

マラウイ共和国
中等理数科現職教員再訓練プロジェクト
フェーズ2
終了時評価調査報告書

平成24年2月
(2012年)

独立行政法人国際協力機構
人間開発部

人間
JR
12-011

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序 文

マラウイ共和国（以下、「マラウイ」と記す）では、1994年以降の初等教育無償化の成果として、中等学校の就学者数が増加しましたが、有資格教員の不足や生徒の学習達成度の低さが大きな課題となっています。特に、理数科の学力の低さは顕著であり、その原因として、暗記重視、教師中心の授業や、実験器具・薬品の不足等により理科実験が十分に実施されていないことなどが挙げられます。こうした状況の下、JICAは2004年から3年間「中等理数科現職教員再訓練プロジェクト（Strengthening of Mathematics and Science in Secondary Education：SMASSE）」を実施し、現職教員研修の支援を通じて、研修実施に必要な中核人材の育成、研修カリキュラム開発、研修マネジメント能力向上等を進めました。さらに、教員研修政策の策定、研修予算の経常経費化といった現職教員研修システムの定着に向けた働きかけを実施した結果、マラウイ政府から、全国の中等理数科教員を対象とした現職教員研修の実施を目的とする「SMASSEフェーズ2」が要請され、2008年8月より活動を開始しました。

今般、プロジェクト終了を6カ月後に控え、プロジェクトの成果や目標の達成度の確認を行うことを目的として、2012年1月～2月に終了時評価調査団を派遣し、マラウイ政府及び関係機関との間で、プロジェクトの進捗状況の確認と今後の方向性に係る評価・協議を行いました。本報告書は、これら調査結果を取りまとめたものであり、本プロジェクトの実施のみならず、類似プロジェクトの参考資料としても広く活用されることを願うものです。

ここに、本調査にご協力いただいた内外関係者の方々に深い謝意を表するとともに、引き続き一層のご支援をお願い申し上げます。

平成24年2月

独立行政法人国際協力機構

人間開発部長 萱島 信子

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略 語 表

略語	正式名	日本語
ASEI/PDSI	Activity, Student-centred, Experiment and Improvisation / Plan, Do, See and Improve	活動・生徒中心・実験・創意工夫/ 計画・実行・評価・改善（授業改善の理念）
CDSS	Community Day Secondary Schools	コミュニティ中等学校
CEED	Central East Education Division	中東部教育管区
C/P	Counterpart	カウンターパート
CWED	Central West Education Division	中西部教育管区
DCC	Divisional Coordination Committee	教育管区調整委員会（教育管区レベルにおけるプロジェクト活動の運営実施機関）
DIAS	Directorate of Inspection and Advisory Services (formerly known as Education Method Advisory Services [EMAS])	視学・指導サービス局（教育科学技術省）
DTED	Department of Teacher Education and Development	教員教育開発局（教育科学技術省）
ESIP	Education Sector Implementation Plan	教育セクター実施計画
INSET	In-Service Education and Training	現職教員研修
JCE	Junior Certificate of Education	前期中等教育修了資格（中等学校2学年）
JICA	Japan International Cooperation Agency	独立行政法人国際協力機構
MANEB	Malawi National Examinations Board	
M&E	Monitoring and Evaluation	モニタリング・評価
MSCE	Malawi School Certificate of Education	後期中等教育修了資格（中等学校4学年）
NED	Northern Education Division	北部教育管区
NESP	National Education Sector Plan	国家教育セクター計画
NSC	National Steering Committee	プロジェクト運営委員会（プロジェクト全般の最高意思決定機関）
NSTED	National Strategy for Teacher Education and Development	教員教育開発国家戦略
NT	National Trainer	中央研修講師
PDM	Project Design Matrix	プロジェクト・デザイン・マトリックス
PIA	Principal Inspector and Advisor (formerly known as Principal Education Methods Advisor [PEMA])	主任視学官
PIF	Policy & Investment Framework	教育政策と投資に関するフレームワーク

略語	正式名	日本語
PO	Plan of Operation	活動計画表
PRESET	Pre-Service Education and Training	新規教員養成課程
R/D	Record of Discussions	討議議事録
SEED	South East Education Division	南東部教育管区
SHED	Shire Highlands Education Division	シレ高地教育管区
SIA	Senior Inspector and Advisor (formerly known as Senior Education Method Advisor [SEMA])	シニア視学官
SMASE- WECSA	Strengthening of Mathematics and Science Education in Western, Eastern, Central and Southern Africa	理数科教育強化計画 - 西部・東部・ 中央・南部アフリカ (域内ネットワ ーク)
SMASSE	Strengthening of Mathematics and Science in Secondary Education	中等理数科現職教員再訓練プロジ ェクト
SWED	South West Education Divisions	南西部教育管区
TICAD	Tokyo International Conference on African Development	アフリカ開発会議
ToT	Training of Trainers	1日研修 (主に地方研修講師対象の 研修)

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：中等理数科現職教員再訓練プロジェクトフェーズ2
分野：基礎教育	援助形態：技術協力プロジェクト
所轄部署：人間開発部 基礎教育第二課	協力金額（評価時点）：3.5億円 （2010年度末まで実績と2011年度以降計画額の合計）
協力期間	(R/D [*]) 2008年8月4日～ 2012年8月3日
	先方関係機関：教育科学技術省 日本側協力機関：-
他の関連協力	<ul style="list-style-type: none"> ・無償資金協力：「ドマシ教員養成校改善計画」（2004年）、「中等学校改善計画」（2010年） ・技術協力プロジェクト：中等理数科現職教員再訓練プロジェクト（2004～2007） ・青年海外協力隊：理数科教師隊員
<p>1-1 協力の背景と概要</p> <p>マラウイにおいては、1994年に初等教育の無償化政策が開始され、この結果、中等教育レベルの進学希望者数が2000年前後から急激に増加した。これに対して、マラウイ教育科学技術省は、中等教育レベルの受け皿拡大を進めるなどの対応をとってきたが、いまだ劣悪な学校インフラ環境、低資格教員数の増加等様々な課題を抱えている。卒業試験等からも、生徒の理数科目における学力の低さが明らかとなっており、その原因のひとつは、有資格教員の極端な不足である。中等教育においては、低資格教員が多く、また十分な教員資格の有無にとどまらず、教授法についても教師中心であり、実験に関しても器具や薬品の不足等を理由に積極的には行われていない状況である。</p> <p>このような背景の下、JICAは2004年から3年間、中等理数科現職教員再訓練プロジェクト（Strengthening of Mathematics and Science in Secondary Education：SMASSE）フェーズ1（以下、「フェーズ1」と記す）を実施し、南東部教育管区において、理数科の現職教員研修を支援した。フェーズ1は、ドマシ教員養成校を拠点として実施され、教員研修の実施に必要な中核人材の育成、研修カリキュラム開発、研修マネジメント能力向上等が進められた。また、プロジェクト実施期間中から研修制度の定着に向けて、教員研修政策の策定、研修予算の経常経費化等に向けた働きかけを行った結果、マラウイ教育科学技術省より、対象地域を全国6教育管区に展開させたいとする要請が出された。</p> <p>1-2 協力内容</p> <p>本プロジェクトは、中等教育の理数科授業及び学習の質の向上をめざし、マラウイ全国の6教育管区における中等理数科教員に対する定期的な現職教員研修を実施できる基盤を構築することを目標とする。</p> <p>(1) スーパーゴール</p> <p style="padding-left: 2em;">マラウイの中等教育レベルの生徒の能力が向上する。</p>	

* Record of Discussions：討議議事録

<p>(2) 上位目標 マラウイの中等教育レベルにおける理数科の授業及び学習の質が向上する。</p> <p>(3) プロジェクト目標 中等教育レベルの理数科の質の高い現職教員研修が、教育管区レベルで実施される。</p> <p>(4) 成果 1) 地方研修講師の能力が強化される。 2) 中央・地方の研修センターがリソースセンターとして強化される。 3) 中央・地方の現職教員研修及びモニタリングが実施される。 4) 学校・地方教育行政レベルで持続的な現職教員研修の運営体制が強化される。</p> <p>(5) 投入（評価時点） 日本側：（総投入額3.5億円）</p> <table border="0"> <tr> <td>長期専門家派遣</td> <td>2名</td> <td>機材供与</td> <td>47.9百万円</td> </tr> <tr> <td>短期専門家派遣</td> <td>2名</td> <td>ローカルコスト負担</td> <td>123.0百万円</td> </tr> <tr> <td>研修員受入れ（本邦）</td> <td>長期：5名</td> <td></td> <td></td> </tr> <tr> <td></td> <td>短期：75名 [うち短期4名がプロジェクト予算]</td> <td></td> <td></td> </tr> <tr> <td></td> <td>計77名 [うち39名がプロジェクト予算]</td> <td></td> <td></td> </tr> </table> <p>相手国側：</p> <table border="0"> <tr> <td>カウンターパート配置</td> <td>40名</td> <td>ローカルコスト負担</td> <td>94.9百万クワチャ</td> </tr> <tr> <td>土地・施設提供</td> <td colspan="3">プロジェクト事務所、中央研修センター（ドマシ教員養成大学）、地方研修センター（全国19中等学校）</td> </tr> <tr> <td>その他（モニタリング・評価活動費用、研修参加者の日当・交通費）</td> <td colspan="3"></td> </tr> </table>		長期専門家派遣	2名	機材供与	47.9百万円	短期専門家派遣	2名	ローカルコスト負担	123.0百万円	研修員受入れ（本邦）	長期：5名				短期：75名 [うち短期4名がプロジェクト予算]				計77名 [うち39名がプロジェクト予算]			カウンターパート配置	40名	ローカルコスト負担	94.9百万クワチャ	土地・施設提供	プロジェクト事務所、中央研修センター（ドマシ教員養成大学）、地方研修センター（全国19中等学校）			その他（モニタリング・評価活動費用、研修参加者の日当・交通費）			
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<p>1) 成果1：地方研修講師の能力が強化される。</p> <p>指標：<u>(a) 適切な研修を受けた地方研修講師の数（240名以上）、(b) 中央・地方研修講師の能力（基準値：3.0以上、0～4）</u></p> <p>成果1はおおむね達成されている。4回の中央研修が実施され、各回の修了者は次のとおり。第1回165名/177名、第2回188名/192名、第3回234名/244名、第4回60名/224名。第4回については参加者の多くが最終日に参加しなかったため修了基準を満たしていないが、プロジェクトでは補完的研修（Training of Trainers：ToT）を実施する計画である。全員がToTを修了した場合、過去2年間継続して研修に参加した地方研修講師は207名となり、地方研修を継続していくために必要な数の研修講師が育成された。プロジェクトによる評価では、すべての中央・地方研修において、中央及び地方研修講師の研修講師能力指標の評価結果は目標値を超えている。ただし、中央研修講師及び地方研修講師の能力に関しては高い評価が与えられているものの、研修報告書や今回の調査結果では、研</p>																																	

修時間管理能力やファシリテーション能力に関する課題が確認されており、改善の余地がある。

2) 成果2：中央・地方の研修センターがリソースセンターとして強化される。

指標：(a) 中央研修センター（1カ所）、地方研修センター（19カ所）の補修・機材整備、(b) 地方研修センター施設環境改善のためのガイドライン開発、(c) 地方研修センターの施設環境水準、(d) 研修用教材・機材の活用

成果2はおおむね達成されている。中央研修センター（ドマシ教員養成大学）及び地方研修センター（中等学校19校に設置）の修繕、機材整備は計画通り実施された。これらの施設整備は、指標（b）で作成されたセンターの機材・施設維持管理水準を定めたガイドラインに沿って実施された。研修教材・機材は地方研修で活用されているほか、ガイドラインに沿って周辺校への貸出も行われている。

一方、センターの施設・機材維持管理レベルには依然としてばらつきがあり十分とはいえない。

3) 成果3：中央・地方の現職教員研修及びモニタリングが実施される。

指標：(a) 地方研修の実施（年1回）、(b) 中央研修の質（基準値：2.5以上、0～4）、(c) 中等理数科教員の地方研修参加率75%以上（2,500名）、(d) 研修教材の開発（5種/サイクル）、(e) 地方研修のモニタリング・評価（Monitoring and Evaluation：M&E）報告書の提出

成果3は達成されている。これまでに4回の中央研修、2回の地方研修、研修のM&E活動が計画通り実施された。地方研修はいずれも2,500名以上の教員が参加した。中間レビューの提言（全国統一地方研修の実施）に基づき、第2回地方研修は全教育管区統一の研修内容となり、統一の研修教材（5種）が開発された。研修やM&E活動の経験を重ねることで、研修実施者（ナショナルコーディネーター及び中央研修講師、地方コーディネーター、地方研修センター管理者）の研修運営管理能力が確実に強化されており、M&E活動実施者（ナショナルコーディネーター及び中央研修講師、地方コーディネーター）のSMASSE研修のM&Eに関する経験やノウハウが蓄積されてきている。

4) 成果4：学校・地方教育行政レベルで持続的な現職教員研修の運営体制が強化される。

指標：(a) 教育科学技術省による研修予算の確保・配布、(b) ナショナルコーディネーター、地方コーディネーター、地方研修センター（中等学校）校長の運営管理能力強化研修への参加

成果4はおおむね達成されている。開始からこれまですべての中央研修、地方研修の予算が教育科学技術省により確保されたが、研修開始直前に執行されるなど予算配布のタイミングには課題が残る。運営管理にかかわるナショナルコーディネーター、地方コーディネーター、地方研修センター管理者全員が運営管理能力強化の研修に参加し、現職教員研修実施において行政機関の管理者に期待される役割や責任の理解を深めた。研修運営管理体制は確実に強化されているが、研修実施において生ずる様々な運営管理上の課題（政府による予算管理・執行方針の変更、燃油価格の高騰に伴う交通費の高騰など）への対処能力にはまだ改善の余地がある。

(2) プロジェクト目標の達成度（見込み）

プロジェクト目標：中等教育レベルの理数科の質の高い現職教員研修が、教育管区レベルで実施される。

指標：研修の事前・事後評価により測定される地方研修の「研修の質指標」が、2.5以上（0～4）となる。

教育管区レベルで実施される地方研修は、これまで2回成功裏に実施され、その両方の研

修において、指標である「研修の質指標」の全体評価結果が目標値を上回った。指標達成度を考慮すると、プロジェクト目標はプロジェクト終了時までには達成される見込みであるものの、それを確実にするためには、2012年4月に予定されている第3回地方研修が、これまでの地方研修と同等またはそれ以上の質で着実に実施される必要がある。

3-2 評価結果の要約

(1) 妥当性：高い

本プロジェクトは、マラウイ政府の開発政策、日本政府の援助政策との整合性が高く、対象教員のニーズへの合致、理数科教育支援に対する日本の比較優位もあることから妥当性は「高い」と評価される。

マラウイ政府は、国家教育政策である「教育政策と投資に関するフレームワーク2000～2015年」では、教育の質の改善とその持続を5つの主要政策目標のひとつとして掲げ、「国家教育セクター計画2008～2017年」、「教育セクター実施計画2009～2013年」、「教員教育開発国家戦略2007～2017年」では、現職教員研修の制度化及び中等学校教員に対する継続的な能力開発の実施を明記している。マラウイでは約6割の中等学校教員が低資格教員であることから、これらの政策では教員の質の向上の必要性を強調している。

我が国の対マラウイ援助政策の重点分野のひとつは、教育の質の向上である。「日本の教育協力政策2011～2015」は、万人への質の高い教育の提供を重点分野のひとつとしており、教員研修は教育の質を高めるひとつの戦略として位置づけられている。第4回アフリカ開発会議（Tokyo International Conference on African Development：TICAD IV）で採択された「横浜行動計画（2008年）」では、10万人の理数科教員に対する研修の提供を日本政府の公約として挙げており、本プロジェクトは本公約達成に貢献するものである。加えて、我が国はアフリカにおける理数科教員を対象とした多数の能力開発プロジェクトを実施してきた実績があるため、理数科教育の強化を実施する十分な経験及び技術の比較優位性を有している。

(2) 有効性：高い

プロジェクト目標の達成見込みは高く、成果とプロジェクト目標の因果関係も明確であることから、本プロジェクトの有効性は「高い」と評価される。

合計2回の地方研修が成功裏に実施され、いずれの研修でも「研修の質指標」の平均値が目標値を上回り、質の高い研修が提供されたと評価された。今後行われる第3回地方研修が、これまでの地方研修と同等またはそれ以上の質で円滑に実施されることを前提とすると、プロジェクト目標達成の見込みは高いと判断される。

本プロジェクトの4つの成果は、質の高い研修実施に必要なすべての要素（研修講師、研修センターの基盤整備、M&E、運営管理）を網羅しており、成果の達成はプロジェクト目標の達成に直接つながっている。成果達成度の項で述べたとおり、期待された成果はおおむね達成されており、質の高い理数科教員研修を提供するための基盤が、技術面、物質面、ロジスティックス、行政、運営管理面等の様々な側面で確立されたと判断される。ただし、4つの成果の達成度及びプロジェクト目標の達成の見込みは「高い」と判断されるものの、中央・地方研修講師や地方研修センター管理者の能力については、質の高い研修の継続的な実施のために更なる改善が必要である。

(3) 効率性：中程度

投入は効果的に実施かつ有効活用され、成果達成に寄与したが、一部の投入の遅れなどで成果達成が制約を受けたことから、本プロジェクトの効率性は「中程度」と評価される。

中央研修センターとしてドマシ教員養成大学、地方研修センターとして19の中等学校が指定された。既存の中等学校を活動に使用したことは、本プロジェクトの効率性を高めた。人材の投入については、フェーズ1の実施に関与した教育科学技術省の職員及び日本人専門家が継続的に本プロジェクトに投入された。その結果、フェーズ1時に構築された業務上での良好な人間関係やマラウイの現状に応じた現職研修の実施の仕方に関する理解などが、円滑な活動の実施に貢献した。また、本プロジェクトでは、カウンターパート (Counterpart : C/P) や地方研修講師、地方研修センターの管理者をはじめとする非常に多くのプロジェクト関係者が、本邦研修や第三国研修 (ケニア、マレーシア) に参加している。このことで、多くの関係者がSMASSEプログラムの目的意識を共有し、他国の教育事情を学び、教育に関する視野を広げている。このようなプロジェクト実施基盤のうえで、活動はおおむね計画に沿って実施され、成果の達成に直接貢献した。しかしながら、マラウイ政府の予算執行の遅れや研修参加者による一部研修のボイコットなどにより、期待された成果の発現が一部制約を受けた。

(4) インパクト：中程度

設定された指標の評価結果に基づく上位目標達成見込みは高いと判断されるものの、教員による研修成果の授業での活用・定着にはいまだ課題が多いことから、本プロジェクトのインパクトは「中程度」と評価される。

第2回地方研修後、教育科学技術省視学・指導サービス局 (Directorate of Inspection and Advisory Services : DIAS) とプロジェクトのM&Eチーム (教員教育開発局 (Department of Teacher Education and Development : DTED)) によって、全国からサンプリングされた中等理科教員の合同授業観察 (M&E) が行われた。その結果、DIAS評価ツールを使用して算出した「授業の質指標」は平均2.9であり、目標値 (3.0以下) を達成していた。プロジェクトのM&EチームがSMASSE独自の評価ツール (Activity, Student-centred, Experiment and Improvisation / Plan, Do, See and Improve (活動・生徒中心・実験・創意工夫 / 計画・実行・評価・改善 (授業改善の理念) : ASEI/PDSIチェックリスト) を使用した評価結果では、まだ目標値 (2.5以上) を満たさないものの、理科の授業及び学習の質は、ベースライン調査 (2009年) から継続的に改善されてきていることが確認された。これらの2つの指標の達成度を考慮すると、上位目標がプロジェクト終了後3年から5年以内に達成される見込みは高い。

一方で、研修に参加した教員が、研修で習得した知識や能力を十分に授業に応用できていないことが確認されている。地方研修は年に一度しか実施されないこと、地方研修を補完し得るその他の研修機会が限られていることから、教授法を本質的に改善するにはまだ時間を要する。授業の質を更に向上させるためには、ほとんどの理科の教員が指導案を作成していないことや、学校管理職による授業観察を通じた指導がほとんど行われていないことなどの課題への対応が求められている。

予期していなかった正のインパクトとして、SMASSE研修の経験が高く評価され、中等教育カリキュラム改編の過程に、SMASSE事務局が積極的に関与していることが挙げられる。

(5) 持続性：中程度

制度面では活動を継続するうえでの政策的基盤が確立されているものの、組織面及び予算面では人材の安定性や一部予算の継続的確保に不安があること、技術面では更なる改善が必要とされることから、本プロジェクトの持続性は「中程度」と評価される。

制度面では、マラウイの教育政策文書が教員の能力育成に重点を置いていることにより、本プロジェクト終了後も現職職員研修がマラウイ政府により継続的に実施される可能性が

高い。

組織面では、SMASSE研修はDTEDの年間活動計画に組み込まれており、DTEDの通常業務として確立されている。予算面では、2011/2012年度は40百万クワチャがSMASSE研修実施予算として確保されており、2008/2009年度（20百万クワチャ）から大幅に増額された。一方で、予算面の課題としては、これまで日本側が負担してきた中央・地方研修センターの修繕費用のマラウイ側負担の見通しが必ずしも明らかではないことが挙げられる。今後、持続性を更に向上させるには、①ナショナルコーディネーター及び中央研修講師の教育科学技術省内ポストが正式化されていないこと、及び②教育管区事務所がSMASSE研修のM&E活動を実施するための独自の予算を持っておらず、研修のM&E活動を積極的に実施できないこと、の2つの課題に対応していく必要がある。

技術面では、研修の実施にかかわる教育科学技術省の職員が、2年にわたる年次研修サイクルの実施を通して、引き続き研修を実施していく土台となる技術・管理能力を習得した。一方で、中央・地方研修の講師の研修能力、教材やセッション内容など、研修の質の管理、SMASSE事務局及び地方研修センターの管理能力などが更に改善されていく必要がある。

3-3 効果発現に貢献した要因

(1) 計画内容に関すること

- ・第2回地方研修の後、DIASとプロジェクトM&Eチーム（DTED）による合同授業観察が実施され、研修の改善等に関する相互の意見交換が活動を通して効果的かつ効率的に行われた。
- ・カスケード研修方式を活用したため、共通の研修内容を用いて、多くの教員を対象に一律に質の高い研修を実施できた。
- ・研修では、教員が相互に学ぶことを促進し、他の教員に質問しやすい環境が整備された。

(2) 実施プロセスに関すること

- ・本プロジェクトはマラウイ側が強いオーナーシップをもって実施した。オーナーシップが醸成された要因には、プロジェクト計画策定に多くの関係者が本質的なかかわりをもったため、PDMの内容が広い関係者に十分理解されたこと、プロジェクトの持続性を確保する観点から、教育科学技術省の既存の組織体制が活用され、SMASSE研修が、DTEDの通常業務として位置づけられたことなどが挙げられる。
- ・組織としてのSMASSE研修の実施に対するコミットメントが十分にあった。組織的なコミットメントとして、予算の増加、SMASSE研修に影響を与える可能性のある課題に対する柔軟な対応、教育科学技術省の大臣による中央研修の式典（開催式・閉会式）への参加などが挙げられる。

