, project results and achievements to MoAFS officials and stakeholders.																	

Note: December to March is rainy season of the year and major agriculture production period at rain fed farm land

J.C.S.

Summary of Activities in line with PO

Activity Plans		Objective	Progress	Current Status*	Reasons for Delayed Completion	Plan for the future
No.	Activity Contents					
Output 1: *Institutional and human capacity for soil and/or compost testing, and skills for field test in Mzuzu ADD are improved.*						
1-1	Conduct baseline surveys on existing land management practices by farmers in Mzuzu ADD and nationwide.	Baseline information necessary for the Project is compiled.	For purpose of assessing the present situation of soil conservation activities and farming, 2 baseline surveys were conducted from June to July 2012: one at the national level and the other in the target districts of Mzuzu ADD. The results were shared with stakeholders.	4	On schedule.	Completed.
1-2	Identify existing compost making and application techniques to be tested.	Techniques are identified.	Through the baseline surveys, all the composting techniques practiced in Malawi and Mzuzu ADD were listed-up, from which 3 types of techniques were identified for trials under the Project. They included Changu, Windrow and Bokasi composting methods.	4	On schedule.	Completed.
1-3	Develop research protocol for compost making and application trials.	A research protocol is prepared.	In consultation with various stakeholders, a research protocol for compost making and application trials (titled *"Comparison of Composting Techniques and Biomass Combinations on Quality of Compost, Soil Fertility Improvement and Crop Yields in Mzuzu ADD"*) was formulated in May 2013.	4	On schedule.	Completed.
1-4	Train lab researchers and technicians for soil and/or compost analysis.	Lab researchers and technicians have acquired analysis skills.	The Expert on soil survey has been giving technical guidance and instruction on soil and compost analysis to the lab researchers and technicians at Lunyangwa ARS since March 2013 after the soil lab was set-up with support from the Project.	3	On schedule.	Continue analysis up to the end.
1-5	Collect soil and compost samples from stations and farms.	Sufficient quantity of soil and compost samples are collected.	The project team members have been collecting soil and compost samples from DARS research stations and farmers in Mzuzu ADD. The lab researchers and	3	On schedule.	Continue sampling as required.

Activity Plans		Objective	Progress	Current Status*	Reasons for Delayed Completion	Plan for the future
No.	Activity Contents					
			technicians assigned at Lunyangwa soil lab has carried out analysis of collected samples. More than 1,500 samples have been collected and analyzed since inception of the lab in March 2013 to date.			
1-6	Conduct element analysis of soil and compost samples.	Analysis for collected samples are conducted.	Researchers and lab technicians have been carrying out analysis of soil and compost samples under supervision of the Expert on soil survey. Some results were compiled as the soil diagnosis sheet and handed back to the farmers.	3	On schedule.	Continue analysis up to the end.
1-7	Produce manual for soil and compost analysis.	A manual is compiled and adopted by DARS.	A manual for soil and compost analysis (titled "*Lunyangwa Laboratory Manual ver. 1*") was drafted in November 2013.	3	On schedule.	Need to be officially approved.
1-8	Set up demo-trial field at research stations.	Research stations are able to demonstrate and conduct trials on composting technologies.	Facilities and equipment including crop fields, multi-purpose workshop, compost shed and nurseries were established and demo/trial fields have been set-up at Lunyangwa ARS and 4 sub-stations including Mkondezhi (Nkhata Bay), Mbawa (Mzimba), Nichenachena and Bolero (Rumphi).	4	On schedule.	Completed.
1-9	Conduct trainings for researchers on on-farm and on-station trials.	Researchers are equipped with knowledge and skills for conducting compost trials.	The Expert on fertilization and crop management conducted trainings as well as gave technical guidance on management of field trials on compost application for researchers and technicians during 2013/14 and 2014/15 farming seasons.	4	On schedule.	Completed.
1-10	Implement on-farm and on-station trials and collect data.	Scientific evidence for the effects of compost is gathered.	Compost making and application trials were conducted both at station and farm levels in 2 farming seasons of 2013/14 and 2014/15.	3	On schedule.	Continue the ongoing trials during the current season. Technical messages
1-11	Collect on-farm trial data from LFs.	ditto	Harvest data was collected from LFs in 2013/14 season and has been continued in the current season.	3	On schedule.	

Activity Plans		Objective	Progress	Current Status*	Reasons for Delayed Completion	Plan for the future
No.	Activity Contents					
1-12	Conduct data analysis to assess for appropriate level of organic matter content in soil and recommendable compost application rate for the improvement of soil fertility.	Recommendations for appropriate composting methods are prepared.	Data collected through the compost making and application trials in 2013-14 was analyzed and a report on the analysis results was compiled (titled *"Progress and Results of Compost Making and Application Trials in 2013-14 Crop Season"*).	3	On schedule.	will be finalized based on the results of ongoing compost trials.
1-13	Compile technical messages on SLM techniques.	Recommended SLM techniques are disseminated.	Trials are in process of implementation.	3	On schedule.	
Output 2: LRCD SMSs and extension agents in Mazar ADD are equipped with the SLM techniques.						
2-1	Develop training modules on compost making and application for extension agents and LFs.	Information and methods needed for trainings are compiled as modules.	The 1st version of training modules for compost making & application trials was prepared in July 2013 and revised in August 2013 and June 2014.	4	On schedule.	Completed.
2-2	Conduct trainings on compost making and application for extension agents.	Extension agents are equipped with knowledge and skills on appropriate composting techniques.	3 Trainings have been organized for extension officers together with Lead Farmers in the 4 districts respectively; the 1st training conducted in July 2013 on compost making techniques, 2nd in November 2013 on compost application and 3rd in July 2014 to follow-up the previous season practices.	3	On schedule.	Continue the follow-up of trials.
2-3	Conduct soil diagnosis training for extension agents.	Extension agents are able to understand the importance of soil diagnosis.	1) Trainings on soil sampling were conducted in mid-October 2012 for extension officers (AEDCs & AEDOs) in the 4 districts. 2) Trainings on soil diagnosis technique are being planned in February 2015.	4	On schedule.	Completed.
2-4	Conduct quarterly review meetings.	All the project members are able to know the progress and issues of the Project.	Since the beginning of the Project, no review meetings were held regularly by the project members until early February 2014 when the 1st review meeting was held with participation of C/P officers from ADD,	3	On schedule.	Continue the meeting.

Activity Plans		Objective	Progress	Current Status*	Reasons for Delayed Completion	Plan for the future
No.	Activity Contents					
			district offices and research stations as well as Japanese Experts. Since then, review meetings have been organized every 3 to 4 months.			
2-5	Conduct trainings/workshops on the SLM techniques to LRCD SMSs in Mzuzu ADD.	LRCD SMSs in Mzuzu ADD are equipped with knowledge and skills on appropriate SLM techniques.	Not yet organized trainings or workshop for the LRCD officers; however, they are the C/P officers who have been carrying out the project, so they have already had sufficient knowledge on the techniques promoted by the project.	3	On schedule.	Technical messages to be compiled from the ongoing trials will be shared.
2-6	Prepare the SLM technique handbooks.			2	Technical messages have not been finalized until the ongoing trials are completed.	
Output 3: Compost making and application techniques are applied by pilot site farmers.						
3-1	Select on-farm demo areas and LFs.	Compost making and application techniques prompted by the Project are piloted in Mzuzu ADD.	Based on the information collected in the Baseline Surveys, 30 EPAs were selected as the target areas for extension where 49 farmers were identified as LFs.	4	On schedule.	Completed.
3-2	Conduct trainings for LFs on compost making and application.	Same as activity 2-2.	Refer to activity 2-2.	3	On schedule.	Continue the follow-up of trials.
3-3	Monitor and backstop the progress of on-farm trials.	On-farm trials are conducted in a proper way.	After conducting the 1st training on compost making in July 2013, the project team regularly visited LFs and gave technical advice. Monitoring reports were compiled based on the observation.	3	On schedule.	
3-4	Prepare extension (Information, Education and Communication or IEC) materials.	Farmers are able to obtain information on SLM techniques.	Extension booklets for compost making techniques have been drafted both in English and Tumbuka.	3	On schedule.	Need to be officially approved.

Annex 6: Summary of Activities In line with PO

Activity Plans No.	Activity Plans Activity Contents	Objective	Progress	Current Status*	Reasons for Delayed Completion	Plan for the future
3-5	Conduct refresher course for LFs and Extension agents	LFs and extension agents are able to obtain knowledge and skills on SLM techniques promoted.	A refresher training for LFs and extension officers was organized in September2014 in the 4 districts respectively.	3	On schedule.	Organize a review meeting on the current season trials.
3-6	Facilitate extension activities (i.e. field day, exchange visits) for FFs.	More farmers are able to obtain knowledge and skills on SLM techniques promoted.	Not much activities have been undertaken. Some LFs had organized field days with their own initiative.	2	Insufficient budget to support extension activities both from Malawi and JICA.	Continue to make the best effort.
Output 4: Measures to diffuse the SLM techniques nationwide are provided.						
4-1	Present project progress and obtain feedbacks at regular meetings (i.e LRCD meetings, technical working group).	Information of the project progress and achievement is shared among stakeholders.	Presentation on progress have been made at several opportunities as follows: • LRCD Annual Conference (2013, 2014) • SALWM Technical Working Group meeting (2013, 2014) • ADD Annual Review meeting (2012, 2013, 2014)	3	On schedule.	Continue presentations on the progress.
4-2	Conduct seminar/workshop to diffuse the SLM techniques for LRCD SMSs nationwide.	The project results and achievement are shared by LRCD officers in other ADDs and disseminated to farmers across the country.	Not yet done.	1	The activity 4-2 and 4-3 are scheduled to take place just before the end of the project.	Organize functions to share the results and achievements before the end of the project.
4-3	Conduct national workshop to present the SLM techniques, project results and achievements to MoAFS officials and stakeholders.		Not yet done.	1		

*Status: 4-Completed; 3-Nearly Completed; 2-Partially Completed due to Notable Obstacles; 1-No activity

Recommendations from the Mid-Term Review and Measures Taken (Present Status)

Recommendations from the Mid-term Review	Measures taken / Present Status
1. Revision of PDM and PO	● Considering the content and progress of the Project, it was not realistic to achieve Output4 and 5. PDM 1 was revised to PDM 2 as achievable by the end of the Project.
2. Clarification of roles of Malawian C/P organizations and collaboration among them	● The activities on soil analysis, demonstration and trials are the ordinary TORs of research staff at ARS. Therefore, participation of DARS staff is indispensable. For the extension activities, AEDCs and AEDOs are the key players. The Project has tried to involve those staff. The roles of DARS and DARS are very clear on the field level and the collaboration among them has been strengthened through the Project activities. The collaborative relation is challenge in Head Quarters of those organizations in Lilongwe and ADD level.
3. Research Framework	● The Project has supported on farm trials by LF as the part of testing activities based on the research protocol since 2013/14 season. According the Protocol, on farm trial was supposed to be implemented with the same objectives and contents as those in on research station trial. Since the Mid-term review, the on farm trials have been flexibly conducted with rather demonstration purpose, than research purpose.
4. Implementation of the Road Map from testing research to extension activities	● The indications of trials are set in the farmers' testing plot to explain the variety of trial for trial 2014/15. ● The Project has participated the Field Day twice in November 2013 and January 2014 to demonstrate compost making by LFs. ● In September 2014, the Project made a report on the preference on compost making and application of LFs who participated on farm trials in 2013/14. ● The Project has developed the training manual for AEDOs. Based on the manual, the Project produced Technical Information Series (No.1～No.3) as extension materials for farmers.
5.Collaboration with other development partners (DPs)	● DF and Mzuzu ADD have been closely collaborate and C/Ps of the Project have shared their time with DF. It is expected that C/P take initiative to have collaboration with DF and the Project. The Project has also started to establish collaborative relation with local NGOs based in Mzuzu.
6. Implementation process	● There was scarce opportunity among the C/P and the Project for 2 years since commence of the Project. The communication among the C/P and the Project improved through discussion on issues and getting know the situation in the field in periodical meeting. However, the Mission observed that communication among the Project Management Team on daily bases has still room to improve.
7. Confirmation of budget and human resource of the Malawian Government	● The Malawian side disbursed the budget for provision of protective wears and wheelbarrows for LFs. However, the one wheelbarrows have not been reached to LFs due to lack of transportation budget. ● One researcher was appointed at Lunyangwa ARS recently.

Annex 8: PDM (Ver.3)

Project Design Matrix (PDM) Version 3 (Recommendation on Terminal Evaluation)

Project Title:	Sustainable Land Management Promotion Project (SLMPP)
Period:	4 years from November 11th 2011 to November 10th 2015
Implementing Departments:	Land Resource Conservation Department (LRCD) involving Department of Agricultural Research Services (DARS) and Department of Agricultural Extension Services (DAES) under Ministry of Agriculture, Irrigation and Water Development (MoAIWD), Government of Malawi
Main Sites & Target Areas:	4 Districts (Rumphi, Mzimba S & N, Nkhata Bay) in Mzuzu ADD. Lunyangwa Agricultural Research Station and its sub-stations (Mkondezi and Nchenachena)
Date Modified:	February 2013 (Ver. 1+), February 2014 (Ver. 2)

Project Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: Appropriate Sustainable Land Management (SLM) techniques [9] are diffused to nationwide.	1. The SLM techniques are applied in agricultural programs implemented by MoAIWD and stakeholders in order to improve soil fertility.[10] 2. More than 80% of AEDOs across the country are trained by Subject Matter Specialists (SMSs) and are able to instruct farmers on the SLM techniques by MoAIWD. 3. 50,000 of farmers are adopting SLM techniques across the country by 2018. 4. Productivity of Maize increases by 20% on the LFs of the Project in Mzuzu ADD area.	▪ Programme reports by MoAIWD and stakeholders ▪ Staff training report of LRCD SMSs ▪ Farmer training report of AEDOs ▪ Sample interview survey ▪ Sample survey	
Project Purpose: Capacity of MoAIWD to diffuse appropriate SLM techniques is enhanced.	1. The SLM technique handbook is reviewed by DAES and distributed to all the 28 districts' LRCD and Extension SMSs. 2. Services for soil and/or compost testing in Northern region become available and results are accessed by extension agents and farmers.	▪ SLM technique handbook ▪ Confirmation of service	▪ MoAIWD/districts are able to secure sufficient budget to implement proposed program to diffuse SLM techniques.

Annex 8: PDM (Ver.3)

Project Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Expected Output: 1 Institutional and human capacity for soil and/or compost testing, and skills for field test in Mzuzu ADD are improved.	1.1 Manual for soil and compost analyses is prepared. 1.2 Recommendations on compost application for soil fertility improvement are compiled. 1.3 Lunyangwa Research Station provides soil and/or compost analysis services. 1.4 Field data is collected according to the research protocol. 1.5 Soil tests from the demonstration sites confirm improvements of soil fertility at the end of the project.	• Draft manual • Field trial site • Collected data • Soil and compost analysis results	• Diffusion of SLM remains priority issue of both central and local governments of Malawi. • Labour constraint in rural area does not become severe. • Prices of major agriculture products do not decline significantly. • Availability of animal dung does not decline significantly.
2 LRCD SMSs and extension agents in Mzuzu ADD are equipped with the SLM techniques.	2.1 Extension agents in Mzuzu ADD are trained on existing compost making and application techniques to the level that they can back up Lead Farmers (LFs). 2.2 Training manual for the SLM techniques is produced. 2.3 All LRCD SMSs in Mzuzu are trained on the SLM techniques and are able to train extension agents.	• Training records • Training manual	
3 Compost making and application techniques are applied by pilot site farmers.	3.1 More than 80% of all the LFs mount SLMP demonstration trials tought by the extension agents. 3.2 Ten Follower Farmers (FFs) are trained by each LF on compost making and application techniques and apply more than one techniques in their farms. 3.3 Positive effects of using compost are recognized by participating farmers through monitoring. 3.4 10,000 farmers in Mzuzu ADD[m] are using compost making and application techniques that are indicated in the SLMP research protocols.	• Monitoring reports • Field survey results • Mzuzu ADD annual report • Research protocol	
4 Measures to diffuse the SLM techniques nationwide are provided.	4.1 Through seminar/workshop, 90% of attended LRCD SMSs nationwide gain knowledge of the SLM techniques 4.2 Project results and achievements are shared among MoAIWD officials and stakeholders through national workshop.	• Seminar/workshop records/evaluations • National workshop records	

Annex 8: PDM (Ver.3)

Activities:

1-1 Conduct baseline surveys on existing land management practices by farmers in Mzuzu ADD and nationwide.
1-2 Identify existing compost making and application techniques to be tested.
1-3 Develop research protocol for compost making and application trials.
1-4 Train lab researchers and technicians for soil and/or compost analysis.
1-5 Collect soil and compost samples from stations and farms.
1-6 Conduct element analysis of soil and compost samples.
1-7 Produce manual for soil and compost analysis.
1-8 Set up demo-trial field at research stations.
1-9 Conduct trainings for researchers on on-farm and on-station trials.
1-10 Implement on-farm and on-station trials and collect data.
1-11 Collect on-farm trial data from LFs.
1-12 Conduct data analysis to assess for appropriate level of organic matter content in soil and recommendable compost application rate for the improvement of soil fertility.
1-13 Compile technical messages on SLM techniques.

2.1 Develop training modules on compost making and application for extension agents and LFs.
2.2 Conduct trainings on compost making and application for extension agents.
2.3 Conduct soil diagnosis training for extension agents.
2.4 Conduct quarterly review meetings.
2.5 Conduct trainings/workshops on the SLM techniques to LRCD SMSs in Mzuzu ADD.
2.6 Prepare the SLM technique handbooks.

3.1 Select on-farm demo areas and LFs.
3.2 Conduct trainings for LFs on compost making and application.
3.3 Monitor and backstop the progress of on-farm trials.
3.4 Prepare extension (Information, Education and Communication or IEC) materials.
3.5 Conduct refresher course for LFs and Extension agents.
3.6 Facilitate extension activities (i.e. field day, exchange visits) for FFs.

4.1 Present project progress and obtain feedbacks at regular meetings (i.e LRCD meetings, technical working group).
4.2 Conduct seminar/workshop to diffuse the SLM techniques for LRCD SMSs nationwide.
4.3 Conduct national workshop to present the SLM techniques, project results and

Inputs:

From Malawi side

1) Personnel
- Project Director (Director, LRCD)
- Deputy Project Director (Deputy Director, LRCD)
- Project Advisor Project Manager (Chief Land Resources Conservation Officer., Mzuzu ADD)
- Deputy Project Manager (Principal Land Resources Conservation Officer, Mzuzu ADD)
- Head of research (Director, Lunyangwa Research Station)
- Head of extension (Chief Agricultural Extension Officer, Mzuzu ADD)
- District Coordinators (Land Resources Conservation Officers of Rumphi, Mzimba and Nkhata Bay District Agricultural Development Officers)
- Personnel under DARS, DAES and Mzuzu ADD

2) Facilities
- Office space for experts
  Mzuzu ADD
  DARS Chitedze Research Station
- Training Venues
- Experimental fields in Chitedze Research Station

3) Recurrent costs
- Costs associated with MoAIWD staff involved in project
- Part of training cost
- Utility and other basic expenses to run project

From Japan side

1) Experts
- Chief advisor, Coordinator, other experts

2) Counterpart Training
- Training in Japan and/or the third country

3) Machinery and equipment
- Vehicle(s) (4WD)
- Bicycles / Motor Bikes
- Soil analysis equipment
- Training equipment (computer, projector, screen, etc.)
- Office equipment (photocopier, scanner, etc.)

Important Assumption

- Rainfall pattern does not deviate greatly from usual pattern.
- MoAIWD does not lose significant proportion of staff.
- Farmer's access to inputs does not deteriorate greatly.

Precondition

achievements to MoAIWD officials and stakeholders.	- Other necessary equipment 4) Local costs - Part of training cost	

(i) Appropriate Sustainable Land Management Techniques (The SLM techniques) refer to scientifically tested existing compost makings and application techniques and knowledge that is promoted by the SLMP project.

(ii) Stakeholders refer to NGOs, other donors and private sectors.

(iii) Including farmers under the government and other related extension programs.

Table of comparisons of Indicators for the Overall Goal

Items		Ver. 2 (February 2014 revised)	Proposal for Ver. 3	Reasons for modifications
Objectively Verifiable Indicators (OVIs) for the Overall Goal	1	The SLM techniques are applied in programs implemented by MoAFS and stakeholders.	**The SLM techniques are applied in agricultural programs implemented by MoAIWD and stakeholders in order to improve soil fertility.**	■ Specified the objectives for the application of techniques into other programmes.
		Means of Verification LRCD annual report 2020	**Programme reports by MoAIWD and stakeholders**	
	2	More than 80% of AEDOs across the country are trained by subject matter specialists (SMSs) and are able to instruct farmers on the SLM techniques by MoAFS.	(No modification)	■ In this opportunity, expression of the PDM will be changed from MoAFS to MoAIWD.
		Means of Verification LRCD annual report 2020	■ **Staff training report of LRCD SMSs** ■ **Farmer training report of AEDOs**	
	3	XX millions of farmers are adopting SLM techniques across the country by 2020.	**50,000 of farmers are adopting SLM techniques across the country by 2018.**	(a) The original OVI is beyond the actual achievable level. It is difficult to verify the quantitative impact of SLM techniques developed by the Project. (b) 50,000 comes from the following calculations 1. Percentage of land of soil fertility improvement is 5% (288,000ha/5,580,000ha) 2. The number of farm family per extension agent is 750. 3. The total number of extension agent is 1,664 4. 80 % of extension agents are trained 1,664×80%=1,331 750×5%=37.5 1,331×37.5=49,912≒50,000
		Means of Verification Land management documents produced by government and stakeholders	**Sample interview survey**	
	4	**New Indicator**	**Productivity of Maize increases by 20% on the LFs of the Project in Mazuzu ADD area.**	Soil fertility improvement can be measured by yield.
		Means of Verification	**Sample survey**	

12. M/M（協議議事録）

MINUTES OF MEETINGS
BETWEEN
JAPANESE TERMINAL EVALUATION TEAM
AND
THE AUTHORITIES CONCERNED OF THE REPUBLIC OF MALAWI
ON
THE SUSTAINABLE LAND MANAGEMENT PROMOTION PROJECT
IN THE REPUBLIC OF MALAWI

Japan International Cooperation Agency (hereinafter referred to as "JICA") organized a Terminal Evaluation Mission, headed by Mr. Shinjiro Amameishi and visited Malawi from 13th April to 1st May, 2015, for the purpose of conducting the terminal evaluation on the Sustainable Land Management Promotion Project (hereinafter referred to as "the Project").

The Joint Evaluation Team (hereinafter referred to as "the Team"), which consists of three members from JICA and three members from Malawi, was formed. After intensive study and analysis of the activities and achievements of the Project, the Team prepared the Join Terminal Evaluation Report (hereinafter referred to as "the Report") as Appendix 1. The Report was presented, discussed and accepted at the 3rd Joint Coordinating Committee (hereinafter referred to as "JCC") that was held on 29th April, 2015. The Minutes of 3rd JCC is as Appendix 2.

Lilongwe, 18th June, 2015

K. Tokuhashi

Mr. Kazuhiko Tokuhashi
Resident Representative
JICA Malawi Office
Japan International Cooperation Agency

Mrs. Erica Maganga
Principal Secretary Ministry of
Agriculture, Irrigation and Water
Development

THE ATTACHED DOCUMENT

It was reached consensus among participants of JCC that the following issues, which are part of the recommendation in the Joint Terminal Evaluation Report, should be paid particular attentions for securing sustainable activities and extension / dissemination of the Project outcomes.

1. Strengthening ownership of Mzuzu ADD

In order to secure the continuation of the relevant activities even after the completion of the Project period, it is high time to gradually shift the managerial role from the Japanese side, which has played the key role from the commencement of the Project, to the Malawian side, namely the Mzuzu ADD. The Mzuzu ADD at Mzuzu management unit level (both land resource conservation and extension divisions) is expected to take the lead in planning and implementing the Project activities and conducting monitoring to measure the progress, etc.

It is recommended that Mzuzu ADD at Mzuzu management unit level should enhance their ownership for the Project, so that the Overall Goal "appropriate SLM techniques (soil fertility improvement) are diffused to nationwide" can be achieved.

2. Monitoring the recommendations

The progress of the implementations of the recommendations mentioned in the Joint Evaluation Report should be monitored and reported on regular basis (e.g. once a month) by making progress reports. The progress report should be made under the ownership of the Malawian side and submitted to the Director, LRCD for securing sustainable activities and extension / dissemination of the Project outcomes.

APPENDIX 1: The Joint Terminal Evaluation Report
APPENDIX 2: Minutes of 3rd Joint Coordinating Committee for SLMP Project

Malawi

THE JOINT TERMINAL EVALUATION REPORT
ON
THE SUSTAINABLE LAND MANAGEMENT PROMOTION PROJECT
IN THE REPUBLIC OF MALAWI

Lilongwe, 29th April, 2015

JOINT TERMINAL EVALUATION TEAM

Mr. Shinjiro AMAMEISHI
Leader
Japanese Terminal Evaluation Team
Rural Development Department
Japan International Cooperation Agency

Mr. Lloyd LIWIMBI
Leader
Malawian Terminal Evaluation Team
Department of Agricultural Research Services
Ministry of Agriculture, Irrigation and Water Development

TABLE OF CONTENTS

1 MWK=0.276JPY (JICA Official Rate of FY2015)

Evaluation

L.C.S.

LIST OF ABBREVIATIONS

Abbreviations	Full Name
ADD	Agricultural Development Division
AEDC	Agricultural Extension Development Coordinator
AEDO	Agricultural Extension Development Officers
ASWAp	Agricultural Sector-Wide Approach
ARS	Agriculture Research Station
C/P	Counterpart
CLRCO	Chief Land Resource Conservation Officer
DADO	District Agricultural Development Officer
DAES	Department of Agricultural Extension Services
DARS	Department of Agricultural Research Services
DF	Development Fund of Norway
DAO	District Agricultural Office
EPAs	Extension Planning Areas
FFs	Follower Farmers
FISP	Farm Input Subsidy Programme
FY	Fiscal Year
GoJ	Government of Japan
GoM	Government of Malawi
JCC	Joint Coordinating Committee
JICA	Japan International Cooperation Agency
LFs	Lead Farmers
LRCD	Land Resources Conservation Department
LRCO	Land Resources Conservation Officer
MoAFS	Ministry of Agriculture and Food Security
MoAIWD	Ministry of Agriculture, Irrigation and Water Development
OVI	Objectively Verifiable Indicator
PDM	Project Design Matrix
PO	Plan of Operations
R/D	Record of Discussions
SLM	Sustainable Land Management
SMSs	Subject Matter Specialists

1. PURPOSE OF TERMINAL EVALUATION

1-1 PURPOSE OF TERMINAL EVALUATION

In anticipation of the Project completion in the November 2015, Joint Terminal Evaluation Team (hereinafter referred to as "the Team") was dispatched to the Project in April 2015. The purpose of the Team was firstly to confirm achievement of project activities, outputs, project purpose and after Mid-term evaluation which was conducted from January to February 2014. And the Team will lead conclusion, recommendations and lessons learnt for further project implementation and evaluation results with 5 evaluation criteria (Relevance, Effectiveness, Efficiency, Impacts and Sustainability).

1-2 MEMBERS OF TERMINAL EVALUATION TEAM

The Terminal Evaluation was conducted by the Joint Evaluation Team comprised of the following members:

Malawian side

No.	Name	Field	Present Occupation
1	Mr. Lloyd Liwimbi	Team Leader	Chief Agricultural Research Scientist Chitedze Agricultural Research Station Department of Agricultural Research Services (DARS) Ministry of Agriculture, Irrigation and Water Development
2	Mr. Thaf Mlebe	Evaluation	Economist Department of Land Resources Conservation (LRCD) Ministry of Agriculture, Irrigation and Water Development
3	Mrs. Beatrice Mbakaya	Evaluation	Chief Agricultural Extension Officer Mzuzu Agricultural Development Division (Mzuzu ADD) Ministry of Agriculture, Irrigation and Water Development

Japanese side

No.	Name	Field	Present Occupation
1	Mr. Shinjuo Amameishi	Team Leader	Director, Team 4, Rural Development Group 2, Rural Development Department Japan International Cooperation Agency (JICA)
2	Ms. Kazuko Shirai	Evaluation and Analysis	Evaluation and Analysis Consultant, Kaihatsu Management Consulting, Inc.
3	Mr. Shunsuke Tamura	Plan management	Special Advisor, Rural Development Group 2, Rural Development Department Japan International Cooperation Agency (JICA)

1-3 TERMINAL EVALUATION SCHEDULE

The Terminal Evaluation was carried out from 13th April to 1st May 2015. The details of the evaluation schedule are Annex 1.

1-4 METHODOLOGY OF EVALUATION

The Team conducted various interviews and field surveys through the evaluation.

(1) Joint Evaluation

The Project was jointly evaluated by the Japanese and Malawian Teams in accordance with the Record of Discussions (hereinafter referred to as "R/D"), the Project Design Matrix (hereinafter referred to as "PDM") and the Plan of Operations (hereinafter referred to as "PO"). The evaluation activities, including report analysis, field surveys, and interviews with staff of relevant institutions, beneficiaries, Japanese experts and other concerned personnel of the Project, were conducted based on the Five Evaluation Criteria described in the following section. The Team was composed of three (3) members from Malawian side and three (3) members from the Japanese side.

(2) Evaluation Framework: Five Evaluation Criteria

The evaluation is preceded along with the following five criteria, which are the major points of consideration when assessing development projects.

Table 1 Five Evaluation Criteria

Items	Components
(1) Relevance	Relevance is to question whether the project purpose and overall goal are still in line with the priority needs and concerns at the time of evaluation
(2) Effectiveness	Effectiveness concerns the extent to which the project purpose has been achieved, or is expected to be achieved, in relation to the outputs produced by the Project.
(3) Efficiency	Efficiency is a productivity of the implementation process: how efficiently the various inputs are converted into outputs.
(4) Impact	Impact is any intended and unintended, direct and indirect, positive and negative that is brought about as a result of the Project.
(5) Sustainability	Sustainability of the project is assessed in terms of institutional, financial and technical aspects by examining the extent to which the achievement of the Project will be sustained after the project is completed.

(3) Sources of Information Utilized for the Evaluation

The sources of information were shown in Table 2.

Table 2 Source of Information

1	Project planning documents such as R/D, PDM, and Minutes of Meetings (hereinafter referred as "M/M")
2	Periodical reports of the Project
3	Interviews and discussions with the Japanese experts
4	Interviews and discussions with the counterpart personnel
5	Record of inputs
6	Project documents on the progress and achievements of the Project
7	Field visits to target areas and discussion with the beneficiaries

(4) PDM for evaluation

The current PDM (ver. 2; as of February 2014) shown on Annex 2 is used as the PDM for the Terminal Evaluation.

Evaluation

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2. OUTLINE OF THE PROJECT

2-1 BACKGROUND OF THE PROJECT

In the Republic of Malawi (hereinafter referred to as "Malawi"), 80% of the working population is engaged in agriculture, and more than 90 % of them are small farmers. The mean farmland area per household is around 0.8ha. The agricultural productivity is generally low because of the access to input agricultural materials or farming techniques, infrastructure such as irrigation facilities are limited. And the national poverty ratio is very high (39%, 2009), and, in particular, the value in rural areas (34%) is much higher than that in urban areas (14%).

As a way of resolving these issues, the Government of Malawi (hereinafter referred to as "GoM") formulated "Agricultural Sector Wide Approach (hereinafter referred to as "ASWAp")" in 2009, and has placed the dissemination of Sustainable Land Management techniques (hereinafter referred to as "SLM techniques") as one of the key issues in the development policy. The SLM techniques are consisted of soil fertility improvement, soil and water conservation, conservation agriculture, rainwater harvesting, and agroforestry. It is intended that farmers take proper techniques to meet each situation in their fields to improve their soil fertility and agricultural productivity. The Sustainable Land Management Promotion Project (hereinafter referred to as "the Project") focuses to soil fertility improvement in the SLM techniques.

Although Ministry of Agriculture, Irrigation and Water Development (hereinafter referred to as "MoAIWD") supports agricultural production through subsidies for quality seeds or fertilizers to farmers, the agricultural inputs are severely in shortage. While utilization of compost and prevention of soil erosion are required to improve agricultural productivity under the situation, but the techniques are not sufficiently prevailed up to the present.

Under these circumstances, the Project has been implemented since November 2011 as 4 years project based on the agreement between MoAIWD and Japan International Cooperation Agency (hereinafter referred to as "JICA"). Before the completion of the project period (November 2015), this terminal evaluation study has been carried out for evaluating the degree of achievement of the Outputs and the Project Purpose, etc.

2-2 SUMMARY OF THE PROJECT

2-2-1 Outline

Narrative summary of the Project are as follows: Table 3 PDM ver. 2 (see for detail Annex 2)

Overall Goal	Appropriate Sustainable Land Management (SLM) techniques*1 are diffused to nationwide.	
Project Purpose	Capacity of MoAFS*2 to diffuse appropriate SLM techniques is enhanced.	
Output	Output 1	Institutional and human capacity for soil and/or compost testing and skills for field test in Mzuzu ADD are improved.
	Output 2	LRCD SMSs and extension agents in Mzuzu ADD are equipped with the SLM techniques.
	Output 3	Compost making and application techniques are applied by pilot site farmers.
	Output 4	Measures to diffuse the SLM techniques nationwide are provided.

*1 From this point forward, Appropriate Sustainable Land Management Techniques ("The SLM techniques") refer to scientifically tested existing compost makings and application techniques and knowledge (soil fertility improvement techniques) that is promoted by the project.

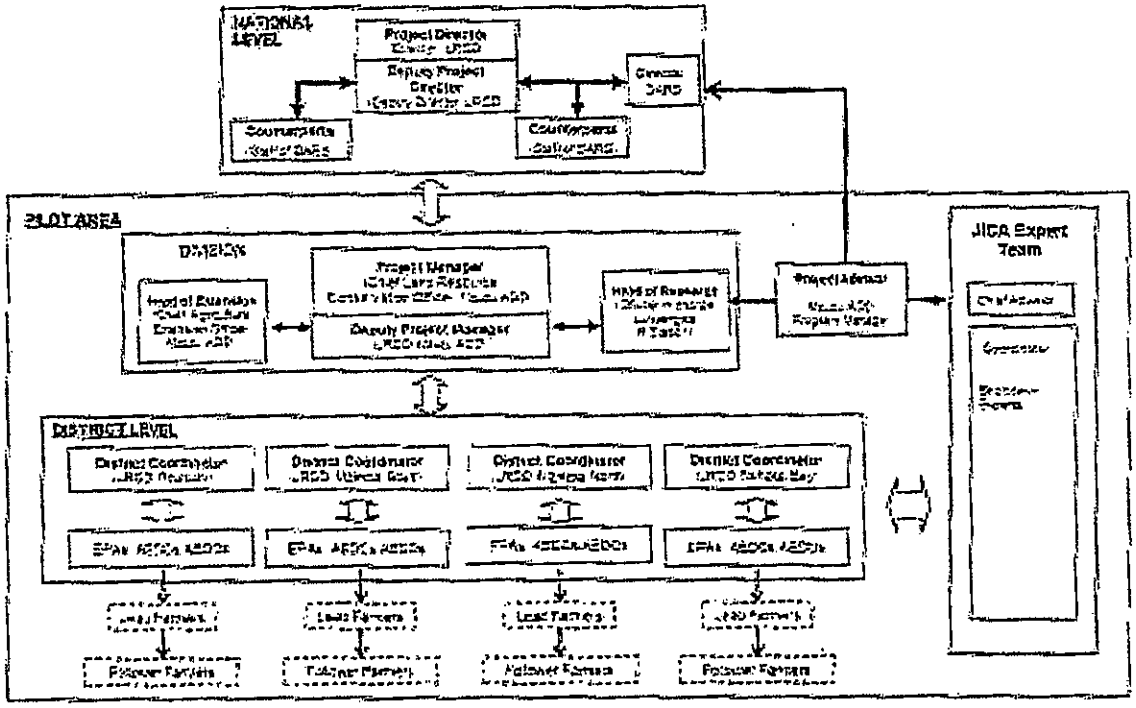
*2 It was reorganized into MoAIWD in 2014. In this report, refer to as "MoAIWD" except expression on the PDM.

2-2-2 Target area and Project sites

The target areas are 4 districts (Rumphi, Mzimba South, Mzimba North and Nkhata Bay) of Mzuzu ADD area out of a total of 28 districts in the entire nation of Malawi. Project sites on Output 1 are Lunyangwa Agricultural Research Station (hereinafter referred to as "Lunyangwa ARS") and its sub-stations (originally 4 sub-stations; Mbawa, Mkondezi, Bolero and Ntchenachena, currently 2 sub-stations: Mkondezi and Ntchenachena).

2-2-3 Implementation Structure of the Project

The organizational structure of the Project implementation is shown below.



Source: SLMP Project Team

Joint Coordinating Committee (hereinafter referred to as "JCC") is established in order to facilitate inter-organizational coordination and composed of representatives from the implementing agencies (MoAIWD and JICA) and meets at least once a year and whenever deems it necessary. The functions of JCC are:

(1) To approve the plan of operations under the framework of the project
(2) To review achievements against the plan as well as the overall progress of the project
(3) To conduct monitoring and evaluation of the project
(4) To exchange opinions and major issues that arises during the implementation of project.

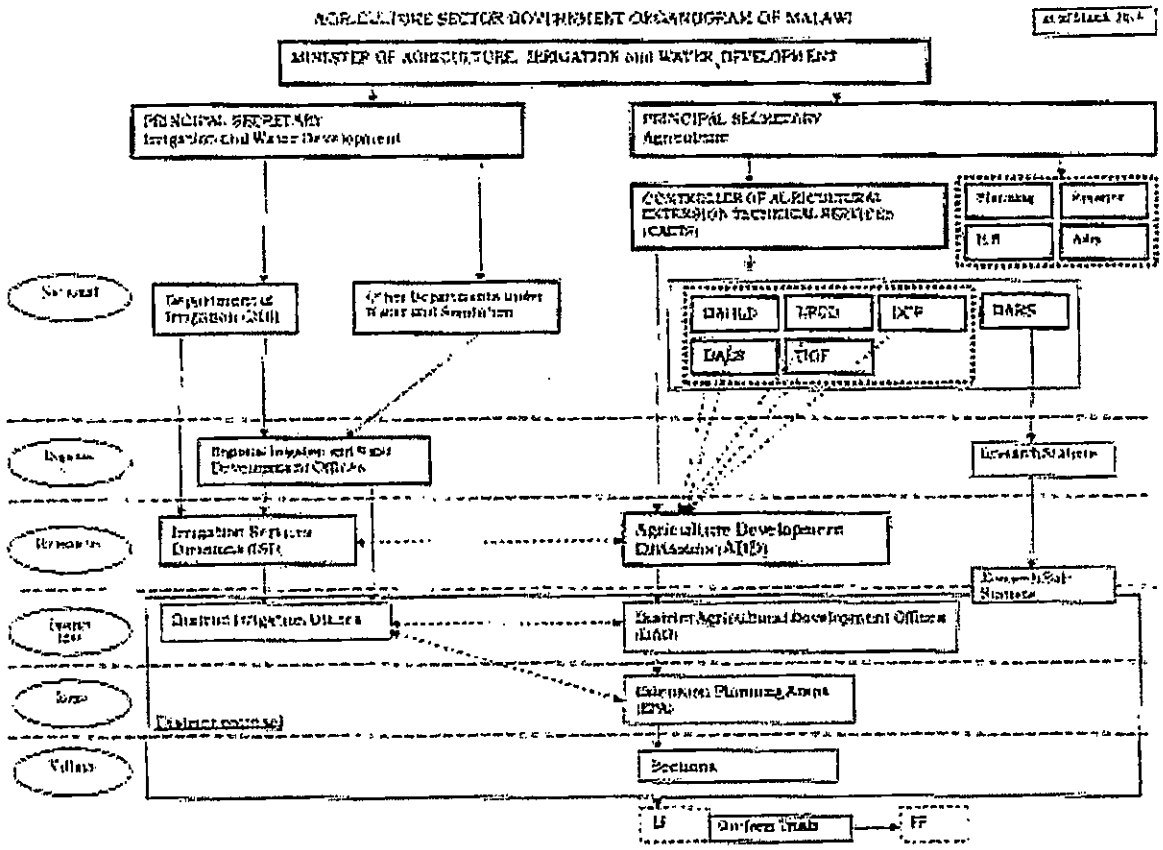
Project management team is composed of Project Director (Director of LRCD); Deputy Project Director (Deputy Director of LRCD) in MoAIWD where they are responsible of overall project coordination. Project Manager (CLRCO of Mzuzu ADD) and Deputy Project Manager (LRCO of Mzuzu ADD) coordinate day to day works along with Japanese Experts in Mzuzu ADD.

2-2-4 Counterpart Organization

Counterpart (hereinafter referred to as "C/P) organization is MoAIWD and its related agencies on the project as follow:

Land Resource Conservations Department (LRCD)
Department of Agricultural Research Services (DARS)
Department of Agricultural Extension Services (DAES)
Mzuzu Agricultural Development Division (Mzuzu ADD)

Ministry of Agriculture, Irrigation and Water Development Organogram



Source: Joint Evaluation Team

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3. ACHIEVEMENT OF THE PROJECT

3-1 INPUTS

3-1-1. Japanese side

The Team confirmed the following inputs based on PDM and the PO. The details of the inputs are shown in Annex 3.

(1) Dispatch of Japanese experts

Since the commencement of the Project, two (2) Japanese long-term experts such as 1) Project Coordinator/extension and 2) Coordinator, and eight (8) short-term experts with the fields such as 1) Chief Advisor/Soil Fertility, 2) Chief Advisor, 3) Soil Survey/Planning, 4) Soil Survey/Planning (2 persons), 5)Baseline Survey-Nationwide, 6)Baseline Survey-Target Area, 7) Crop Management/Fertilization have been dispatched to the Project for technical transfer.

(2) Training of counterpart personnel in Japan

Total three (3) counterpart personnel from LRCD, Mzuzu ADD, District Agricultural Office (hereinafter referred to as "DAO") and Lunyangwa ARS participated in the training in Japan on soil diagnosis technology and sustainable land management.

(3) Provision of equipment and machineries

Equipment and machineries, such as 2 vehicles, computers for project office and survey equipment, of the total value equivalent to JPY 32,015,891 (MWK118,778,955.61) were provided for the project activities by the end of March 2015.