3-4 問題点及び問題を惹起した要因

(1) 計画内容に関すること

- ・SMASSE研修の修了証が教員の昇進などに考慮される正式な資格としては認識されていない。このことが研修参加者のモチベーションを低下させる要因となった。

(2) 実施プロセスに関すること

- ・全国的な燃料不足のためバス運賃などが高騰している。第4回中央研修（2012年）では、参加者が立替払いを行った交通費（実費）がマラウイ政府による予算単価を超えていたことから、予算分のみが支給され、超過分は支給されなかった。このことが研修参加者のやる気を損なう要因となり、交通費などの研修環境に不満をもつ参加者が研修最終日

をボイコットした。プロジェクトでは、研修未修了者を対象とする補完研修（ToT）の実施を計画するとともに、各教育管区事務所長や地方研修センター長などの研修運営管理者に対する啓発ワークショップの実施を計画するなど、2012年4月に予定される地方研修に負の影響を及ぼさないような手段を講じている。

- ・第2回地方研修前に、2種類の予算管理・執行の変更に関する通達がマラウイ政府より発表された。この変更は、研修の実施関係者間の手続きに関する混乱をもたらし、その調整に相当の労力を費やさなければならなかった。プロジェクトでは、各地方研修センターで策定する予算計画、予算執行に関し費目ごとの積算基準や支払方法を詳細に定めた地方研修支出ガイドラインを作成、各センターに周知することにより対応した。第3回地方研修に向け、地方研修支出ガイドラインの内容を見直し、再度関係者に周知する計画である。

3-5 結論

理数科教育分野での現職教員研修制度の構築をめざす本プロジェクトは、マラウイ政府の開発政策、日本政府の援助政策との整合性が高く、対象教員のニーズへの合致、理数科教育支援に対する日本の比較優位もあることから妥当性は高い。

プロジェクト実施中には様々な研修の実施管理や予算管理の問題が生じたものの、①中央・地方研修講師の能力強化、②中央・地方研修センターの強化、③2010年と2011年における中央研修・地方研修の実施、④DTEDの予算計画能力及び現職教員研修の実施管理にかかわる職員の管理能力の向上が達成された。このような成果の発現状況から、プロジェクト目標「中等教育レベルの理数科の質の高い現職教員研修が教育管区レベルで実施される」達成の見込みは高く、有効性は高いと評価できる。しかしながら、最終判断は第3回地方研修の円滑な実施を待たなければならない。

日本側、マラウイ側双方の投入は効果的に実施かつ有効活用され、成果達成に寄与したが、一部の投入（マラウイ側予算執行等）の遅れから成果達成が制約を受けたため、効率性は中程度と評価される。

設定された指標の評価結果に基づく上位目標達成見込みは高いと判断されるものの、教員による研修成果の授業での実践的な活用・定着にはいまだ課題が多いことから、本プロジェクトのインパクトは中程度と評価される。

持続性の観点では、制度面では活動を継続するうえでの政策的基盤が確立されているものの、組織面及び予算面では人材の安定性や一部予算の継続的確保に不安があり、技術面では更なる改善が必要とされる。したがって、本プロジェクトの持続性は中程度と評価される。

マラウイにおける中等レベルでの理数科教育の質の改善を行うには、依然として組織的、予算的、技術的な課題が存在しており、それらの対応には以下の提言の実施が必要である。

3-6 提言（当該プロジェクトに関する具体的な措置、提案、助言）

マラウイ側関係者と日本側調査団は協議のうえ、（1）現職教員研修の持続性向上、（2）現職教員研修の質、（3）研修成果の教室現場への定着促進のために、1）短期（プロジェクト終了まで）、2）中期（後継案件の開始まで）、3）長期に分け、各項目の実施に関する責任部署を明確にした。

（1）現職教員研修の持続性向上

1）短期

- a) 第3回地方研修の着実な実施（DTED、教育管区事務所、地方研修センター）
- b) 地方研修支出ガイドライン（予算計画、執行、会計）の作成及び関係者への周知（DTED）

- c) 2012/2013年の研修実施に必要な予算の確保及び配布（次官、教育計画局）
- d) 地方研修センターの修繕に必要な予算の確保及び配布（次官、教育計画局、教育管区事務所）
- e) 地方研修センター間の経験共有を通じたセンター長及びセンター調整員の運営管理能力の向上（DTED、中等教育局、教育管区事務所）

2) 中期

- a) 地方研修モニタリングに必要な予算の増加及び教育管区事務所への配布（次官、教育計画局、DIAS、教育管区事務所）
- b) ナショナルコーディネーター及び中央研修講師の教育科学技術省内ポストの正式化（次官、教育計画局、人事管理局、中等教育局、DTED）

3) 長期

- a) 現職教員研修参加歴、地方研修講師としての研修実施歴等を昇進時に考慮する職能開発システムの構築（次官、教育計画局、人事管理局、中等教育局、DTED、教員雇用委員会）

(2) 現職教員研修の質の維持、向上

1) 短期

- a) 研修用教材の整理及び地方研修センターでの保管（未参加教員の参照用等）（DTED）

2) 中期

- a) 多様な教員のニーズに対応するための研修コース改編に向けた戦略策定プロセスの開始（教育計画局、DIAS、中等教育局、DTED）
- b) DIASより研修用教材の内容充実のための技術的助言を得ること（DIAS、DTED）

3) 長期

- a) 地方研修講師の能力強化のための機会提供（中央研修などの継続的研修、中央研修講師による地方研修講師の授業観察、校内研修等での指導経験等）（DIAS、DTED、教育管区事務所、中等学校）

(3) 研修成果の教室現場への定着促進

1) 短期

- a) DIASとDTEDによる合同授業観察の継続（DIAS、DTED）
- b) 研修成果の教室現場への定着に関する貢献・阻害要因に関する現状調査の実施（DTED）
- c) 中等学校教員の日常業務として授業案作成を徹底する通達の発出（DIAS、中等教育局）

2) 中期

- a) 授業案作成に関する学校管理職による指導、授業実践のモニタリングの推奨（DIAS、中等教育局、DTED）

3) 長期

- a) ドマシ教員養成大学の学生に対するSMASSE特別研修の継続的实施（ドマシ教員養成大学、DTED、JICA）
- b) SMASSE特別研修の教員養成課程学生への効果確認のため、2011年の研修受講学生に対する追跡調査の実施（DIAS、ドマシ教員養成大学、DTED、JICA）

3-7 教訓（当該プロジェクトから導き出された他の類似プロジェクトの発掘・形成、実施、運営管理に参考となる事柄）

- (1) プロジェクト実施にあたり既存の行政組織を活用するだけでなく、その組織内の人材に対する能力強化を戦略的に行い、その人材を活動にうまく巻き込んだことが、活動の持続性向上につながっている。既存組織の活用と人材育成の戦略的な組み合わせが持続性向上には必要である。
- (2) 地方研修講師に対し、地方研修実施期間のモニタリングを行うだけでなく、日常の授業に対するモニタリング（授業観察及び指導）を行うことも彼らの能力向上に貢献した。研修講師は教員であり、教員としての授業実践力の強化は結果的に講師としての能力を強化することにつながる。
- (3) DIASとDTEDという二部局による合同授業観察は、視点の共有や、教師に対する相互補完的な指導が可能であったこと、視学官の参加による授業観察活動の正当性の向上などの相乗効果が得られた。教員研修担当部局と視学担当部局との連携は合同授業観察など、具体的な活動レベルでの連携を行うことが実践的であり効果的である。
- (4) 地方研修経費の大部分について、教育管区事務所や地方研修センターに任せることなく中央（DTED）が管理・支出したことは、予算執行の透明性を高め、かつ、各研修センターでの支出内容の平準化を図ることができた。この仕組みは、政府の予算支出のタイミング等に大きく影響を受けるが、各センターで実施される研修の質を均一に保つメリットがある。

3-8 フォローアップ状況

マラウイ政府は日本政府に対し、本プロジェクトの成果を更に普及・継続するため、現職教員研修の継続的实施、新規教員養成課程（教育実習前）での実践的な教授法に関する研修実施などを通じた更なる理数科教員の能力強化のための技術協力に関する要請を提出している（2011年8月）。本終了時評価調査の結果を踏まえ、今後の支援について検討する予定である。

Summary of Terminal Evaluation

1. Outline of the Project	
Country: the Republic of Malawi	Project Title: Strengthening of Mathematics and Science in Secondary Education (SMASSE) INSET Malawi Phase II
Issue/Sector : Basic Education	Cooperation Scheme : Technical Cooperation
Division in Charge: Basic Education Division 2, Basic Education Group, Human Development Department, JICA	Total Cost: 350 million yen (the actual cost spent until the end of the fiscal year 2010 and the planned amount to be spent by the end of the Project period)
Period of Cooperation: (R/D) 4th of August 2008 – 3rd of August 2012	Partner Country’s Implementing Organization: Ministry of Education , Science and Technology (MoEST)
	Supporting Organization in Japan: -
Related Cooperation: <ul style="list-style-type: none"> • Grant Aid: “The Project for Improvement of Domasi College of Education” (2004) and “the Project for Re-Construction and Expansion of Selected Community Day Secondary Schools” (2010) • Technical Cooperation: “Strengthening of Mathematics and Science Education through In-Service Training Project” (2004-2007) • Japan Overseas Cooperation Volunteer: Mathematics and Science Teachers 	
1-1. Background of the Project <p>The Government of Malawi introduced its Free Primary Education Policy in 1994, which led to a drastic increase in the number of students eligible to enter into the secondary level (around the year 2000). MoEST has taken actions with respect to this situation; however, various challenges remain. The decline in the educational performance of students, especially in mathematics and science, is evident from the results of Junior Certificate of Education and Malawi School Certificate of Education examinations. One of the main causes of their poor performance has been identified as a significant shortage of qualified teachers, but the problems in secondary level education also extend to poor teaching methodology that is characterised as “teacher-centred,” and the absence of sufficient teaching and learning materials (such as equipment and chemicals for science experiments).</p> <p>Against this background, MoEST in collaboration with JICA conducted the “Strengthening of Mathematics and Science Education through In-Service Training Project” (SMASSE Phase 1) and supported training of mathematics and science teachers in the South Eastern Education Division (SEED). During Phase 1, which used the Domasi College of Education (DCE) as the base for project implementation, efforts were made towards institutionalising INSET through promoting the development of a teacher’s training policy and training costs to be included as regular expenses in MoEST’s budget. As a result, MoEST requested for SMASSE Phase 2 (hereinafter referred to as “the Project”), which expanded the project target areas to include six education divisions.</p>	
1-2. Project Overview <p>For the improvement of quality of mathematics and science in secondary education in Malawi, the Project aims to establish the foundation for implementing the In-Service Education and Training (INSET) for mathematics and science teachers in public secondary schools in all six education divisions.</p>	

(1) Super Goal: The abilities of secondary school students in mathematics and science are improved in Malawi.

(2) Overall Goal of the Project: The quality of teaching & learning of mathematics and science is improved in secondary schools in Malawi.

(3) Project Purpose: Quality INSETs for secondary mathematics and science teachers at Divisional level are provided.

(4) Outputs

- 1) Capacity of Divisional Trainers is strengthened.
- 2) National INSET centre and Divisional INSET centre as resource centre are strengthened
- 3) National & Divisional INSETs and Monitoring and Evaluation (M&E) are implemented.
- 4) Sustainable INSET management system is strengthened at all levels.

(5) Inputs (As of the Terminal Evaluation)

Japanese side:

Long-term Experts: 2 persons Equipment: 47.9 million Japanese Yen (JPY)

Short-term Experts: 2 persons Local Cost: 123.0 million JPY

Training in Japan: Long-term: 5 persons, Short term: 75 persons (out of which, the costs of sending 4 persons to training were covered by the project budget)

Training in Kenya and Malaysia:

77 persons (out of which, the costs of sending 39 persons to training were covered by the project budget)

Malawian Side :

Counterpar 40 persons Local cost: 94.9 million Malawian Kwacha (MWK)

Land and facilities: Project office for the SMASSE Secretariat in DTED, national INSET centre (DCE), and divisional INSET centres (19 secondary schools nation-wide)

Others (monitoring and evaluation expenses, allowance and transportation costs for participants)

2. Evaluation Team

Members of Evaluation Team (Japanese side)	[Leader] Mr. Satoru Takahashi, Visiting Senior Advisor (Education), JICA
	[Evaluation Planning] Ms. Minako Sugawara, Deputy Director, Basic Education Division 2, Basic Education Group, Human Development Department, JICA
	[Evaluation Analysis] Ms. Setsuko Kanuka, IMG Inc.
Evaluation Period	8th January 2012 - 2nd February 2012
	Type of Evaluation : Terminal Evaluation

3. Results of Evaluation

3-1. Achievement of the Project

(1) Achievement of the Outputs

In order to product the expected Outputs, four National INSETs, two Divisional INSETs and M&E activities on INSETs have been implemented as planned. Through accumulating the experiences of implementing INSETs, the Project has: strengthened National and Divisional Trainers' capacity to conduct training; strengthened DTED's capacity to plan budgets for INSET activities, strengthened managerial capacity of National and Divisional Coordinators, and Divisional INSET Managers

(principals of the secondary schools designated as Divisional INSET Centres), and improved training environments of National and Divisional INSET Centres to host INSETs.

All four Outputs' indicators have been evaluated as “achieved” or “mostly achieved;” consequently, the Outputs have been evaluated to be “achieved,” or “mostly achieved.” In order to increase their achievement levels, there is still room for improvement in: various training skills of National and Divisional Trainers (e.g. facilitation skills); maintenance of Divisional INSET Centres' facilities and equipment; and capacity of those who in managerial positions to handle various administrative challenges that occur when implementing INSETs.

(2) Prospect of Achieving the Project Purpose

Two Divisional INSETs have been successfully implemented in 2010 and 2011. Since the overall mean value of “the INSET Quality Index” exceeded the target value in both the Divisional INSETs, it is evaluated that the Project Purpose is most likely to be achieved if the third Divisional INSET, which is planned to be held in April 2012, is implemented at the same quality level (or a higher).

3-2. Summary of Evaluation Result

(1) Relevance: High

The Relevance of the Project has been evaluated as high because the need for improvement of education quality has continued to be in line with the Malawian Government's development policy and Japanese Government's aid policy to Malawi, and continues to be in line with the needs of the Malawian people.

The Malawian Government places the improvement of education quality as one of the five objectives in the *Policy & Investment Framework 2000-2015*, which is the principal national educational policy in Malawi. The institutionalisation of INSET and the continuous development of teachers for secondary education are included in the scope of the *National Education Sector Plan 2008-2017*, the *Education Sector Implementation Plan 2009-2013*, and the *National Strategy for Teacher Education and Development 2007-2017*. These policies stress the need for improving the quality of teachers, highlighting that a significant number of secondary school teachers in Malawi are under-qualified (approx. 60%).

The Japanese aid policy towards Malawi also includes the enhancement education quality as one of its priority assistance areas. In addition, one of the focus areas of the *Japan's Education Cooperation Policy 2011-2015* is to provide quality education for all by comprehensively improving the learning environment, including teacher training. The Project is also in line with the *Yokohama Action Plan*, adopted at the Tokyo International Conference on Africa Development (TICAD) IV (2008). Based on these policies, Japan has been implementing capacity development projects targeting mathematics and science teachers in Africa; thus Japan has ample empirical and technical advantages in strengthening secondary level mathematics and science education.

(2) Effectiveness: High

The Effectiveness of the Project has been evaluated as high because the prospect of the Project Purpose being achieved by the end of the project period is deemed promising and there is a clear linkage between the achievement of the Project Purpose and the successful productions of Outputs.

In total two Divisional INSETs have been successfully implemented. In both INSETs, the overall mean value of “the INSET Quality Index” exceeded the target value, indicating that in both occasions that quality INSET at divisional level had been provided. On the condition that the third Divisional INSET will be implemented at the same quality level or higher as previous INSETs, the prospect for

achieving the Project Purpose is evaluated as promising.

The four Outputs cover all components (trainers' capacity, INSET Centres' facilities, M&E, and INSET management) that are necessary to provide quality INSET; therefore, successful production of Outputs are directly linked to the achievement of the Project Purpose. As discussed in the "Achievement of the Outputs" section, all expected Outputs have been either achieved or mostly achieved, it is evaluated that a solid technical, material, logistical, administrative, and managerial foundation for the provision of quality mathematics and science teacher training has been established. While the achievement levels of four Outputs are evaluated as high and the prospect for achieving the Project Purpose is deemed promising, there are areas that need to be improved through continuing the implementation of annual INSET cycle, such as the capacity of Divisional Trainers and Division INSET Centre Managers.

(3) Efficiency: Medium

The Efficiency of the Project has been evaluated as medium because all inputs have been allocated, and used effectively to contribute to the Output productions, although there have been some constraints on the production of Outputs caused by issues such as budget disbursement delays.

DCE and 19 secondary schools have been assigned as National and Divisional INSET Centres. The use of existing facilities has increased the Project's Efficiency. Regarding human resources, MoEST personnel and the Japanese expert, who were involved in implementation of Phase 1, have been continuously assigned to the Project, which has also increased the Project's Efficiency. Through this, amicable working relationship established in Phase 1 and their understanding about how to apply INSET in the Malawian context have contributed to the smooth implementation of the Project activities. Furthermore, a considerable number of stakeholders including C/Ps, Divisional Trainers, and head-teachers have attended training in Japan, Kenya or Malaysia, which created a strong technical foundation of human resources, sharing an appreciation towards what the Project aims to accomplish, and broadened their views on education by acquiring the knowledge of educational practices in other countries. On such an operational basis established by Inputs, activities have been conducted mostly as planned and directly contributed to the production of Outputs. Meanwhile, budget disbursement delays and boycotts of INSET by participants reduced the extent to which Inputs were successfully converted into Outputs.

(4) Impact: Medium

The Impact of the Project has been evaluated as medium because the prospect of the Overall Goal being achieved is promising based on the achievement levels of the Overall Goal indicators but there are still challenges for mathematics and science teachers to apply their skills and knowledge acquired from SMASSE INSET in their regular lessons.

After the second Divisional INSET (2011), a joint classroom observation (M&E) activity was conducted by the Directorate of Inspection and Advisory Service (DIAS) team and the Project M&E team (DTED) on secondary school level mathematics and science lessons sampled across the country. The overall mean value of "the Teaching & Learning Quality Index," which was evaluated using the DIAS's own evaluation tool (Evidence Form 1), was 2.9, exceeding the Project's target value (below 3.0). The result of Project M&E team, which used SMASSE's own evaluation tool (ASEI/PDSI checklist), indicated that while the overall mean value of the 2011 M&E did not achieved the target goal but the quality of teaching and learning have continuously improved since the Baseline Survey in 2009. Based on the achievement levels of these two indicators, the prospect for achieving the Overall Goal within three to five years after the completion of the Project is promising.

Conversely, it was confirmed that teachers who participated in Divisional INSETs have not been able to sufficiently apply the skills and knowledge they acquired from SMASSE INSET. Since Divisional INSET only takes place once a year and cluster and school-based training, that could supplement Divisional INSETs, have only been implemented in limited places and frequency, it still needs some time for teachers to substantially improve their teaching methods. In order to further improve the quality of lessons, there are essential issues that need to be addressed. For example, there are many mathematics and science teachers that do not sufficiently prepare lesson plans and many schools management departments do not conduct school-based monitoring to control the quality of lessons. These are the basic conditions needed to deliver quality mathematics and science lessons.

In addition, one notable unintended positive impact was observed. The SMASSE Secretariat has been actively involved in the Secondary School Curriculum and Assessment Reform (SSCAR) process as the experiences of SMASSE INSET have been highly valued.

(5) Sustainability: Medium

The Sustainability of the Project has been evaluated as medium because a solid institutional ground has been established to maintain SMASSE INSET's sustainability, but there are some concerns in regard to the stability of human resources and the continuous securing of the budget for some portions of the Project activities, as well as the need for further strengthening of technical skills of those involved.

From the institutional perspective, Malawi's education policy documents place a high priority on teachers' professional development. This ensures that the Malawi Government will continue its implementation of SMASSE INSET after the completion of the Project.

From the organisational perspective, SMASSE INSET is included in the department's annual Programme of Work (POW) and has been solidly established as a DTED's regular programme. From the financial perspective, the budget of 40.0 million MWK for SMASSE INSET has been secured for FY 2011/2012, which has been significantly increased from 20.0 million MWK in FY 2008/2009. As an issue to be addressed in terms of financial sustainability, it is observed that there is no general consensus on which departments/secondary schools should bear repair costs for National and Divisional INSET Centres after the Project's completion, which have until now been covered by the Japanese side. Additionally, in order to enhance the level of sustainability, the following two issues need to be addressed: (1) the positions of National Coordinators and National Trainers from DTED have not been made official and (2) Education Division Offices do not have their own budgets for conducting M&E of SMASSE INSETs, which limit their initiatives in implementing M&E on SMASSE INSETs.

From a technical perspective, through implementing two annual INSET cycles, those involved in INSET implementation have gained foundational technical and administrative capacities to implement SMASSE INSET. Nonetheless, there is still room for improvement of: (1) technical capacity of National Trainers and Divisional Trainers, (2) quality control of SMASSE INSET (write-ups and training sessions), and (3) administrative and management capacity of the SMASSE Secretariat and Divisional INSET Centres.

3-3. Factors that Promoted Realization of Effects

(1) Factors Concerning to Planning

- Through the joint classroom observation activity by DIAS and DTED after the second Divisional INSET, two departments were able to share opinions for the improvement of SMASSE INSET and teaching quality in Malawi.
- The cascade-type INSET has allowed the provision of standardised training to a large number of

teachers at once.

- INSETs have been encouraging mathematics and science teachers to work collegially, which has resulted in a greater level of peer-to-peer consultation with other teachers.

(2) Factors Concerning to the Implementation Process

- The Project has been implemented with a strong sense of ownership by the Malawian side. The factors of this ownership's formulation include: substantial involvement of a wide range of stakeholders in project planning, which facilitated them to fully familiarize themselves with PDM contents, adopting of a comprehensive approach to ensure sustainability; by such means as fully incorporating the SMASSE INSET programme into the MoEST's existing organizational structure and positing it as DTED's regular programme.
- This project was conducted with a robust organisational commitment from the Malawian side. Its commitment was demonstrated through the increase in the SMASSE INSET's annual budget, flexible responses to SMASSE INSET's (potential) challenges, and the Minister of Education, Science and Technology's attendance at National INSET's opening and closing ceremonies.

3-4. Factors that Impeded Realization of Effects

(1) Factors Concerning to Planning

- SMASSE INSET Completion Certificates are not officially recognized as a professional qualification when being considered for promotion, resulting in lowering the motivation of INSET participants.

(2) Factors Concerning to the Implementation Process

- Due to national-wide fuel shortages, fares of public transports have been rising unpredictably. In the fourth National INSET (2012), the actual transportation cost spent by each participant was more than the budgeted amount and each received only the budgeted amount – no additional transportation costs were provided to cover the shortfall during the INSET– and this decreased participants' morale. On its last day, participants boycotted the fourth National INSET in protest for training condition, including the issue of transport costs reimbursement.
- The Malawian Government announced, before the second Divisional INSET, two budgetary control measures regarding the mode of payment by the all government departments and school revenues. They created confusion in regard to Divisional INSET procedures among those who were involved in implementation and much effort had to be exerted to create workable conditions, compromising the quality of the second Divisional INSET.

3-5. Conclusion

Building onto the progress made in Phase 1, the Project has successfully expanded its target areas to cover all education divisions and has established an INSET system that fits into an educational administrative structure of the Malawian Government. Despite the many administrative and financial management challenges, the Project has: (1) strengthened professional capacity of National Trainers and Divisional Trainers; (2) strengthened National and Divisional INSET Centres' capacity as resource centres; (3) implemented two annual INSET cycles in 2010 and 2011, and (4) strengthened MoEST's budget planning capacity and INSET management capacity of those who are involved INSET implementation at all levels. Based on such production of Outputs, the Project Purpose ("the provision of quality INSETs for secondary mathematics and science teachers at divisional level"), is evaluated that it is likely to be achieved by the end of the Project period. This is, however, dependent on the successful implementation of the third Divisional INSET.