(4) Bearing of local costs

A total sum of equivalent to MWK150,252,191.98 has been provided to supplement a portion of local expenditure for the project activities by the end of March 2015. This cost covered expenses for seminar/workshop/meetings, fees and honorarium for casual labors and project-employed staffs, and travel expenses for C/Ps, drivers and experts.

3-1-2. Malawian side

(1) Assignment of counterpart personnel

A total of twenty three (23) C/P personnel were assigned to the Project from LRCD, Mzuzu ADD, four (4) DAOs, DARS, Lunyangwa ARS, and substations. Details of C/P are listed in Annex 4.

(2) Provision of facilities and operational cost

Up to the end of March 2015, one office space and payment of utilities in Mzuzu ADD, tools and others for on farm trial, equivalent to MWK 32,858,390, have been provided for the Project.

3-2 ACHIEVEMENT OF ACTIVITIES

The activities for output 1 to output 3 have been implemented and nearly completed. The activities for output 4 are scheduled to take place before the end of the Project. PO and Summary of activities in line with PO are compiled as Annex 5 and 6.

3-3 ACHIEVEMENT OF OUTPUTS

Since the Mid-term Review Survey in February 2014, the Project has been implemented based on PDM Ver2 and PO. It is generally assumed that the output 1 to 3 will be achieved by the end of the project period. The Output 4 is yet to be achieved at this moment. The detailed information on the achievement of output is described as follows:

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Output 1: Institutional and human capacity for soil and/or compost testing and skills for field test in Mzuzu ADD are improved.

The Output 1 relating to research development is achieved as following detailed evaluation results.

(1) OVI 1-1: Manual for soil and compost analyses is prepared.

Manual for soil and compost analysis techniques titled "Lunyangwa Laboratory Manual Ver.1" has been drafted up to third version (activity 1-6). Using the manual, analysis of soil and compost samples collected from the stations and farmers' fields have been undertaken under supervision of the Expert on soil survey (activity 1-10, 1-11).

(2) OVI 1-2: Recommendations on compost application for soil fertility improvement are compiled.

Based on the results of the trials, technical recommendations and messages on compost application for soil fertility improvement will be compiled by the end of the project (activity 1-13).

(3) OVI 1-3: Lunyangwa Agricultural Research Station provides soil and/or compost analysis services.

Nearly 1,700 soil and compost samples from SLMP Lead Farmers (hereinafter referred to as "LFs") and Stations have been collected and analyzed at the lab as summarized in Table 4. The number of analytical work has increased significantly since 2014.

Table 4 Progress of analysis work at Lunyangwa Soil Laboratory

Year	No. of Samples Analyzed	Source
2012	139	SLMP LFs
2013	240	SLMP LFs, Stations, DF farmers
2014	1,308	SLMP LFs, Stations
Total	1,687	

Source: SLMP Project, February 6, 2015

The service for SLMP LFs, stations, and non-target smallholder farmers is free of charge, whereas test service is charged for NGOs and private sectors. Lunyangwa ARS has already received requests from 23 non-target entities for 787 samples since August 2013. Amount to be paid raised up to MWK1,416,500.00. The number of clients and income from the test service is listed in Table 5.

Table 5 Requests for soil test to Lunyangwa ARS from outside of the Project

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Organisation	Collection date	No. of samples	No. of elements	No. of analysis	Cost/element	Amount to be paid (MWK)	Status
1	12.06.14	70	7	490	500.00	245,000.00	
2	27.08.14	47	11	517	500.00	258,500.00	free
3	27.07.14	4	8	32	500.00	16,000.00	
4	06.10.14	7	7	49	500.00	24,500.00	
5	19.11.14	15	11	165	500.00	82,500.00	
6	Jan-April, 2015	312	7	2184	500.00	1,092,000.00	free
7	2013 Dec and 2014 Dec	48	7	336	500.00	168,000.00	free
8	07.11.13	3	8	24	500.00	12,000.00	free
9	07.11.13	139	7	973	500.00	486,500.00	free
10	08.07.14	64	11	704	500.00	352,000.00	free
11	20.11.14	11	2	22	500.00	11,000.00	
12	20.11.14	8	4	32	500.00	16,000.00	
13	07.11.14	18	4	72	500.00	36,000.00	
14	06.11.14	7	4	28	500.00	14,000.00	
15	07.07.14	45	5	225	500.00	112,500.00	
16	Oct-Nov, 2014	424	1	424	500.00	212,000.00	paid
17	Dec-14	5	8	40	500.00	20,000.00	free
18	27.03.15	1	3	3	500.00	1,500.00	
19	Aug-13	28	9	252	500.00	126,000.00	free
20	Apr-15	14	1	14	500.00	7,000.00	paid
21	Apr-15	2	1	2	500.00	1,000.00	paid
22	Apr-15	9	1	9	500.00	4,500.00	paid
23	Apr-15	9	1	9	500.00	4,500.00	paid
	Total	787		2,833		1,416,500.00	

Source: SLMP Project, April 24, 2015, organisation name are omitted by the mission team

(4) OVI 1-4: Field data is collected according to the research protocol.

Growth and harvest data to see the effects of composts have been collected from LF and research stations by the project team in collaboration with extension and research officers. The data collection has been continued in the current season (activity 1-11).

(5) OVI 1-5: Soil tests from the demonstration sites confirm improvements of soil fertility at the end of the project.

Although the trend in soil fertility in the 2014/15 crop season has been under analysis, crop stands in LFs' trial plots are visibly improved even in the heavy drought of this season.

Output 2: LRCD Subject Matter Specialist (hereinafter referred to as "SMSs") and extension agents in Mzuzu ADD are equipped with the SLM techniques.

The Output 2 relating to extension is partially achieved as following:

(1) OVI 2-1: Extension agents in Mzuzu ADD are trained on existing compost making and application techniques to the level that they can back up Lead Farmers (LFs).

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Based on the training modules, training for extension agents together with LF has been conducted since October 2012 to February 2015 (activity 2-2~2-5). The major contents of training are soil sampling technique, compost making techniques, plot preparation and compost application, review of last season practice and plan for the coming season, and soil diagnosis techniques. A total 585 of Mzuzu ADD SMSs and AEDOs participated in the training.

(2) OVI2-2: Training manual for the SLM techniques is produced.

The Project first developed training modules, titled "Training Module for Field Trails on Compost Making & Application Trials" up to the third version (activity 2-1).

(3) OVI 2-3: All LRCD SMSs in Mzuzu are trained on the SLM techniques and are able to train extension agents.

Land Resource Conservation Officers (hereinafter referred to as "LRCOs") in each target district have been carrying out the project activities in collaboration with the Japanese experts since the beginning. They have gained knowledge and experience in the promotion of appropriate compost techniques in the process. In addition to these local activities, 2 district officers (Rumphi and Nkhata Bay) had opportunity to attend the JICA group training on the soil diagnosis technologies held in Obihiro, Japan in 2013 and 2014 which must have contributed to the capacity development for extension of the SLM techniques substantially. LRCOs in target districts instruct compost related techniques for extension agents in the meeting held every 2 weeks, and the Mission confirmed self-confidence in every one of LRCOs.

Output 3: Compost making and application techniques are applied by pilot site farmers.

The Output 3 relating to capacity development of leader farmers in the province is expected to be achieved by the end of the project period as following detailed evaluation results:

(1) OVI 3-1: More than 80% of all the LFs mount SLMP demonstration trials taught by the extension agents.

The Project conducted training on 3 compost making techniques for 49 LFs with Agricultural Extension Development Officers (hereinafter referred to as "AEDOs") in July 2013 (activity 3-2). Using the techniques, LFs prepared compost heaps and applied them into trial plots on their own farms in 2013/14 and 2014/15 seasons. The compost making and application practiced by LFs in 2013/14 and 2014/15 are shown below:

Table 6 Compost making and application practiced by Lead Farmers in 2013/14 season (1st year trials)

District	No. of LFs		No. of Compost Heaps Made by LFs				No. of Plots Mounted
	Trained	Prepared	Changu	Windrow	Bokashi	Total	
Nkhata Bay	12	8	41	47	48	136	160
Rumphi	13	13	53	34	55	142	173
Mzimba South	12	12	40	32	64	136	209
Mzimba North	12	12	68	20	75	163	246
Total	49	45(91%)	202	133	242	577	788

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Table 7 Compost making and application practiced by Lead Farmers in 2014/15 season (2nd year trials)

District	No. of LFs		No. of Compost Heaps Made by LFs				No. of Plots Mounted
	Trained	Prepared	Changu	Windrow	Bokasi	Total	
Nkhata Bay	12	8	40	40	40	120	154
Rumphi	13	11	58	48	67	173	217
Mzimba South	12	11	51	53	65	169	220
Mzimba North	12	12	69	36	70	175	203
Total	49	42(86%)	218	177	242	637	794

Source: SLMP Project, April, 2015

The ratios of LF who prepared the SLMP demonstration trials are 91% in 2013/14 season, and 86% in 2014/15 season. Accordingly, the indicator 3-1 has reached its goal. It is also true that the number of LF is reduced from 45 to 42 in the second year. The direct causes for decreasing the number of LF are inaccessibility of materials and water, lack of labor for manure production and family problems.

(2) OVI 3-2: Ten Follower Farmers (hereinafter referred to as "FFs") are trained by each LF on compost making and application techniques and apply more than one techniques in their farms.

According to the results of questionnaire survey conducted by the Project in May 2014, the majority of the LFs has carried out the compost making and application by a group (activity 3-3). Most groups had 8-20 members and are particularly active in North Mzimba and Rumphi. Through the interview with LF and FFs in Rumphi, FFs were found to be active to learn from LFs. Therefore, it can be regarded that the indicator 3-2 has been achieved.

The Mission team observed through the interview from LFs that it is not rigidly fixed among LFs whether they should have to ten FFs or not in the Project. Some LFs have around 3 to 4 FFs, the others 16 FFs, and the number of FF fluctuates.

(3) OVI 3-3: Positive effects of using compost are recognized by participating farmers through monitoring.

The Project has monitored the positive effects of using compost recognized by LFs (activity 3-3) which includes accumulation of organic matters, improved soil structure and increased water holding capacity. The majority LFs interviewed showed willingness to continue the practice. Particularly, farmers applied less amount of chemical fertilizers for 2014/15 season. They explained that the production of the second year of trial is much better than the first year even in the event of serious drought. Therefore, the indicator 3-3 can be assessed as already achieved.

(4) OVI 3-4: 10,000 farmers in Mzuzu ADD are using compost making and application techniques that are indicated in the SLMP research protocols

Although the Project has not grasped the actual number of FFs who learned how to use compost making and application techniques from LFs, the extension agents and research stations have organized Field Day several times in Mzuzu ADD in which farmers have opportunity to obtain information on new farming techniques, including compost making and application techniques introduced by the Project. The Project also plans to facilitate extension activities for LFs and FFs (activity 3-6) by the end of the Project period.

Output4: Measures to diffuse the SLM techniques nationwide are provided.

The Output 4 relating to human resource and institutional development for dissemination of the SLM techniques is expected to be achieved by the end of the project period as following detailed evaluation results if all the rest of activities are conducted as planned;

(1) OVI4-1: Through seminar/workshop, 90% of attended LRCD SMSs nationwide gain knowledge of the SLM techniques

The Project plans to hold seminar/workshop nationwide on compost making and application for LRCD SMSs (activity 4-2) by the end of the Project (tentatively scheduled from mid-September to early October 2015).

(2) OVI4-2: Project results and achievement are shared among MoAFS officials and stakeholders through national workshop

LRCD is considering several measures to disseminate the manure techniques, such as the Manure Campaign conducted by ADD once a year in May or June to promote use of manure to farmers. The Campaign can be done in Mzuzu ADD to present the achievement of the Project (activity 4-3).

The Project will present the results and achievement of the Project at the Sustainable Land and Water Management Technical Working Group of ASWAp (tentatively scheduled in mid-October 2015).

3-4 PROSPECT OF THE PROJECT PURPOSE

Project Purpose:Capacity of MoAFS to diffuse appropriate SLM techniques is enhanced.

It is considered that The Project Purpose will be achieved if the rest of activities are implemented as planned. The prospect of achievement is observed as follows:

(1) OVI 1: The SLM technique handbook is reviewed by DAES and distributed to all the 28 districts' LRCD and Extension SMSs.

The test result of 2014/15 crop season supported by the Project will be analyzed by mid-July in 2015. The Project will compile the result into the SLM technique handbook. The technique in the handbook needs to be discussed and approved by the Agriculture Technical Clearing Committee of MoAIWD before forwarding to DAES. The Project will confirm a timetable even though it may not reach to all 28 districts LRCOs and extension agents by the end of the Project.

Considering the period of time remaining for project implementation, distribution of the reviewed handbook to 28 districts' LRCD and Extension SMS may not be achieved by the end of the Project. On the field, LRCOs in target districts are already utilizing the Technical Information Series (No1.~No.3) when they train extension agents in the fortnight training.

(2) OVI 2: Services for soil and/or compost testing in Northern region become available and results are accessed by extension agents and farmers.

As stated in 3-3, soil and compost testing is now available in northern region by implementation of the Project activities at Lunyangwa ARS, which is the first soil lab in northern region. Since its establishment in 2012, requests for soil analysis have significantly increased in 2014. In some cases, soil analysis results were given to the farmers but not in a user friendly format. In others, soil analysis results were not given.

3-5 PROSPECT OF THE OVERALL GOAL

Overall Goal: Appropriate Sustainable Land Management (SLM) techniques are diffused to nationwide.

It is considered that the Overall Goal will be achieved to limited extent with the following reasons. The Mission considers the indicators should be revised with feasible targets, considering a lot of confounding factors.

(1) OVI 1: The SLM techniques are applied in programs implemented by MoAFS and stakeholders

In order to improve soil fertility, LRCD has a strong will to promote usage of organic fertilizer nationwide after the end of the Project. Manure making and its application are indispensable to improve soil fertility, which is in line with the national policy. Once officially approved, the techniques introduced by the Project will likely be applied in national programs as well as in projects supported by NGOs and other development partners.

(2) OVI 2: More than 80% of AEDOs across the country are trained by subject matter specialists (SMSs) and are able to instruct farmers on the SLM techniques by MoAFS.

The training system for AEDOs by SMSs (LRCOs in districts) has been established in Malawi. It is likely expected that AEDOs will be trained by SMSs and are able to introduce farmers on manure making and application techniques nationwide through the co farm demonstration and Field Days. LFs will transfer these techniques to FFs.

(3) OVI 3: XX millions of farmers are adopting SLM techniques across the country by 2020.

The GoM promotes SLM techniques through Manure Campaign and Field Day. Through these occasions, farmers may have a chance to adopt SLM techniques by 2020. However, the number of "XX" farmers has not identified yet, nor is the definition of "adopt" here yet clear.

(4) Important Assumptions

The Important Assumption for achievement of the Overall goal is that MoAIWD/districts are able to secure sufficient budget to implement proposed program to diffuse SLM techniques.

Considering the implementation of the Project, LRCD has faced challenges in budget disbursement for operating the Project activities. However the regular programs under LRCD includes conductions of Manure Campaign and Field Day at the same time, which makes this assumption valid.

3-6 IMPLEMENTATION PROCESS

3-6-1. Reporting System

JICA experts have reported to JICA Head Quarters, JICA Malawi Office and LRCD by submitting Semi-annual Progress Report and Work Completion Reports.

As for C/P side, extension agents report to LRCOs who report to Mzuzu ADD every month.

3-6-2. Joint Coordinating Committee

Joint Coordinating Committee (hereinafter referred to as "JCC"), as the highest decision making mechanism of the Project, chaired by Principal Secretary of MoAIWD, has been held twice to endorse the plan and to make a decision on the issues related to the Project implementation including the revision of PDM.

1st JCC meeting was held in December, 2012 and discussed revision of PDM. However, consensus

was not reached about the detailed revision of PDM within the JCC members at the meeting. Continuing discussion PDM-1 was finally agreed in February 2013.

2nd JCC meeting was held in February, 2014, approved the results of Mid-term Review including revision of PDM ver2.

3-6-3. Field Operation Review & Planning Meeting

The Project has held the regular meeting every three months since June 2014 with attendance of Officers in Mzuzu ADD, Research staff at Lunyangwa Agriculture Research Station, and Japanese experts. In the meeting, the participants discussed the results of trials, reported progress of activities, and training for AEDOs was also conducted. The meeting functioned as the place of exchange of views and information among the Project management group, and enhanced communication among the group members.

3-6-4. Weekly Internal meeting

The Project has held internal staff meeting at the project office every Monday morning to share weekly and monthly schedule, and discuss major issues.

3-6-5. Trial Protocol Practice Review Meeting

The Project has held the Trial Protocol Practice Review Meeting with LFs, AEDOs, and LRCO for the first time in each district in September 2014. Through the Review, LFs came to understand fully objectives of the Project, as well as the role of LF.

3-7. MEASURES TAKEN TO ADDRESS THE RECOMMENDATIONS MADE AT THE MID-TERM REVIEW

In the Mid-term Review in 2014, there were seven (7) issues raised as recommendations for the Project for smooth and effective implementation of the Project. The Team confirmed that the Project has taken countermeasures to cope with these recommendations as shown in Annex 7, and these actions largely attributed to improvement of capacity of C/Ps and LFs in the target districts.

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4. REVIEW OF FIVE EVALUATION CRITERIA

4-1 RELEVANCE

The relevance of the Project is evaluated as "High" based on the following findings:

4-1-1. Relevance to the development policies and sector programs of Malawi

Improvement in soil fertility for crop, especially maize, production is one of the highest priorities for agriculture in northern region of Malawi. SLM techniques have been one of three pillars in the ASWAp. It is largely envisaged by the GoM that manure making and application can supplement with the chemical fertilizers, to which the GoM has subsidized under the Farm Input Subsidy Programme (hereinafter referred to as "FISP").

4-1-2. Consistency with the Official Development Assistance (ODA) policies of Government of Japan

Support to improve soil fertility is included in the prioritized areas by the Government of Japan (hereinafter refered to as "GoJ") to Malawi. The Project has been implemented as a part of the Agriculture/Natural Resource Management Program, which provides technical support for land management. This Program is envisaged to contribute increase of agricultural production by small farmers in long term.

4-1-3. Relevance to Needs of target area and beneficiaries

(1) Needs of LRCO

The LRCO (SMSs) in each district is responsible to impart new knowledge and techniques to extension agents and farmers. LRCO used to instruct the importance of organic compost without concrete information based on scientific data. The Project's objectives are meeting the needs of LRCO who now is able to share the knowledge, experience and data on compost making and application to extension agents and farmers with self-confidence.

Establishment of the lab in Lunyangwa ARS improved accessibility for soil test, and LRCOs improved their soil sampling techniques.

(2) Needs of Agriculture Extension Development Coordinator & Officers (AEDC & AEDO)

AEDC, AEDO's knowledge and skills on compost making and application was limited before the Project commenced. The Project has contributed to enhancement of their competencies to change farmers' perception on soil fertility.

(3) Needs of Lead Farmers (LF)

Farmers in the target area recognize that land degradation causes decrease of maize production. It is crucial for farmers to produce maize for their life and economy even in a serious drought spell. Some farmers explained they became LF of the Project to substitute with chemical fertilizers which they can receive at very much low price through FISP, but uncertain to obtain due to limited amount.

The price of chemical fertilizer[4] has been increasing to which many of small farmers cannot afford. Economic reason to save the cost for farming was also a motive of the farmers to be LF.

[4] 50kg/MWK18,000/season

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4-1-4. Relevance of the Project Plan and Approach

The Objectively Verifiable Indicator (hereinafter referred to as "OVI") in the PDM were modified as a result of the Mid-Term Review. The modifications have led to consensus on direction of the activities with reasonable and feasible indicators.

The Project's scope widely covers from cooperative trials of compost to extension. Moreover, it is said it takes long period to improve soil fertility. The Project period of four years can be evaluated as too short to tackle wide issues on improvement of soil fertility in Malawi with one crop season per year.

The LF approach for trials of new techniques and diffusion is still appropriate and functioning to develop and diffuse new techniques to other farmers since frontline staffs are not enough to cover all the farmers.

4-2 EFFECTIVENESS

The effectiveness of the Project is evaluated as "Medium" based on the following findings:

4-2-1. Achievement of the Project Purpose

As analyzed in 3-4, the Project contributed to capacity enhancement of MoAIWD to diffuse appropriate SLM techniques

4-2-2. Contribution of Outputs to achievement of the Project Purpose

Since the establishment of testing lab in Lunyangwa ARS, soil test has become available in northern region of Malawi. The Project also contributed to enhance competencies of research staff at sub-stations in Ntchenachena and Mkondezi through conducting manure making trials. Successful achievements of the Output1 directly contribute to achievement of the Project Purpose in research part.

The Project has developed a training manual for extension agents in line with the research protocol, and revised it up to the third version to date. Based on the training manual, the Technical Information Series No1 ~No3 have been developed and already utilized by LRCO in target districts. This handy leaflet is well evaluated among users as it contains lots of photos and pictures to make it easy to understand on farmers' level. All LRCD are now equipped with new techniques on manure making and application by using the leaflet, which contribute to development of the SLM technique handbook as the final step of the Project implementation.

As for Output 3, the on farm trials by LF started 2013/14 season has significant achievement in 2014/15 season. The Mission member observed visible improvement in crop stands in LFs' plots, and LFs appreciate such improvement. Data to be collected from on farm trials will be precious information for development of the SLM handbook when the contents are finalized.