For the improvement of the quality of mathematics and science in secondary education in Malawi, there are still many organisational, financial and technical challenges. In order to address them, the Team recommends the implementation of the measures outlined below.

3-6. Recommendations

Based on the evaluation, recommendations are made in order to: (1) establish a sustainable INSET system in Malawi; (2) improve and maintain the quality of INSET; and (3) ensure that teachers apply knowledge and skills acquired through INSET to their teaching. Upon consultation, both sides have agreed to take actions on the following recommended items. They are organized into three timeframes: 1) short-term, 2) mid-term, and 3) long-term. Brackets following each recommendation indicate organisations/departments that are expected to be responsible for its implementation.

(1) To establish a sustainable INSET system in Malawi

1) Short-term

- (a) Implement successfully the third Divisional INSET in a good quality. (DTED, Education Division Offices, and Divisional INSET Centres)
- (b) Prepare guidelines on financial management of Divisional INSET, which cover costing, requesting budget, disbursing, spending, and ensuring accountability, and communicate it to all stakeholders of Divisional INSET. (DTED)
- (c) Secure and allocate sufficient budgets for INSET activities in FY2012/2013. (SEST and Department of Education Planning)
- (d) Secure and allocate necessary budget to National and Divisional INSET Centres for repairing their facilities for INSET in FY2012/2013. (SEST, Department of Education Planning, and Education Division Offices)
- (e) Improve managerial capacity of INSET Centre Managers by sharing good experiences among INSET Centre Managers and INSET Centre Coordinators. (DTED, Department of Secondary Education, and Education Division Offices)

2) Mid-term

- (a) Increase the budget allocation to Education Divisional Offices for a close monitoring of Divisional INSET. (SEST, Department of Education Planning, DIAS, and Education Division Offices)
- (b) Establish permanent posts of National Coordinators and National Trainers within the MoEST structure. (SEST, Department of Education Planning, Department of Human Resource Management and Development, Department of Secondary Education, and DTED)

3) Long-term

- (a) Establish a career development system for teaching professions in which the Teaching Service Commission and the Department of Human Resource Management and Development appropriately recognize the Certificate of National INSET, the Facilitation Certificate for Divisional Trainers, and the Certificate of Divisional INSET during promotion. (SEST, Department of Education Planning, Department of Human Resource Management and Development, Department of Secondary Education, DTED, and Teaching Service Commission)

(2) To improve and maintain the quality of INSET

1) Short-term

- (a) Compile and archive all existing INSET write-ups at Divisional INSET Centres for further reference. Those are expected to be referred to by teachers who did not attend the past INSETs.

(DTED)

2) Mid-term

- (a) Initiate the process of developing a strategy for the improvement and re-arrangement of INSET courses or sessions so as to accommodate diverse needs of teachers with different backgrounds. (Department of Education Planning, DIAS, Department of Secondary Education, and DTED)
- (b) Ensure to receive technical advice on all INSET write-ups from DIAS to enrich the contents. (DIAS and DTED)

3) Long-term

- (a) In order to further strengthen the quality of Divisional Trainers, provide them with the following opportunities: continuous training (e.g. National INSET); be monitored in their teaching by DIAS and DTED; and Facilitating various teacher professional development activities (e.g. cluster training and school-based training). (DIAS, DTED, Education Division Offices and secondary schools)

(3) To ensure that teachers apply knowledge and skills acquired through INSET to their teaching

1) Short-term

- (a) Continue joint M&E activities (lesson observations). (DIAS and DTED)
- (b) Conduct a situational analysis to explore contributing and impeding factors for teachers to apply the acquired knowledge and skills through SMASSE INSET. (DTED)
- (c) Issue a circular or directive to enforce the preparation of lesson plans by secondary teachers as a part of their daily work. (DIAS and Department of Secondary Education)

2) Mid-term

- (a) Encourage school management to supervise teachers in preparing lesson plans and to monitor lesson implementation. (DIAS, Department of Secondary Education, and DTED)

3) Long-term

- (a) Continue SMASSE special training for student teachers at DCE. (DCE, DTED, and JICA)
- (b) Conduct a tracking survey on student teachers who underwent SMASSE special training in 2011 to see whether their teaching is better than fellow teachers who had not attend SMASSE special training. (DIAS, DCE, DTED, and JICA)

3-7. Lesson Learned

- (1) The Project had carefully planned to develop capacity of internal human resources of the responsible organisations at all levels by providing various overseas training opportunities and involving them in the Project. This combined strategy of capacity development and active involvement of key persons has contributed to establishing the strong foundation of organisational sustainability. It is important to develop capacity of internal human resources, instead of only exploiting their skills and expertise, when a project is implemented within an existing structure.
- (2) Divisional Trainers have been monitored by the national M&E team not only in Divisional INSET but also in their teaching. Classroom observation conducted after the Divisional INSET had been appreciated by Divisional Trainers because they could get technical advice for their teaching from the M&E team (National Trainers and Divisional Coordinators). This exercise contributes to improving the capacity of a Divisional Trainer as a trainer as well as a teacher.

- (3) The DIAS and DTED had conducted joint lesson observation for M&E purpose in 2011 for the first time. They found this activity effective because; (1) they could provide technical advice to teachers from their respective professional experiences; and (2) National Trainers from DTED could take advantages of DIAS's authority when entering into classrooms. In addition, this activity has promoted further technical collaboration between two departments, as in the case that DIAS staff participated in M&E of the 4th National INSET.
- (4) The major part of funds of Divisional INSET is managed by DTED. Since all transactions of the fund are controlled and checked by the Secretariat, it is primarily accountable system and helps to efficiently standardize the level and contents of expenditure at each Divisional INSET Centre. Although the effective operation of this system highly depends on the timely disbursement of the government budget, adopting this centrally-controlled funding mechanism greatly contributes to ensuring accountability of INSET funds and equalising the INSET delivery at all centres to some extent.

3-8. Follow-up Situation

In August 2011, the Malawian Government submitted a request for technical cooperation to the Japanese Government to expand the Project's effects. The request was for further strengthening of mathematics and science teachers' capacity through the continuous implementation of INSET and the implementation of training on practical teaching methods in the Pre-Service Education and Training (PRESET) course, which is conducted before teaching practicum. Based on the result of the Terminal Evaluation, future cooperation will be considered.

第1章 評価調査の概要

1-1 調査団派遣の経緯と目的

マラウイ共和国（以下、「マラウイ」と記す）においては、1994年に初等教育の無償化政策が開始され、初等教育レベルの就学者数の増加に続き、中等教育レベルの進学希望者数も2000年前後から急激に増加した。これに対して、マラウイ教育科学技術省は、1998年に成人教育施設であった遠隔教育センター（全国で520カ所）をコミュニティ中等学校（Community Day Secondary Schools : CDSS）に格上げし、中等教育就学希望者の受け皿拡大を進めるなどの対応をとってきたが、教育の質的側面では様々な課題を抱えている。卒業試験等からも、生徒の理数教科目における学力の低さが明らかとなっており、有資格教員の極端な不足（有資格教員は約4割弱）、CDSSにおける劣悪な学習環境などが要因として挙げられている。有資格教員が不足しているために、教科知識が十分ではない低資格教員（小学校教員の資格のみ）が理数科を教えざるを得ないために、教授法についても教師中心であり、実験に関しても実験室や、実験器具・薬品の不足等を理由に積極的には行われていない状況である。特にこの状況は農村部のCDSSにおいて顕著である。

このような背景の下、JICAは、2004年から3年間、中等理数科現職教員再訓練プロジェクト（Strengthening of Mathematics and Science in Secondary Education : SMASSE）フェーズ1を実施し、南東部教育管区（South East Education Division : SEED）において、理数科教員向けの現職教員研修（In-Service Education and Training : INSET）を支援した。フェーズ1は、日本の無償資金協力により拡充整備されたドマシ教員養成大学を拠点として実施され、教員研修の実施に必要な中核人材の育成、研修カリキュラム開発、研修マネジメント能力向上等が進められた。また、プロジェクト実施期間中から研修制度の定着に向けて、教員研修政策の策定、研修予算の経常経費化等に向けた働きかけを行った結果、プロジェクト終了時にはマラウイ教育科学技術省より、対象地域を全国6教育管区（北部教育管区、南東部教育管区、南西部教育管区、中西部教育管区、中東部教育管区、シレ高地教育管区）に展開させるべく、SMASSEフェーズ2が要請された。

SMASSEフェーズ2は、全国6教育管区において中等理数科の質の高い現職教員研修を実施することを目的に、教育科学技術省をカウンターパート（Counterpart : C/P）機関として、2008年8月より4年間の予定で実施されている。今般プロジェクト終了を2012年8月に控え、これまでの事業実施による成果、今後の課題を確認することを目的として終了時評価調査を実施することとした。

本調査では、教育科学技術省と合同で本プロジェクトの目標達成度や成果等を確認するとともに、プロジェクト終了後を含む今後の課題及び方向性について協議し、その結果を合同評価報告書に取りまとめ、関係者間で合意することを目的とする。本調査団の主な調査項目は以下のとおりである。

- (1) プロジェクト・デザイン・マトリックス（Project Design Matrix : PDM）（Ver. 2.1）に沿って、プロジェクト活動の進捗状況や成果の達成度、実施プロセスを確認する（PDMは「付属資料1. ミニッツAnnex 2」を参照）。
- (2) 計画達成度、実施プロセスを踏まえ、評価5項目（妥当性、有効性、効率性、インパクト、持続性）の観点から、プロジェクトの成果、実施上の課題を確認し、プロジェクトチーム及びマラウイ側関係者とともにプロジェクトの評価を行う。

(3) 評価結果に基づき、プロジェクト終了(2012年8月)までに取り組むべき課題を明確にするとともに、より長期的なマラウイ側の自主的な取り組みの方向性についてもプロジェクトチーム及びマラウイ側関係機関と協議し、提言として取りまとめる。また、今後JICAがマラウイあるいは他国において実施する類似の教育支援案件に役立つ教訓があれば取りまとめる。

(4) 評価・協議結果を合同評価報告書として取りまとめマラウイ側と合意する(合同評価報告書は、「付属資料1. ミニッツ」を参照)。

1-2 調査団の構成

担当	氏名	所属
総括	高橋 悟	JICA国際協力専門員
協力企画	菅原 美奈子	JICA人間開発部基礎教育第二課 主任調査役
評価分析	鹿糠 説子	(有) アイエムジー プロジェクトオフィサー

1-3 調査日程

【評価分析】2012年1月22日(日)～2月4日(土)

【団長・協力企画】2012年1月7日(土)～2月4日(土)

(評価調査日程の詳細は「付属資料1. ミニッツAnnex 1」を参照)

1-4 主要面談者

調査団は、マラウイ教育科学技術省、ドマシ教員養成大学、教育管区事務所、地方研修センターとして指定されている中等学校の関係者、中央・地方研修講師等との協議、インタビューを行った(面談者リストは「付属資料1. ミニッツAnnex 5」を参照)。

第2章 プロジェクトの概要

2-1 基本計画

名称	マラウイ共和国中等理数科現職教員再訓練プロジェクトフェーズ2
協力期間	2008年8月4日～2012年8月3日
C/P	教育科学技術省 教員教育開発局 (Department of Teacher Education and Development : DTED)
裨益対象者	(1) 全国の中等教育レベル理数科教員 (約3,400名、約770校 ¹) (2) 教育科学技術省教員教育開発局及び全国6教育管区事務所の教育行政官、 中等学校校長
協力概要	マラウイにおける中等理数科の授業の質の向上をめざし、中央レベル及び地方レベルの2段階のカスケード方式の現職教員研修制度を構築し、質の高い理数科教員研修を実施することを目的とする。このような制度構築のために、地方レベルの研修講師の能力開発を進め、中央及び地方の研修センター機能を強化して、全国の理数科教員向けに研修を実施、モニタリングする。また研修制度を定着させるためには、地方教育行政官、学校長、PTAなどの理解と支援が不可欠であることから、このようなステークホルダーを対象とした啓発活動も行う。
スーパーゴール	マラウイの中等教育レベルの生徒の能力が向上する。
上位目標	マラウイの中等教育レベルにおける理数科の授業及び学習の質が向上する。
プロジェクト目標	中等教育レベルの理数科の質の高い現職教員研修が教育管区レベルで実施される。
期待される成果	(1) 地方研修講師の能力が強化される。 (2) 中央・地方の研修センターがリソースセンターとして強化される。 (3) 中央・地方の現職教員研修及びモニタリングが実施される。 (4) 学校・地方教育行政レベルで持続的な現職教員研修の運営体制が強化される。

2-2 PDM

本プロジェクトの計画概要表であるPDMは、中間レビューの提言を踏まえ、2011年11月に改訂合意された。初版からの主な改訂点及びその理由は以下のとおり。本終了時評価は改訂版PDM (Ver. 2.1) に基づき実施した。

¹ 事前評価調査時点の対象教員及び対象校数。

表1 PDMの変遷

項目	初版 (Ver 1.0)	改訂版 (Ver 2.1)	変更理由
活動4-4	地方研修基金を設立	削除	当初計画では、ケニア中等理数科教育強化計画の経験に基づき、地方教育事務所を中心に地方研修基金を設立し、学校から基金を徴収して地方研修の財源とすることを想定していた。しかし、教育科学技術省との協議の結果、教育科学技術省予算として地方研修経費を確実に確保することとなり、実績としても順調に執行されていたことから同活動を削除することとした。
成果3 指標 (d)	毎年9種類の研修教材を開発	毎年5種類の研修教材を開発	当初は、先行のSEEDと他5管区との研修内容が異なっていたため別々に教材を作成することが想定されていた。しかし、中間レビューの提言を受けて全国統一の研修が実施されることとなり、必要となる教材数に変更となったため、実態に即して目標値を変更した。
成果4 指標 (a)	地方研修基金への貢献	教育科学技術省による研修予算の確保及び適時執行	活動4-4の削除に伴い変更
成果4 指標 (b)	研修運営能力の強化を図る人数 (目標値未設定)	ナショナルコーディネーター、地方コーディネーター、地方研修センター校長のうち、運営管理能力強化研修に参加した割合 (目標80%)	中間レビュー時までの実績、その後の計画に即して目標値を設定

2-3 プロジェクト実施体制

(1) 実施機関及び責任部局

DTEDが現職教員研修を実施する責任部局として正式に位置づけられている²。DTEDには、新規教員研修課と現職教員研修課が設置されており、このうち現職教員研修課にSMASSE事務局が置かれ、SMASSEプログラムの実施を担っている。SMASSE事務局にナショナルコーディネーター、中央研修講師、日本人専門家が配属されている。

地方研修や1日研修（Training of Trainers：ToT）、集中研修といった教育管区レベルの活動については、SMASSE事務局が、教育管区事務所長及び地方コーディネーターとして任命されている管区事務所の理数科担当の視学官³、地方研修センターと連携しながら実施している。

(2) 中央研修センター及び地方研修センター

中央研修センターは、ドマシ教員養成大学、地方研修センターは全国19カ所の中等学校が指定されている。いずれも新規施設を建設せず、大学及び中等学校の既存施設（教室、実験室、学生寮）を活用している。

(3) プロジェクト運営委員会

プロジェクト運営委員会（National Steering Committee：NSC）⁴が、プロジェクトの運営管理に係る最高意思決定機関である。教育管区レベルの活動については、教育管区調整委員会（Divisional Coordination Committee：DCC）が運営管理を行う。

² プロジェクト開始当初、DTEDは教育科学技術省の正式な部局として承認されていなかったが、2010年に正式部局として承認された。

³ 教育管区に勤務する視学官の役職は中間レビュー後に、主任視学官（Principal Inspector and Advisor：PIA）またはシニア視学官（Senior Inspector and Advisor：SIA）と改称された。改称前は、Principal Education Methods Advisor（PEMA）またはSenior Education Methods Advisor（SEMA）という名称で呼ばれていた。PIA及びSIAの担当業務内容には、地方研修後の授業M&Eや、クラスター活動の支援等が含まれる。

⁴ 教育科学技術省事務次官を議長とし、教育科学技術省各関係局長（DTED、視学・指導サービス局（Directorate of Inspection and Advisory Services：DIAS）、教育計画局、人事管理局、中等教育局等）、ドマシ教員養成大学長、教育管区事務所長、マラウイ教育研究所、マラウイ国家試験委員会、SMASSE事務局、JICAマラウイ事務所等で構成される。

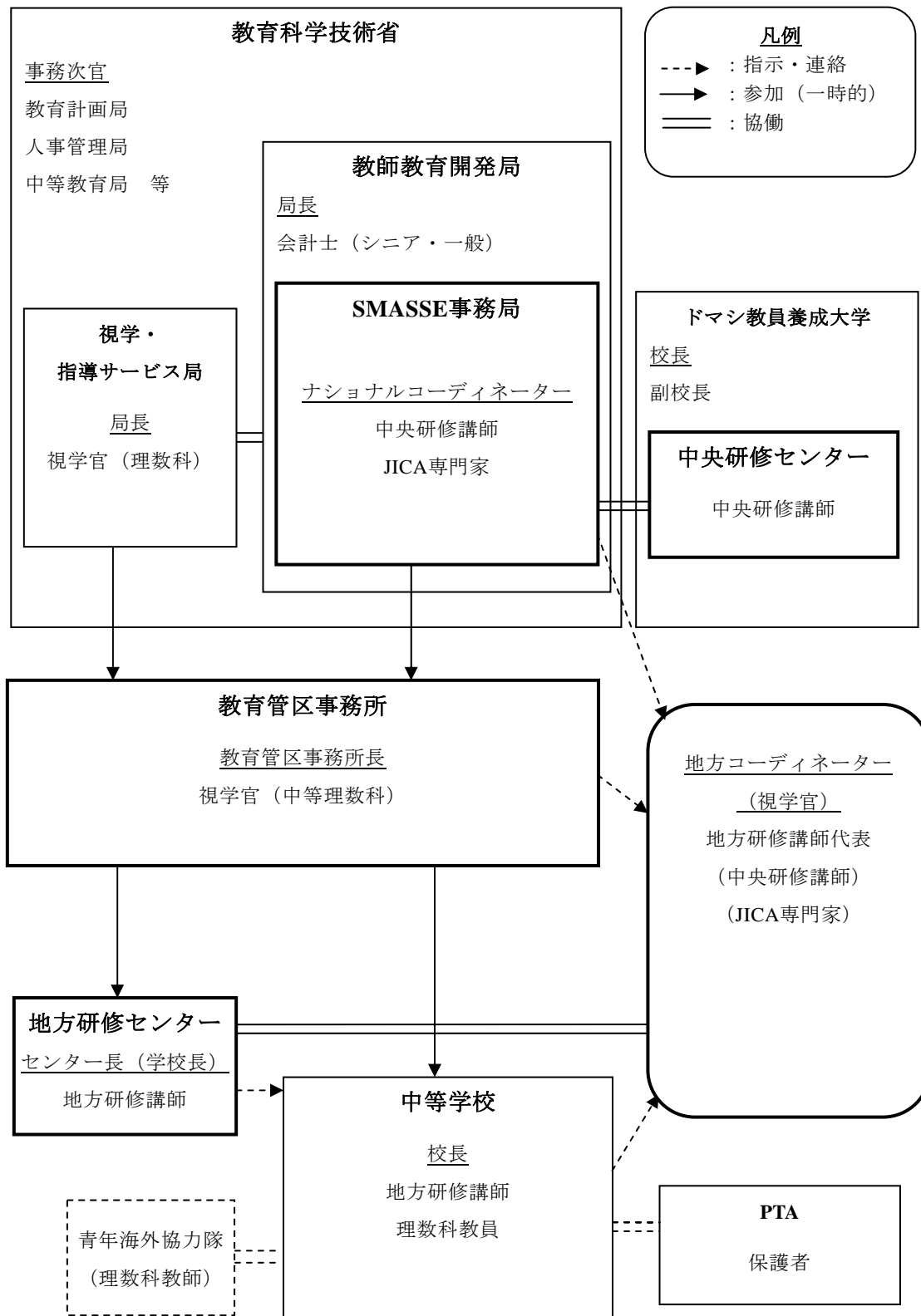


図1 プロジェクト運営実施体制

2-4 現職教員研修の概要

(1) 研修の構成及び実施方法

本プロジェクトで支援する現職教員研修は中央研修と地方研修から構成される。中央研修を受講した地方研修講師が地方での研修実施を担うカスケード方式を採用している。

研修の仕組みはフェーズ1や、他国類似案件の経験を踏まえ、事前評価調査時点で大まかな計画が作成されていたが、開始後1年間の準備期間において当初計画を精査し、最終的には表2に示すような仕組みとなっている（変更箇所は下線部）。中央研修、地方研修ともに学校の休暇期間に実施されているが、2010～2011年にかけて実施された学校カレンダーの変更（学年の始まりを4月から9月に変更）に伴い、学校休暇の時期が変動したため、年によって地方研修の実施時期が異なっている。また、当初計画では地方研修教材について中央研修を受講した地方研修講師が独自に開発することが想定されていたが、地方研修講師は全国の学校に散らばっており、集まって教材を開発することが難しいという物理的な制約や、地方研修の質を均一に保つ目的から、関係者で議論した結果、中央研修講師が統一教材を開発し、各センターに配布することとなった。

表2 研修の構成及び実施方法（当初計画及び実績）

当 初 計 画		
研修名	時期・期間	教材開発・実施
中央研修	毎年1月 2週間	中央研修講師が教材開発・実施ファシリテーションを行う。
地方研修	毎年4月 2週間	中央研修を受講した地方研修講師が、各地方でToTを毎月行い、中央研修教材やケニア等の他国研修教材を参考にして、教材作成を行う。実施ファシリテーションも行う。

↓

実 績		
研修名	時期・期間	教材開発・実施
中央研修	毎年1月 5日間	中央研修講師が教材開発・実施ファシリテーションを行う。
地方研修	4～5月 5日間	中央研修講師が開発した教材をSMASSE事務局において印刷し、 <u>全国の研修センターに配布</u> 。実施ファシリテーションは中央研修を受講した地方研修講師が行う。

(2) 研修実施スケジュール（実績）

プロジェクト期間中に実施された研修のスケジュール及びその概要は表3のとおりとなっている。なお、第1回中央研修は、地方研修実施のための研修内容伝達ではなく、フェーズ1対象地域（南東部教育管区）以外の5管区から選抜された地方研修講師の研修運営全般に関する基本的な知識や能力の強化を目的として実施された。

表3 研修実施スケジュール（実績）

2008				2009				2010				2011				2012			
Jan.	Jun.	Jul.	Dec.	Jan.	Jun.	Jul.	Dec.	Jan.	Jun.	Jul.	Dec.	Jan.	Jun.	Jul.	Dec.	Jan.	Jun.	Jul.	Dec.
プロジェクト協力期間（2008年8月～2012年8月の4年間）																			
				第1回 中央研修				第2回 中央研修				第3回 中央研修				第4回 中央研修			
<p>期間：5月25日～6月5日 場所：ドマシ教員養成大学 講師：中央研修講師 参加者：5教育管区 地方研修講師 192名（193名中） 修了者：188名（97.9%） テーマ：地方研修講師の知識・能力強化（特に研修運営全般に関する基本的な知識や能力） 予算：600万クワチャ（教育科学技術省支出分）</p>				<p>期間：1月4日～1月8日 場所：ドマシ教員養成大学 講師：中央研修講師 参加者：5教育管区 地方研修講師177名（196名中） 修了者：165名（93.2%） テーマ：第1回地方研修に向けて地方研修講師の知識・能力強化 予算：500万クワチャ（教育科学技術省支出分）</p>				<p>期間：1月3日～1月7日 場所：ドマシ教員養成大学 講師：中央研修講師 参加者：全教育管区（6教育管区） 地方研修講師244名（286名中） 修了者：234名（95.9%） テーマ：第2回地方研修に向けて地方研修講師の知識・能力強化 予算：500万クワチャ（教育科学技術省支出分）</p>				<p>期間：1月3日～1月6日 場所：ドマシ教員養成大学 講師：中央研修講師 参加者：全教育管区 地方研修講師224名（284名中） 修了者：60名（26.8%） テーマ：第3回地方研修に向けて地方研修講師の知識・能力強化 予算：500万クワチャ（教育科学技術省支出分）</p>							
																第1回 地方研修			
<p>期間：5月24日～5月28日 場所：全教育管区の19地方研修センター 講師：地方研修講師 参加者：全教育管区 理数科教員2,722名（約3,400名中） 修了者：2,258名（83.0%） テーマ：5教育管区（Attitude Change） SEED（Planning for effective teaching and learning） 予算：1,900万クワチャ（教育科学技術省支出分）</p>				<p>期間：4月18日～4月22日 場所：全教育管区の19地方研修センター 講師：地方研修講師 参加者：全教育管区 理数科教員2,508名（約3,400名中） 修了者：2,083名（83.1%） テーマ：Promoting Mathematical and scientific skills through experiments 予算：2,400万クワチャ（教育科学技術省支出分）</p>				(予定)											

(3) 研修カリキュラム

当初計画では、フェーズ1で開発した4年間の研修カリキュラムと同様のテーマを5教育管区で実施することが想定されていた（表4参照）。SEEDではすでにフェーズ1でサイクル1～3までの研修を終えていたことから、フェーズ2ではサイクル4の実施を支援し、その後はSEEDが独自に研修カリキュラムを開発していくこととなっていたため、SEEDと他の5教育管区とは毎年別々の内容の研修を実施する計画であった。

しかしながら、中間レビュー（2010年10月）において研修全体の品質管理や研修の持続性向上のため、全6教育管区を対象とする統一カリキュラムを開発することが提言された。これを踏まえ、第2回地方研修（2011年4月）から統一カリキュラムが導入された。

表4 研修カリキュラム（当初計画と実績）

当 初 計 画			
サイクル	研修テーマ	地方研修の実施時期	
		5教育管区	SEED
サイクル1	Attitude Change of Teacher	2010年4月	2005年済み
サイクル2	Meaningful Activity	2011年4月	2006年済み
サイクル3	Improvisation	2012年4月	2007年8月済み
サイクル4	Student-centered Lesson		2008年12月

↓

実 績			
サイクル/年	研修テーマ	地方研修の実施時期	
		5教育管区	SEED
サイクル4	Student-centered Lesson	-	2008年12月
サイクル5	Planning for Effective Teaching and Learning	-	2010年5月
2010	Attitude Change of Teacher	2010年5月	-
2011	Promoting Mathematical and Scientific Skills through Experiments	2011年4月	
2012	Enhancing Student-Centered Lesson in the Teaching of Mathematics and Science	2012年4月（予定）	

各研修で取り扱った内容は表5のとおり。本プロジェクトの現職教員研修対象の約6割が低資格教員であり教科知識が十分ではないことから、教科内容を重点的に取り扱っている。ケニアやウガンダの類似案件⁵では、対象教員のほとんどが有資格教員であり一定の教科知識を有していることから教科内容よりも教授法に重点を置いた研修内容となっているが、本プロジェクトでは対象教員のニーズを考慮した内容となっている。

⁵ ケニア中等理数科教育強化計画フェーズ1・2、ウガンダ中等理数科強化プロジェクトなど。

表5 研修内容一覧⁶

研修	科目	内容
第4回SEED 地方研修 (2008年12月)	共通	生徒中心
	数学	統計、三角関数、多項式、行列
	物理科学	科学研究法、酸化還元、半導体、モル
	生物	植物における輸送、呼吸、神経系、微生物
	家政	テーブルセッティング、洗濯、調理器具、食事、衣服
第5回SEED 地方研修 (2010年5月)	共通	効果的な教授・学習のための指導計画
	数学	指数と対数、混合物と密度
	物理科学	電気、酸と塩基
	生物	栄養、生態
	家政	掃除用具、家庭の資源管理
第1回地方研修 (SEED以外) (2010年5月)	共通	ベースライン調査結果の共有、理数科教育に対する態度、ASEI-PDSI
	数学	数列
	物理科学	波と振動
	生物	調査スキル
第2回地方研修 (統一) (2011年4月)	共通	実験
	数学	問題解決型アプローチ、確率
	物理科学	化学反応II
	生物	屈性
	家政 (SEEDのみ)	残り物 (食事) の活用方法
第3回地方研修 (統一) (2012年4月) (予定)	共通	生徒中心の授業、授業研究
	数学	線形計画法、図形の変換
	物理科学	電気と磁界、原子物理
	生物	共同 (Coordination)、遺伝

(4) 研修実施経費に関するコストシェアの仕組み

中央研修、地方研修ともに研修実施経費はマラウイ側（教育科学技術省予算及び学校予算）と日本側双方で費用分担を行っている。項目別の費用分担及び支出方法は表6のとおりである。研修実施経費のうち、JICAが研修教材、研修用機材、施設修繕用品を供与し、マラウイ側はそれ以外の必要経費を負担している。マラウイ側経費のうち、参加者の所属する学校が負担する日当・交通費を除き、すべて教育科学技術省（DTED予算）により支出されている。

⁶ 研修で使用された教材のリストは「付属資料1. ミニッツAnnex 8-3」を参照

なお、当初計画では地方研修実施経費については、各学校が生徒から徴収する学費の一部として「SMASSE地方研修基金」(SMASSE Divisional INSET Fund、生徒一人当たり年間300MK)を徴収することにより賄うことを想定していた⁷。しかし、具体化に向けた協議のプロセスで、研修基金の管理主体として想定されていた教育管区事務所や地方研修センター(中等学校)が公金口座以外の口座を開設することが会計制度上認められていないことが判明したこと、政府の判断として学費値上げではなく政府予算の増額により必要経費を賄うという決定がなされたことなどにより、地方研修基金を設立するという方法は採用されなかった(前述のとおり、これに関連する活動は中間レビュー時にプロジェクト計画から削除することが合意された)。

表6 研修実施経費の費用分担表

研修	費目	負担者
中央 研修	研修期間中の食料購入費	教育科学技術省 (DTED)
	中央研修センターサポートスタッフ手当	
	中央研修講師日当・謝金	
	参加者(地方研修講師)日当・交通費	
	中央研修センター光熱水料	
	研修教材(実験器具、文房具、参考図書等)	JICA
	研修用機材(パソコン、プロジェクター、プリンター等)	
	地方研修センター施設修繕用品	
地方 研修	研修期間中の食料購入費	教育科学技術省 (DTED)
	地方研修センターサポートスタッフ手当	
	地方研修講師謝金・日当・交通費	
	参加者交通費(ノン・コストセンター校 ⁸ からの参加者)	
	研修用消耗品	
	地方研修センター光熱水料	参加者の所属校 参加者の所属校 (教育科学技術省[DTED] ⁹)
	参加者交通費(ノン・コストセンター校以外からの参加者)	
	参加者日当	
	研修教材(実験器具、文房具、参考図書等)	
	研修用機材(パソコン、プロジェクター、プリンター等)	
	JICA	
	地方研修センター施設修繕用品	

⁷ 各学校が生徒から徴収する学費(授業料、一般目的基金、教科書購入基金など)のうち一部を現職教員研修の財源として地方で積み立てる「SMASSE基金」は、ケニア中等理科教育強化計画フェーズ1において初めて導入された。ウガンダでも類似の基金がある。ケニア及びウガンダでは、学費を値上げせず一部を積み立てていたが、マラウイでは増額(用途を限定した費目の追加)が想定されていた。ケニア及びウガンダでは中等教育無償化政策が導入されたため、現在は学費の一部ではなく、政府が支給する学校補助金の一部を積み立てている。

⁸ 「コストセンター」とは、財務省から直接予算配賦を受けることのできる部局・機関を指す。中等学校のうち、「コストセンター」として承認されているのは、全政府標準校及びコミュニティ通学制中等学校の約半数である。承認を受けていない学校は「ノン・コストセンター校」と呼ばれる。

⁹ 2011年度は、マラウイ政府が導入した予算管理措置の影響により、地方研修の参加校が日当を全額支払うことが困難になったため、教育科学技術省が半額を負担(予算管理措置による影響の詳細は、「4-7 実施プロセスに関する特記事項」を参照)。

第3章 評価の方法

3-1 評価のフレームワーク

本終了時評価調査では、中間レビューの提言を踏まえ2011年11月に改訂合意されたPDM（Ver. 2.1）と活動計画表（Plan of Operation：PO）に基づき、プロジェクトの実績、実施プロセス、評価5項目を検証するために、評価グリッドを作成し、以下の項目に関して評価を行った（POは、「付属資料1. ミニッツAnnex 3」を参照。評価グリッドは、「付属資料1. ミニッツAnnex 6」を参照）。

（1）実績の検証

- 1）スーパーゴール及び上位目標、プロジェクト目標の達成見込みはあるか（目標値との比較）
- 2）成果は計画通り産出されたか（目標値との比較）
- 3）活動は計画通り実施されたか（計画との比較）
- 4）投入は計画通り実施されたか（計画値との比較）

（2）実施プロセスの検証

- 1）実施機関のプロジェクトに対する意識（オーナーシップ）は高いか
- 2）プロジェクトの運営体制に問題はなかったか
- 3）実施プロセスで生じている問題や効果発現に影響を与えた要因は何か、等

（3）評価5項目の検証

- 1）妥当性：プロジェクト目標や上位目標がマラウイの開発政策や我が国の援助政策との整合性が取れているか、ターゲット・グループのニーズと合致しているかなど、プロジェクトの正当性・必要性を検証・評価する。
- 2）有効性：プロジェクト目標がプロジェクト終了時まで計画通り達成されるか、また、プロジェクト目標の達成が成果の達成によって引き起こされたのかを検証・評価する。
- 3）効率性：プロジェクトが効果的に投入資源を活用したかという観点から、投入実績と成果達成の状況を踏まえて、投入（インプット）がどのように効率的に成果（アウトプット）に転換されたかを検証・評価する。
- 4）インパクト：上位目標達成の見込みとプロジェクト実施によりもたらされる長期的・間接的な効果や波及効果の有無を検証し判断する。
- 5）持続性：政策・制度面、組織面、財務面、技術面の観点から、プロジェクト終了後、プロジェクトで発現した効果がどのように定着・持続していくかについて検証・評価する。

3-2 評価実施体制

本終了時評価は、マラウイ側と合同で行われた。日本側とマラウイ側の両方のメンバーからなる合同評価チームにより、評価グリッドに設定された評価設問に沿って評価結果が整理されたうえでドラフト評価レポートに取りまとめられ、評価レポートの最終化・合意に向けて協議が行われた。

3-3 評価実施方法

本終了時評価では、既存資料レビュー、質問票調査・面談調査、現地踏査の手法を用いて、本プロジェクトに関する情報・データを収集・分析し、包括的に評価を実施した。

(1) プロジェクト関連資料レビュー

1) 本プロジェクト（フェーズ2）にかかわる報告書

- ・実施協議報告書（2008年8月）
- ・中間レビュー報告書（2011年2月）
- ・専門家の業務完了報告書・進捗報告書等

2) フェーズ1にかかわる報告書

- ・実施協議報告書（2004年1月）
- ・終了時評価報告書（2007年8月）

3) プロジェクト作成資料

- ・ベースライン調査報告書（2009年10月）
- ・第1回～第3回中央研修報告書
- ・第1回～第2回地方研修報告書
- ・地方研修講師対象授業観察報告書
- ・ガイドライン各種等

4) マラウイの開発政策文書

- ・Vision 2020（1998年）
- ・マラウイ成長開発戦略フェーズ2（案）（Malawi Growth and Development Strategy : MGDS）（2011～2016年）
- ・教育政策と投資に関するフレームワーク（Policy & Investment Framework : PIF）（2000～2015年）
- ・国家教育セクター計画（National Education Sector Plan : NESP）（2008～2017年）
- ・教育セクター実施計画（Education Sector Implementation Plan : ESIP）（2009～2012年）
- ・国家教員教育開発戦略（National Strategy for Teacher Education and Development : NSTED）（2007～2017年）等

5) 日本政府の教育セクターにおける援助政策文書

- ・日本の教育協力政策2010～2015（2010年）
- ・マラウイ国教育分野ポジションペーパー（2011年）
- ・政策開発援助（ODA）国別データブック：マラウイ（2010年）
- ・横浜行動計画（2008年）

6) その他関連資料

- ・授業観察報告書（DIAS作成、2011年）
- ・マラウイ国中等学校改善計画準備報告書（2010年9月）
- ・UNESCO/Teacher for EFA, “Teacher Attrition in Sub-Saharan Africa : The Neglected Dimension of the Teacher Supply Challenge”（2010年）等

(2) 質問票調査・面接調査

国内準備作業として、評価グリッド（案）に基づき、C/P、地方研修講師、地方研修センター管理者（地方研修センターに指定された中学校の校長）に対して質問票を作成・配布した。質問票への回答結果及び上記（1）のプロジェクト関連資料を基礎情報として、以下のグループに対して、個別またはグループによる面接調査を行い、追加情報の収集と分析を行った（面談者リストは「付属資料1. ミニッツAnnex 5」を参照）。

- ・C/P（ナショナルコーディネーター、地方コーディネーター〔教育管区事務所の視学官〕、DTEDで勤務する中央研修講師、ドマシ教員養成大学の教員である中央研修講師）
- ・教育科学技術省関係者
- ・地方研修センターとして指定されている中学校の関係者（校長、地方研修講師〔理数科教員〕）
- ・日本人専門家
- ・青年海外協力隊員（理数科教師）等

(3) 現地踏査

SMASSE事務局を訪問し、執務環境、供与資機材の維持管理状況、本プロジェクトで作成された教材の管理状況を確認した。また、中央研修センターや地方研修センターを訪問し、研修センターの施設環境、供与資機材の維持管理状況を確認した（本調査で訪問した組織は「付属資料1. ミニッツAnnex 1」を参照）。

なお、本プロジェクトはすべての教育管区を対象としており、合計で19の中学校が地方研修センターとして指定されている。終了時評価調査日程の限られた期間内において、地理的に広範囲にわたって位置しているすべての地方研修センターを訪問することは困難であったため、本終了時評価調査では、フェーズ1からプロジェクトの対象であったSEEDをはじめとする4つの教育管区事務所に所属する視学官に対して面接調査を行うとともに、北部教育管区（Northern Education Division : NED）を除く5つの教育管区に位置する合計7つの地方研修センターを訪問して、評価に必要な情報・データを入手することとなった。

第4章 プロジェクトの実績

4-1 投入実績

プロジェクトの投入の実績に関する詳細は「付属資料1. ミニッツAnnex 7」を参照。

4-1-1 マラウイ側の投入実績

(1) C/Pの配置

マラウイ側の投入として合計40人のC/Pが配置された（C/Pリストは「付属資料1. ミニッツAnnex 7-1」を参照）。

表7 C/Pの配置

役職	勤務先	人数
1) ナショナルコーディネーター	DTED (SMASSE事務局)	3名
2) 地方コーディネーター (視学官)	教育管区事務所	22名
3) 中央研修講師	DTED (SMASSE事務局)	7名
4) 中央研修講師	ドマン教員養成大学	8名
合計		40名

(2) SMASSEプログラム実施経費

SMASSEプログラム実施経費として、94.9百万クワチャが教育科学技術省 (DTED) より支出された。それに加え、マラウイ側の投入として、地方研修参加者の日当は参加者の所属校により負担され、コストセンター校からの参加者の交通費は参加者の所属校により負担された (日本側とマラウイ側の費用分担は「表6 研修実施経費の費用分担表」及び「付属資料1. ミニッツAnnex 7-2 (a)」を参照)。

表8 教育科学技術省 (DTED) の支出実績

(単位：百万クワチャ)

2008/2009年度*	2009/2010年度	2010/2011年度	2011/2012年度	合計
11.3	28.5	42.2	12.9**	94.9

* 年度：マラウイ会計年度 (7月～6月)

** DTEDが作成する第一期四半期報告書 (2011年7月～9月) と第二期四半期報告書 (2011年10月～12月) に記載されていたSMASSEプログラム経費の合計

(3) モニタリング・評価経費

(2) の支出に加え、教育管区事務所が実施するSMASSE研修のモニタリング・評価 (Monitoring and Evaluation : M&E) に必要な活動経費 (車両、燃油代、視学官の日当、ドライバーの日当等) がマラウイ側により負担された。

(4) 施設の提供

プロジェクト実施に必要な以下の施設がマラウイ側より提供された (中央研修センター及び地方研修センターのリストは「付属資料1. ミニッツAnnex 7-3」を参照)。

- ・ DTED内SMASSE事務局のオフィス
- ・ ドマン教員養成大学内中央研修センター施設
- ・ 地方研修センター施設（地方研修センターとして指定された全国19の中等学校）

4-1-2 日本側の投入実績

(1) 専門家派遣

日本側の投入として2名の長期専門家（研修運営と理数科教育）と2名の短期専門家（理数科教育と理数科教育/M&E）が派遣された（日本人専門家リストは「付属資料1. ミニッツAnnex 7-4」を参照）。

(2) 本邦研修、第三国研修（ケニア、マレーシア）、国際ワークショップ

日本側の投入として合計168名が各種研修及びワークショップに参加した。そのうち、46名がプロジェクト予算によるものであり、他は、日本側の他事業の予算¹⁰により実施された研修への参加である。（本邦研修、第三国研修、国際ワークショップの参加者リストは「付属資料1. ミニッツAnnex 7-5」を参照）。

表9 本邦研修・第三国研修・国際ワークショップへの参加者

研修の種類	参加者
	合計（プロジェクト予算による参加者）
1) 本邦長期研修（修士課程）	5名（0名）
2) 本邦短期研修	75名（4名）
3) 第三国研修（ケニア）	37名（3名）
4) 第三国研修（マレーシア）	40名（36名）
5) 国際ワークショップ	11名（3名）
合計	168名（46名）

(3) 在外事業強化費

2012年1月20日までに合計228.8百万クワチャ（123.0百万円¹¹）の在外事業強化費が投入された（日本側とマラウイ側の費用分担は「表6 研修実施経費の費用分担表」と「付属資料1. ミニッツAnnex 7-2 (a) 及び7-2 (b)」を参照）。

¹⁰ 第三国研修（ケニア）は「ケニア理数科教育強化計画プロジェクト」、第三国研修（マレーシア）は「(第三国研修) アフリカ諸国向け中等理数科教員養成官」によるもの。

¹¹ 123.0百万円＝2008/2009～2010/2011年度末までの在外事業強化費の支出実績（102,946千円、決算確定値）＋2011/2012年度の支出実績（41,460千クワチャ＝20,026千円、1クワチャ＝0.483円 [JICA平成23年1月精算レート使用]）

表10 日本側の支出実績

(単位：百万クワチャ)

2008/2009年度*	2009/2010年度	2010/2011年度	2011/2012年度	合計
45.0	92.6	49.7	41.5**	228.8***

* 年度：日本会計年度（4月～3月）、** 2012年1月20日時点、***123.0百万円

(4) 資機材の供与

プロジェクト実施に必要な89.3百万クワチャ（47.9百万円¹²）の資機材が供与された。これらの資機材の供与先は以下のとおりである（供与資機材のリストは「付属資料1. ミニッツAnnex 7-6」を参照）。

表11 資機材の供与先と金額

供与先	金額（百万クワチャ）
1) SMASSE事務局	25.2
2) 教育管区事務所	30.4
3) 中央研修センター（ドマシ教員養成大学）	7.0
4) 地方研修センター	26.7
合計	89.3

4-2 活動実績

本プロジェクトは、PDM及びPOに基づき、おおむね計画通りに活動が実施された。中央研修講師や地方研修講師の選定、地方研修センターの設備最低基準の設定、教員ニーズのベースライン調査の実施など、当初の計画より実施が多少遅れた活動はあったものの、本プロジェクト全体に大きな影響を及ぼす程度の遅れではなかった。

4-3 成果達成状況

(1) 成果1の達成度

成果1：地方研修講師の能力が強化される。

指標1 (a)：240名以上の地方研修講師が適切な研修を受ける。

<指標1 (a) の達成度：おおむね達成>

2009年から2012年まで毎年1回の中央研修が合計4回行われた。第1回中央研修の修了者は参加者192名中188名（97.9%）、第2回中央研修の修了者は177名中165名（93.2%）、第3回中央研修の修了者は244名中234名（95.9%）であった（中央研修の実績は「表3 研修実施スケジュール（実績）」及び「付属資料1. ミニッツAnnex 8-1」を参照）。

¹² 47.9百万円＝2008/2009～2010/2011年度末までの機材供与の支出実績（31,678千円、決算確定値）＋2011/2012年度の支出実績（33,517千クワチャ〔SMASSE事務局、教育管区事務所、中央研修センターに供与した車両代〕＝16,189千円、1クワチャ＝0.483円〔JICA平成23年1月精算レート使用〕

表12 中央研修の参加者数と修了者数（2009～2012年）

中央研修	参加者数 (地方研修講師)	修了者*		中央研修講師
		数	%	
第1回（2009年）	192名	188名	97.9%	9名
第2回（2010年）	177名	165名	93.2%	9名
第3回（2011年）	244名	234名	95.9%	10名
第4回（2012年）	224名	60名	26.8%	13名

*中央研修修了証（Certificate of National INST）は中央研修に原則9割以上出席した研修参加者に授与される。
出所：第1回～第3回中央研修報告書、プロジェクトデータ

第4回中央研修の修了者は参加者224名中60名（26.8%）であり、非常に少ない。これは、参加者の多くが、交通費の支払い方法をはじめとする運営上の課題に対する抗議として、研修の最終日をボイコットし、SMASSE事務局が規定する「研修修了」の基準¹³を満たさなかったためである（ボイコットの詳細は「5-1-2 阻害・貢献要因」を参照）。

本プロジェクトでは中央研修に加えて、地方研修講師を対象としたToTが実施されている。ToTは地方研修実施の手順、地方研修講師の役割、研修の内容等の理解を深めるためのものであり、これまでに合計47回のToTが実施された（ToTの実績は「付属資料1. ミニッツAnnex 8-2」を参照）。

継続的な研修の実施による能力育成という観点では、第1回中央研修から第4回中央研修まですべての中央研修をこれまで合計41名¹⁴の地方研修講師が修了した。SMASSE事務局は、今後第3回地方研修に向けてToTを実施する予定であり、このToTにおいて、第4回中央研修を修了しなかった者に修了証が授与されると仮定した場合、すべての中央研修を修了する者の数は127名、第3回・第4回中央研修のみに限定すると計207名となる。この分析結果から、地方レベルにおいて、今後もSMASSE研修を継続していくために必要な数の、中核となる地方研修講師が育成されたといえる。