The achievement of Output4 can be regarded as the preparation for dissemination of recommended techniques nationwide, which is the achievement of the Overall goal in near future. It is expected that Malawian C/P takes initiative to facilitate an opportunity to disseminate the technique to wider range of concerned people as well as the farmers outside of the Project target area.

4-3 EFFICIENCY

The efficiency of the Project is evaluated as "Medium" with a consideration of the following findings:

Both of Malawian and Japanese sides had several challenges on appropriate allocation of human resource at the beginning period of the Project. Although those issues have been partially solved since the Mid-term Review, delay in extension related activities still remains same at present.

4-3-1. Achievement of Output

As mentioned in 3-3, Output 1~3 have been almost achieved. It is expected that output 4 will be achieved before the end of the Project if all the rest of activities are conducted as planned.

4-3-2. Input

(1) Japanese Side

The delay in dispatch of Japanese experts and baseline survey, and delay of provision of equipment for soil test to Lunyangwa ARS caused overall delays of implementation of the Project in early stage of the Project. This affected start of extension activities at present.

The budget from JICA in FY2014 decreased comparing with the previous year. The budget for FY 2015 has recovered to satisfactory level to implement these activities.

(2) Malawian Side

There is insufficient budget allocated to district offices, which causes limited fuel provision for the LRCO and to monitor the field activities on farm trials by LFs and insufficient implementation of field day.

Some budget has been allocated for 2013/14, which enabled to provide protective wear for LF to make compost.

Regarding running Lunyangwa ARS, chemicals for soil test and casual labor were borne by mainly the Japanese side.

4-4 IMPACT

The Impact of the Project is evaluated as "Medium" based on the following findings:

4-4-1. Prospect of Achievement of the Overall Goal

As mentioned in 3-5, prospect of achievement of the Overall Goal largely depends on the commitment of MoAIWD/districts to secure sufficient budget.

If the budget is secured, LRCD will likely promote compost manure through already established opportunities such as the Project Review Meeting, the Sustainable Land Management Technical WG of ASWAp, which LRCD chairs, and annual LRCD meeting.

On the filed level, it is expected that the compost making techniques and its application will be scaled up nationwide with an initiative of Mzuzu ADD as a core player.

NGOs conducting compost related activities in Mzuzu ADD, such as DF, Tiyeni and LIN, have applied Bokasi and Chaingu manures to their own projects through collaboration with the Project. LFs of DF had opportunities to participate in training on compost making and application conducted by the Project.

4-4-2. Positive impact on Policy

SLM technologies are one of the main issues in ASWAp, however, impact of the Project toward ASWAp was not observed at present.

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4-4-3. Positive Impact on Environment, Economic and Society

The organic farming by utilizing compost that the Project has promoted largely contributes improvement of soil fertility in target districts. Maize of LFs of the Project is growing even in the record breaking draught this year. This achievement can be regarded as the technique mitigates environmental effect on soil.

It has brought economic impact on farming as it has reduced the cost for chemical fertilizer. The Project plans to conduct cost effectiveness of compost making and application by small farmers.

Several local NGOs have adopted compost making techniques for their project, which led 1,500 farmers utilize manure within Mzuzu.

4-4-4. Negative Impacts

The Team has not observed any negative impact of the Project reported or observed at the time of the evaluation.

4-5 SUSTAINABILITY

The sustainability of the Project is evaluated as "Medium" based on the following finding:

4-5-1. Laws and Policies

ASWAp is the highest agricultural policy and highly prioritized investment program by the GoM to promote agricultural development in Malawi. SLM technique is one of the three pillars in ASWAp. The GoM will continue to promote SLM technologies including compost making and application based on ASWAp, collaborating with development partners.

4-5-2. Institutional Aspect

The extension system is well established in Malawi, in which new farming techniques are transferred from SMSs to extension agents, who impart their knowledge to LFs and LFs teach FFs. The scarce numbers of extension agents still remain as challenge. Once the technical handbook is approved by the central government, the technique will be disseminated through this extension system.

With regard to research stations, one researcher has been recently appointed to Lunyangwa ARS. However, it might be challenge for Lunyangwa ARS with limited staff to meet the increasing needs for soil tests in future.

4-5-3. Financial Aspect

The GoM has largely depended on the budget from the Japanese side to implement the project activities. Financial sustainability for future depends on LRCD and DAES's commitment to allocate necessary budget such as Other Recurrent Transactions (ORT) and ASWAp to compost making and application.

Regarding charges for soil/compost test in Lunyangwa ARS, the ARS has been paid by private entities based on the regulated rate.

Soil and compost analysis services and compost trial activities are essentials for disseminating the SLM techniques. Regarding soil and compost analysis services, the Lunyangwa ARS has started collecting service charge from clients except small-holders via Extension Agents. When 80% of Lunyangwa service fee will be its own revenue after the bank account is officially open, financial sustainability will be enhanced.

However it is still uncertain whether it secures sufficient financial resource for future activities.

4-5-4. Ownership of Target Group

Even though many of LFs have challenges in obtaining materials, water and transportation, they expressed their strong will to continue making and applying compost after the end of the Project. They are very positive to teach FFs as well.

4-5-5. Technical Aspect

Techniques of LRDC, extension agents and staff at research station will likely be maintained. It will be difficult to maintain their level of skill and knowledge without continuous training for new staff as transfer of staff frequently occurs.

The Project has transferred new techniques of compost making and application by using local materials. The techniques for soil analysis in the lab in Lunyangwa ARS have been carefully chosen as the research staff will be able to continue by themselves.

Compost techniques that the Project has promoted can be used nationwide, which should be the advantage of technique to be disseminate nationwide.

4-6 ANALYSIS OF FACTORS

4-6-1. Contributing factors

The Project conducted the First Trial Protocol Practice Review Meeting in each target district in September 2014 to which all the LFs, AEDO, district LRCO, and Japanese experts participated. The Project reported its activities from July 2013 to June 2014, as well as presented action plan for the next year in the meeting. This meeting fostered communication among the participants, and positively changed LFs' perception toward the project activities on manure making and application.

The serious drought has hit the country including northern part of Malawi in this crop season, which largely affected the production of maize. Even in such a harsh environment, the LFs have produced maize better yield than last season. Although drought itself makes extra burden for all the farmers, the effects of compost manure were clearly acknowledged by LF, FF and non-targeted farmers.

4-6-2. Hindering Factors

The hindering factor was pointed out in the Mid-term Review as 'Decisions were made without enough consultation in the Project Management Team (PMT) in Mzuzu ADD. The Team recommend the PMT should build up cooperative decision making process including setting up or regular meeting.'[*4] The quarterly meeting has been held as a response to the recommendation. However, the Mission observed that there is a room to improve communication among the PMT at present.

The challenges of LFs on access to materials, water and transportation were pointed out by LFs during this terminal evaluation survey as well. Performance of on farm trials by LFs who had family problems was not satisfactory. Such environmental and social challenges affect compost making and application by farmers.

Some LFs also pointed out that they have not received the feedback from AEDO who took their soil for test. Information of soil is important for LF, and getting to know about the scientific situation of soil is an opportunity for farmers to improve their knowledge and skill on farming. It is concerned that they may lose their motivations to conduct trials without appropriate feedback.

[*4] Mid-term Review Report, JICA, June 2014

5. CONCLUSIONS

The Project has been valuable as a joint programme covering laboratory research services and extension services on the field. The team confirmed that the Project has so far been implemented in line with the revised PDM, and progressed to achieve the Outputs and the Project Purpose.

The soil test services are now provided in the northern region. It is expected that all the rest of activities for dissemination of composting technique with the initiatives of Mzuzu ADD, which confirm sustainability of the outputs generated by the Project.

Considering these factors, the Team concluded that it was reasonable that the Project would be completed as scheduled.

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6. RECOMMENDATIONS

Issues to be addressed as recommendations during the current project period and after the completion of the project are as follows.

6-1. Revising the overall goal of PDM

"Overall Goal" is the target which is to be achieved three (3) years after the completion of the Project as positive impact of the Project. Taking into account the definition of "Overall Goal" and progress of the Project activities, the present indicators set for the Overall Goal are considered beyond the actual achievable level. Therefore it is recommended that, although the Overall Goal remains unchanged, the present indicators for the Overall Goal be replaced with newly proposed realistic ones, which are shown in attached Annex 8 for proposed revised PDM (ver. 3) and Annex 9 for table of comparisons of indicators for the Overall Goal.

6-2. Making action plans

The mission found that some activities have shown the remarkable progress such as soil/compost analysis and field tests on the effectiveness of compost, etc. However there are several areas which should be further accelerated such as compilation of research findings, making technical materials, training for LRCD SMSs and Extension Agents, nationwide dissemination of technical outputs on the SLM techniques (soil fertility improvement) and collaboration with other organizations, etc.

In order to achieve the Project Purpose and the Overall Goal, it is recommended to materialize future activities as concrete as possible and make detailed action plans for (a) the remaining project period and (b) after the completion of the project under the ownership of Malawian counterpart. Especially, dissemination and extension plans of the SLM techniques (soil fertility improvement) are essential. DAES is recommended to make the plans together with LRCD as soon as the "technical messages" is finalized.

It is expected for the Project to finalize the above process within one month after this evaluation and conduct the monitoring activities based on the the action plans mainly by the Malawian side. It is hoped that, whenever outcomes of the SLM techniques (soil fertility improvement) are created, these will be presented at the Sustainable Land and Water Management Technical Working Group of ASWAp.

6-3. Ensuring sustainability

(1) For extension/dissemination activities

The project is aims at disseminating the SLM techniques (soil fertility improvement) nationwide. However it is unclear whether the Malawi Government secures enough budgets to provide necessary extension services for disseminating the SLM techniques (soil fertility improvement). It is recommend that relevant Departments/Divisions such as LRCD, DAES and ADDs should work together to secure the necessary budget by utilizing the fund of other Government programmes /projects related SLM (ASWAp, etc) and seek to collaborate with other stakeholders such as NGOs in order to expand the outputs created by the Project.

(2) For the activities of Lunyanguwa ARS and its substations

Soil and compost analysis services and compost trial activities are essentials for disseminating the SLM techniques (soil fertility improvement). Regarding soil and compost analysis services, the Lunyangwa ARS has started collecting service charge from clients except small-holders via Extension Agents. As 80% of service charge is supposed to be utilized for the ARS's activities such as purchasing of reagents and other consumables, it will contribute to enhancement of its financial sustainability. However it is still uncertain whether it secures sufficient financial resource for future activities. Regarding compost trial activities, although these activities are important

in order to identify better techniques of compost making and application, the budget has not yet been fully secured.

It is recommended to ensure necessary budget for continuation of above activities from the Government programmes /projects (ORT and ASWAp, etc), as well as for above-mentioned extension/dissemination of the SLM techniques (soil fertility improvement).

6-4. Output materials

(1) Clarifying the technical materials to be made

As a result of a series of Project activities, it is not clear that (a) what kind of technical materials will be made, (b) for whom (Researchers, LRCD SMSs, Extension Agents and farmers), (c) when and (d) how many sets. It is recommended the Project clarifies the points mentioned above and set the schedule. It is hoped that these will proceed under the leadership of the Malawian counterpart.

(2) Making the "technical messages on SLM techniques" for easy understanding by farmers

Although the "technical messages on SLM techniques (soil fertility improvement) (activity 1-13)", which is one of the technical materials mentioned above (1), will be concluded based on the results of the on-going compost application trials 2014/15 crop season, preparation works can start from now on by using results already obtained. Therefore it is recommended that as soon as possible the Project including LRCD begins to materialize the contents of the "technical messages" under the involvement of extension division and research stations.

It should be noted that the "technical messages" be easily understandable for farmers, namely drawing with simple and impressive messages, so that farmers can understand their effectiveness and apply for them through their farming activities. The "technical messages" will be reflected in the extension materials (activity 3-4).

6-5. Strengthening ownership of Mzuzu ADD

In order to secure the continuation of the relevant activities even after the completion of the Project period, it is high time to gradually shift the managerial role from the Japanese side, which has played the key role from the commencement of the Project, to the Malawian side, namely the Mzuzu ADD. The Mzuzu ADD at Mzuzu management unit level (both land resource conservation and extension divisions) is expected to take the lead in planning and implementing the Project activities and conducting monitoring to measure the progress, etc.

It is recommended that Mzuzu ADD at Mzuzu management unit level should enhance their ownership for the Project, so that the Overall Goal "appropriate SLM techniques (soil fertility improvement) are diffused to nationwide" can be achieved.

6-6. Monitoring the recommendations

The progress of the implementations of the recommendations mentioned above should be monitored and reported on regular basis (e.g. once a month) by making progress reports. The progress report should be made under the ownership of the Malawian side and submitted to the Director, LRCD for securing sustainable activities and extension / dissemination of the Project outcomes.

7. LESSONS LEARNT

7-1 Securing sufficient technical cooperation period taking into account the number of crop season

In agricultural sector, the number of crop season might become a limiting factor for the achievement of the original target, in particular the projects like SLMP that new techniques are supposed to be developed through the field trials. Since the cropping season is only once a year and in 2014 the target areas were hit by the dry spell, a part of the Project activities is lagging behind the original schedule.

A lesson learnt through the Project is that, taking into account the number of crop season, sufficient technical cooperation period should be secured in formulating the project in agricultural sector.

Annex 1: Terminal Evaluation Schedule

Schedule of the Terminal Evaluation Survey on the Sustainable Land Management Promotion Project

	Date		Leader	Planning	Consultant	Malawian Team		
			Mr AMAMEISHI	Mr. TAMURA	Ms. SHIRAI	Mr. Liwimbi	Mr. Mlebe	Mrs. Mbakaya
1	2015/04/12 Sun	AM PM			Departure from Japan			
2	2015/04/13 Mon	AM PM			Arrival at Lilongwe Meeting with JICA office			
3	2015/04/14 Tue	AM PM			Meeting with JICA office Interview in LLW (DAES)			
4	2015/04/15 Wed	AM PM			Meeting with LRCD Start up meeting with Evaluation members Travel to Mzuzu			
5	2015/04/16 Thu	AM PM			Interview in Mzuzu/ Luymangwa			
6	2015/04/17 Fri	AM PM			Field Visit 1 (one district /sub-research station)			
7	2015/04/18 Sat	AM PM			Report preparation			
8	2015/04/19 Sun	AM PM	Departure from Japan		Report preparation			
9	2015/04/20 Mon	AM PM	Arrival at Lilongwe Meeting with JICA Malawi office LRCD		Interview with Mzimba North LRCO Visit/Interview to LFs in Mzimba North district	Travel to Mzuzu		
10	2015/04/21 Tue	AM PM	Travel to Mzuzu Internal Meeting among evaluation team		Group Interview with extension officers (4 AEDCs/8 AEDOs) Visit/Interview to NGOs (Tiyeni)			
11	2015/04/22 Wed	AM PM	Meeting with SLMP Project Manager Internal Meeting among evaluation team (Impression / findings through the survey) Courtesy call to PM or DPM of MZADD Visit to Lunyangwa ARS Meeting/Interview with Station Manager & C/Ps; Inspection of demo farm Mission team wrap-up meeting					

12	2015/04/23 Thu	AM	Move to Chinteche (Nkhata Bay district) Meeting/interview with district officers (DADO, LRCO) Visit/interview to LFs in Nkhata Bay district			
		PM	Visit to Mkondezi sub-station, Field visit and interview with C/Ps Mission team wrap-up meeting			
13	2015/04/24 Fri	AM	Meeting with Project manager, C/Ps, project experts at ADD (Revewing Overall Goal and disucussing major issues) Travel to Mzimba Boma			
		PM	Meeting/interview with district officers (DADO, LRCO) Visit/interview to LFs in Mzimba South district (Kazomba EPA) Internal Meeting among evaluation team (Major issues, Recomendations)			
14	2015/04/25 Sat	AM PM	Travel to Lilongwe via Kasungu	Travel back to Lilongwe		Travel back to Mzuzu
15	2015/04/26 Sun	AM PM	Report preparation (Zero draft)			Travel to Lilongwe
16	2015/04/27 Mon	AM	DAPS **Evaluation team internal meeting**			
		PM	Meeting with Director of LRCD Report preparation			
17	2015/04/28 Tue	AM	**Evaluation team internal meeting** (finalize the Report)			
		PM	Preparation of presentation material DF			
18	2015/04/29 Wed	AM	3rd JCC			
		PM	Wrap up meeting with the project experts			
19	2015/04/30 Thu	AM	(optional extra time for M/M Signing)			
		PM	Report to Embassy of Japan Report to JICA Malawi office			
20	2015/05/01 Fri	AM PM	Departure from Lilongwe			
21	2015/05/02 Sat	AM PM	Arrival at Japan			

Annex 2: PDM (Ver.2)

Project Design Matrix (PDM) (Version 2)

Project Title:	Sustainable Land Management Promotion Project (SLMPP)
Period:	4 years from November 11th 2011 to November 10th 2015
Implementing Departments:	Land Resource Conservation Department (LRCD) involving Department of Agricultural Research Services (DARS) and Department of Agricultural Extension Services (DAES) under Ministry of Agriculture and Food Security (MoAFS), Government of Malawi
Main Sites & Target Areas:	4 Districts (Rumphi, Mzimba S & N, Nkata Bay) in Mzuzu ADD, Lunyangwa Agricultural Research Station and its sub-stations (Mbawa, Mkondezi, Bolero and Nchenachena)
Date Modified:	February 2013 (Ver. 1+), February 2014 (Ver. 2)

Project Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: Appropriate Sustainable Land Management (SLM) techniques [1] are diffused to nationwide.	1. The SLM techniques are applied in programs implemented by MoAFS and stakeholders.[2] 2. More than 80% of AEDOs[3] across the country are trained by subject matter specialists (SMSs) and are able to instruct farmers on the SLM techniques by MoAFS. 3. XX million of farmers are adopting SLM techniques across the country by 2020	• LRCD annual report 2020 • Land management documents produced by government and stakeholders	
Project Purpose: Capacity of MoAFS to diffuse appropriate SLM techniques is enhanced.	1. The SLM technique handbook is reviewed by DAES and distributed to all the 28 districts' LRCD and Extension SMSs. 2. Services for soil and/or compost testing in Northern region become available and results are accessed by extension agents and farmers.	• SLM technique handbook • Confirmation of service	• MoAFS/districts are able to secure sufficient budget to implement proposed program to diffuse SLM techniques.
Expected Output: 1 Institutional and human capacity for soil and/or compost testing, and skills for field test in Mzuzu ADD are improved.	1.1 Manual for soil and compost analyses is prepared. 1.2 Recommendations on compost application for soil fertility improvement are compiled. 1.3 Lunyangwa Research Station provides soil and/or compost analysis services. 1.4 Field data is collected according to the research protocol. 1.5 Soil tests from the demonstration sites confirm improvements of soil fertility at the end of the project	• Draft manual • Field trial site • Collected data • Soil and compost analysis results	• Diffusion of SLM remains priority issue of both central and local governments of Malawi. • Labour constraint in rural area does not become severe.

Annex 2: PDM (Ver.2)

Project Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
2 LRCD SMSs and extension agents in Mzuzu ADD are equipped with the SLM techniques.	2.1 Extension agents in Mzuzu ADD are trained on existing compost making and application techniques to the level that they can back up Lead Farmers (LFs). 2.2 Training manual for the SLM techniques is produced 2.3 All LRCD SMSs in Mzuzu are trained on the SLM techniques and are able to train extension agents.	• Training records • Training manual	• Prices of major agriculture products do not decline significantly. • Availability of animal dung does not decline significantly.
3 Compost making and application techniques are applied by pilot site farmers.	3.1 More than 80% of all the LFs mount SLMP demonstration trials taught by the extension agents. 3.2 Ten Follower Farmers (FFs) are trained by each LF on compost making and application techniques and apply more than one techniques in their farms. 3.3 Positive effects of using compost are recognized by participating farmers through monitoring. 3.4 10,000 farmers in Mzuzu ADD[M] are using compost making and application techniques that are indicated in the SLMP research protocols.	• Monitoring reports • Field survey results • Mzuzu ADD annual report • Research protocol	
4 Measures to diffuse the SLM techniques nationwide are provided.	4.1 Through seminar/workshop, 90% of attended LRCD SMSs nationwide gain knowledge of the SLM techniques 4.2 Project results and achievements are shared among MoAFS officials and stakeholders through national workshop.	• Seminar/workshop records/evaluations • National workshop records	

Activities:	Inputs:	Important Assumption
1-1 Conduct baseline surveys on existing land management practices by farmers in Mzuzu ADD and nationwide. 1-2 Identify existing compost making and application techniques to be tested. 1-3 Develop research protocol for compost making and application trials 1-4 Train lab researchers and technicians for soil and/or compost analysis. 1-5 Collect soil and compost samples from stations and farms. 1-6 Conduct element analysis of soil and compost samples. 1-7 Produce manual for soil and compost analysis. 1-8 Set up demo-trial field at research stations. 1-9 Conduct trainings for researchers on on-farm and on-station trials. 1-10 Implement on-farm and on-station trials and collect data. 1-11 Collect on-farm trial data from LFs.	From Malawi side 1) Personnel - Project Director (Director, LRCD) - Deputy Project Director (Deputy Director, LRCD) - Project Adviser/ Project Manager (Chief Land Resources Conservation Officer, Mzuzu ADD) - Deputy Project Manager (Principal Land Resources Conservation Officer, Mzuzu ADD) - Head of research (Director, Lunyangwa Research Station) - Head of extension (Chief Agricultural Extension Officer, Mzuzu ADD)	• Rainfall pattern does not deviate greatly from usual pattern. • MoAFS does not lose significant proportion of staff. • Farmer's access to inputs does not deteriorate greatly.