指標1 (b)：プロジェクトのM&Eチームが調査する研修講師能力指標（Trainer Capacity Index）において、中央及び地方研修講師が、0～4のスケールで、3.0以上となる。

研修講師能力指標¹⁵

研修講師能力は、以下の5つの側面より評価される。

- ・研修内容の習得度（Facilitator’s Mastery of Content）
- ・研修セッション中の集中力（Ability of Facilitators to be Focused）
- ・グループ活動を効率良く実施する能力（Ability to Guide Group Activities）
- ・グループディスカッションにおけるファシリテーション能力（Ability to Interject）
- ・コミュニケーション能力全般（Communication）

¹³ 全セッションの90%に出席することを「修了」の基準としている。

¹⁴ SEEDの地方研修講師は第1回中央研修及び第2回中央研修に参加していないためにこの数には含まれていない。

¹⁵ 研修講師能力指標は、成果3の指標3 (b) 及びプロジェクト目標指標の「研修の質指標」に含まれる「参加者による研修全体評価（INSET Overall Evaluation by Participants）」の評価指標のひとつである。評価に用いられたツールは「付属資料2の2-1 参加者による全体評価」を参照。

<指標1 (b) の達成度：達成>

表13に示されているとおり、すべての中央・地方研修において、中央及び地方研修講師の研修講師能力指標の評価結果は、目標値（3.0以上）を超えている。

表13 中央・地方研修における研修講師能力指標の調査結果（2009～2011年）

研修講師 能力指標	中央研修*			地方研修	
	第1回 (2009年)	第2回 (2010年)	第3回 ¹⁶ (2011年)	第1回 (2010年)	第2回 (2011年)
評価結果	3.3	3.4	3.1	3.2	3.3
目標値	3.0	3.0	3.0	3.0	3.0
達成状況	達成	達成	達成	達成	達成

*第4回中央研修（2012年）のM&E結果は、終了時評価時点では作成中につき入手できなかった。
出所：第3回中央研修報告書、第2回地方研修報告書

地方研修では、研修講師の能力を測る追加的な評価として「研修講師による自己能力評価」及びプロジェクトM&Eチーム（DTED勤務とドマシ教員養成大学に勤務する中央研修講師）による「研修講師能力評価」の2つの指標も用いられている¹⁷。「研修講師による自己能力評価」は、地方研修の準備（セッションのリハーサル等）から研修運営管理支援（参加者登録の管理等）まで研修全体を通して地方研修講師がどれだけ能力を発揮できたかを自己評価するものであり、評価結果は、第1回地方研修及び第2回地方研修とともに3.7であった。また、プロジェクトM&Eチームによる「研修講師能力評価」は、セッション中の地方研修講師の能力発揮度を測るものであるが、第1回地方研修では行われておらず、第2回地方研修では3.1であった。

上記の地方研修で評価された研修講師能力指標の結果以外にも、地方研修講師の能力向上は、一般理数科教員と地方研修講師の授業観察（M&E）の比較評価結果から確認することができる。表14に示されているように、2011年2月に実施された地方研修講師の授業観察の結果は2.6で、同年5月に行われた一般理数科教員を対象とした授業観察の評価結果の1.8より断然高い。

¹⁶ 第3回中央研修の全体評価結果は、第1回及び第2回中央研修と比較すると多少低下している。低下の要因として、第3回中央研修では、SEEDの地方研修講師より厳しい評価が下されたことが挙げられる。「2-4 現職教員研修の概要（3）研修カリキュラム」で先述したとおり、SEEDはすでにフェーズ1でSMASSEの研修サイクル4のうちサイクル3まで終えていたことから、SEEDに対しては他の5教育管区とは異なった研修を実施する予定であったが、研修全体の品質管理や持続性向上の観点から、中間レビューの提言に基づき、第3回中央研修（2011年）より、他の教育管区の地方研修講師に交じって中央研修に参加することになった。

第3回中央研修報告書によると、SEEDの地方研修講師は、第3中央研修の内容が、これまでにフェーズ1や集中研修で習った内容と重複する部分があったと感じたため、その研修セッションを実施した中央研修講師に対して厳しい評価を与えた（SEED参加者による第3回中央研修の評価の補足説明は、「（3）成果3の達成度の指標3 (b)」の記述内容を参照）。

¹⁷ この2つの評価指標の結果は、表13の評価結果には含まれていない。評価に用いられたツールは「付属資料3の3-1 研修講師による自己能力評価」及び「付属資料3の3-2 プロジェクトM&Eチームによる「研修講師能力評価」」を参照。

表14 一般理数科教員と地方研修講師の授業観察結果の比較

授業観察	ベースライン調査 (2009年8月)	第1回地方研修後 (2010年7月)	第2回地方研修後 (2011年5月)	第3回中央研修後 (2011年2月)
対象グループ	一般理数科教員	一般理数科教員	一般理数科教員	地方研修講師
全体評価結果*	1.1	1.7	1.8	2.6

*全体評価結果は、ASEI/PDSIを用いた評価8項目の平均値である。
出所：第2回地方研修報告書、地方研修講師対象授業観察報告書

上記の授業観察において、地方研修講師の評価結果は、ASEI/PDSIのチェックリストを用いた評価8項目すべて（態度 [Attitude]、活動 [Activity]、生徒中心 [Student-Centred]、実験 [Experiment]、創意工夫 [Improvisation]、計画 [Plan]、評価 [See]、改善 [Improve]）において、一般理数科教員の評価結果より高かった。なお、上記の授業観察はすべて同じツール（ASEI/PDSIチェックリスト¹⁸）を用いて行われた。

成果1の総合評価：おおむね達成

上記の2つの指標の達成度にかんがみると、成果1はおおむね達成されていると判断される。中央研修講師及び地方研修講師の能力に関しては高い評価が与えられているものの、第3回中央研修報告書及び第2回地方研修報告書、今回のインタビュー調査では、以下のような中央研修講師及び地方研修講師の能力の課題が挙げられている。

中央研修講師の課題

- ・時間管理能力（例：一部の中央研修講師は、セッションにおいて、必要以上に「導入（セッションの目的の説明）」部分やグループディスカッションやプレゼンテーションに時間をかけすぎてしまうため、十分に教材がカバーできず、「まとめ」の内容が乏しい）
- ・ファシリテーション能力（例：一部の中央研修講師は、グループディスカッションを効率的にコントロールし、重要な学習ポイントを適切にまとめる能力が乏しい。また、参加者からの意見を柔軟に汲み取ることはせずに、正論のみを展開する）

地方研修講師の課題

- ・時間管理能力（例：中央研修講師の弱点と同様に、セッションの「まとめ」の部分への時間配分が不十分であり、重要な学習ポイントを適切にまとめられない）
- ・ファシリテーション能力（例：研修参加者の多様なバックグラウンド [教員資格の有無、教員経験の違い、教科内容の知識、勤務校の施設環境の違い] に十分に対応できておらず、参加者全員を効果的・効率的にセッションに巻き込むことができてない）

(2) 成果2の達成度

成果2：中央・地方の研修センターがリソースセンターとして強化される。

指標2 (a)：最低1カ所の中央研修センター及び19カ所の地方研修センターが補修され、機材

¹⁸ 評価に用いられたツールは付属資料4. 評価ツール：ASEI/PDSIチェックリスト」を参照。

が整備される。

<指標2 (a) の達成度：達成>

中央研修に向けて、中央研修センター（ドマシ教員養成大学）の修繕及び資機材（コピー機、実験器具、参考図書）の整備が計画通り実施され、地方研修実施に向けて、19の地方研修センターの修繕及び資機材整備が計画通り実施された。なお、第3回地方研修（2012年）に向けた修繕工事及び機材整備は進行中である（施設改修用資材及びその他の資材・授業教材の供与金額は、「付属資料1. ミニッツAnnex 7-2 (b)」を参照。供与資材のリストは「付属資料1. ミニッツAnnex 7-6」を参照）。

指標2 (b)：地方研修センターの施設環境の改善を行うためのガイドラインを開発する。

<指標2 (b) の達成度：達成>

本プロジェクトでは以下の2つのガイドラインが、プロジェクト関係者によって作成された。

- ①機材維持管理用ガイドライン (Guidelines for Management of Divisional INSET Centre) (2010年2月)
- ②施設維持管理用ガイドライン (Guidelines for Rehabilitation of Divisional INSET Centre) (2010年11月)

指標2 (c)：地方研修センターの施設環境が、ガイドラインに設定されたレベルに達する。

<指標2 (c) の達成度：ある程度、達成>

地方研修に向けて、地方研修センターの施設環境が指標2 (b) で作成された施設維持管理ガイドラインに設定されたレベルに達するように、同ガイドラインに記載されている修繕の手続きとチェックリストに基づき、施設の修繕と資機材の供与が行われた。

地方研修センターの施設や供与資機材の維持管理状況に関しては、センターごとにばらつきが大きいことが確認された。施設や資機材の管理が乏しいことにより、研修の質が低下することを防ぐため、SMASSE事務局は、特に地方研修の運営管理とセンター施設や供与資機材の維持管理レベルが十分でないムワンザ (Mwanza) 地方研修センターの運営を一時的に停止している¹⁹。

指標2 (d)：現職教員研修の教材、機材が、教員の活動に十分活用される。

<指標2 (d) の達成度：達成>

現職教員研修の教材、機材は地方研修で十分に活用されている。ほとんどの地方研修センターは、機材維持管理用ガイドラインに基づいて、周辺校に研修教材や機材（特に、参考図書）への貸出しを行っており、理数科教員能力強化のリソースセンターとして適切に機能している。

¹⁹ そのため、第3回地方研修は合計18の地方研修センターで実施される。ムワンザ地方研修センターで地方研修に参加していた理数科教員や地方研修講師は、他の研修センターで地方研修に参加する。

成果2の総合評価：おおむね達成

上記の4つの指標の達成度にかんがみると、成果2はおおむね達成されていると判断される。年に一度の地方研修を計画通り実施し、実績を積み上げていくことで、地方研修センターにおいて地方研修を受け入れる体制が着実に整えられてきている。その一方で、施設や供与資機材の維持管理のレベルは、各センターによって大幅に異なっており、いくつかの研修センターは、他の研修センターに比べそれほどガイドラインを厳しく遵守していない。これは地方研修センター管理者（地方研修センターに指定された中等学校の校長）の維持管理に対する意識の差に起因するものであり、今後対応されるべき課題である。

（3）成果3の達成度

成果3：中央・地方の現職教員研修及びモニタリングが実施される。

指標3 (a)：マラウイの全国19カ所の地方研修センターにおいて、毎年1回の現職教員研修が実施される。

<指標3 (a) の達成度：達成>

マラウイの全国19カ所の地方研修センターにおいて、地方研修が2010年及び2011年に合計2回行われた。第1回地方研修（2010年）の修了者は参加者2,722名中2,258名（83.1%）、第2回地方研修（2011年）の修了者は2,508名中2,083名（83.0%）であった。

第3回地方研修は2012年4月に予定されている（地方研修の実績は「表3 研修実施スケジュール（実績）」及び「付属資料1. ミニッツAnnex 8-1」を参照）。

指標3 (b)：プロジェクトのM&Eチームが調査する「研修の質指標（INSET Quality Index）」において、中央研修が、0～4のスケールで、2.5以上となる。

本プロジェクトでは、中央研修と地方研修の質を測るために「研修の質指標」を評価に用いている。地方研修と中央研修で用いられる「研修の質指標」の内容は同じであり、PDM上では、中央研修における同指標の評価結果は成果3の指標3 (b)、地方研修の同指標の評価結果はプロジェクト目標の指標に設定されている。

表15に示されているとおり、「研修の質指標」は、「参加者による研修全体評価」「研修講師による研修全体評価」「参加者によるセッション評価」「参加者による研修後の評価」の4つの評価項目（中項目）により構成されており、「研修の質指標」の評価結果は、これら4つの評価項目の平均値である。4つの評価項目（中項目）には、包括的な評価指標（小項目）が含まれており、4つの評価項目それぞれの評価結果は、それらの平均値である。

また、「研修の質指標」の全体評価計算（平均値計算）には含まれないものの、研修が実施されることによる理数科教育に対する参加者の意識の変化を測るために、「参加者による研修前の評価」も実施されており、「参加者による研修後の評価」の結果との比較により研修の効果を測っている。

表15 「研修の質指標」²⁰

大項目*	中項目**	小項目**
研修の質	参加者による 研修全体評価 (付属資料2の 2-1を参照)	(1) 研修内容 (Content) (2) 研修講師能力 (Facilitator) *** (3) 活動 (Activities) (4) 研修教材 (Materials) (5) 時間管理 (Time Management) (6) 研修施設及び福利厚生 (Facilities and Welfare) (7) コミュニケーション (Communication) (8) 研修内容と参加者のニーズの整合性 (Relevance)
	研修講師による 研修全体評価 (付属資料2の 2-2を参照)	(1) 計画性 (Planning) (2) 研修の内容 (INSET Contents) (3) 研修教材 (INSET Materials) (4) 実行 (Doing) (5) 評価 (Seeing) (6) 改善 (Improving) (7) 総合 (General)
	参加者による セッション評価 (付属資料2の 2-3を参照)	(1) 計画性 (Plenary) (2) ディスカッション (Discussion) (3) ハンズ・オン活動 ²¹ (Hands-on Activities) (4) 参加者間での相互指導 (相互指導へのフィードバックも含む) (Peer teaching [including feedback on peer teaching])
	参加者による 研修後の評価 (付属資料2の 2-4を参照)	(1) 活動 (Activity) (2) 生徒中心 (Student-Centred) (3) 実験 (Experiment) (4) 創意工夫 (Improvisation) (5) 計画 (Planning) (6) 評価 (Seeing)

*大項目の評価結果＝中項目の評価結果の平均値

**中項目の評価結果＝小項目の評価結果の平均値

*** 成果1の指標1 (b)

<指標3 (b) の達成度：達成>

表16が示すとおり、第1回中央研修（2009年）から第3回中央研修（2011年）まで、すべての中央研修における「研修の質指標」の評価結果は目標値の2.5を上回っている。また、理数科教育に対する参加者の意識の変化を測る研修前と研修後の評価比較では、すべての中央研修において、研修後の評価結果が研修前の評価結果を上回ったことが確認された。このことから、中央研修の実施により、地方研修講師の授業の進め方に対する意識が改善されたと判断される。

²⁰ 評価に用いられたツールは「付属資料2. 評価ツール：研修の質指標」を参照。

²¹ 参加・体験型の学習活動

表16 中央研修の「研修の質指標」の結果（2009～2011年*）

研修の質指標		第1回 (2009年)	第2回 (2010年)	第3回 (2011年)	目標値	達成 状況
指標	評価者					
研修全体評価	参加者**	3.3	3.3	3.0	2.5	達成
	(中央研修講師)	(3.7)	(なし)	(3.4)	(2.5)	(達成)
セッション評価	参加者	3.7	3.6	3.3	2.5	達成
研修後評価	参加者	3.1	3.2	3.2	2.5	達成
全体評価結果（平均値） ²²		3.4	3.4	3.2	2.5	達成

* 第4回中央研修（2012年）のM&E結果は、終了時評価時点では作成中につき入手できなかった。

** 中央研修の参加者は、地方研修講師を指す。

出所：第1回～第3回中央研修報告書

第3回中央研修の全体評価結果は、第1回中央研修及び第2回中央研修の結果より多少低下している。低下の要因として、第3回中央研修では、SEEDの地方研修講師より厳しい評価が下されたことが挙げられる。「2-4 現職教員研修の概要（3）研修カリキュラム」で述べたとおり、SEEDはすでにフェーズ1でSMASSEの研修サイクル4のうちサイクル3まで終えていたことから、プロジェクト当初は、SEEDに対しては他の5教育管区とは異なった研修を実施する予定であった。しかしながら、研修全体の品質管理や持続性向上の観点から、中間レビューの提言に基づき、第3回中央研修（2011年）より、他の教育管区の地方研修講師に交じって中央研修に参加することになった。第3回中央研修報告書によると、SEEDの地方研修講師は、これまでにフェーズ1や集中研修で習った内容と第3回中央研修の内容が重複する部分があったと感じたため、研修に厳しい評価を与えた。この分析を裏付けるものとして、第3回中央研修の研修全体評価では、全6教育管区参加者の合計平均値は3.0であったが、SEED参加者の平均値は2.7であったことが確認された。また、研修後評価は、全6教育管区参加者の合計平均値は3.2であったが、SEED参加者の平均値は3.0であった。

指標3（c）：全国公立学校の中等理数科教員の75%以上（2,500名）が、地方研修に参加する。
 <指標3（c）の達成度：達成>

これまでに実施された2回の地方研修において、目標値（2,500名）を上回る数の中等理数教員が参加した。表17に示されるように、第1回地方研修（2010年）では、地方研修講師として参加した理数科教員を含んだ全体の研修参加者は2,931名で、第2回地方研修（2011年）では2,756名であった。

²² 表16に示されている全体評価結果は参加者による「研修全体評価」「セッション評価」「研修評価」の平均値を示している。これは第2回の中央研修で研修講師が「研修全体評価」をまとめておらず、第3回中央研修報告書では研修講師による「研修全体評価」の指標はまとめられていたものの、「研修の質の指標」の該当部分にまとめられていなかったためである。

表17 地方研修への参加者と修了者（2010～2011年）

地方研修	(a) 参加者 (理数科教員)	修了者*		(b) 地方研修講師**	(a) + (b) 地方研修への 参加者合計
		数	%		
第1回（2010年）	2,722	2,258	83.0%	209	2,931
第2回（2011年）	2,508	2,083	83.1%	248	2,756

*地方研修修了証（Certificate of Divisional INSET）は、地方研修に原則9割以上出席した研修参加者に授与される。

**地方研修にて地方研修講師を務めた者には、研修実施証明書（Facilitation Certificate）が授与される。

出所：第1回～第2回地方研修報告書

指標3（d）：地方研修教材が各サイクル当たり、合計5種類（4科目及び全体講義1）作成される。

<指標3（d）の達成度：達成>

これまでに実施された各年次研修サイクル²³当たり、合計5種類の教材が作成された（研修教材のリストは、「表5 研修内容一覧」「付属資料1. ミニッツAnnex8-3」を参照）。

「2-4 現職教員研修の概要（1）研修の構成及び実施方法」で述べたように、当初計画では中央研修を受講した地方研修講師が地方研修教材を独自に開発することが想定されていたが、地方研修講師は全国の学校に散らばっており集まって教材を開発することが難しいという物理的な制約や、地方研修の質を均一に保つ目的から、関係者で議論した結果、中央研修講師が統一教材を開発し各センターに配布することとなった。

研修教材の質は高く評価されているものの²⁴、SMASSE事務局に対するインタビュー調査によれば、研修教材の作成には中央研修講師以外のマラウイ側技術者は関与していないため、今後の研修の持続性に懸念があることが指摘された。

指標3（e）：教員研修ごとに、地方研修のM&E報告書が提出される。

<指標3（e）の達成度：達成>

第1回地方研修報告書（M&E報告書）が2010年の8月に、第2回地方研修報告書が2011年の8月にSMASSE事務局より提出された。これらの報告書は、中央研修講師、視学・指導サービス局（Directorate of Inspection and Advisory Services : DIAS）²⁵、中等教育局、地方コーディネーター、19の地方研修センターがSMASSE事務局に提出した研修報告書の内容をSMASSE事務局が分析し、まとめたものである。研修報告書には、地方研修の質の評価及び地方研修後に実施される授業観察結果が記載されている。

²³ 本プロジェクトにおける「年次研修サイクル」は、年に一度ずつの中央研修及び地方研修を指す。本プロジェクトの当初計画では、地方研修教材は中央研修を受講した地方研修講師が独自に開発することが想定されていたが、地方研修講師は全国の学校に散らばっており集まって教材を開発することが難しいという物理的な制約や、地方研修の質を均一に保つ目的から、関係者で議論した結果、中央研修講師が統一教材を開発し各センターに配布することとなった（研修の構成における当初計画からの変更点は「2-4 現職教員研修の概要（1）研修の構成及び実施方法」を参照）。

²⁴ 例えば、第3回中央研修における参加者による評価は3.3、研修講師による評価は3.4で、第2回地方研修における参加者評価は3.4であった。

²⁵ DIASは、中間レビュー以前は、教授法指導サービス局（Education Method Advisory Services : EMAS）という名称であった。

成果3の総合評価：達成

上記の5つの指標の達成度にかんがみると、成果3は達成されていると判断される。これまでに4回の中央研修、2回の地方研修、研修のM&E活動が計画通り実施された。研修やM&E活動の経験を重ねることで、研修実施者（ナショナルコーディネーター及び中央研修講師、地方コーディネーター、地方研修センター管理者）の研修運営管理能力が確実に強化されており、M&E活動実施者（ナショナルコーディネーター及び中央研修講師、地方コーディネーター）のSMASSE研修のM&Eに関する経験やノウハウが蓄積されてきている。

（4）成果4の達成度

成果4：学校・地方教育行政レベルで持続的な現職教員研修の運営体制が強化される。

指標4（a）：教育科学技術省により、SMASSE INSETの予算が確保され、適宜配布される。

<指標4（a）の達成度：おおむね達成>

現職教員研修の経験を重ねることで、教育科学技術省及びDTEDのSMASSEプログラム活動に充てる予算の計画能力が強化されてきている。これまで、すべての中央研修及び地方研修の予算が、教育科学技術省により確保された。

DTEDは、本プロジェクト活動のタイムリーな予算の配布・執行を可能にするため、過去2回の地方研修では、研修前に各教育管区事務所及び地方研修センター長に対し、支出費目ごとの積算・支出方法、会計報告フォーマットなどについて文書で通知している²⁶。しかしながら、研修実施直前に予算が執行されることで、研修の準備（食材の購入等）に十分な時間がなくなってしまったことや、M&Eなどの活動の予算執行が遅れることがあった。

指標4（b）：ナショナルコーディネーター、地方コーディネーター、地方研修センター（中等学校）校長の8割以上が運営管理能力強化の研修に参加する。

<指標4（b）の達成度：達成>

ナショナルコーディネーター、地方コーディネーター²⁷、19の地方研修センター管理者（地方研修センターに指定されている中等学校の校長または副校長）のすべて（100%）が運営管理能力強化の研修²⁸に参加した（研修参加者のリストは「付属資料1. ミニッツAnnex7-5」を参照）。

²⁶ これまでに、SMASSE事務局により「SMASSE活動資金配布ガイドライン（Guidelines for SMASSE Activities Funds Disbursement）（2010年9月）」「2011年度地方研修に向けた地方研修センター用食材購入のガイドライン（Guideline for Food Stuff Procurement of SMASSE Divisional INSET Centres Towards 2011 Divisional INSET）（2011年2月）」「2011年度地方研修に向けた参加者の交通費積算ガイドライン（Guideline for the Estimation of Participants' Transport Cost for 2011 Divisional INSET）（2011年2月）」など様々な予算執行にかかわるガイドラインが作成され、関係部署に配布されている。

²⁷ 当初の計画では、地方コーディネーターの必要数は各教育管区より2名で、合計12名と想定されていたため、指標4（b）における目標値を各教育管区より2名として、目標値との対比を確認した。

²⁸ 運営管理能力強化研修には、以下の3つの本邦研修が含まれる：①「アフリカの英語圏諸国における現職教員研修管理（A）（INSET Management for Anglophone Countries in Africa [A]）」と②「アフリカの英語圏諸国における現職教員研修管理（B）」、③サブサハラアフリカにおける地方教育強化（SMASE-WECSA：Strengthening of Mathematics and Science Education in Western, Eastern, Central and Southern Africa（理数科教育強化計画・西部・東部・中央・南部アフリカ[域内ネットワーク]）（Strengthening of (Local) Education for SMASE-WECSA for Sub-Saharan Africa）。

成果4の総合評価：おおむね達成

上記の2つの指標の達成度にかんがみると、成果4はおおむね達成されていると判断される。SMASSEプログラムの運営管理にかかわるナショナルコーディネーター、地方コーディネーター、地方研修センター管理者は、運営管理能力強化の研修に参加することにより、現職教員研修実施において行政機関の管理者に期待される役割や責任の理解を深めた。運営管理能力強化研修への参加に加え、研修の直接的な運営管理経験を通して、現職教員研修の運営体制は確実に強化されている。ただし、研修実施において生ずる様々な運営管理上の課題（政府による予算管理・執行方針の変更²⁹、燃油価格の高騰に伴う交通費の高騰³⁰など）への対処能力にはまだ改善の余地がある。

4-4 プロジェクト目標の達成の見込み

プロジェクト目標：中等教育レベルの理数科の質の高い現職教員研修（INSET）が教育管区レベルで実施される。

指標：プロジェクト終了時まで、プロジェクトのモニタリング評価チームによるINSET事前・事後評価を通じて測定される地方研修の「INSET質指標」の平均値が0～4のスケールで2.5以上となる。

<指標の達成度：達成>

第1回地方研修と第2回では、表18のとおり、「研修（INSET）の質指標³¹」の全体評価結果が3.3と3.4であり、目標値の2.5を上回った。また、理数科教育に対する参加者の意識の変化を測る研修前と研修後の評価結果比較では、2つの地方研修において、研修後の評価結果が研修前の評価結果を上回り、地方研修の実施により、理数科教員の授業の進め方に対する意識が改善されたことが確認された。

表18 地方研修の「研修の質指標」の結果（2010～2011年）

研修の質指標		第1回	第2回	目標値	達成状況
指標	評価者	(2010年)	(2011年)		
研修全体評価	参加者	3.2	3.3	2.5	達成
	地方研修講師	3.4	3.5	2.5	達成
セッション評価	参加者	3.5	3.6	2.5	達成
研修後評価	参加者	3.0	3.1	2.5	達成
全体評価結果（平均値）		3.3	3.4	2.5	達成

* 地方研修の参加者は、一般理数科教員を指す。
出所：第2回地方研修報告書

²⁹ 「4-7 実施プロセスに関する特記事項」を参照。

³⁰ 「5-1-2 阻害・貢献要因」を参照。

³¹ 評価ツールは、「付属資料2. 評価ツール：研修の質指標」を参照。また、研修の質指標の内訳は、成果3の指標3(b)の「表15 研修の質指標」を参照。

プロジェクト目標の総合評価：達成される見込みは高い

教育管区レベルで実施される地方研修は、これまで2回成功裏に実施され、その両方の研修において、指標である「研修の質指標」の全体評価結果が目標値を上回った。指標達成度を考慮すると、プロジェクト目標はプロジェクト終了時までには達成される見込みであるものの、それを確実にするためには、2012年4月に予定されている第3回地方研修が、これまでの地方研修と同等またはそれ以上の質で着実に実施される必要がある。つまり、円滑な第3回地方研修の実施が、プロジェクト目標達成の必要条件といえる。

質の高い地方研修を着実に実施していくためには、これまでの研修運営を通じて培った様々な経験やスキルに加え、以下の側面を更に改善していく必要がある。

- ・ 地方研修講師の研修指導内容の習得度
- ・ 地方研修実施において生ずる様々な運営管理上の課題に対応する地方研修センター管理者の対応能力（例：参加者のモチベーションを低下させる要因と成り得る交通費の払い戻し手続きや日当額³²の問題等への対応）
- ・ 参加者の現職教員研修に対するモチベーション

4-5 上位目標の達成の見込み

上位目標：マラウイの中等教育レベルにおける理数科の授業及び学習の質が向上する。

指標 (a)：教育科学技術省DIASによって測定される、全国からサンプリングされた中等理数科教員の「授業の質指標」の平均値が、1～5のスケールで3.0以上となる。

<指標 (a) の達成度：達成>

第2回地方研修後（2011年5月～6月）に、DIASと教育管区事務所に勤務する視学官とプロジェクトM&Eチーム（DTED勤務とドマシ教員養成大学に勤務する中央研修講師）による合同授業観察（M&E）活動が実施された。DIASチーム³³の全体評価結果は2.9であり、目標値（3.0以下³⁴）を上回っている。

³² 2010年に実施されたNSCで日当額が500クワチャから1,000クワチャに増額されることが合意され、校長やPTAのメンバーが参加した啓発ワークショップ（2010年12月から2011年3月に実施）で確認された。SMASSE研修の日当は、政府職員の出張手当に関する基準とは連動していないが、2011年3月より、教育科学技術省職員を含む政府関係者の出張にかかわる日当額（宿泊代及び食事代を含む）が改訂され、大幅に増額された。役職によって日当額も変わるが、SMASSE関係者並びに研修に参加する教員の多くが含まれるIランクからGランクは、日当額が1日当たり6,000クワチャから15,000クワチャに上昇した（なお、本単価の適用は月間5日間を限度とし、当該日数を超えた場合の日当額は、15,000クワチャのランクの場合3,700クワチャになる）（日当の変更に関する通達、“Expenditure Control Measures” Ref. 15/15/1, [2011年3月25日付]）。SMASSE研修の日当と出張手当とは同一の基準によるものではないが、参加者によっては出張手当同等の日当の分支払いを要求する可能性がある。

³³ DIASチームによる授業観察の詳細は以下のとおり：①評価用フォーマット：DIASが通常授業観察に使用する授業質評価ツール（Evidence Form 1）、②訪問した学校数：59校、③観察した授業数：135レッスン。Evidence Form 1は「付属資料5. 評価ツール：Evidence Form 1」を参照。

³⁴ 上位目標の指標 (a) では、目標値が「3.0以上」と設定されているが、これは1～5のスケールで5が一番望ましい状態と設定した場合の数値で、実際に使用されたDIASの評価ツール（Evidence Form 1）では、1が一番望ましい状態と設定されているため、指標の目標値も「3.0以下」と解釈する。

表19 DIASによる授業観察結果（2011年）

「授業の質指標」の評価項目	評価結果	目標値	達成状況
指導（Teaching）	3.0	3.0以下	達成
学習（Learning）	2.8	3.0以下	達成
習得度（Attainment）	2.8	3.0以下	達成
生徒の学習態度（Learner's Attitude and Behaviour）	2.7	3.0以下	達成
評価（Assessment）	3.1	3.0以下	未達成
リソースの活用（Use of Resources）	3.2	3.0以下	未達成
全体評価結果（平均値）	2.9	3.0以下	達成

出所：授業観察報告書（DIAS作成、2011年）

地方研修後の合同授業観察はプロジェクト終了時までにもう一度行われる予定であるので、その結果と上記の2011年評価結果との比較により、本プロジェクトのインパクトがより明確に示されることとなる。

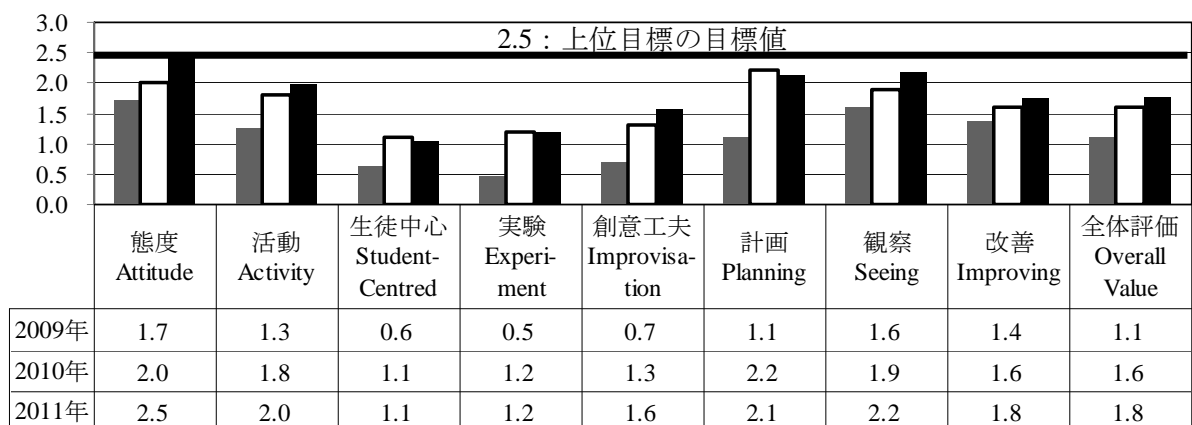
指標（b）：プロジェクトのM&Eチームによる全国からサンプリングされた中等理数科教員のASEI/PDSIチェックリストの平均点が、0～4のスケールで、2.5以上となる。

<指標（b）の達成度：まだ達成されていないが、プロジェクト終了時から3年から5年以内に達成される見込みは高い>

プロジェクトのM&Eチーム³⁵による2011年の授業観察の全体評価結果は1.8であり、目標値の2.5には達しなかったものの、2009年に行われた授業観察（ベースライン調査）結果の1.1及び2010年に地方研修後に実施された授業観察結果の1.6より上昇している。このことから、ASEI/PDSIアプローチに基づく授業実施能力が徐々に根づいてきていると判断される。

全体評価結果の上昇率を分析してみると、2009年から2010年にかけての上昇率は43%であるに對し、2010年から2011年にかけての上昇率は13%である。上昇幅が縮小した要因のひとつには、2010年の授業観察は事前に学校に連絡を入れて行われたが、2011年は、Staged Lesson（本来のカリキュラムや学級の構成を無視し、授業観察者のためだけに準備・実施される「やらせ」授業）を評価する可能性をなくすために、学校への事前連絡なしで実施されたことが挙げられる。

³⁵ プロジェクトM&Eチームによる授業観察の詳細は以下のとおり：①評価用ツール：ASEI/PDSIチェックリスト（「付属資料4. 評価ツール：ASEI/PDSIチェックリスト」を参照）、②訪問した学校数：90校、③観察した授業数：231レッスン。



出所：第2回地方研修報告書

図2 プロジェクトM&Eチームによる授業観察結果（2011年）

上位目標の総合評価：達成される見込みは高い

DIASチームによって実施された授業観察の結果は終了時評価段階ですでに目標値に達しており、プロジェクトのM&Eチームによって実施された授業観察は、2009年のベースライン調査から2011年の授業観察まで全体評価結果が継続的に向上していることから、上位目標がプロジェクト終了後3年から5年以内に達成される見込みは高いと判断される。

ただし、上位目標を達成するには、以下の課題に対応する必要がある。

- ・第2回地方研修報告書（2011年）及び終了時評価調査団によって行われたインタビュー調査によると、多くの理数科教員は地方研修で学んだASEI/PDSIアプローチを通常授業に取り入れることは、非常に困難であると考えている。研修結果が必ずしもまだ十分に授業改善に結びついていない要因として、教員の指導環境（クラスサイズの大きさ、教材の不足、受け持っている授業コマの多さなど）やそれらに起因する教員のモチベーションの低さが挙げられている。
- ・マラウイの中等学校教員は指導案（Lesson Plan）をほとんど作成していない。教員養成課程の教育実習の際には作成するものの、教員となったのちには作る必要はないと一般に考えられている。初等教員については全教員に対し指導案作成を義務づける通達が出されているが、中等教員に対してはそのような明確な通達などは出されていない。指導案作成については現場の教員のみならず、校長、教育管区視学官の中でも考え方にばらつきがあり、本来、指導案の作成を中等学校や教員に指導する立場にあるDIASも指導案の作成に関する指導は行っていない。
- ・教育の質の向上には、綿密かつ日常的な授業観察が行われることが重要であるが、学校管理職（校長、副校長、学科長）による校内モニタリングはほとんど行われていない。

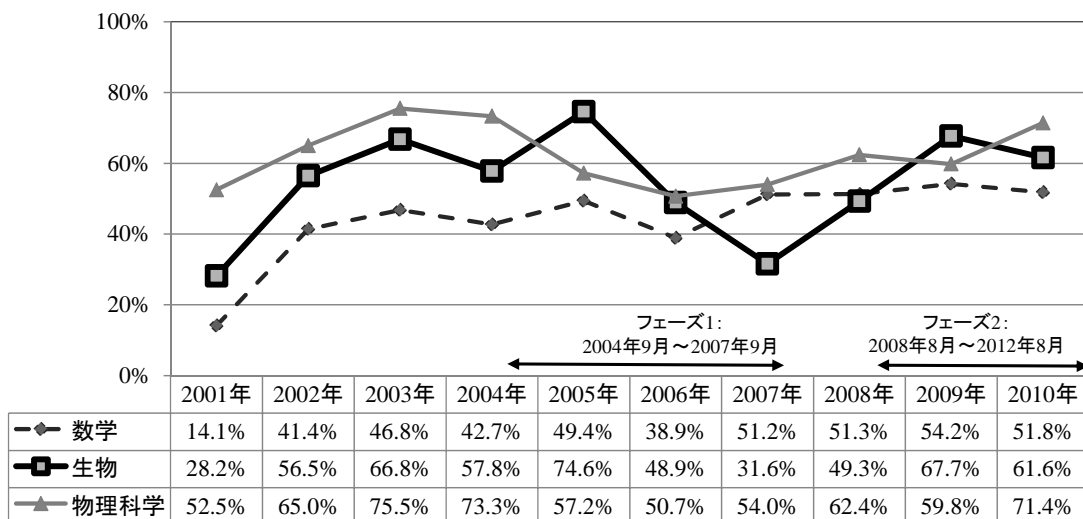
4-6 スーパーゴールの達成の見込み

スーパーゴール：マラウイの中等教育レベルの生徒の能力が向上する。

指標：前期中等教育修了資格（Junior Certificate of Education：JCE）試験及び後期中等教育修了資格（Malawi School Certificate of Education：MSCE）試験の合格率の向上。

<指標の達成度：終了時評価時点では不明瞭>

指標である国家試験の合格率は毎年大きく変動しており、一定の傾向がない。また、国家試験の結果には、本プロジェクトの対象外である私立学校の生徒の結果も含まれているなど、様々な外部要因が影響している。そのため、終了時評価時点では、国家試験結果の経年比較により、指標の達成度を評価することは困難である。



出所：JICAマラウイ事務所がMalawi National Examination Board (MANEB) より入手したデータより調査団作成

図3 MSCEの合格率（全国結果）（2001～2010年）³⁶

表20 JCE及びMSCEの受験者数、合格者数、合格率（全国結果）（2008～2010年）

試験結果		2008年			2009年			2010年		
		受験者数	合格者数	合格率	受験者数	合格者数	合格率	受験者数	合格者数	合格率
JCE	数学	103,076	50,666	49.2%	107,700	50,263	46.7%	107,700	48,347	44.9%
	生物	103,525	49,603	47.9%	108,363	66,426	61.3%	107,617	73,945	68.7%
	物理科学	85,140	43,799	51.4%	92,607	51,779	55.9%	95,340	48,223	50.6%
MSCE	数学	80,707	41,393	51.3%	96,107	52,078	54.2%	73,704	38,144	51.8%
	生物	87,584	43,136	49.3%	100,181	67,857	67.7%	74,907	46,112	61.6%
	物理科学	43,158	26,937	62.4%	54,395	32,511	59.8%	46,275	33,039	71.4%

出所：JICAマラウイ事務所がMalawi National Examination Board (MANEB) より入手したデータより調査団作成

フェーズ1からプロジェクトの対象となってきたSEEDの国家試験の結果についても、全国平均と同様に一定の傾向が見受けられないものの、2010年の教育管区ごとのMSCEの結果ではSEEDが3つの理数科の教科すべてにおいて上位成績（2位）を残している。

³⁶ 図3に掲載されているMSCEの合格率は、ミニッツ署名後にデータを精査し、正しいデータに修正したため、付属資料1. ミニッツの評価グリッドに掲載されているデータとは異なっている。

表21 MSCEの教育管区別合格率（2010年）³⁷

順位	MSCE（2010年）		
	数学	生物	物理科学
1	NED（56.5%）	NED（67.4%）	NED（75.9%）
2	SEED（52.6%）	SEED（64.0%）	SEED（71.9%）
3	SWED（51.9%）	CWED（61.0%）	SWED（71.3%）
4	CWED（50.6%）	SWED（59.0%）	CWED（70.6%）
5	SHED（50.1%）	CEED（58.6%）	CEED（70.2%）
6	CEED（46.9%）	SHED（58.3%）	SHED（66.3%）
全国平均	51.8%	61.6%	71.4%

NED : Northern Education Division
(北部教育管区)

SEED : South East Education Division
(南東部教育管区)

SWED : South West Education Division
(南西部教育管区)

CWED : Central West Education Division
(中西部教育管区)

CEED : Central East Education Division
(中東部教育管区)

SHED : Shire Highlands Education Division
(シレ高地教育管区)

出所：教育科学技術省教育計画局教育管理情報システム（Education Management Information System : EMIS）

スーパーゴールの総合評価：終了時評価時点では不明瞭

調査団が実施したインタビューでは、地方研修センターの管理者（地方研修センターに指定された中等学校の校長）から、理数科の科目における生徒の試験結果が向上しているという報告があったものの、過去の国家試験の合格率は一定の傾向を示さないため指標の達成の見込みが確認できなかった。そのため、スーパーゴールの達成見込みについては、本調査時点では判断できない。

4-7 実施プロセスに関する特記事項

(1) マラウイ政府による予算管理・執行方法の変更

プロジェクト期間中にマラウイ政府の予算管理・執行方法が変更された。これらの措置は、公的資金執行の透明性を確保し、説明責任を担保することを目的としたものであるが、プロジェクト実施に予期せぬ影響を及ぼした。

1) 公的資金の支払方法の変更

2010年にマラウイ政府により、すべての公的資金での支払いは、現金払いではなく、銀行口座への振り込みまたは小切手により行われることを義務化する通達³⁸が出された。これにより、一部の中央研修参加者の日当が銀行振り込みに変更された。そのため、中央研修の研修中に研修セッションを欠席し、自分の銀行の口座への入金状況を確認する参加者が出たことがインタビュー調査及び第3回中央研修報告書で確認された。また、同予算管理措置が厳格に適用されると、多くの小額の支払い³⁹を要する地方研修の実施が非常に困難になることが想定された。そのため、SMASSE事務局が教育科学技術省次官や財務局長に予算管

³⁷ 表21に掲載されているMSCEの合格率は、ミニッツ署名後にデータを精査し、正しいデータに修正したため、付属資料1. ミニッツの評価グリッドに掲載されているデータとは異なっている。

³⁸ Treasury Circular, "Payment through Banks Account : Mandatory Requirement for All Government Employees," Ref. No. ST/87, 2010年12月10日

³⁹ 具体的には、地方研修の支出には、ノン・コストセンター校からの参加者交通費、研修期間中の食材費、各センターのサポートスタッフへの日当などが含まれる。

理措置適用の緩和を依頼し、教育科学技術省が財務省と協議し、承認された⁴⁰。

2) 中等学校の予算管理方法の変更

2011年にマラウイ政府により、学校が生徒から徴収する寮費以外の費用⁴¹はすべて、一旦マラウイ政府の国庫に預け入れることを義務化する通達⁴²が出された。この通達以前は、生徒から徴収した授業料や寄付金、基金等の運営管理は、各学校が独自に行ってきたが、同通達の発行により、寮費以外の費用の運営管理は財務省が一括して行うことになり、各学校は毎月財務省に予算を申請し、各学校の月間活動に合わせて月ごとに活動予算を執行する制度が導入された。しかしながら、同制度は円滑に機能せず、財務省から各学校への予算配賦が遅れたり、予算額（還元額）が大幅に減額されたりするなどの問題が多発した⁴³。この状況下、第2回の地方研修では、研修に教員を参加させている学校の多くが、研修参加に要する経費（コストセンター校は参加者の日当と交通費、ノン・コストセンター校は参加者の日当）を支払うことが困難になり、地方研修への参加が危ぶまれたことから、この状況に一時的に対応するため、2011年の地方研修の参加者日当については、教育科学技術省（DTED予算）が半額を負担した。

⁴⁰ 予算管理措置適用の緩和により、第2回地方研修の支払いは以下の3つの方法により行うことが合意された：①大手スーパーから購入する食材費は直接業者に小切手で支払う、②講師の日当は個人銀行口座に振り込む、③それ以外の支払い（野菜や肉等の買い置きが容易でない食材の費用、交通費等）は各地方研修センターの学校用口座に一括して小切手で送金し、センターから支払う。

⁴¹ マラウイの公立中等学校における学費は2種類ある。

(1) 政府が定める学費

- 1) 授業料（500 クワチャ/学期×3=1,500 クワチャ/年間）
- 2) 寮費（1,500 クワチャ/学期×3=4,500 クワチャ/年間）
- 3) 教科書回転基金（Text Revolving Fund）（250 クワチャ/年間）

(2) 学校単位で定められる寄付・基金

- 1) 一般目的基金（General Purpose Fund）（500 クワチャ/学期を超えない範囲）
- 2) 学校開発基金（School Development Fund）（学校運営委員会、PTA により決定）
- 3) PTA 基金（PTA により決定）

（マラウイ国中等学校改善計画準備調査報告書 [2010年]）

⁴² “Depositing of Revenues into Malawi Government Account Number One.” Ref. No. EDU/F/Revenues/1, 2011年5月4日

⁴³ 2011年6月、政府は改善策として、生徒から徴収する費用の中で授業料は依然として財務省が管理するものの、寮費や様々な用途が許される一般目的基金や学校開発基金等は、通達以前同様に、学校側が管理することを許可する通達を出した。しかしながら、2010年に比べて、学校が使用できる予算は減少しており、SMASSEの地方研修の参加者の日当や交通費の学校側負担にも影響があることから、地方研修の実施体制の脆弱化を引き起こしている。

“Re : Depositing of Tuition Fees in MG Account Number 1” Ref. OA/1/15/2/250, 2011年6月13日

第5章 評価結果

5-1 評価結果

5-1-1 評価5項目による評価

(1) 妥当性：高い

本プロジェクトは、マラウイ政府の開発政策、日本政府の援助政策との整合性が高く、対象教員のニーズへの合致、理数科教育支援に対する日本の比較優位もあることから妥当性は「高い」と評価される。

マラウイ政府は、国家長期開発政策である「Vision 2020（1998年）」とそれを達成するための国家中期開発政策である「マラウイ成長開発戦略フェーズ2（案）2011～2016年」において、教育の質の改善の必要性を強調している。それに加え、上位政策である「教育政策と投資に関するフレームワーク2000～2015年⁴⁴」では、教育の質の改善とその持続を5つの主要政策目標のひとつとして掲げ、初等及び中等教育機関における持続的な質の高い教員研修の必要性を謳っている。PIFに掲げられた教育政策目標を達成するために策定された「国家教育セクター計画2008～2017年」「教育セクター実施計画2009～2013年」「教員教育開発国家戦略2007～2017年」では、現職教員研修の制度化及び中等学校教員に対する継続的な能力開発の実施が明記されている。

マラウイでは中等学校教員の約6割が低資格教員⁴⁵であることから、上記の政策文書は教員の質の向上の必要性を強調している。また、非常に多くの教員が低資格教員であるという状況下、本プロジェクトが、二段階のカスケード研修方式（中央研修と地方研修）を適用し、標準化された共通の研修内容を開発したうえで、多くの教員を対象に一律に質の高い研修を実施するアプローチをとったことは非常に適切であったと判断される。