1-12 Conduct data analysis to assess for appropriate level of organic matter content in soil and recommendable compost application rate for the improvement of soil fertility. 1-13 Compile technical messages on SLM techniques 2.1 Develop training modules on compost making and application for extension agents and LFs. 2.2 Conduct trainings on compost making and application for extension agents. 2.3 Conduct soil diagnosis training for extension agents. 2.4 Conduct quarterly review meetings. 2.5 Conduct trainings/workshops on the SLM techniques to LRCD SMSs in Mzuzu ADD. 2.6 Prepare the SLM technique handbooks. 3.1 Select on-farm demo areas and LFs. 3.2 Conduct trainings for LFs on compost making and application 3.3 Monitor and backstop the progress of on-farm trials. 3.4 Prepare extension (Information, Education and Communication or IEC) materials. 3.5 Conduct refresher course for LFs and Extension agents. 3.6 Facilitate extension activities (i.e. field day, exchange visits) for FFs. 4.1 Present project progress and obtain feedbacks at regular meetings (i.e LRCD meetings, technical working group). 4.2 Conduct seminar/workshop to diffuse the SLM techniques for LRCD SMSs nationwide. 4.3 Conduct national workshop to present the SLM techniques, project results and achievements to MoAFS officials and stakeholders.	- District Coordinators (Land Resources Conservation Officers of Rumphi, Mzimba and Nkhata Bay District Agricultural Development Officers) - Personnel under DARS, DAES and Mzuzu ADD 2) Facilities - Office space for experts Mzuzu ADD DARS Chitedze Research Station - Training Venues - Experimental fields in Chitedze Research Station 3) Recurrent costs - Costs associated with MoAFS staff involved in project - Part of training cost - Utility and other basic expenses to run project From Japan side 1) Experts - Chief advisor, Coordinator, other experts 2) Counterpart Training - Training in Japan and/or the third country 3) Machinery and equipment - Vehicle(s) (4WD) - Bicycles / Motor Bikes - Soil analysis equipment - Training equipment (computer, projector, screen, etc.) - Office equipment (photocopier, scanner, etc.) - Other necessary equipment 4) Local costs - Part of training cost	Precondition

(i) Appropriate Sustainable Land Management Techniques (The SLM techniques) refer to scientifically tested existing compost makings and application techniques and knowledge that is promoted by the SLMP project

(ii) Stakeholders refer to NGOs, other donors and private sectors.

(iii) The current number of extension agents is 2390 AEDOs as of 2012.

(iv) Including farmers under the government and other related extension programs

List of Inputs

(1) Dispatch of Experts

Name	Field	Assignement Duration	Affiliation
Dr. Taisuke ONISHI	Project Coordinator/ Extension	18/11/2011 - 29/11/2013	
Mr. Shiro ARAI	Chief Advisor/ Soil Fertility	(1) 28/11/2011 - 28/01/2012 (2) 23/04 - 05/06/2012 (3) 13/08 - 31/10/2012 (4) 11/11/2012 - 06/01/2013	
Dr. Mineko KUBA	Soil Survey/ Planning	05/01 - 05/02/2012	
Mr. Naoyuki YAMAMOTO	Baseline Survey-Nationwide (Appropriate Technology/ Extension)	14/05 - 16/07/2012	
Dr. Kyoko HITSUDA	Baseline Survey Target Area (Agricultural Management/ Soil Conservation)	20/05 - 01/09/2012	
Dr. Naohiro MATSUI	Soil Survey/ Planning	(1) 30/09 - 18/11/2012 (2) 20/01 - 28/02/2013 (3) 22/05 - 21/07/2013 (4) 26/08 - 22/11/2013 (5) 15/01 - 13/03/2014 (6) 05/06 - 11/07/2014 (7) 16/10 - 05/12/2014 (8) 15/01 - 28/02/2015	
Mr. Atsushi SUZUKI	Chief Advisor	(1) 26/07 - 10/12/2013 (2) 15/01 - 10/03/2014	
Mr. Atsushi SUZUKI	Chief Advisor/ Extension	(1) 14/05 - 27/06/2014 (2) 21/08 - 31/10/2014 (3) 15/01 - 28/02/2015	
Mr. Nobuo SUGIURA	Project Coordinator	10/11/ 2013 - 09/11/2015	
Mr. Koji NAKATA	Crop Management/ Fertilization	(1) 17/11 2013 - 08/02/2014 (2) 14/05 - 11/07/2014 (3) 16/11/2014 - 30/01/2015	

(2) Counterparts' Participation in Training Overseas Including Third Country Training Program

Name	Period of Participation	Field/Name of the Course	Content	Implementing Institution	Position at that time	Current Position, Date of Turnover
Mr James Banda	27 30/11/2013	Soil Diagnosis Technology and Sustainable Land Management	Lecture & Site visits	JICA Ibaraki Center; Ibaraki Univ. of Agriculture and Veterinary Medicine	Deputy Director of DRCD (Deputy Project Director)	Same as it is
Dr. Allan Chilimba				Ministry of Agriculture Forestry and Fisheries	Deputy Director of DARS/Umvangwa ARS Station Manager	ditto
Mr. Gilbert Kapunda					CTRCO at Mzuzu ADD (Project Manager)	ditto

(3) Provision of Equipment

1) List of Equipment Provided

No.	Purpose of Use	Arrival Date	Name of Machinery	Product No.	Maker	Price	Installation Place	Procurement Place	Current Condition
1	Monitoring. General use	January 2012	4WD Vehicle (BR6478)	Patrol	NISSAN	8,000,000	Mzuzu ADD SIAP Project Office	Tshopware	in use
2	ditto	ditto	ditto (BR6889)	Patrol	ditto	ditto	ditto	ditto	in use
3	Documentation	ditto	Copy Machine	AR5127	SHARP	961,885	ditto	ditto	in use
4	ditto	ditto	Desktop PC 2	ditto	ditto	ditto	ditto	ditto	in use
5	ditto	ditto	Desktop PC3	ditto	ditto	ditto	ditto	ditto	in use
6	ditto	ditto	Laptop PC1	HP 630	HP	278,527	Mzuzu ADD	ditto	stolen
7	ditto	ditto	Laptop PC2	ditto	ditto	ditto	ditto	ditto	out of country
8	ditto	ditto	Desktop PC1	optiplex 380	DELL	186,753	Rumphi DAO	ditto	in use
9	ditto	ditto	Desktop PC4	ditto	ditto	ditto	Nkhata Bay DAO	ditto	in use
10	ditto	ditto	Desktop PC5	ditto	ditto	ditto	Mzimba North DAO	ditto	in use
11	ditto	ditto	Laptop PC3	ditto	ditto	ditto	Nkhata Bay DAO	ditto	in use
12	ditto	ditto	Laptop PC4	ditto	ditto	ditto	Rumphi DAO	ditto	in use
13	ditto	ditto	Laptop PC5	ditto	ditto	ditto	Mzimba South DAO	ditto	in use
14	Analysis work	May 2013	Centrifuge	ROTINA 380	Hettich	6,200,000	Umvangwa ARS	ditto	in use
15	Monitoring	October 2013	Motorcycle 1	XL125	HONDA	1,410,918	Rumphi DAO	ditto	in use
16	ditto	ditto	Motorcycle 2	ditto	ditto	ditto	Nkhata-Bay DAO	ditto	in use
17	ditto	ditto	Motorcycle 3	ditto	ditto	ditto	Mzimba North DAO	ditto	in use
18	ditto	ditto	Motorcycle 4	ditto	ditto	ditto	Mzimba South DAO	ditto	in use

2) Of the Principle Equipment, List of Equipment Currently Out of Service

Name of Machinery	Starting Date of Operation	Lifetime	Current Condition*	Reason/Period of Non-Operation
Laptop PC1	January 2012	5 years	Lost	Stolen on 7 September 2012
Laptop PC2	ditto	ditto	Taken by ex- CP to abroad	On 26 August 2013, ex-CP took it away to his study abroad

* "Not broken but not in use," "Broken but Repairable," "Not Repairable," etc.

3) Implementation of Seminars and Training

Year	Name of the Course	Date		No. of Participants	Target Participants	Remarks
		From	To			
2012	For the Baseline survey/ practical training of study on individual and group Farmers	May 19	21	21	Mzuzu ADD Planning Division staff	
2012	For the Baseline survey/ practical training of data collection and analysis	July 28	August 04	6	Mzuzu ADD Planning division staff	
2012	Soil sampling	October 08	October 11	54	4 District Officers and Extension Officers	
2013	Basic training on Soil analysis	March 03	March 10	6	Technical Staff of Lunyangwa ARS	Training at Bunbwe ARS
2013	Compost making in Rumphi	July 08	July 10	37	Extension Officers, LFs, AAROs	Lecturer: LRCD CP, AARO in Lunyangwa
2013	Compost making in Nkhata-Bay	July 11	July 13	29	ditto	ditto
2013	Compost making in Mzimba North	July 25	July 27	32	ditto	ditto
2013	Compost making in Mzimba South	July 29	July 31	31	ditto	ditto
2013	Preparation of Plot layout/ compost application for Officers of Rumphi	November 11		23	Extension Officers, AAROs	Lecturer : LRCD CP
2013	Preparation of Plot layout/ compost application for Officers of Mzimba South and Nkhata Bay	November 26	November 27	16	ditto	ditto
2013	Field day at Mkondezi substation/ compost making and application	November 27		80	Farmers, Students	
2014	First Trial Protocol Review, Planning and refresh training in Rumphi	September 18	September 19	31	LFs, Extension Officers	

Year	Name of the Course	Date		No. of Participants	Target Participants	Remarks
2014	First Trial Protocol Review, Planning and refresh training in Mzimba South	September 24	September 25	32	ditto	
2014	First Trial Protocol Review, Planning and refresh training in Mzimba North	September 26	September 27	27	ditto	
2014	First Trial Protocol Review, Planning and refresh training in Nkhata-Bay	September 29	September 30	24	ditto	
2014	Field day at Mkondezi substation' compost making and application	January 09		68	Farmers	
2015	Soil Diagnosis Technique (plan)	February 09	February 19			

Details of C/Ps

Institution	Name, Position	Area of Specialty	Assigned Period	Name of Expert in Charge	Employment Period in the Institution		Remarks: e.g. level of involvement in project
					From	To	
MOAFS LRCD	Mr. James Mussa Director of LRCD	Land Resource Conservation Management	11/11/2011	Mr. S. ARAI Mr. A. SUZUKI Dr. T. ONISHI Mr. N. SUGIURA			Project Director
ditto	Mr. S. Mkwinda Deputy Director of LRCD	ditto	11/11/2011 - 31/05/2012	ditto			Deputy Project Director Left office due to health condition in May 2012
ditto	Mr. James Banda ditto	ditto	01/06/2012	ditto			Deputy Project Director
ditto	Mr. Gilbert Kapunda CLRCO of Mzuzu ADD	ditto	11/11/2011 -	ditto			Project Manager
ditto	Mr. Patrick Kombe LRCO of Mzuzu ADD	ditto	11/11/2011 - 23/08/2013	ditto			Deputy Project Manager (Left office for study in India in August 2013)
ditto	Ms. Emily Thera LRCO of Mzuzu ADD	ditto	09/12/2013 -	ditto			Deputy Project Manager
ditto	Mr. Oswald Mulenga LRCO Rumphi DAO	ditto	11/11/2011 -	ditto			Project Desk Officer at district level
ditto	Mr. Boyd Msowoya SALRCO Nkhata-bay DAO	ditto	11/11/2011	ditto			ditto
ditto	Mr. Franco Gondwe SALRCO Mzimba/N DAO	ditto	11/11/2011	ditto			ditto
ditto	Mr. Dovie Kaonga SALRCO Mzimba/S DAO	ditto	11/11/2011 -	ditto			ditto
MOAFS DARS	Mr. Chandiona Mumbati AARS of Chitedze ARS/DARS	Forest Soil	01/12/2011 - 31/03/2012	Dr. M. KUBA			Contact Officer at Chiteze ARS
ditto	Mr. Panuel Mutawale Ditto	Coffee production	01/01 - 31/03/2012	Dr. M. KUBA			

Institution	Name, Position	Area of Specialty	Assigned Period	Name of Expert in Charge	Employment Period in the Institution		Remarks: e.g. level of involvement in project
ditto	Dr. Alan Chifindo SDDARS/ Station Manager of Lunyangwa ARS	Soil Science	01/02/2012	Dr. M. KUBA Dr. N. MATSUI			
ditto	Mr. C. Njombwa ARO of Lunyangwa ARS	Livestock, Grassland science	01/10/2012 - 30/04/2014	Mr. S. ARAI Mr. A. SUZUKI Dr. T. UMISHI			Contact Officer at Lunyangwa ARS
ditto	Mr. M. Chisale ARO of Lunyangwa ARS (Head of Soil section)	Water Management	01/05/2014 - 31/07/2014	Dr. N. MATSUI Mr. K. NAKATA			ditto (transferred to other station)
ditto	Mr. C. Chisambi ARO of Lunyangwa ARS (Head of Soil section)	Soil Science	01/12/2014	ditto			ditto (~11'2014 school leave)
ditto	Mr. O. Nakoma Ditto AARO of Lunyangwa ARS	Water Management	01/10/2012 - 31/08/2014	ditto			ditto (transferred to other station)
ditto	Mr. D. Mphondani AARO of Lunyangwa ARS	Agronomy	01/09/2013	ditto			ditto
ditto	Mr. T. Mughandira AARO of Lunyangwa ARS	ditto	01/10/2012 - 30/09/2013	ditto			01/10/2013 - school leave)
ditto	Mr. C. Gondwe AARO of Ntchenachena station	ditto	01/07/2013 -	ditto			
ditto	Mr. I. Gonani AARO of Bolero trial-site	ditto	01/07/2013 - 31/12/2014	ditto			
ditto	Mr. M. Moyo Senior Research Assistant of Mkondezi station	ditto	01/07/2013 -	ditto			
ditto	Mr. J. Chigawo AARO of Mbawa station	ditto	01/07/2013 - 31/03/2014	ditto			

LRCD: Land Resources Conservation Department, DAO: District Agricultural Office, LRCO: Land Resources Conservation Officer, SALRCO: Senior Assistant Land Resources Conservation Officer, SDDARS: Senior Deputy Director of DARS, ARO: Agricultural Research Officer, AARO: Assistant Agric. Res. Officer, ARS: Agricultural Research Station

PO (Ver. 2)

Year	11	2012				2013				2014				2015			
Plan of Operation (version 2) Month	11 12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10
Output 1: Institutional and human capacity for soil and/or compost testing and skills for field test in Mzuzu ADD are improved.																	
1.1Conduct baseline surveys on existing land management practices by farmers in Mzuzu ADD and nationwide.																	
1.2Identify existing compost making and application techniques to be tested																	
1.3Develop research protocol for compost making and application trials																	
1.4 Train lab researchers and technicians for soil and/or compost analysis.																	
1.5 Collect soil and compost samples from stations and farms.																	
1.6Conduct element analysis of soil and compost samples.																	
1.7Produce manual for soil and compost analysis.																	
1.8Set up demo-trial fields at research stations																	
1.9Conduct trainingsfor researchersen on-station trials.																	
1.10 Implemen on-farm and on-station trials and collect data.																	
1.11 Collect on-farm trial data from LFs.																	
1.12 Conduct data analysis to assess for appropriate level of organic matter content in soil and recommendabl compost application rate for the improvement of soil fertility																	
1.13 Compile technical messages on SLM techniques.																	
Output 2:LRCD SMSs and extension agents in Mzuzu ADD are equipped with the SLM techniques.																	
2.1 Develop training modules on compost making and application for extension agents and LFs																	
2.2 Conduct trainings on compost making and application for extension agents																	
2.3 Conduct soil diagnosis training for extension agents.																	
2.4Conduct quarterly review meetings.																	
2.5Conduct trainings/workshops on the SLM techniques to LRCD SMSs in Mzuzu ADD																	
2.6Prepare the SLM technique handbooks.																	
Output3:Compost making and application techniques are applied by pilot site farmers.																	
3.1 Select on-farm demo areas and LFs																	
3.2 Conduct trainings for LFs on compost making and application.																	
3.3 Monitor and backstop the progress of on-farm trials.																	
3.4Prepare extension (Information, Education and Communication or IEC) materials.																	
3.5 Conduct refresher trainings for LFsand Extension agents.																	
3.6 Facilitate extension activities (i.e. field day, exchange visits) for FFs.																	

Year	11	2012				2013				2014				2015			
Plan of Operation (version 2) Month	11-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10
Output4:Measures to diffuse the SLM techniques nationwide are provided.																	
4.1 Present project progress and obtain feedbacks at regular meetings (i.e LRCD meetings, technical working group).																	
4.2 Conduct seminar/workshop to diffuse the SLM techniques for LRCD SMSs nationwide.																	
4.3 Conduct national workshop to present the SLM techniques, project results and achievements to MoAFS officials and stakeholders.																—	

Note: December to March is rainy season of the year and major agriculture production period at rain fed farm land

(2) Counterparts' Participation in Training Overseas (include Third Country Training Program)

Name	Period of Participation	Field/Name of the Course	Content	Implementing Institution	Position at that time	Current Position, Date of turnover
Mr. James Banda	22 – 30/11/2013	Soil Diagnosis Technology and Sustainable Land Management	Lecture & Site visits	JICA Obihiro Center; Obihiro Univ. of Agriculture and Veterinary Medicine; Ministry of Agriculture, Forestry and Fisheries	Deputy Director of LRCD (Deputy Project Director)	Same as it is
Dr. Allan Chilimba					Deputy Director of DARS/Luoyangwa ARS Station Manager	ditto
Mr. Gilbert Kapunda					CLRCO of Mzuzu ADD (Project Manager)	ditto

(3) Provision of Equipment

1) List of Equipment Provided

No.	Purpose of Use	Arrival Date	Name of Machinery	Product No.	Maker	Price	Installation Place	Procurement Place	Current Condition
1	Monitoring/ General use	January 2012	4WDVehicle (BR6478)	Patrol	NISSAN	8,000,000	Mzuzu ADD SLMP Project Office	Lilongwe	in use
2	ditto	ditto	ditto (BR6889)	Patrol	ditto	ditto	ditto	ditto	in use
3	Documentation	ditto	Copy Machine	AR5127	SHARP	864,885	ditto	ditto	in use
4	ditto	ditto	Desktop PC2	ditto	ditto	ditto	ditto	ditto	in use
5	ditto	ditto	Desktop PC3	ditto	ditto	ditto	ditto	ditto	in use
6	ditto	ditto	Laptop PC1	HP 630	HP	228,527	Mzuzu ADD	ditto	stolen
7	ditto	ditto	Laptop PC2	ditto	ditto	ditto	ditto	ditto	out of country
8	ditto	ditto	Desktop PC1	optiplex 380	DELL	186,753	Rumphi DAO	ditto	in use
9	ditto	ditto	Desktop PC4	ditto	ditto	ditto	Nkhata Bay DAO	ditto	in use
10	ditto	ditto	Desktop PC5	ditto	ditto	ditto	Mzimba North DAO	ditto	in use
11	ditto	ditto	Laptop PC3	ditto	ditto	ditto	Nkhata Bay DAO	ditto	in use
12	ditto	ditto	Laptop PC4	ditto	ditto	ditto	Rumphi DAO	ditto	in use
13	ditto	ditto	Laptop PC5	ditto	ditto	ditto	Mzimba South DAO	ditto	in use
14	Analysis work	May 2013	Centrifuge	ROTINA 380	Hettich	6,200,000	Luoyangwa ARS	ditto	in use
15	Monitoring	October 2013	Motorcycle 1	XL125	HONDA	1,410,916	Rumphi DAO	ditto	in use
16	ditto	ditto	Motorcycle 2	ditto	ditto	ditto	Nkhata-Bay DAO	ditto	in use
17	ditto	ditto	Motorcycle 3	ditto	ditto	ditto	Mzimba North DAO	ditto	in use
18	ditto	ditto	Motorcycle 4	ditto	ditto	ditto	Mzimba South DAO	ditto	in use

Summary of Activities in line with PO

Activity Plans No.	Activity Plans Activity Contents	Objective	Progress	Current Status*	Reasons for Delayed Completion	Plan for the future
Output 1: Institutional and human capacity for soil and/or compost testing, and skills for field test in Mzuzu ADD are improved.						
1-1	Conduct baseline surveys on existing land management practices by farmers in Mzuzu ADD and nationwide.	Baseline information necessary for the Project is compiled.	For purpose of assessing the present situation of soil conservation activities and farming, 2 baseline surveys were conducted from June to July 2012; one at the national level and the other in the target districts of Mzuzu ADD. The results were shared with stakeholders.	4	On schedule.	Completed.
1-2	Identify existing compost making and application techniques to be tested.	Techniques are identified.	Through the baseline surveys, all the composting techniques practiced in Malawi and Mzuzu ADD were listed-up, from which 3 types of techniques were identified for trials under the Project. They included Changu, Windrow and Bokasi composting methods.	4	On schedule.	Completed.
1-3	Develop research protocol for compost making and application trials.	A research protocol is prepared.	In consultation with various stakeholders, a research protocol for compost making and application trials (titled "*Comparison of Composting Techniques and Biomass Combinations on Quality of Compost, Soil Fertility Improvement and Crop Yields in Mzuzu ADD*") was formulated in May 2013.	4	On schedule.	Completed.
1-4	Train lab researchers and technicians for soil and/or compost analysis.	Lab researchers and technicians have acquired analysis skills.	The Expert on soil survey has been giving technical guidance and instruction on soil and compost analysis to the lab researchers and technicians at Lunyangwa ARS since March 2013 after the soil lab was set-up with support from the Project.	3	On schedule.	Continue analysis up to the end.
1-5	Collect soil and compost samples from stations and farms.	Sufficient quantity of soil and compost samples are collected.	The project team members have been collecting soil and compost samples from DARS research stations and farmers in Mzuzu ADD. The lab researchers and	3	On schedule.	Continue sampling as required.

Activity Plans		Objective	Progress	Current Status*	Reasons for Delayed Completion	Plan for the future
No.	Activity Contents					
			technicians assigned at Lunyangwa soil lab has carried out analysis of collected samples. More than 1,500 samples have been collected and analyzed since inception of the lab in March 2013 to date.			
1-6	Conduct element analysis of soil and compost samples.	Analysis for collected samples are conducted.	Researchers and lab technicians have been carrying out analysis of soil and compost samples under supervision of the Expert on soil survey. Some results were compiled as the soil diagnosis sheet and handed back to the farmers.	3	On schedule.	Continue analysis up to the end.
1-7	Produce manual for soil and compost analysis.	A manual is compiled and adopted by DARS.	A manual for soil and compost analysis (titled "*Lunyangwa Laboratory Manual ver. 1*") was drafted in November 2013.	3	On schedule.	Need to be officially approved.
1-8	Set up demo-trial field at research stations.	Research stations are able to demonstrate and conduct trials on composting technologies.	Facilities and equipment including crop fields, multi-purpose workshop, compost shed and nurseries were established and demo/trial fields have been set-up at Lunyangwa ARS and 4 sub-stations including Mkondezhi (Nkhata Bay), Mbawa (Mzimba), Nichenachena and Bolero (Rumphi).	4	On schedule.	Completed.
1-9	Conduct trainings for researchers on on-farm and on-station trials.	Researchers are equipped with knowledge and skills for conducting compost trials.	The Expert on fertilization and crop management conducted trainings as well as gave technical guidance on management of field trials on compost application for researchers and technicians during 2013/14 and 2014/15 farming seasons.	4	On schedule.	Completed.
1-10	Implement on-farm and on-station trials and collect data.	Scientific evidence for the effects of compost is gathered.	Compost making and application trials were conducted both at station and farm levels in 2 farming seasons of 2013/14 and 2014/15.	3	On schedule.	Continue the ongoing trials during the current season. Technical messages
1-11	Collect on-farm trial data from LFs.	ditto	Harvest data was collected from LFs in 2013/14 season and has been continued in the current season.	3	On schedule.	

Annex 6: Summary of Activities in line with PO

Activity Plans		Objective	Progress	Current Status*	Reasons for Delayed Completion	Plan for the future
No.	Activity Contents					
1-12	Conduct data analysis to assess for appropriate level of organic matter content in soil and recommendable compost application rate for the improvement of soil fertility.	Recommendations for appropriate composting methods are prepared.	Data collected through the compost making and application trials in 2013-14 was analyzed and a report on the analysis results was compiled (titled *"Progress and Results of Compost Making and Application Trials in 2013-14 Crop Season"*).	3	On schedule.	will be finalized based on the results of ongoing compost trials.
1-13	Compile technical messages on SLM techniques.	Recommended SLM techniques are disseminated.	Trials are in process of implementation.	3	On schedule.	
Output 2: LRCD SMSs and extension agents in Mezan ADD are equipped with the SLM techniques.						
2-1	Develop training modules on compost making and application for extension agents and LFs.	Information and methods needed for trainings are compiled as modules.	The 1st version of training modules for compost making & application trials was prepared in July 2013 and revised in August 2013 and June 2014.	4	On schedule.	Completed.
2-2	Conduct trainings on compost making and application for extension agents.	Extension agents are equipped with knowledge and skills on appropriate composting techniques.	3 Trainings have been organized for extension officers together with Lead Farmers in the 4 districts respectively; the 1st training conducted in July 2013 on compost making techniques, 2nd in November 2013 on compost application and 3rd in July 2014 to follow-up the previous season practices.	3	On schedule.	Continue the follow-up of trials.
2-3	Conduct soil diagnosis training for extension agents.	Extension agents are able to understand the importance of soil diagnosis.	1) Trainings on soil sampling were conducted in mid-October 2012 for extension officers (AEDCs & AEDOs) in the 4 districts. 2) Trainings on soil diagnosis technique are being planned in February 2015.	4	On schedule.	Completed.
2-4	Conduct quarterly review meetings.	All the project members are able to know the progress and issues of the Project.	Since the beginning of the Project, no review meetings were held regularly by the project members until early February 2014 when the 1st review meeting was held with participation of C/P officers from ADD.	3	On schedule.	Continue the meeting.

Activity Plans		Objective	Progress	Current Status*	Reasons for Delayed Completion	Plan for the future
No.	Activity Contents					
			district offices and research stations as well as Japanese Experts. Since then, review meetings have been organized every 3 to 4 months.			
2-5	Conduct trainings/workshops on the SLM techniques to LRCD SMSs in Mzuzu ADD.	LRCD SMSs in Mzuzu ADD are equipped with knowledge and skills on appropriate SLM techniques.	Not yet organized trainings or workshop for the LRCD officers; however, they are the CP officers who have been carrying out the project, so they have already had sufficient knowledge on the techniques promoted by the project.	3	On schedule.	Technical messages to be compiled from the ongoing trials will be shared.
2-6	Prepare the SLM technique handbooks.			2	Technical messages have not been finalized until the ongoing trials are completed.	
Output 3: Compost making and application techniques are applied by pilot site farmers.						
3-1	Select on-farm demo areas and LFs.	Compost making and application techniques promoted by the Project are piloted in Mzuzu ADD.	Based on the information collected in the Baseline Surveys, 30 EPAs were selected as the target areas for extension where 49 farmers were identified as LFs.	4	On schedule.	Completed.
3-2	Conduct trainings for LFs on compost making and application.	Same as activity 2-2.	Refer to activity 2-2.	3	On schedule.	Continue the follow-up of trials.
3-3	Monitor and backstop the progress of on-farm trials.	On-farm trials are conducted in a proper way.	After conducting the 1st training on compost making in July 2013, the project team regularly visited LFs and gave technical advice. Monitoring reports were compiled based on the observation.	3	On schedule.	
3-4	Prepare extension (Information, Education and Communication or IEC) materials.	Farmers are able to obtain information on SLM techniques.	Extension booklets for compost making techniques have been drafted both in English and Tumbuka.	3	On schedule.	Need to be officially approved.

Annex 6: Summary of Activities in line with PO

Activity Plans		Objective	Progress	Current Status*	Reasons for Delayed Completion	Plan for the future
No.	Activity Contents					
3-5	Conduct refresher course for LFs and Extension agents	LFs and extension agents are able to obtain knowledge and skills on SLM techniques promoted.	A refresher training for LFs and extension officers was organized in September2014 in the 4 districts respectively.	3	On schedule.	Organize a review meeting on the current season trials.
3-6	Facilitate extension activities (i.e. field day, exchange visits) for FFs.	More farmers are able to obtain knowledge and skills on SLM techniques promoted.	Not much activities have been undertaken. Some LFs had organized field days with their own initiative.	2	Insufficient budget to support extension activities both from Malawi and JICA.	Continue to make the best effort.
Output 4: Measures to diffuse the SLM techniques nationwide are provided.						
4-1	Present project progress and obtain feedbacks at regular meetings (i.e LRCD meetings, technical working group).	Information of the project progress and achievement is shared among stakeholders.	Presentation on progress have been made at several opportunities as follows: • LRCD Annual Conference (2013, 2014) • SALWM Technical Working Group meeting (2013, 2014) • ADD Annual Review meeting (2012, 2013, 2014)	3	On schedule.	Continue presentations on the progress.
4-2	Conduct seminar/workshop to diffuse the SLM techniques for LRCD SMSs nationwide.	The project results and achievement are shared by LRCD officers in other ADDs and disseminated to farmers across the country.	Not yet done.	1	The activity 4-2 and 4-3 are scheduled to take place just before the end of the project	Organize functions to share the results and achievements before the end of the project.
4-3	Conduct national workshop to present the SLM techniques, project results and achievements to MoAFS officials and stakeholders.		Not yet done.	1		

*Status: 4-Completed; 3-Nearly Completed; 2-Partially Completed due to Notable Obstacles; 1-No activity

Recommendations from the Mid-Term Review and Measures Taken (Present Status)

Recommendations from the Mid-term Review	Measures taken / Present Status
1. Revision of PDM and PO	• Considering the content and progress of the Project, it was not realistic to achieve Output4 and 5. PDM 1 was revised to PDM 2 as achievable by the end of the Project
2. Clarification of roles of Malawian C/P organizations and collaboration among them	• The activities on soil analysis, demonstration and trials are the ordinary TORs of research staff at ARS. Therefore, participation of DARS staff is indispensable. For the extension activities, AEDCs and AEDOs are the key players. The Project has tried to involve those staff. The roles of DARS and DARS are very clear on the field level and the collaboration among them has been strengthened through the Project activities. The collaborative relation is challenge in Head Quarters of those organizations in Lilongwe and ADD level.
3. Research Framework	• The Project has supported on farm trials by LF as the part of testing activities based on the research protocol since 2013/14 season. According the Protocol, on farm trial was supposed to be implemented with the same objectives and contents as those in on research station trial. Since the Mid-term review, the on farm trials have been flexibly conducted with rather demonstration purpose, than research purpose.
4. Implementation of the Road Map from testing research to extension activities	• The indications of trials are set in the farmers' testing plot to explain the variety of trial for trial 2014/15. • The Project has participated the Field Day twice in November 2013 and January 2014 to demonstrate compost making by LFs. • In September 2014, the Project made a report on the preference on compost making and application of LFs who participated on farm trials in 2013/14. • The Project has developed the training manual for AEDOs. Based on the manual, the Project produced Technical Information Series (No.1 ~No.3) as extension materials for farmers.
5.Collaboration with other development partners (DPs)	• DF and Mzuzu ADD have been closely collaborate and C/Ps of the Project have shared their time with DF. It is expected that C/P take initiative to have collaboration with DF and the Project. The Project has also started to establish collaborative relation with local NGOs based in Mzuzu
6. Implementation process	• There was scarce opportunity among the C/P and the Project for 2 years since commence of the Project. The communication among the C/P and the Project improved through discussion on issues and getting know the situation in the field in periodical meeting. However, the Mission observed that communication among the Project Management Team on daily bases has still room to improve.
7. Confirmation of budget and human resource of the Malawian Government	• The Malawian side disbursed the budget for provision of protective wears and wheelbarrows for LFs. However, the one wheelbarrows have not been reached to LFs due to lack of transportation budget. • One researcher was appointed at Lunyangwa ARS recently.

Annex 8: PDM (Ver.3)

Project Design Matrix (PDM) Version 3 (Recommendation on Terminal Evaluation)

Project Title:	Sustainable Land Management Promotion Project (SLMPP)
Period:	4 years from November 11th 2011 to November 10th 2015
Implementing Departments:	Land Resource Conservation Department (LRCD) involving Department of Agricultural Research Services (DARS) and Department of Agricultural Extension Services (DAES) under Ministry of Agriculture, Irrigation and Water Development (MoAIWD), Government of Malawi
Main Sites & Target Area:	4 Districts (Rumphi, Mzimba S & N, Nkhata Bay) in Mzuzu ADD, Lunyangwa Agricultural Research Station and its sub-stations (Mkondezi and Nchenachena)
Date Modified:	February 2013 (Ver. 1+), February 2014 (Ver. 2)

Project Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: Appropriate Sustainable Land Management (SLM) techniques [a] are diffused to nationwide.	1. The SLM techniques are applied in agricultural programs implemented by MoAIWD and stakeholders in order to improve soil fertility.[b] 2. More than 80% of AEDOs across the country are trained by Subject Matter Specialists (SMSs) and are able to instruct farmers on the SLM techniques by MoAIWD. 3. 50,000 of farmers are adopting SLM techniques across the country by 2018. 4. Productivity of Maize increases by 20% on the LFs of the Project in Mzuzu ADD area.	• Programme reports by MoAIWD and stakeholders • Staff training report of LRCD SMSs • Farmer training report of AEDOs • Sample interview survey • Sample survey	
Project Purpose: Capacity of MoAIWD to diffuse appropriate SLM techniques is enhanced.	1. The SLM technique handbook is reviewed by DAES and distributed to all the 28 districts' LRCD and Extension SMSs. 2. Services for soil and/or compost testing in Northern region become available and results are accessed by extension agents and farmers.	• SLM technique handbook • Confirmation of service	• MoAIWD/districts are able to secure sufficient budget to implement proposed program to diffuse SLM techniques.

Annex 8: PDM (Ver.3)

Project Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Expected Outputs: 1 Institutional and human capacity for soil and/or compost testing, and skills for field test in Mzuzu ADD are improved.	1.1 Manual for soil and compost analyses is prepared. 1.2 Recommendations on compost application for soil fertility improvement are compiled. 1.3 Lunyangwa Research Station provides soil and/or compost analysis services. 1.4 Field data is collected according to the research protocol. 1.5 Soil tests from the demonstration sites confirm improvements of soil fertility at the end of the project.	• Draft manual • Field trial site • Collected data • Soil and compost analysis results	• Diffusion of SLM remains priority issue of both central and local governments of Malawi. • Labour constraint in rural area does not become severe. • Prices of major agriculture products do not decline significantly. • Availability of animal dung does not decline significantly.
2 LRCD SMSs and extension agents in Mzuzu ADD are equipped with the SLM techniques.	2.1 Extension agents in Mzuzu ADD are trained on existing compost making and application techniques to the level that they can back up Lead Farmers (LFs). 2.2 Training manual for the SLM techniques is produced. 2.3 All LRCD SMSs in Mzuzu are trained on the SLM techniques and are able to train extension agents.	• Training records • Training manual	
3 Compost making and application techniques are applied by pilot site farmers.	3.1 More than 80% of all the LFs mount SLMP demonstration trials taught by the extension agents. 3.2 Ten Follower Farmers (FFs) are trained by each LF on compost making and application techniques and apply more than one techniques in their farms. 3.3 Positive effects of using compost are recognized by participating farmers through monitoring. 3.4 10,000 farmers in Mzuzu ADD[ind] are using compost making and application techniques that are indicated in the SLMP research protocols.	• Monitoring reports • Field survey results • Mzuzu ADD annual report • Research protocol	
4 Measures to diffuse the SLM techniques nationwide are provided.	4.1 Through seminar/workshop, 90% of attended LRCD SMSs nationwide gain knowledge of the SLM techniques 4.2 Project results and achievements are shared among MoAIWD officials and stakeholders through national workshop.	• Seminar/workshop records/evaluations • National workshop records	

Activities:	Inputs:	Important Assumption
1-1 Conduct baseline surveys on existing land management practices by farmers in Mzuzu ADD and nationwide. 1-2 Identify existing compost making and application techniques to be tested. 1-3 Develop research protocol for compost making and application trials. 1-4 Train lab researchers and technicians for soil and/or compost analysis. 1-5 Collect soil and compost samples from stations and farms. 1-6 Conduct element analysis of soil and compost samples. 1-7 Produce manual for soil and compost analysis. 1-8 Set up demo-trial field at research stations. 1-9 Conduct trainings for researchers on on-farm and on-station trials. 1-10 Implement on-farm and on-station trials and collect data. 1-11 Collect on-farm trial data from LFs. 1-12 Conduct data analysis to assess for appropriate level of organic matter content in soil and recommendable compost application rate for the improvement of soil fertility. 1-13 Compile technical messages on SLM techniques.	From Malawi side 1) Personnel - Project Director (Director, LRCD) - Deputy Project Director (Deputy Director, LRCD) - Project Advisor Project Manager (Chief Land Resources Conservation Officer,, Mzuzu ADD) - Deputy Project Manager (Principal Land Resources Conservation Officer, Mzuzu ADD) - Head of research (Director, Lunyangwa Research Station) - Head of extension (Chief Agricultural Extension Officer, Mzuzu ADD) - District Coordinators (Land Resources Conservation Officers of Rumphi, Mzimba and Nkhata Bay District Agricultural Development Officers) - Personnel under DARS, DAFS and Mzuzu ADD 2) Facilities - Office space for experts Mzuzu ADD DARS Chitedze Research Station - Training Venues - Experimental fields in Chitedze Research Station 3) Recurrent costs - Costs associated with MoAIWD staff involved in project - Part of training cost - Utility and other basic expenses to run project	• Rainfall pattern does not deviate greatly from usual pattern. • MoAIWD does not lose significant proportion of staff. • Farmer's access to inputs does not deteriorate greatly.
2.1 Develop training modules on compost making and application for extension agents and LFs. 2.2 Conduct trainings on compost making and application for extension agents. 2.3 Conduct soil diagnosis training for extension agents. 2.4 Conduct quarterly review meetings. 2.5 Conduct trainings/workshops on the SLM techniques to LRCD SMSs in Mzuzu ADD. 2.6 Prepare the SLM technique handbooks.		Precondition
3.1 Select on-farm demo areas and LFs. 3.2 Conduct trainings for LFs on compost making and application. 3.3 Monitor and backstop the progress of on-farm trials. 3.4 Prepare extension (Information, Education and Communication or IEC) materials. 3.5 Conduct refresher course for LFs and Extension agents. 3.6 Facilitate extension activities (i.e. field day, exchange visits) for FFs.	From Japan side 1) Experts - Chief advisor, Coordinator, other experts 2) Counterpart Training - Training in Japan and/or the third country 3) Machinery and equipment - Vehicle(s) (4WD) - Bicycles ' Motor Bikes - Soil analysis equipment - Training equipment (computer, projector, screen, etc.) - Office equipment (photocopier, scanner, etc.)	
4.1 Present project progress and obtain feedbacks at regular meetings (i.e LRCD meetings, technical working group). 4.2 Conduct seminar/workshop to diffuse the SLM techniques for LRCD SMSs nationwide. 4.3 Conduct national workshop to present the SLM techniques, project results and		

achievements to MoAIWD officials and stakeholders.	- Other necessary equipment 4) Local costs - Part of training cost	

(i) Appropriate Sustainable Land Management Techniques (The SLM techniques) refer to scientifically tested existing compost makings and application techniques and knowledge that is promoted by the SLMP project.

(ii) Stakeholders refer to NGOs, other donors and private sectors.

(iii) Including farmers under the government and other related extension programs.

Table of comparisons of Indicators for the Overall Goal

Items		Ver. 2 (February 2014 revised)	Proposal for Ver. 3	Reasons for modifications
Objectively Verifiable Indicators (OVIs) for the Overall Goal	1	The SLM techniques are applied in programs implemented by MoAFS and stakeholders.	The SLM techniques are applied in agricultural programs implemented by MoAIWD and stakeholders in order to improve soil fertility.	■ Specified the objectives for the application of techniques into other programmes.
		Means of Verification LRCD annual report 2020	Programme reports by MoAIWD and stakeholders	
	2	More than 80% of AEDOs across the country are trained by subject matter specialists (SMSs) and are able to instruct farmers on the SLM techniques by MoAFS.	(No modification)	■ In this opportunity, expression of the PDM will be changed from MoAFS to MoAIWD.
		Means of Verification LRCD annual report 2020	■ Staff training report of LRCD SMSs ■ Farmer training report of AEDOs	
	3	XX millions of farmers are adopting SLM techniques across the country by 2020.	50,000 of farmers are adopting SLM techniques across the country by 2018.	(a) The original OVI is beyond the actual achievable level. It is difficult to verify the quantitative impact of SLM techniques developed by the Project. (b) 50,000 comes from the following calculations 1. Percentage of land of soil fertility improvement is 5% (288,000ha/5,580,000ha) 2. The number of farm family per extension agent is 750. 3. The total number of extension agent is 1,664 4. 80 % of extension agents are trained 1,664×80%=1,331 750×5%=37.5 1,331×37.5=49,912≒50,000
		Means of Verification Land management documents produced by government and stakeholders	Sample interview survey	
	4	New Indicator	Productivity of Maize increases by 20% on the LFs of the Project in Mzuzu ADD area.	Soil fertility improvement can be measured by yield.
		Means of Verification	Sample survey	

Ministry of Agriculture, Irrigation and Water Development (MoAIWD)

Japan International Cooperation Agency(JICA)

SUSTAINABLE LAND MANAGEMENT PROMOTION PROJECT

(SLMP)

MINUTES OF 3RD JOINT COORDINATING COMMITTEE (JCC) MEETING FOR SLMP PROJECT

HELD AT MoAIWD CONFERENCE HALL, LILONGWE

(APRIL 29TH, 2015)

SLMP Project office
Mzuzu ADD
P. O. Box 131
Mzuzu

Minutes of Third Joint Coordination Committee Meeting of SLMP Project

INTRODUCTION

Government of Malawi (GoM) through the Ministry of Agriculture Irrigation and Water Development (MoAIWD) has been implementing Sustainable Land Management Promotion Project (SLMP) for a period of 4 years from November 2011 to November 2015 with technical assistance from Japan International Cooperation Agency (JICA). It has been piloted in four districts of Mzimba (North and South), Rumphi and Nkhata Bay under Mzuzu ADD. According to Record of Discussion (R/D) and Minutes of Meeting (M/M) signed on August 4, 2011 between then Ministry of Agriculture and Food Security (MoAFS) and JICA, the Joint Coordinating Committee (JCC) was established in order to facilitate inter-organizational coordination and as a final decision making body of the Project. The 3rd meeting of the committee took place on April 29, 2015 at the MoAIWD Conference Hall. The major objectives of the meeting were to:

i) Review the progress and achievements of the project;
ii) Share the results of Terminal Evaluation study;
iii) Discuss the revision of Project Design Matrix (PDM); and
iv) Discuss the way forward.