我が国の対マラウイ援助政策の重点分野のひとつは、教育の質の向上である。「日本の教育協力政策2011-2015」は、万人への質の高い教育の提供を重点分野のひとつとしており、教員研修は教育の質を高めるひとつの戦略として位置づけられている。第4回アフリカ開発会議（Tokyo International Conference on African Development：TICAD IV）で採択された「横浜行動計画（2008年）」では、10万人の理数科教員に対する研修の提供を日本政府の公約として挙げており、本プロジェクトは本公約達成に貢献するものである。加えて、我が国はアフリカにおける理数科教員を対象とした多数の能力開発プロジェクトを実施してきた実績があるため、理数科教育の強化を実施する十分な経験及び技術の比較優位性を有している。

(2) 有効性：高い

プロジェクト目標（「中等教育レベルの理数科の質の高い現職教員研修が教育管区レベルで実施される」）の達成見込みは高く、成果とプロジェクト目標の因果関係も明確であることから、本プロジェクトの有効性は「高い」と評価される。

⁴⁴ 2001年に改訂。

⁴⁵ 中等レベルでの低資格教員は、初等教員資格または後期中等教育修了資格しか有さないものを指す。2009年時点は、中等学校の教員数は11,397人で、有資格者はその中の4,388人（38.5%）のみであった（教育指標 [EMIS] 2009年、マラウイ国教育分野ポジションペーパー、2011年）。

合計2回の地方研修が成功裏に実施され、いずれの研修でも「研修の質指標」の平均値が目標値を上回り、質の高い研修が提供されたと評価された。今後行われる第3回地方研修が、これまでの地方研修と同等またはそれ以上の質で円滑に実施されることを前提として、プロジェクト目標達成の見込みは高いと判断される。

プロジェクト目標の外部条件である「地方研修講師の異動が頻繁には起こらない」に関しても、中間レビューから引き続き終了時評価時点においても満たされていることが確認された。第3回中央研修（2011年）と第4回中央研修（2012年）では、それぞれ244名と224名の地方研修講師が参加しており、その両方に参加した地方研修講師の数は207名であった。すなわち、毎回同じ地方研修講師が中央研修に参加しており、地方研修講師の能力強化が継続的に行われている。また、教員の異動は通常、同一教育管区内で起こり、地方研修講師は同じ教育管区にとどまる可能性が高い。そのため、特定の教育管区に能力強化された地方研修講師が集中することはない。第3回中央研修と第4回中央研修の両方に参加した地方研修講師の中で、この2つの研修を異なった教育管区より参加した地方研修講師は2名のみであった。それに加え、マラウイでは公務員のセクターを超えた転職は禁止になっていることから、教員の他のセクターへの流出は起こらないことが確認された。

本プロジェクトの4つの成果は、質の高い研修実施に必要なすべての要素（研修講師、研修センターの基盤整備、M&E、運営管理）を網羅しており、成果の産出はプロジェクト目標の達成に直接つながっている。「4-3 成果達成状況」で述べたとおり、期待された成果はおおむね達成されており、質の高い理数科教員研修を提供するための基盤が、技術面、物質面、ロジスティックス、行政、運営管理面等の様々な側面で確立されたと判断される。ただし、4つの成果の達成度及びプロジェクト目標の達成の見込みは「高い」と判断されるものの、中央・地方研修講師や地方研修センター管理者の能力については、質の高い研修の継続的な実施のために更なる改善が必要である。

（3）効率性：中程度

投入は効果的に実施かつ有効活用され、成果達成に寄与したが、一部の投入の遅れなどで成果達成が制約を受けたことから、本プロジェクトの効率性は「中程度」と評価される。

中央研修センターとしてドマシ教員養成大学、地方研修センターとして19の中等学校が指定され、フェーズ1においてプロジェクト事務所として使用されていたドマシ教員養成大学のスペースは、中央研修センター内のSMASSEオフィスとして中央研修の準備や実施に利用されている。既存施設（教室、実験室、宿泊施設、台所）を活動に使用することにより、新しく現職教員研修施設を建設する必要がなくなったことは、本プロジェクトの効率性を高めた。ただし、既存施設的环境は、現職教員研修を受け入れるためには十分ではなかったため、日本側の投入による修繕工事及び資機材供与が実施された。修繕工事及び資機材供与は、センターの施設環境調査や本プロジェクトで作成された施設維持管理ガイドラインに記載されている修繕の手続きとチェックリストに基づき、適切に行われた。

人材の投入については、フェーズ1の実施に関与した教育科学技術省の職員及び日本人専門家を継続的に本プロジェクトに投入することにより、フェーズ1時に構築された業務上での良好な人間関係やマラウイの現状に応じた現職研修の実施の仕方に関する理解などが、円滑な活動の実施に貢献した。また、本プロジェクトでは、C/Pや地方研修講師、地方研修

センターの管理者をはじめとする非常に多くのプロジェクト関係者が、本邦研修や第三国研修（ケニア、マレーシア）に参加している。このことで、多くの関係者がSMASSEプログラムの目的意識を共有し、他国の教育事情を学び教育に関する視野を広げている。SMASSEプログラムの重要性に対する理解の深化が、成果の外部条件である「中央研修講師の異動が頻繁に起こらない」「各レベルの指導者がリーダーシップをもち、安定して協力する」「研修活動が関係職員の優先業務になる」が満たされることにもつながっている。

プロジェクトの運営管理体制については、NSCをはじめとするNSCが、プロジェクトの進捗状況を報告したり、今後起こり得る課題に対して事前に対策を協議したりする情報共有の場として適切に機能している（NSCの開催実績は「付属資料1. ミニッツAnnex8-4」を参照）。インタビュー調査では、多くの地方研修センターの管理者から、地方研修の前にDCCに参加することにより、地方研修を受け入れる準備を整えることができたとの報告があった。SMASSE事務局は、NSCを十分に有効活用することにより、SMASSEプログラムの活動が他の教育分野での活動と日程が重ならないように十分留意している。その結果、成果の外部条件である「他教育分野の活動が本プロジェクトの妨げにならない」が満たされている。

このようなプロジェクト実施基盤のうえで、活動はおおむね計画に沿って実施され、成果の達成に直接貢献している。しかしながら、マラウイ政府の予算執行⁴⁶の遅れや交通費の支払い方法をはじめとする運営上の課題（日当の額、宿泊施設等の条件等）に不満をもった参加者による一部研修のボイコットなどにより、期待された成果の発現が一部制約を受けた。

（4）インパクト：中程度

設定された指標の評価結果に基づく上位目標（「マラウイの中等教育レベルにおける理数科の授業及び学習の質が向上する」）達成見込みは高いと判断されるものの、教員による研修成果の授業での活用・定着にはいまだ課題が多いことから、本プロジェクトのインパクトは「中程度」と評価される。

第2回地方研修後、DIASとプロジェクトのM&Eチームによって、全国からサンプリングされた中等理数科教員の授業観察が行われた。その結果、DIAS評価ツール（Evidence Form 1）を使用して算出した「授業の質指標」は、平均2.9であり目標値（3.0以下）を達成していた。プロジェクトのM&EチームがSMASSE独自の評価ツール（ASEI/PDSIチェックリスト）を使用した評価結果では、まだ目標値（2.5以上）を満たさないものの、理数科の授業及び学習の質は、ベースライン調査（2009年）から継続的に改善されてきていることが確認された。これらの2つの指標の達成度を考慮すると、上位目標がプロジェクト終了後3年から5年以内に達成される見込みは高い。

一方で、研修に参加した教員が、研修で習得した知識や能力を十分に授業に応用できていないことが確認されている。地方研修は年に一度しか実施されないこと、地方研修を補完し得るその他の研修機会（クラスター研修⁴⁷や校内研修）が限られていることから、教授

⁴⁶ 予算の確保及び執行状況については、「4-3 成果達成状況（4）成果4の達成度」を参照

⁴⁷ クラスターとは中心となる中等学校とその近隣の数校をグループ化したものである。地方研修センターと近隣校の校長の強いリーダーシップのもと、積極的にクラスター研修が実施されているクラスターは存在するものの、その数と実施頻度は限定的である。

法を本質的に改善するにはまだ時間を要する。授業の質を更に向上させるためには、ほとんどの理数科の教員が指導案を作成していないことや、学校管理職による授業観察を通じた指導がほとんど行われていないことなどの課題への対応が求められている。

加えて、マラウイの中等教育レベルにおける理数科の授業及び学習の質を更に高めていくには、理数科の新規教員養成課程（Pre-Service Education and Training：PRESET）に、ASEI/PDSIアプローチを取り入れていくことが必要である。インタビュー調査によると、ドマシ教員養成大学の教員である中央研修講師は、大学の授業にASEI/PDSIアプローチを取り入れたり、同僚に本プロジェクトで得た知識を共有したりしている。現時点では、ASEI/PDSIアプローチのPRESETへの導入はドマシ教員養成大学で限定的に行われているのみで、ドマシ教員養成大学以外のPRESETを提供する高等教育機関⁴⁸では行われていない。

上位目標の外部条件である「教員の異動が頻繁に起こる」については、「(2) 有効性」で述べたように、マラウイでは公務員のセクターを超えた転職は禁止になっていることから、教員の他のセクターへの流出は起こらない。また、民間セクターにおける教員経験者の雇用機会は限られている。なお、UNESCOのレポートによると、2005年から2007年のマラウイにおける教員の離職率は10%であり（離職で一番多い理由は辞職（29%）、2番目に多い理由は長期間の病気（17%）である⁴⁹）、プロジェクトにネガティブなインパクトを及ぼすレベルではないと判断される。

スーパーゴール（「マラウイの中等教育レベルの生徒の能力が向上する」）の見込みに関しては、「4-6 スーパーゴールの達成の見込み」に記述したとおり、現時点では、本プロジェクトの指標である国家試験の結果への影響を判断することができないため、スーパーゴール達成の見込みは明言できない。スーパーゴールの外部条件のひとつである「週当たり最低理数科授業数が維持される」については、教育科学技術省の週当たりの理数科科目における最低授業数が変更される予定はないことが確認された。このため、同条件は将来的に満たされる可能性が高いものの、この条件が実質的に満たされるためには、理数科教員が無断欠席をせずに授業を実施することが必須である⁵⁰。また、スーパーゴールのもうひとつの外部条件である「生徒の学習環境が維持される」は、マラウイの社会経済状況が急激に変化しない限りは満たされる可能性は高い。

予期していなかった正のインパクトとして、SMASSE研修の経験が高く評価され、ナショナルコーディネーターや中央研修講師が中等教育カリキュラム改訂に関する検討会に技術委員として招かれるなど、SMASSE事務局がカリキュラム改訂プロセスに積極的に関与していることが挙げられる。

⁴⁸ マラウイでは、マラウイ大学（5つのカレッジにより構成 [Bunda College, Chancellor College, Kamuze College of Nursing, Polytechnic, College of Medicine]）とムズズ大学の2校が中心となり、教育及び研修が行われている（マラウイ国中等学校改善計画準備調査報告書 [2010年]）。理数科のPRESETはマラウイ大学のChancellor CollegeやPolytechnic、ムズズ大学においても提供されている。

⁴⁹ UNESCO/Teacher for EFA, “Teacher Attrition in Sub-Saharan Africa: The Neglected Dimension of the Teacher Supply Challenge” 2010年によれば、マラウイの離職率は、類似の社会経済状況にある近隣国と比較しても多少高い。例：ウガンダ6%、ザンビア9%等（p.26）

⁵⁰ UNESCOのレポートによると、マラウイでは、教員は給料の支払いが遅れた場合など通常の収入を補充するために他の収入源を探す傾向にあり、これが無断欠席（absenteeism）につながっていると報告されている。2000年に行われた大統領諮問調査（Presidential Commission of Inquiry）が、MSCEにおいて生徒の成績が振るわない原因を調べた結果、教師の無断欠勤及び不規則な勤務態度が要因として挙げられている（UNESCO/Teacher for EFA, p.19）。

(5) 持続性：中程度

制度面では活動を継続するうえでの政策的基盤が確立されているものの、組織面及び予算面では人材の安定性や一部予算の継続的確保に不安があること、技術面では更なる改善が必要とされることから、本プロジェクトの持続性は「中程度」と評価される。

制度面では、マラウイの教育政策文書が教員の能力育成に重点を置いていることにより、本プロジェクト終了後もSMASSE研修がマラウイ政府により継続的に実施される可能性が高い。

組織面では、SMASSEプログラムはDTEDの年間活動計画に組み込まれており、DTEDの通常業務として確立されている。予算面では、2011/2012年度は40百万クワチャがSMASSE研修実施の予算として確保されており⁵¹、2008/2009年度（20百万クワチャ）から大幅に増額された（「付属資料1. ミニッツAnnex7-2 (a)」を参照）。一方で、予算面の課題としては、これまで日本側が負担してきた中央・地方研修センターの修繕費用のマラウイ側負担の見通しが必ずしも明らかではないことが挙げられる。今後、持続性を更に向上させるには、①ナショナルコーディネーター及び中央研修講師の教育科学技術省内ポストが正式化されていないこと⁵²、及び②教育管区事務所がSMASSE研修のM&E活動を実施するための独自の予算を持っておらず、研修のM&E活動を積極的に実施できないこと、の2つの課題に対応していく必要がある。

技術面では、研修の実施にかかわる教育科学技術省の職員が、2年にわたる年次研修サイクルの実施を通して、引き続き研修を実施していく土台となる技術・管理能力を習得した。一方で、中央・地方研修の講師の研修能力、教材やセッション内容など、研修の質の管理、SMASSE事務局及び地方研修センターの管理能力⁵³などが更に改善されていく必要がある。

5-1-2 阻害・貢献要因

(1) 効果発現に貢献した要因の分析

1) 計画内容に関すること

- ・第2回地方研修の後、DIASとプロジェクトM&Eチームによる合同授業観察が実施され、研修の改善等に関する相互の意見交換が活動を通して効果的かつ効率的に行われた。
- ・カスケード研修方式を活用したため、共通の研修内容を用いて、多くの教員を対象に一律に質の高い研修を実施できた。
- ・研修では、教員が相互に学ぶことを促進し、他の教員に質問しやすいよりオープンな学習環境が整備された。

⁵¹ SMASSE INSET活動におけるマラウイ側の費用分担は「付属資料1. ミニッツAnnex7-2 (a)」を参照。

⁵² 2011年に、次官の指示に基づき、SMASSE事務局は、ナショナルコーディネーター及び中央研修講師の教育科学技術省内ポスト化を提言したポジションペーパー（Position Paper on Concerns of SMASSE INSET Malawi）を作成し、教育科学技術省に提出したものの、ポスト化に関する進展はいまだにない。

⁵³ 今後のSMASSEプログラムの技術面の課題の詳細については、「4-3 成果達成状況」及び「4-4 プロジェクト目標の達成の見込み」を参照。

2) 実施プロセスに関すること

- ・本プロジェクトはマラウイ側が強いオーナーシップをもって実施した。オーナーシップが醸成された要因には、以下の3つが挙げられる。
 - ①プロジェクト計画時に多くの関係者を巻き込み、十分な意見の交換を行った。計画に関係者が本質的なかわりをもったため、PDMの内容が広い関係者に十分理解された。
 - ②本プロジェクトでは、プロジェクトの持続性を確保する包括的なアプローチが取られた。教育科学技術省の既存の組織体制が活用され、SMASSE研修がDTEDの通常業務として位置づけられた。また、研修実施の経費は、コストシェアされ、マラウイ側が研修実施のランニングコスト（例：研修時の食材費、日当、研修施設の水道代や光熱費）を負担し、日本側が初期投資費用（例：研修センターの修繕費、資機材の購入）を負担した。それに加え、カスケード方式を適用することにより、教育科学技術省の内部人材を最大限に活用し、関係部署の中核となる人材の責任に合った多様なJICA海外研修機会が適切に提供された。
 - ③マラウイの行政システムに適したプロジェクト運営管理体制が構築され、適切に機能した。
- ・組織としてのSMASSE研修の実施に対するコミットメントが十分にあった。組織的なコミットメントとして、予算の増加、SMASSE研修に影響を与える可能性のある課題に対する柔軟な対応（DTEDの予算による第2回地方研修の日当の半額負担及び公的資金の支払い方法に関する予算管理措置適用の緩和）⁵⁴、教育科学技術省の大臣による中央研修の式典（開催式・閉会式）への参加などが挙げられる。

(2) 効果発現を阻害した要因の分析

1) 計画内容に関すること

- ・SMASSE研修の修了証が教員の昇進などに考慮される正式な資格としては認識されていない。このことが研修参加者のモチベーションを低下させる要因となった。

2) 実施プロセスに関すること

- ・全国的な燃料不足のためバス運賃などが高騰している。第4回中央研修（2012年）では、参加者が立替払いを行った交通費（実費）がマラウイ政府による予算単価を超えていたことから、予算分のみが支給され、超過分は支給されなかった。このことが研修参加者のやる気を損なう要因となり、交通費などの研修環境に不満を持つ参加者が研修最終日をボイコットした。プロジェクトでは、研修未修了者を対象とする補完研修（ToT）の実施を計画するとともに、各教育管区事務所長や地方研修センター長などの研修運営管理者に対する啓発ワークショップの実施を計画するなど、2012年4月に予定される第3回地方研修に負の影響を及ぼさないような手段を講じている。
- ・第2回地方研修前に、2種類の予算管理・執行の変更に関する通達がマラウイ政府より発表された。この変更は、研修の実施関係者間に手続きに関する混乱をもたらし、その調整に相当の労力を費やさなければならなかった。プロジェクトでは、各地方研修

⁵⁴ 「4-7 実施プロセスに関する特記事項」を参照。

センターで策定する予算計画、予算執行に関し費目ごとの積算基準や支払方法（現金、小切手、銀行口座振り込み）について詳細に定めた地方研修支出ガイドラインを作成、各センターに周知することにより対応した。第3回地方研修に向け、地方研修支出ガイドラインの内容を見直し再度関係者に周知する計画である。

5-2 結 論

理数科教育分野での現職教員研修制度の構築をめざす本プロジェクトは、マラウイ政府の開発政策、日本政府の援助政策との整合性が高く、対象教員のニーズへの合致、理数科教育支援に対する日本の比較優位もあることから妥当性は高い。

プロジェクト実施中には様々な研修の実施管理や予算管理の問題が生じたものの、①中央・地方研修講師の能力強化、②中央・地方研修センターの強化、③2010年と2011年における中央研修・地方研修の実施、④DTEDの予算計画能力及び現職教員研修の実施管理にかかわる職員の管理能力の向上が達成された。このような成果の発現状況から、プロジェクト目標「中等教育レベルの理数科の質の高い現職教員研修が教育管区レベルで実施される」達成の見込みは高く、有効性は高いと評価できる。しかしながら、最終判断は第3回地方研修の円滑な実施を待たなければならない。

日本側、マラウイ側双方の投入は効果的に実施かつ有効活用され、成果達成に寄与したが、一部の投入（マラウイ側予算執行等）の遅れから成果達成が制約を受けたため、効率性は中程度と評価される。

設定された指標の評価結果に基づく上位目標達成見込みは高いと判断されるものの、教員による研修成果の授業での実践的な活用・定着にはいまだ課題が多いことから、本プロジェクトのインパクトは中程度と評価される。

持続性の観点では、制度面では活動を継続するうえでの政策的基盤が確立されているものの、組織面及び予算面では人材の安定性や一部予算の継続的確保に不安があり、技術面では更なる改善が必要とされる。したがって、本プロジェクトの持続性は中程度と評価される。

マラウイにおける中等レベルでの理数科教育の質の改善を行うには、依然として組織的、予算的、技術的な課題が存在しており、それらの対応には「6-1」に記述されている提言の実施が必要である。

第6章 提言と教訓

6-1 提言

マラウイ側関係者と日本側調査団は協議のうえ、(1) 現職教員研修の持続性向上、(2) 現職教員研修の質の向上と維持、(3) 研修成果の教室現場への定着促進のために、以下の措置を講じることに合意した。提言は、1) 短期(プロジェクト終了まで)、2) 中期(後継案件の開始まで)、3) 長期に分け、協議を通じて各項目の実施に関する責任部署を明確にした。マラウイ政府からは、後継案件に対する技術協力の要請が日本政府に提出されていることから、本プロジェクト協力期間の後に取り組むべき事項についても整理した。

これらの提言については合同評価報告書にまとめられ、2012年1月31日に教育科学技術省次官と署名合意し、2月1日に開催されたNSCにおいて、本省の関係部局担当者や教育管区事務所長、地方視学官、ドマシ教員養成大学等に共有された。本評価報告書に基づき、今後はSMASSE事務局が中心となり、責任部署と連携しながら提言の実現に取り組むことを確認した。

(1) 現職教員研修の持続性向上

1) 短期

a) 第3回地方研修の着実な実施(DTED、地方研修センター、教育管区事務所)

プロジェクト目標の達成(質の高い地方研修の実施)には、2012年4月に予定されている第3回地方研修を着実に実施し、かつ、求められる水準を満たすことが必須条件である。第3回地方研修実施に必要な地方研修講師の能力強化・研修内容伝達のために実施された第4回中央研修(2012年1月)では一部の地方研修講師が教育科学技術省に対する様々な不満を表明し最終日をボイコットした。このような事態が続けば、プロジェクト目標の達成のみならず、現職教員研修の継続的な実施も危ぶまれる結果となる。プロジェクトでは、ボイコットした参加者向けに補完研修の実施を計画しており、研修内容面では一定の対策が講じられている。しかし、継続的な研修の実施には次回の地方研修の成功が不可欠であるため、最も重要な提言として、地方研修の実施に責任をもつDTED、地方研修センター、教育管区事務所に対し、次回研修の着実な実施を提言した。

b) 地方研修支出ガイドライン(予算計画、執行、会計)の作成及び関係者への周知(DTED)

過去2回の地方研修では、研修前にDTEDより各教育管区事務所及び地方研修センター長に対し、支出費目ごとの積算・支出方法、会計報告フォーマットなどについて文書で通知している。第3回地方研修については、参加者日当の財源及び支出方法の変更(第2回研修では緊急避難的にDTED予算で半額を賄ったが、今回は全額を参加者の学校が賄う必要がある)や、一部の支出費目に関する現金払いの特例(政府の規定では、すべて小切手または銀行振り込みであるが特例として承認を受けている)については、次回研修前に関係者に周知徹底することが円滑な研修運営のために重要である。なお、これらの支出はすべてマラウイ政府の予算または学校予算で賄われる支出であるが、支出費目や支払方法が多岐にわたり複雑な支出となっているため、現状プロジェクトが取り組んでいるように非常にきめ細かいガイドラインを作成し周知することは会計の透明性向上にも貢献する。

c) 2012/2013年の研修実施に必要な予算の確保及び配布（次官、教育計画局）

これまでも教育科学技術省は着実に予算を確保してきたが、2012/2013年についても必要な予算を確保することが重要である。マラウイ政府の予算年度は7月開始であるが、次年度予算編成の開始時期であったため、敢えて提言として含めた。

d) 地方研修センターの修繕に必要な予算の確保及び配布（次官、教育計画局、教育管区事務所）

地方研修センターの修繕に要する費用（実験室や教室、宿泊施設の洗面、トイレ、シャワー等のメンテナンスに必要な部品の現物供与）はこれまで日本側が負担してきた（各校当たり40万～50万クワチャ：約20～25万円/年程度）。プロジェクト終了後、この経費をどの機関が負担するのかが明確にはなっていなかったこと、上述のとおり予算編成の時期であったことから、本項目を提言として含め、マラウイ側での負担を担保することとした。NSCでは、地方教育事務所に配分される学校施設維持管理費（教育管区当たり500万クワチャ：約250万円/年）を原資として各教育管区事務所が責任をもって対処することが確認された。

e) 地方研修センター間の経験共有を通じたセンター長及びセンター調整員の運営管理能力の向上（DTED、教育管区事務所）

本調査では、地方研修センターのセンター運営管理（主に施設管理、研修期間中の実施運営管理）能力にはばらつきがあることが確認された。センター運営管理は学校長及びセンター調整員の能力、意欲によるところが大きいため、校長会や教育管区事務所が実施する校長対象の会議・セミナーの場などを活用し、センター運営に関する優良事例の共有を図り、責任者の啓発を進めることが望ましい。