Under the chairmanship of Principal Secretary (PS) of MoAIWD, presentations were made by the Project team as well as the Joint Terminal Evaluation team and thereafter discussions were held among the participants. The following is a summary of the meeting. The time table and list of attendants are shown in Annex A and B.

PROCEEDINGS OF MEETING

The meeting was held at the conference hall of MoIWD in Lilongwe on April 29th, 2015. The meeting started around at 8:30 AM with registration, then opening prayer and self-introduction of the attendants.

1. Welcome remarks by Chairperson

After self-introduction, Chairperson officially opened the meeting by stating that the project had been important for the country as it had been focusing on the soil fertility improvement through increased use of organic fertilizer which had been one of the main development issues for the agricultural sector. Then he explained objectives of the meeting and introduced the agenda. The meeting adopted it as proposed.

2. Progress report on the Project

As the first agenda, the project team members made two presentations: the first was a summary on the overall project progress from the beginning to date (November 2011 to March 2015) that included outline of

the project, approach taken by the project, progress of activities, achievements and challenges. The second was regarding the results of the compost making and application trials conducted in 2013/14 season in which the objectives and design of the trials and major findings were discussed. The presentation closed with some conclusions and way forward.

Based on these presentations, discussions were held which summary is shown below:

Observations/Comments	Discussions
1) How has the project considered about the competition on materials i.e. crop residues between use for livestock feed and composting materials?	• There is no conflict between livestock and composting as they are complementary each other in chain of agriculture production (Department of Agricultural Research Services (DARS) Senior Deputy Director (SDD)/Lunyangwa). • Conflict is there, but important is how to manage it properly (MZADD Chief Land Resource Conservation Officer (LRCO)). • The population of animals (cattle) varies depending on the areas (i.e. scarce in Nkhata Bay while relatively many in Mzimba South); hence, the situation is different (SLMP CA).
2) The project should indicate hectare of impact area and crop yield as improvement in soil fertility rather than number of heaps made.	• The project has been conducting trials in Lead Farmers' fields and not yet at the extension stage; hence not possible to indicate the impact area (MZADD CLRCO).
3) Is the project going to conduct additional studies to find the "optional cycle" that was mentioned in the second presentation?	• No, the information should be drawn from the results of already conducted trials (SLMP Chief Advisor (CA)).
4) Has the project undertaken a complete soil analysis in MZADD to make recommendations on fertilization?	• Soil data is already available. Only needed is the database software to upload the information on the Internet (DARS SDD /Lunyangwa). • Soil conditions differ depending on farmers' fields; it is difficult to give uniform recommendations on appropriate fertilization to different farmers (MZADD Program Manager (PM)).
5) The project has promoted organic fertilizers; expectation could be to have general recommendations.	• Recommended rate of compost is 10–15 t/ha (DARS SDD /Lunyangwa).
6) Passing-on messages is important.	• Practice of making composts along the road (far from actual fields) should be discouraged; application of composts to the fields is more important (LRCD Director).

3. Results of the Terminal Evaluation

For a JICA-technical cooperation project, Terminal Evaluation study is conducted usually 6 months before the end of the project. The SLMP was now in the final year of the 4-year-implementation period remaining about 6 months until the end; hence, this evaluation study was carried out from April 13th to May 1st 2015 by a joint team that was composed of 3 Malawian evaluators from LRCD, DARS and DAES, and 3 Japanese members (2 JICA officials and a consultant). The presentation on the results of the study was done by the evaluation team. The findings of the study were presented for the following contents:

i) Achievement of Outputs
ii) Achievement of Project Purpose
iii) Prospect of Achievement of Overall Goal
iv) Evaluation by 5 Evaluation Criteria
v) Conclusion
vi) Recommendations

The following is a summary of the presentation.

(1) Project Performance

Project performance was reviewed in terms of inputs from Malawi and JICA, achievement level of planned activities, expected Outputs, Project Purpose and Overall Goal that were defined in the Project Design Matrix (PDM) Version 2. While the detailed discussion was elaborated in the Terminal Evaluation Report, main points were summarized below.

Achievement level of expected Outputs:

Outputs (of PDM)	Observations	Status
1. Institutional and human capacity for soil and/or compost testing, and skills for field test in Mzuzu ADD are improved.	• A Manual for soil and compost analysis techniques was drafted. • Technical recommendations and messages on compost application for soil fertility improvement will be compiled by the end of the Project • Lunyangwa Agricultural Research Station (ARS) started to provide soil and compost analysis services requested from varieties of entities. • Nearly 1,700 of growth and harvest data on the effects of compost have been collected according to the research protocol from research stations and LFs. • Although the trend in soil fertility in the 2014/15 crop season has been under analysis, crop stands in LFs' trial plots are visibly improved even in the heavy dry spell this season.	Achieved.
2. LRCD SMSs and	• Training for 585 of Mzuzu ADD officers, District officers,	Partially

Outputs (of PDM)	Observations	Status
extension agents in Mzuzu ADD are equipped with the SLM techniques.	Technical staff, and Extension agents has been conducted. • Training modules, titled "Training Module for Field Trails on Compost Making & Application Trials" was drafted up to the third version. • LRCD SMSs in Mzuzu are trained on the SLM techniques through the project activities in collaboration with the Japanese experts and training in Japan. • With self-confidence, LRCOs in target districts instruct compost related techniques for extension agents in the fortnight training.	achieved
3. Compost making and application techniques are applied by pilot site farmers.	• After receiving training on 3 compost making in July 2013, 91% of 49 Lead Farmers (LFs) prepared the SLMP demonstration trials in 2013/14 season, and 86% in 2014/15 season. • Inadequate monitoring and follow up, inaccessibility of materials and water, and lack of labor for manure production caused some dropouts of LFs. • AEDOs (Agriculture Extension Development Officers) hold Field Days in which LFs demonstrate their trial plots to farmers. Some of those farmers become Follower Farmers (FFs) and receive instruction from LF on how to make and apply manure compost. • LFs have recognized improvement of crop stands this year even in the heavy dry spell. • Precise number of farmers in Mzuzu ADD is not surveyed by the Project.	Expected to be achieved by the end.
4. Measures to diffuse the SLM techniques nationwide are provided.	• The Project plans to hold seminar/workshop nationwide on compost making and application for LRCD SMSs (Subject Matter Specialists) by the end of the Project. • The Project will present the results and achievement of the Project at the Sustainable Land and Water Management Technical Working Group of ASWAp (Agricultural Sector Wide Approach Program).	Expected to be achieved by the end.

Achievement level of Project Purpose (prospect)

Items	Observations	Status
Project Purpose Capacity of MoAFS to diffuse appropriate SLM techniques is enhanced.	• The Project will compile the result of 2014/15 crop season into the SLM technique handbook. • Distribution of the reviewed handbook to 28 districts' LRCD and Extension SMS may not be reachable by the end of the Project. On the field, LRCOs already utilizes the Technical Information Series when they train extension agents in the fortnight training. • Since its establishment in 2012, Lunyangwa ARS has delivered soil and compost testing in Northern region. • Feedback of the results to farmers still remains a challenge	Will be achieved by the end.

(2) Evaluation Results

The Evaluation Team assessed the overall project performance using five criteria that included relevance,

effectiveness, efficiency, impact and sustainability. The evaluation results are summarized below.

Criteria	Results	Reasons
1. Relevance	High	• SLM techniques have been one of three pillars in the ASWAp which is the highest policy of the GoM. • The Project's objectives to enhance capacity of MoAIWD staff to diffuse compost techniques has fulfilled the needs of LRCOs, extension agents as well as LF and FF for improvement of soil fertility and maize production. • LF approach is appropriate to supplement extension agents.
2. Effectiveness	Medium	• The Project Purpose is expected to be achieved by the end of the Project. • Achievements of Outputs 1-3 have contributed to achievement of the Project purpose. • Output 4 will be achieved by the end of the Project.
3. Efficiency	Medium	• Output 1-3 have been almost achieved. • Output 4 will be achieved before the end of the Project if all the rest of activities are conducted as planned. • There were delays of inputs from Japanese side. • There is lack of budget of Malawian side.
4. Impact	Medium	• Prospect of achievement of the Overall goal largely depends on the commitment of MoAIWD/districts to secure sufficient budget. • Economic impact was observed on farming by LFs since it has reduced the cost for chemical fertilizer. • No negative impact was observed.
5. Sustainability	Medium	• The GoM will continue to promote SLM technologies including compost making and application based on ASWAp. • The extension system is well established in Malawi, in which compost techniques are expected to be disseminated from LRCO to LFs, FFs and ordinary farmers through extension agents. • Financial aspect is challenge for sustainability.

(3) Conclusion and Recommendations

The Project has its value in connection of research work at the Agriculture Research Stations and dissemination work on the field for compost making and application. Having a significant achievement in research work at Lunyangwa ARS, it is expected that the Project Purpose will be achieved by the end of the Project with a strong initiative of Mzuzu ADD, which assures the sustainability of the Project. With these factors, the Mission confirmed that the Project would be completed as scheduled.

Having concluded as above, the team made the following recommendations that the project team and Malawi government should follow after this evaluation study.

1) Revising the indicators of Overall Goal in PDM

- "Overall Goal" is the target to be achieved 3 years after the completion of the Project.
- The present indicators set for the Overall Goal (in PDM Ver. 2) are considered beyond the actual achievable level. Therefore, it is recommended that the indicators be replaced with newly proposed

realistic ones as shown in Annex C while the Overall Goal remains unchanged.

- It is confirmed that a meeting shall be held soon after this evaluation study, in which a consensus over the revised indicators should be made between Malawi and Japanese sides.

2) Making action plans

- In order to achieve Project Purpose and Overall Goal, it is recommended to materialize future activities as concrete as possible and make detailed action plans for: (a) the remaining project period and (b) after the completion of the project, under the ownership of Malawian counterpart.
- Especially, dissemination and extension plans of the SLM techniques (soil fertility improvement) are essential. DAES is recommended to make the plans together with LRCD as soon as the "technical messages" are finalized.
- It is expected for the Project to finalize the above process within one month after this evaluation and conduct the monitoring activities based on the action plans mainly by the Malawian side.

3) Ensuring sustainability

Extension/dissemination of SLM techniques:

- It is important for the Malawi Government to secure enough budgets to provide necessary extension services for disseminating the SLM techniques to nationwide.
- It is recommend that relevant Departments/Divisions such as LRCD, DAES and ADDs should work together to secure the necessary budget by utilizing the fund of other Government programmes /projects related SLM (ASWAp, etc) and seek to collaborate with other stakeholders such as NGOs in order to expand the outputs created by the Project.

Research: Lunyangwa ARS and its substations:

- Lunyangwa ARS has started collecting service charge for soil/ compost analysis which is expected to enhance financial sustainability, but it is still very important to secure sufficient financial resource for future activities.
- It is recommended to ensure necessary budget from the Government programmes /projects (ORT and ASWAp, etc.), as well as for above-mentioned extension/dissemination of the SLM techniques

4) Output materials

Clarifying the technical materials to be made:

- As a result of a series of Project activities, it is not yet clear as to (a) what kind of technical materials will be made, (b) for whom (Researchers, LRCD SMSs, Extension Agents and farmers), (c) when and (d) how many sets. It is recommended the Project clarify the points mentioned above and set the schedule.

Making the "technical messages on SLM techniques" for farmers

- Although the "technical messages on SLM techniques" will be compiled based on the results of the

on-going compost application trials, it is recommended that as soon as possible the Project including LRCD begins to materialize the contents of the "technical messages" under the involvement of extension division and research stations.

- It should be noted that the "technical messages" be easily understandable for farmers, namely drawing with simple and impressive messages, so that farmers can understand their effectiveness and apply them through their farming activities.

5) Strengthening ownership of Mzuzu ADD
   - To secure continuation of activities even after the Project, roles should be shifted from Japanese experts to Malawian counterpart officers.
   - It is recommended that Mzuzu ADD at the management unit level should enhance their ownership of the Project, so that the Overall Goal can be achieved.

6) Monitoring the recommendations
   - Progress of each recommendation should be monitored on regular basis (e.g. once a month) by making progress reports that should be submitted to the Director of LRCD.

4. Comments and Discussions

After the presentation made by the Evaluation team, Chairperson opened the floor for comments and discussions concerning the results of the study. The followings are main points.

1) Chairperson asked the team to score the overall project performance by using 5 scales from 1 to 5. The Japanese team leader answered 4 for research activities and 3 for extension part while the Malawi leader indicated 4-5 for research (depending on budget allocation from GoM) and 4 for extension.
2) Chairperson raised a question as to how the project results can be spread beyond the project target areas. The Malawi evaluation team leader responded by saying more involvement of NGOs and the Japanese leader said that more involvement of neighboring farmers of Lead Farmers after the completion of the trials.
3) MZADD PM stated that the project had been working on already-existing technologies, not necessarily been engaged in developing new technologies. And the project has already contributed to the capacity enhancement of MZADD.
4) LRCD Director emphasized the importance of technology dissemination.
5) Thereafter, some discussions on the financial contributions of GoM were held. The DARS SDD (TM&ARS) clarified if there was a shortage of GoM budget for the project. The CLRCO who was at the same time the Project Manager answered that it was in the second year (2013) when the budget request for the project was submitted to GoM but no single amount was released in that year due to financial scandal at the Capital Hills, then some funds were released from last year (2014). The MZADD PM stated that the contribution from GOM was mainly in-kind such as human resources, buildings and

offices, utility bills and it was difficult to indicate the financial amount spent at ADD level for this project separately. Chairperson still stated that there was need for the Malawi government to show how much amount had been spent for the project so that good comparisons could be made on the funds to support project. Finally, the evaluation consultant cited that there was lack of budget from Malawi government which was evidenced by failing distribution of wheelbarrows from ADD to Lead Farmers, which had been purchased by LRCD some months ago.

6) Chief Advisor for the project clarified the number of AEDOs that was cited in revising the indicators of Overall Goal. CAEO of MZADD who was at the same time a member of the evaluation team responded the figure was obtained at the DAES HQ.

5. Way Forward

For the last topic, way forward for the project was discussed. Followings are the main points:

1) Japanese team leader reconfirmed that the project was going to phase out in 6 months as scheduled and there would be no successor project but JICA had already committed in supporting a new project in the agricultural sector on irrigation. He emphasized that even if the technical cooperation by JICA phased out, the Malawi Government needed to ensure the activities to continue.
2) Chairperson stated that he would like to draw everyone's attention on the recommendations and the findings from Terminal Evaluation team as of superior importance so that the project and officers concerned should pay attention to these matters and find the way forward.
3) In order to ensure the sustainability of the project results, the GoM requested JICA to make available project assets such as vehicles and computers to the department hosting the project so that these assets assist in implementing remaining activities such as dissemination of the messages that will be generated from the research component of the project.
4) Chief Advisor requested good coordination and commitment from Malawi government for implementing the project activities in the remaining period including both in human and financial terms as it would be difficult for Japanese experts alone to handle all the planned activities particularly functions at the national level.
5) There was a correction in the revision of PDM regarding the 1st indicator for the Overall Goal explained by the evaluation consultant member.

6. Closing Statements by JICA Malawi Resident Representative

Finally, JICA Malawi Office Resident Representative gave closing speech. He cited the importance of SLMP Project to Malawi on ongoing activities of compost making and laboratory improvement. The Japanese Government through JICA has supported Malawi Government in different sectors by dispatching of experts in different fields and training of different counterparts in Japan. He emphasized all the assistance came from tax collected from Japanese citizens.

Chairperson closed the meeting by appreciating Japanese Government for supporting Malawi as a beneficiary country of official development assistance. The meeting adjourned at 11:50.

(End)

Annex A: Program of SLMP Project 3rd Joint Coordination Committee Meeting
Annex B: List of Attendances of SLMP Project 3rd Joint Coordination Committee Meeting
Annex C: Table of comparisons of Indicators for the Overall Goal

Annex A:

Program of SLMP Project 3rd Joint Coordination Committee Meeting

1. **Date & Time:** April 29th 2015 (Wednesday) 09:00 – 11:30
2. **Venue:** MoAIWD Conference Hall
3. **Objectives:** i) To review the progress and achievements of the project;
   ii) To share the results of Terminal Evaluation study; and
   iii) To discuss the way forward.
4. **Timetable and Agenda:**

Time	Programme/Agenda	Presenter
08:30	Registration	
09:00	Adoption of agenda Opening prayer Self-introduction of the attendants	Chairperson
09:05	Welcome remarks	Chairperson
09:00	Presentations by the project team 1) Progress and achievement of the Project from the beginning to date (11/2011 – 04/2015) 2) Summary of Compost Making & Application Trials conducted in 2013/14 season	 Project Manager Expert on Soil Survey
09:40	Comments & Discussions	Chairperson
10:05	Report of the Terminal Evaluation	Terminal Evaluation Team
10:55	Comments & Discussions	Chairperson
11:25	Way forward	Chairperson
11:40	Closing Remarks	JICA Resident Representative
11:50	End	

Annex B:

List of Attendances of SLMP Project 3rd Joint Coordination Committee Meeting

(1) Ministry of Agriculture Irrigation and Water Development (8)

NAME	TITLE	AFFILIATION
Mr. Bright B. Kumwembe (Chairperson)	Principal Secretary	MoAIWD HQ
Mr. John Mussa	Director	LRCD HQ
Ms. Agnes P. Moyo	Program Manager	Mzuzu ADD
Dr. Allan Chilimba	Senior Deputy Director	DARS /Lunyangwa ARS
Mr. David Kamanga	Senior Deputy Director (TM&ARS)	DARS /Chiteze ARS
Mr. Readwell Musopole	Chief Economist	Planning Department
Mr. G. Ngwira	Economist	Department of Irrigation (DOI)
Ms. P.C. Mayuni	Chief Livestock Development Offcier	Dept. of Animal Health & Livestock Develop. (DAHLD)

(2) JICA Malawi Office (3)

NAME	TITLE	AFFILIATION
Mr. Kazuhiko Tokuhashi	Resident Representative	JICA Malawi
Mr. Suguru Kubo	Assistant Resident Representative	ditto
Mr. Genschers Chisanga	Aid Coordinator - Agriculture	ditto

(3) SLMP Project Team (6)

NAME	TITLE	AFFILIATION
Mr. Gilbert Kupunda	Chief Land Resource Conservation Officer /Project Manager	LRCD /Mzuzu ADD
Mr. Cornelius Chisambi	Agricultural Research Officer	DARS /Lunyangwa ARS
Mr. Atsushi Suzuki	Chief Advisor/Extension	JICA/SLMP
Dr. Naohiro Matsui	Soil Survey and Planning	ditto
Mr. Nobuo Sugiura	Project Coordinator	ditto
Mr. Kenneth Mhango	Assistant Project Staff	ditto

(4) Terminal Evaluation Team (5)

NAME	TITLE	AFFILIATION
Mr. Lloyd Lwimbi	Chief Agricultural Research Scientist (Malawi Team Leader)	DARS HQ
Ms. Beatrice Mbakaya	Chief Agricultural Extension Officer	DAES /Mzuzu ADD
Mr. Shinjiro Amameishi	Japanese Team Leader	JICA HQ /Rural Development Department
Mr. Shunsuke Tamura	Plan Management	ditto
Ms. Kazuko Shirai	Evaluation and Analysis	Consultant

Entrance

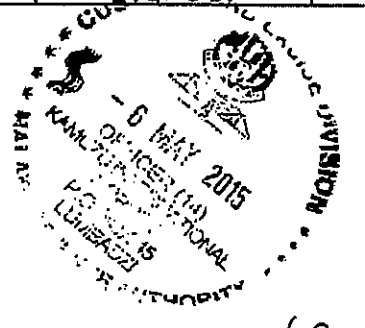
Annex C:

Table of comparisons of Indicators for the Overall Goal

Items		Ver. 2 (February 2014 revised)	Proposal for Ver. 3	Reasons for modifications
Objectively Verifiable Indicators (OVIs) for the Overall Goal	1	The SLM techniques are applied in programs implemented by MoAFS and stakeholders.	**The SLM techniques are applied in agricultural programs implemented by MoAIWD and stakeholders in order to improve soil fertility.**	■ Specified the objectives for the application of techniques into other programmes.
		Means of Verification LRCD annual report 2020	**Programme reports by MoAIWD and stakeholders**	
	2	More than 80% of AEDOs across the country are trained by subject matter specialists (SMSs) and are able to instruct farmers on the SLM techniques by MoAFS.	(No modification)	■ In this opportunity, expression of the PDM will be changed from MoAFS to MoAIWD.
		Means of Verification LRCD annual report 2020	■ **Staff training report of LRCD SMSs** ■ **Farmer training report of AEDOs**	
	3	XX millions of farmers are adopting SLM techniques across the country by 2020.	**50,000 of farmers are adopting SLM techniques across the country by 2018.**	(a) The original OVI is beyond the actual achievable level. It is difficult to verify the quantitative impact of SLM techniques developed by the Project. (b) 50,000 comes from the following calculations 1. Percentage of land of soil fertility improvement is 5% (288,000ha/5,580,000ha) 2. The number of farm family per extension agent is 750. 3. The total number of extension agent is 1,664 4. 80 % of extension agents are trained 1,664×80%=1,331 750×5%=37.5 1,331×37.5=49,912≒50,000
		Means of Verification Land management documents produced by government and stakeholders	**Sample interview survey**	
	4	**New Indicator**	**Productivity of Maize increases by 20% on the LFs of the Project in Mzuzu ADD area.**	Soil fertility improvement can be measured by yield.
		Means of Verification	**Sample survey**	

Attached sheet

REF	Description	Q'ty (set)	Country of Origin	Unit Price (JPY)	Amount	Model	Distributor
1	PC (Item 2 Graphics board 780Ti, Item 3 Graphics board 760, Item 25 ATC Simulator Integrated System [ASIS], Item 26 Training Schinario)	8	Japan	¥1,803,303	¥14,426,424	Z620/CT	HP
4	Monitor 21.5 inch	12	Japan	¥52,128	¥625,536	22bw	HP
5	Stereo speaker for PC connection	6	China	¥8,688	¥52,128	MM-SPU6	SANWA SUPPLY
6	Head set for PC connection(w/microphone switch)	8	China	¥13,032	¥78,192	MM-HSUSB166V	SANWA SUPPLY
7	Voltage Transformer for 1500	2	Japan	¥95,568	¥191,136	PAL-1500EP	SWALLOW ELECTRIC
8	UPS 2200	2	Philippines	¥373,584	¥747,168	APC-Smart-UPS 2200	SCHNEIDER ELECTRIC
9	Voltage Transformer for 1000	6	Japan	¥78,192	¥469,152	PAL-1000EP	SWALLOW ELECTRIC
10	UPS 1000	6	Philippines	¥149,868	¥899,208	APC-Smart-UPS 1000	SCHNEIDER ELECTRIC
11	Large screen monitor	3	Japan	¥453,948	¥1,361,844	PN-U473	SHARP
12	ADS-B receiver	1	England	¥868,800	¥868,800	SBS-3	KINETIC
13	Antenna	1	Japan	¥28,236	¥28,236	1G09-GA	APEX RADIO
14	Antenna mast 6m	1	Japan	¥48,653	¥48,653	AM600	DAICHIDENPA KOGYO
15	Antenna connection cable(5D-FB) for 30m	1	Japan	¥18,462	¥18,462	5DFB-30M	COMET
16	USB cable for 5m	1	Japan	¥8,516	¥8,516	KB-USB-R205	SANWA SUPPLY
17	USB extended cable for 10m	1	Japan	¥4,798	¥4,798	500-USB005	SANWA DIRECT
18	1000BASE-T compatible 8 port network HUB	2	China	¥15,921	¥31,842	LSW5-GT-8NS	BUFFALO
19	Desk for training terminal	6	Japan	¥216,766	¥1,300,594	ALD-14070K	SANWA SUPPLY
20	Board for desk	6	Japan	¥21,720	¥130,320	ALD-N140	SANWA SUPPLY
21	Chair for training terminal	6	Japan	¥43,006	¥258,034	SNC-L13	SANWA SUPPLY
22	Frame for large screen monitor	3	Japan	¥236,987	¥710,961	PNZS601	SHARP
23	Installation manual	5	Japan	¥217,200	¥1,086,000		REALVIZ
24	Operation manual	5	Japan	¥217,200	¥1,086,000		REALVIZ
		90			¥24,430,000		



ATTACHED SHEET TNIOSK20150326MALAWI

CASE NUMBER	ITEM /No.	REF.		Description	Model	Distributor				Dimension (mm)			Volume (m3)	Net Weight (kg)	Gross Weight (kg)
										L	W	H	Total	Total	Total
1		1	1/6	PC main unit	Z620/CT	HP			set	308	586	596	0.1068723	17.90	19.69
1	1	1	1/6	accessories:mouse	(Z620/CT)	HP	1	1	set						
1		1	1/6	accessories: key board	(Z620/CT)	HP		1	set						
1		1	2/6	PC main unit	Z620/CT	HP			set	308	586	596	0.1068723	17.90	19.69
1	2	1	2/6	accessories:mouse	(Z620/CT)	HP	1	1	set						
1		1	2/6	accessories: key board	(Z620/CT)	HP		1	set						
1		1	3/6	PC main unit	Z620/CT	HP			set	308	586	596	0.1068723	17.90	19.69
1	3	1	3/6	accessories:mouse	(Z620/CT)	HP	1	1	set						
1		1	3/6	accessories: key board	(Z620/CT)	HP		1	set						
1		1	4/6	PC main unit	Z620/CT	HP			set	308	586	596	0.1068723	17.90	19.69
1	4	1	4/6	accessories:mouse	(Z620/CT)	HP	1	1	set						
1		1	4/6	accessories: key board	(Z620/CT)	HP		1	set						
1		1	5/6	PC main unit	Z620/CT	HP			set	308	586	596	0.1068723	17.90	19.69
1	5	1	5/6	accessories:mouse	(Z620/CT)	HP	1	1	set						
1		1	5/6	accessories: key board	(Z620/CT)	HP		1	set						
1		1	6/6	PC main unit	Z620/CT	HP			set	308	586	596	0.1068723	17.90	19.69
1	6	1	6/6	accessories:mouse	(Z620/CT)	HP	1	1	set						
1		1	6/6	accessories: key board	(Z620/CT)	HP		1	set						
1		1	7/6	PC main unit	Z620/CT	HP			set	308	586	596	0.1068723	17.90	19.69
1	7	1	7/6	accessories:mouse	(Z620/CT)	HP	1	1	set						
1		1	7/6	accessories: key board	(Z620/CT)	HP		1	set						
1		1	8/6	PC main unit	Z620/CT	HP			set	308	586	596	0.1068723	17.90	19.69
1	8	1	8/6	accessories:mouse	(Z620/CT)	HP	1	1	set						
1		1	8/6	accessories: key board	(Z620/CT)	HP		1	set						
1		6	1/6	Head set for PC connection (w/microphone switch)	MM-HSUSB16SV	SANWA SUPPLY	1		set	300	200	50	0.003	0.105	0.12
1		6	2/6	Head set for PC connection (w/microphone switch)	MM-HSUSB16SV	SANWA SUPPLY	1		set	300	200	50	0.003	0.105	0.12
1	22	6	3/6	Head set for PC connection (w/microphone switch)	MM-HSUSB16SV	SANWA SUPPLY	1		set	300	200	50	0.003	0.105	0.12
1		6	4/6	Head set for PC connection (w/microphone switch)	MM-HSUSB16SV	SANWA SUPPLY	1		set	300	200	50	0.003	0.105	0.12
1		6	5/6	Head set for PC connection (w/microphone switch)	MM-HSUSB16SV	SANWA SUPPLY	1		set	300	200	50	0.003	0.105	0.12
1		6	6/6	Head set for PC connection (w/microphone switch)	MM-HSUSB16SV	SANWA SUPPLY	1		set	300	200	50	0.003	0.105	0.12
1	23	7	1/6	Voltage Transformer for 1500	PAL-1500EP	SWALLOW ELECTRIC	1		set	180	90	145	0.002349	5.60	6.40
1		7	2/6	Voltage Transformer for 1500	PAL-1500EP	SWALLOW ELECTRIC	1		set	180	90	145	0.002349	5.60	6.40
1		9	1/6	Voltage Transformer for 1000	PAL-1000EP	SWALLOW ELECTRIC	1		set	80	175	135	0.00189	5.00	5.50
1	25	9	2/6	Voltage Transformer for 1000	PAL-1000EP	SWALLOW ELECTRIC	1		set	80	175	135	0.00189	5.00	5.50
1		9	3/6	Voltage Transformer for 1000	PAL-1000EP	SWALLOW ELECTRIC	1		set	80	175	135	0.00189	5.00	5.50
1		9	4/6	Voltage Transformer for 1000	PAL-1000EP	SWALLOW ELECTRIC	1		set	80	175	135	0.00189	5.00	5.50
1	26	9	5/6	Voltage Transformer for 1000	PAL-1000EP	SWALLOW ELECTRIC	1		set	80	175	135	0.00189	5.00	5.50
1		9	6/6	Voltage Transformer for 1000	PAL-1000EP	SWALLOW ELECTRIC	1		set	80	175	135	0.00189	5.00	5.50
1	27	10	1/6	UPS 1000	APC-Smart-UPS 1000	SCHNEIDER ELECTRIC	1		set	376	328	595	0.0733802	21.00	23.00
1	28	10	2/6	UPS 1000	APC-Smart-UPS 1000	SCHNEIDER ELECTRIC	1		set	376	328	595	0.0733802	21.00	23.00
1	29	10	3/6	UPS 1000	APC-Smart-UPS 1000	SCHNEIDER ELECTRIC	1		set	376	328	595	0.0733802	21.00	23.00
1	30	10	4/6	UPS 1000	APC-Smart-UPS 1000	SCHNEIDER ELECTRIC	1		set	376	328	595	0.0733802	21.00	23.00
1	31	10	5/6	UPS 1000	APC-Smart-UPS 1000	SCHNEIDER ELECTRIC	1		set	376	328	595	0.0733802	21.00	23.00
1	32	10	6/6	UPS 1000	APC-Smart-UPS 1000	SCHNEIDER ELECTRIC	1		set	376	328	595	0.0733802	21.00	23.00

ATTACHED SHEET TNIOSK20150326MALAWI

CASE NUMBER	ITEM /No.	REF.		Description	Model	Distributor			Dimension (mm) L	W	H	Volume (m3) Total	Net Weight (kg) Total	Gross Weight (kg) Total
1	38	17	1/2	1000BASE-T compatible 8 port network HUB	LSW5-GT-8NS	BUFFARO	1	set	187	32	83	0.0004967	0.52	0.60
1		17	1/2	accessories: connecting cable (required)	(LSW5-GT-8NS)	BUFFARO	1	set						
1		18	2/2	1000BASE-T compatible 8 port network HUB	LSW5-GT-8NS	BUFFARO	1	set	187	32	83	0.0004967	0.52	0.60
1		18	2/2	accessories: connecting cable (required)	(LSW5-GT-8NS)	BUFFARO	1	set						
CASE NUMBER 1							*1*		*1510*	*1390*	*1350*	*2.855*	*312.07*	*449.00*
2	24	8	1/2	UPS 2200	APC-Smart-UPS 2200	SCHNEIDER ELECTRIC	1	set	559	381	762	0.16229	56.00	64.00
2	37	14	1/1	Antenna mast 6 m	AM600	DAIICHIDENPA KOGYO	1	set	150	150	1700	0.03825	1.60	1.76
2	39	19	1/6	desk for training terminal (back plate)	(ALD-14070K)	SANWA SUPPLY	1	set	1464	710	56	0.0582086	14.91	16.40
2	40	19	2/6	desk for training terminal (back plate)	(ALD-14070K)	SANWA SUPPLY	1	set	1464	710	56	0.0582086	14.91	16.40
2	41	19	3/6	desk for training terminal (back plate)	(ALD-14070K)	SANWA SUPPLY	1	set	1464	710	56	0.0582086	14.91	16.40
2	42	19	4/6	desk for training terminal (back plate)	(ALD-14070K)	SANWA SUPPLY	1	set	1464	710	56	0.0582086	14.91	16.40
2	43	19	5/6	desk for training terminal (back plate)	(ALD-14070K)	SANWA SUPPLY	1	set	1464	710	56	0.0582086	14.91	16.40
2	44	19	6/6	desk for training terminal (back plate)	(ALD-14070K)	SANWA SUPPLY	1	set	1464	710	56	0.0582086	14.91	16.40
2	51	18	1/6	desk for training terminal (side plate)	ALD-14070K	SANWA SUPPLY	1	set	760	765	135	0.078489	14.73	16.20
2	52	18	2/6	desk for training terminal (side plate)	ALD-14070K	SANWA SUPPLY	1	set	1400	700	700	0.686	14.73	16.20
2	53	19	3/6	desk for training terminal (side plate)	ALD-14070K	SANWA SUPPLY	1	set	1400	700	700	0.686	14.73	16.20
2	54	19	4/6	desk for training terminal (side plate)	ALD-14070K	SANWA SUPPLY	1	set	1400	700	700	0.686	14.73	16.20
2	55	19	5/6	desk for training terminal (side plate)	ALD-14070K	SANWA SUPPLY	1	set	1400	700	700	0.686	14.73	16.20
2	56	19	6/6	desk for training terminal (side plate)	ALD-14070K	SANWA SUPPLY	1	set	1400	700	700	0.686	14.73	16.20
2	74	8	2/2	UPS 2200	APC-Smart-UPS 2200	SCHNEIDER ELECTRIC	1	set	559	381	762	0.16229	56.00	64.00
CASE NUMBER 2							*1*		*1710*	*1390*	*2080*	*2.567*	*291.42*	*398.00*
3	45	19	1/6	desk for training terminal (top plate)	(ALD-14070K)	SANWA SUPPLY	1	set	1495	455	130	0.0884293	10.00	11.00
3	46	19	2/6	desk for training terminal (top plate)	(ALD-14070K)	SANWA SUPPLY	1	set	1495	455	130	0.0884293	10.00	11.00
3	47	19	3/6	desk for training terminal (top plate)	(ALD-14070K)	SANWA SUPPLY	1	set	1495	455	130	0.0884293	10.00	11.00
3	48	19	4/6	desk for training terminal (top plate)	(ALD-14070K)	SANWA SUPPLY	1	set	1495	455	130	0.0884293	10.00	11.00
3	49	19	5/6	desk for training terminal (top plate)	(ALD-14070K)	SANWA SUPPLY	1	set	1495	455	130	0.0884293	10.00	11.00
3	50	19	6/6	desk for training terminal (top plate)	(ALD-14070K)	SANWA SUPPLY	1	set	1495	455	130	0.0884293	10.00	11.00
3	69	22	1/3	frame for large screen monitor	PNZS601	SHARP	1	set	800	1500	180	0.216	32.00	40.00
3	70	22	2/3	frame for large screen monitor	PNZS601	SHARP	1	set	800	1500	180	0.216	32.00	40.00
3	71	22	3/3	frame for large screen monitor	PNZS601	SHARP	1	set	800	1500	180	0.216	32.00	40.00
CASE NUMBER 3							*1*		*1510*	*1010*	*1130*	*1.837*	*166.00*	*297.00*
4	9	4	1/12	monitor 21.5 inch	22BW	HP	1	set	499	385	171	0.0328517	3.00	3.30
4	10	4	2/12	monitor 21.5 inch	22BW	HP	1	set	499	385	171	0.0328517	3.00	3.30
4	11	4	3/12	monitor 21.5 inch	22BW	HP	1	set	499	385	171	0.0328517	3.00	3.30
4	12	4	4/12	monitor 21.5 inch	22BW	HP	1	set	499	385	171	0.0328517	3.00	3.30
4	13	4	5/12	monitor 21.5 inch	22BW	HP	1	set	499	385	171	0.0328517	3.00	3.30
4	14	4	6/12	monitor 21.5 inch	22BW	HP	1	set	499	385	171	0.0328517	3.00	3.30
4	15	4	7/12	monitor 21.5 inch	22BW	HP	1	set	499	385	171	0.0328517	3.00	3.30
4	16	4	8/12	monitor 21.5 inch	22BW	HP	1	set	499	385	171	0.0328517	3.00	3.30
4	17	4	9/12	monitor 21.5 inch	22BW	HP	1	set	499	385	171	0.0328517	3.00	3.30
4	18	4	10/12	monitor 21.5 inch	22BW	HP	1	set	499	385	171	0.0328517	3.00	3.30
4	19	4	11/12	monitor 21.5 inch	22BW	HP	1	set	499	385	171	0.0328517	3.00	3.30
4	20	4	12/12	monitor 21.5 inch	22BW	HP	1	set	499	385	171	0.0328517	3.00	3.30
4	53	21	1/6	chair for training terminal	SNC-L13	SANWA SUPPLY	1	set	645	700	1085	0.4808475	12.70	15.60
4	54	21	2/6	chair for training terminal	SNC-L13	SANWA SUPPLY	1	set	645	700	1085	0.4808475	12.70	15.60
4	55	21	3/6	chair for training terminal	SNC-L13	SANWA SUPPLY	1	set	645	700	1085	0.4808475	12.70	15.60

PLATTA 20150414

ATTACHED SHEET TNIOSK20150326MALAWI

CASE NUMBER	ITEM /No.	REF.		Description	Model	Distributor			Dimension (mm) L	W	H	Volume (m3) Total	Net Weight (kg) Total	Gross Weight (kg) Total
4	66	21	4/6	chair for training terminal	SNC-L13	SANWA SUPPLY	1	set	645	700	1065	0.4808475	12.70	15.60
4	67	21	5/6	chair for training terminal	SNC-L13	SANWA SUPPLY	1	set	645	700	1065	0.4808475	12.70	15.60
4	68	21	6/6	chair for training terminal	SNC-L13	SANWA SUPPLY	1	set	645	700	1065	0.4808475	12.70	15.60
4		5	1/6	Stereo speaker for PC connection	MM-SPU6	SANWA SUPPLY	1	set	66.5	93	102	0.0006308	0.51	0.60
4		5	2/6	Stereo speaker for PC connection	MM-SPU6	SANWA SUPPLY	1	set	66.5	93	102	0.0006308	0.51	0.60
4		5	3/6	Stereo speaker for PC connection	MM-SPU6	SANWA SUPPLY	1	set	66.5	93	102	0.0006308	0.51	0.60
4		5	4/6	Stereo speaker for PC connection	MM-SPU6	SANWA SUPPLY	1	set	66.5	93	102	0.0006308	0.51	0.60
4		5	5/6	Stereo speaker for PC connection	MM-SPU6	SANWA SUPPLY	1	set	66.5	93	102	0.0006308	0.51	0.60
4		5	6/6	Stereo speaker for PC connection	MM-SPU6	SANWA SUPPLY	1	set	66.5	93	102	0.0006308	0.51	0.60
4		12	1/1	ADS-B receiver	SBS-3	KINETIC	1	set	87	66	30	0.0002506	0.28	0.30
4		13	1/1	antenna	1G09-GA	APEXRADIO	1	set	600	200	200	0.024	4.00	4.40
4		15	1/1	antenna connection cable(5D-FB) for 30m	5DFB-30M	COMET	1	set					3.00	3.30
4		16	1/1	USB cable for 5m	KB-USB-R205	SANWA SUPPLY	1	set	100	100	100	0.001	0.50	0.55
4	72	17	1/1	USB extended cable for 10m	500-USB005	SANWA DIRECT	1	set	180	138	66	0.0016157	0.22	0.24
4		23	1/5	Installation manual (English)	installation manual	REALVIZ	1	set					0.20	
4		23	2/5	Installation manual (English)	installation manual	REALVIZ	1	set					0.20	
4		23	3/5	Installation manual (English)	installation manual	REALVIZ	1	set					0.20	
4		23	4/5	Installation manual (English)	installation manual	REALVIZ	1	set					0.20	
4		23	5/5	Installation manual (English)	installation manual	REALVIZ	1	set					0.20	
4		24	1/5	operation manual (English)	operation manual	REALVIZ	1	set					0.20	
4		24	2/5	operation manual (English)	operation manual	REALVIZ	1	set					0.20	
4		24	3/5	operation manual (English)	operation manual	REALVIZ	1	set					0.20	
4		24	4/5	operation manual (English)	operation manual	REALVIZ	1	set					0.20	
4		24	5/5	operation manual (English)	operation manual	REALVIZ	1	set					0.20	
CASE NUMBER 4							*1*		*1460*	*1230*	*1410*	*2.532*	*125.25*	*271.00*
5	33	11	1/3	large screen monitor	PN-U473	SHARP	1	set	1083	55	627	0.0373473	19.00	20.90
5	34	11	2/3	large screen monitor	PN-U473	SHARP	1	set	1083	55	627	0.0373473	19.00	20.90
5	35	11	3/3	large screen monitor	PN-U473	SHARP	1	set	1083	55	627	0.0373473	19.00	20.90
5	57	20	1/6	board for desk	ALD-N140	SANWA SUPPLY	1	set	1300	235	40	0.01222	3.09	3.40
5	58	20	2/6	board for desk	ALD-N140	SANWA SUPPLY	1	set	1300	235	40	0.01222	3.09	3.40
5	59	20	3/6	board for desk	ALD-N140	SANWA SUPPLY	1	set	1300	235	40	0.01222	3.09	3.40
5	60	20	4/6	board for desk	ALD-N140	SANWA SUPPLY	1	set	1300	235	40	0.01222	3.09	3.40
5	61	20	5/6	board for desk	ALD-N140	SANWA SUPPLY	1	set	1300	235	40	0.01222	3.09	3.40
5	62	20	6/6	board for desk	ALD-N140	SANWA SUPPLY	1	set	1300	235	40	0.01222	3.09	3.40
CASE NUMBER 5							*1*		*1460*	*910*	*1210*	*1.608*	*76.55*	*166.00*
CASE TOTAL							6		7,750.00	5,930.00	7,190.00	11.40	1,160.30	1,579.00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