2) 中期

a) 地方研修モニタリングに必要な予算の増加及び教育管区事務所への配布（次官、教育計画局、DIAS、教育管区事務所）

現時点では地方研修のモニタリングは中央研修講師が中心となって実施しており、教育管区事務所に所属する視学官の参加は限定的である（第2回地方研修のモニタリングにはDIAS所属の視学官が参加）。その制約のひとつに教育管区事務所に配分されるモニタリング予算の不足がある。地方研修についても、各教育管区事務所の視学官が主体的にモニタリングを実施できるようになるために、通常の学校訪問に加えて地方研修モニタリングのために必要な予算を増加させることが必要である。予算編成の責任を負う教育計画局長は2012/2013年からの本予算増加に基本的には合意しているが、各教育管区事務所が作成する予算要求にこれらの増額が含まれるよう綿密な調整が必要である。

b) ナショナルコーディネーター及び中央研修講師の教育科学技術省内ポストの正式化（次官、教育計画局、人事管理局、中等教育局、DTED）

DTEDが正式に局として承認されたのは2010年であるため、その中の職員のポストについてはいまだ正式化されていない。過去にも数度にわたりDTEDより次官、人事管理局などの関係部局に申請を出しているものの検討が進められていない。本調査団との協議では、教育計画局長とDTED局長とが共同で申請を改めて行い、省内の協議を進めることを確認した。

3) 長期

- a) 現職教員研修参加歴、地方研修講師としての研修実施歴等を昇進時に考慮する職能開発システムの構築（次官、教育計画局、人事管理局、中等教育局、DTED、教員雇用委員会）

現時点では、地方研修講師が地方教育管区の視学官に昇進する、ドマシ教員養成大学の資格付与コース入学者のほとんどが地方研修を受講しているなどの事例はあるものの、研修修了証や地方研修講師としての研修実施証明書（Facilitation Certificate）などは、公式には昇進の要件として考慮されるには至っていない。長期的課題ではあるが、現職教員研修への参加を昇進の要件として考慮することなどを含めた教員としての職能開発システムの構築を検討することが必要である。

(2) 現職教員研修の質の維持、向上

1) 短期

- a) 研修用教材の整理及び地方研修センターでの保管（未参加教員の参照用等）（DTED）

中央・地方研修の教材はすべて中央研修講師が作成し地方研修センターに配布されている。調査中に訪問した地方研修センターでは、第三者が容易に教材を参照できるような形では保存されていなかった（DTEDでは適切に保管されている）。全研修に参加できていない教員もいることから、少なくとも地方研修センターでは、各回の研修教材を適切に整理・保管することが必要である。

2) 中期

- a) 多様な教員のニーズに対応するための研修コース改編に向けた戦略策定プロセスの開始（教育計画局、DIAS、中等教育局、DTED）

研修の対象教員は、資格や経験、教科知識、教室環境・実験室の有無など勤務する学校施設の状況にもばらつきが多い。このような多様なバックグラウンドをもつ教員間では研修に対するニーズにもばらつきが大きい。現状では統一した内容の研修を実施してきている。これに対し、中間レビューでは「教員のニーズに応じた研修の提供可能性について検討すること」を提言のひとつとしており、その後プロジェクト関係者で、有資格教員を参加者グループのリーダーと位置づけ意見交換を主導してもらったりやり方や、資格に応じた別々の研修を提供するアイデアなどについて検討されていた。対象者の多様なニーズに対応する必要があるという基本的な考え方については合意が形成されているものの、その具体化については、教員資格によってグループを分ける実施方法は参加者（特に低資格教員）の心理的抵抗が大きいことが予想されること、研修運営側の負担が大きくなることなどの課題が挙げられている。教員が有する研修ニーズのうち集合型研修によって対応できる部分を特定したうえで、今後時間をかけて戦略を練っていく必要があることから、本提言は将来的なコース改編を視野に入れた戦略策定プロセスの開始を求めるものである。

- b) DIASより研修用教材の内容充実のための技術的助言を得ること（DIAS、DTED）

研修教材の作成には中央研修講師以外のマラウイ側技術者は関与していない。今後、更に研修教材の内容を充実させ、質を高めていくためには、他部局からの知見を得ることが重要である。特に、DIASとは合同モニタリングなどを通じて教員の授業実践の現状

について知見を共有してきていることから、今後は教材開発についても視学官からの技術的助言を得られるような体制づくりが求められる。

3) 長期

a) 地方研修講師の能力強化のための機会提供（教育管区事務所、中等学校）

地方研修講師の研修実施能力については、プロジェクト評価ツールによる評価（平均値）では基準を満たしているが、まだばらつきが大きいこと、研修ファシリテーションに慣れていないなどの課題が確認されている。地方研修講師が参加者のニーズに応じた研修を提供できるようになるためには、教員として、また研修実施者として更なる能力強化が必要である。具体的には、中央研修に継続的に参加するなどの研修機会の提供や、中央研修講師による授業のモニタリングを受けること、クラスター研修や校内研修が行われる際にファシリテーションを行うようにすることなどが考えられる。

(3) 研修成果の教室現場への定着促進

1) 短期

a) DIASとDTEDによる合同授業観察の継続（DIAS、DTED）

2011年に初めて実施されたDIASとDTEDによる合同授業観察は双方にとって利益のあるものであった。ともに同じ授業を観察し意見を交わすことは、SMASSE研修で強調されている個々の生徒に配慮した授業の実践という視点を視学官も共有できることにつながるとともに、DTED側も視学官による授業観察の視点を学ぶこととなる。今後もこの活動を継続し、双方に経験を蓄積していくことが望ましい。

b) 研修成果の教室現場への定着に関する貢献・阻害要因に関する現状調査の実施（DTED）

プロジェクトによる授業観察の結果では、研修を受けた教員の授業は改善傾向にあるものの依然として目標とする水準には至っていない。モニタリング結果では、教員が研修で学んだ事項を教室で実践することを難しいと感じていることが報告されている。今後の研修内容改善につなげるためにも、その要因がどこにあるのかについて、子細に検討することが必要である。プロジェクトでは第3回地方研修の後に全国からサンプリングされた教員の授業観察を行う計画であるので、これに合わせて、授業実践とそれに影響を与える要因に関する現状調査を行うことが望ましい。

c) 中等学校教員の日常業務として指導案作成を徹底する通達の発出（DIAS、中等教育局）

良い授業の実践には綿密な計画（指導案）の作成が必須であるが、マラウイの中等学校教員は指導案をほとんど作成していない。教員養成課程の教育実習の際には作成するものの、教員となったのちには作る必要はないと考えられている。指導案作成については現場の教員のみならず、校長、教育管区視学官の中でも考え方にばらつきがあることが確認されたため、指導案作成を徹底させるための通達を発出することが必要である。

2) 中期

a) 授業案作成に関する学校管理職による指導、授業実践のモニタリングの推奨（DIAS、中等教育局、DTED）

上記c) と関連し、通達が発出されたのちには、学校管理職（校長、副校長、学科長）が日常的に教員が作成する指導案を確認するとともに、授業観察を行い、教員に対する指導を行う体制を整えることが必要である。管理職に対し、このような役割について啓

発を行っていくことが重要である。

3) 長期

a) ドマシ教員養成大学の学生に対するSMASSE特別研修の実施継続(ドマシ教員養成大学、DTED、JICA)

プロジェクトではドマシ教員養成大学の学生(3年生)に対し、教育実習を行う直前にSMASSE特別研修を試行的に実施した。研修内容は、中央研修の内容とほぼ同一。研修に参加した学生の教育実習中の授業と、参加しなかった学生の授業とを比較したところ、研修に参加した学生のほうが授業観察の結果は優れていたことが確認されたことから、一定の効果が認められた。研修対象者は20数名と非常に限定されていることから、今後も継続的に研修を実施し、その効果を確認することが重要である。

b) SMASSE特別研修の教員養成課程学生への効果確認のため、2011年の研修受講学生に対する追跡調査の実施(ドマシ教員養成大学、DTED、JICA)

上記a)に加えて、試行的研修に参加した学生の追跡調査を行い、教員となって学校に戻ったのちの日常的な授業実践への効果を把握することが望ましい。

6-2 教訓

- (1) プロジェクト実施にあたり既存の行政組織を活用するだけでなく、その組織内の人材に対する能力強化を戦略的に行い、その人材を活動にうまく巻き込んだことにより、活動の持続性向上につながっている。既存組織の活用と人材育成の戦略的な組み合わせが持続性向上には必要である。
- (2) 地方研修講師に対し、地方研修実施期間のモニタリングを行うだけでなく、日常の授業に対するモニタリング(授業観察及び指導)を行うことも彼らの能力向上に貢献した。研修講師は教員であり、教員としての授業実践力の強化は結果的に講師としての能力を強化することにつながる。
- (3) DIASとDTEDという二部局による合同授業観察は、視点の共有や、教員に対する相互補完的な指導が可能であり、視学官の参加による授業観察活動の正当性の向上などの相乗効果が得られた。教員研修担当部局と視学担当部局との連携は合同授業観察など、具体的な活動レベルでの連携を行うことが実践的であり効果的である。
- (4) 地方研修経費の大部分について、教育管区事務所や地方研修センターに任せることなく、中央(DTED)が管理・支出したことは予算執行の透明性を高め、かつ、各研修センターでの支出内容の平準化を図ることができた。この仕組みは、政府の予算支出のタイミング等に大きく影響を受けるが、各センターで実施される研修の質を均一に保つメリットがある。

付 属 資 料

1. ミニッツ
2. 評価ツール：研修の質指標
3. 評価ツール：研修講師能力評価
4. 評価ツール：ASEI/PDSIチェックリスト
5. 評価ツール：Evidence Form

**MINUTES OF MEETING BETWEEN
THE JAPANESE TERMINAL EVALUATION TEAM AND
THE AUTHORITIES CONCERNED OF
THE GOVERNMENT OF THE REPUBLIC OF MALAWI ON
JAPANESE TECHNICAL COOPERATION FOR
STRENGTHENING OF MATHEMATICS AND SCIENCE
IN SECONDARY EDUCATION (SMASSE) INSET MALAWI PHASE II**

The Japanese Terminal Evaluation Team (hereinafter referred to as “the Team”), organized by the Japan International Cooperation Agency and headed by Mr. Satoru Takahashi, visited the Republic of Malawi (hereinafter referred to as “Malawi”) from 8th January to 2nd February 2012 for the purpose of the Terminal Evaluation of the Project on Strengthening of Mathematics and Science in Secondary Education (SMASSE) INSET Malawi Phase II (hereinafter referred to as “the Project”).

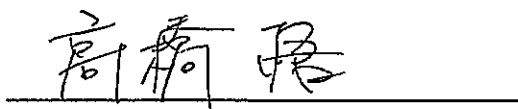
During its stay in Malawi, the Team exchanged views through a series of discussions with the Malawian parties concerned to the Project (hereinafter referred to as “the Malawian side”) on the achievement made so far and challenges of the Project.

As a result of the discussions, the Malawian side and the Team jointly developed the report that summarized the evaluation of the Project, recommendations and lessons learned. Both sides agreed on the contents of the report as attached hereto.

Lilongwe, 31st January 2012



Mr. John J. Bisika
Secretary for Education, Science and
Technology
Ministry of Education, Science and
Technology
Republic of Malawi



Mr. Satoru Takahashi
Leader
Terminal Evaluation Team
Japan International Cooperation Agency
Japan

**STRENGTHENING OF MATHEMATICS AND SCIENCE
IN SECONDARY EDUCATION (SMASSE) INSET
MALAWI PHASE II**

JOINT TERMINAL EVALUATION REPORT

JJ3

SS

**STRENGTHENING OF MATHEMATICS AND SCIENCE
IN SECONDARY EDUCATION (SMASSE) INSET
MALAWI PHASE II**

JOINT TERMINAL EVALUATION REPORT

List of Abbreviations and Acronyms

ASEI/PDSI	Activity, Student-Centred, Experiment and Improvisation / Plan, Do, See and Improve
C/P	Counterpart
CDSS	Community Day Secondary School
CEED	Central East Education Division
CWED	Central West Education Division
DCC	Divisional Coordination Committee
DCE	Domasi College of Education
DIAS	Directorate of Inspection and Advisory Services (formerly known as Education Method Advisory Services [EMAS])
DTED	Department of Teacher Education and Development
EDM	Education Division Manager
ESIP	Education Sector Implementation Plan
FY	Fiscal Year
INSET	In-Service Education and Training
JCE	Junior Certificate of Education
JFY	Japanese Fiscal Year
JICA	Japan International Cooperation Agency
JOCV	Japan Overseas Cooperation Volunteer
M&E	Monitoring and Evaluation
M/S	Mathematics and Science
MANEB	Malawi National Examination Board
MGDS	Malawi Growth Development Strategy
MIE	Malawi Institute of Education
MoEST	Ministry of Education, Science and Technology
MSCE	Malawi School Certificate of Education
MWK	Malawian Kwacha
NED	Northern Education Division
NESP	National Education Sector Plan
NSC	National Steering Committee
NSTED	National Strategy for Teacher Education and Development
ODA	Official Development Assistance
ORT	Other Recurrent Transaction
PDM	Project Design Matrix
PIA	Principal Inspector and Advisor
PO	Plan of Operation

POW	Programme of Work
PRESET	Pre-service Education and Training
PTA	Parent-Teacher Association
R/D	Record of Discussions
SEED	South East Education Division
SEST	Secretary for Education, Science, and Technology
SHED	Shire Highlands Education Division
SIA	Senior Inspector and Advisor
SMASE-WECSA	Strengthening of Mathematics and Science Education in Western, Eastern, Central and Southern Africa
SMASSE	Strengthening of Mathematics and Science in Secondary Education
SS	Secondary School
SSCAR	Secondary School Curriculum and Assessment Reform
SWED	South West Education Division
TICAD	Tokyo International Conference on Africa Development
ToT	Training of Trainers
TTC	Teacher Training College

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1. Outline of the Terminal Evaluation

1-1. Background of the Evaluation

The four-year Japanese technical cooperation project “Strengthening of Mathematics and Science in Secondary Education (SMASSE) INSET Malawi Phase II,” launched in August 2008, entered the last six month of the scheduled project period. As laid out in the Record of Discussions (R/D) between the Government of the Republic of Malawi and the Government of Japan signed on the 15th of July 2008, a Japanese terminal evaluation team organized by the Japan International Cooperation Agency (JICA) was dispatched to conduct a terminal evaluation of the Project jointly with the Malawian authorities concerned.

1-2. Schedule of the Terminal Evaluation

The evaluation was conducted from the 8th of January 2012 to the 2nd of February 2012 (See Annex 1 for the Detailed Schedule of the Terminal Evaluation).

1-3. Objectives of the Evaluation

The objectives of this joint evaluation are as follows:

- (1) To review: the project implementation process; and the project inputs, the progress of the project activities, and achievement levels of the intended outputs based on the most recently revised Project Design Matrix (PDM) (PDM Version 2.1 [dated the 1st of November 2011]) (Annex 2), the Plan of Operation (PO) (Annex 3) ;
- (2) To confirm project achievements and issues with the project implementation based on the review of project process and achievements and to evaluate the project jointly with the Malawian side using the five evaluation criteria (Relevance, Effectiveness, Efficiency, Impact, and Sustainability), defined in 1-6 Method of Evaluation;
- (3) To clarify necessary measures to be taken for further improvement of the Project’s quality by the end of the project period (August 2012) and draw up recommendations for future direction of the Project upon consultation with the Malawian side, as well as lessons learned that will be useful for similar education projects by JICA in Malawi and/or other countries; and
- (4) To form consensus on recommended measures by summarising them in the Joint Terminal Evaluation Report.

1-4. Members Concerned to the Evaluation

The evaluation was jointly conducted by the Malawian and Japanese sides. The members concerned to the Evaluation were as follows (See Annex 4 for Project Implementation Structure):

1-4-1. Malawian Side

(1) Ministry of Education , Science and Technology (MoEST)

Mr. John J. Bisika	Secretary for Education, Science and Technology (SEST)
Mr. Patrick G. J. Lapukeni	Director, Department of Education Planning
Mr. Raphael Z. G. Agabu	Director, Directorate of Inspection and Advisory Services (DIAS)
Mr. Dedley Chiwala	Deputy Director, Department of Secondary Education
Ms. Darles Mbewe	Coordinator, Department of Teacher Education and Development (DTED)

(2) SMASSE Secretariat, DTED, MoEST

Mr. Alfred Kamoto	National Coordinator
Mr. Godwin Jere	Deputy National Coordinator
Mr. George Vakusi	National Trainer, Biology
Mr. Andrew Thauzeni	National Trainer, Biology
Ms. Lucia Chidalenga	National Trainer, Biology
Mr. Livati Potiphar	National Trainer, Mathematics
Mr. Cedric Mpasu	National Trainer, Physical Science
Mr. Hikaru Kusakabe	JICA Expert (In-Service Education and Training [INSET] Management)

1-4-2. Japanese Side

(1) Terminal Evaluation Team

Mr. Satoru Takahashi	Leader Visiting Senior Advisor (Education), JICA
Ms. Minako Sugawara	Evaluation Planning Deputy Director, Basic Education Division 2, Basic Education Group, Human Development Department, JICA
Ms. Setsuko Kanuka	Evaluation Analysis IMG Inc.

1-5. List of Main Interviewees

During the evaluation, the Evaluation Team interviewed important Project Counterparts (C/Ps) and stakeholders (e.g. Directors of relevant directorates, Education Division Managers (EDMs), Divisional INSET Centre Managers) (See Annex 5 for List of Main Interviewees).

1-6. Method of the Evaluation

Based on the PDM, PO, and other information and data relevant to the Project, the Evaluation Team assessed the Project from the following perspectives: (1) achievements of the Project, (2) implementation process, and (3) five evaluation criteria of the Development Assistance Committee.

Five evaluation criteria are defined as follows:

- (1) **Relevance:** Relevance is assessed in terms of Project Purpose and Overall Goal's validity in relation to the development policy of the Government of Malawi at the evaluation stage, Japan's Official Development Assistance (ODA) policy, and the needs of the Project beneficiaries;
- (2) **Effectiveness:** Effectiveness is assessed based on whether the Project Purpose is being achieved as expected and whether this is due to the Project's Outputs;
- (3) **Efficiency:** Efficiency is assessed by focusing on the relationship between Outputs and Inputs in terms of timing, quality and quantity of Inputs. It measures to what extent Project Inputs have economically been converted into Outputs in consideration of the achievements of both Inputs and Outputs;
- (4) **Impact:** Impact is assessed on the basis of what both positive and negative changes have been produced, directly or indirectly as a result of project implementation, including those not anticipated in the planning stage of the Project.
- (5) **Sustainability:** Sustainability is assessed in terms of institutional, organisational, financial and technical aspects, by examining the extent to which the achievements of the Project will be maintained or further expanded by the Malawian side after the project period.

As a preparatory work for the evaluation, a list of questions and information, data and documents required for evaluation were summarized in the "Evaluation Grid." Findings from the evaluation were summarized in the Evaluation Grid (See Annex 6), which was used for a base-material for discussions between the Japanese terminal evaluation team and the Malawian authorities concerned.

2. Outline of the Project

2-1. Background of the Project

The Government of Malawi introduced its Free Primary Education Policy in 1994, which led to a drastic increase in the number of students eligible to enter into the secondary level (around the year 2000). MoEST has taken actions with respect to this situation; however, various challenges remain, such as poor school infrastructure and an increase in the number of under-qualified teachers. The decline in the educational performance of students, especially in mathematics and science, is evident from the results of Junior Certificate of Education (JCE) and Malawi School Certificate of Education (MSCE) examinations. One of the main causes of their poor performance has been identified as a significant shortage of qualified teachers; however the problems in secondary level education also extend to poor teaching methodology that is characterised as "teacher-centred," and the absence of sufficient teaching and learning materials (such as equipment and chemicals for science experiments), which deters teachers from actively carrying out experiments.

Against this background, MoEST in collaboration with JICA conducted the "Strengthening of Mathematics and Science Education through In-Service Training Project" (SMASSE Phase 1) and supported training of mathematics and science teachers in the South Eastern Education Division (SEED). In Phase 1, Domasi College of Education (DCE) – which was expanded by a Japanese Grant

Aid – was used as the base for project implementation and such measures as training of core human resources for teacher’s training, development of a training curriculum, and strengthening of training management capacity were taken. During the project period, efforts were made towards institutionalising INSET through promoting the development of a teacher’s training policy and training costs to be included as regular expenses in MoEST’s budget. As a result, MoEST requested for SMASSE Phase 2, which expanded the project target areas to include six education divisions: Northern Education Division (NED), South East Education Division (SEED), South West Education Division (SWED), Central West Education Division (CWED), Central East Education Division (CEED), and Shire Highlands Education Division (SHED). SMASSE Phase 2 was launched in August 2008 as a four-year project. With MoEST as the responsible organisation of the Project, it aims to provide quality INSETs for secondary mathematics and science teachers at Divisional level.

2-2. Project Contents

The contents of the Project outlined in the PDM Ver. 2.1 (Annex 2) are as follows:

(1) Executing Bodies

Ministry of Education, Science and Technology (MoEST) and JICA

(2) Target Teachers

All mathematics and science teachers in public secondary schools (3,400 teachers) and head-teachers in public secondary schools

(3) Super Goal

The abilities of secondary school students in mathematics and science are improved in Malawi.

(4) Overall Goal of the Project

The quality of teaching & learning of mathematics and science is improved in secondary schools in Malawi.

(5) Project Purpose

Quality INSETs for secondary mathematics and science teachers at Divisional level are provided.

(6) Project Outputs

1. Capacity of Divisional Trainers is strengthened.
2. National INSET centre and Divisional INSET centre as resource centre are strengthened
3. National & Divisional INSETs and Monitoring and Evaluation (M&E) are implemented.
4. Sustainable INSET management system is strengthened at all levels.

(See Annex 2 for details of project activities.)

3. Achievements of the Project

3-1. Achievements of the Inputs

Both the Malawian and Japanese sides have provided inputs as planned in the PDM. For the detailed information of inputs contributed by both sides, refer to Annex 6 (Evaluation Grid) and Annex 7 (Project Inputs).

3-2. Achievements of the Activities

Although there were delays in implementing such activities as recruiting National Trainers and Divisional Trainers, setting minimum standards for INSET Centres, and conducting baseline survey for mathematics and science teachers, project activities were implemented mostly as planned in the PO and PDM.

3-3. Achievements of the Outputs

The achievement level of four Outputs’ Verifiable Indicators is shown below. Refer to Annex 6 (Evaluation Grid) for the detailed analysis on Outputs’ achievements.

(1) Achievement of Output 1

Output 1: Capacity of Divisional Trainers is strengthened.	
Verifiable Indicators	Achievement Level
1(a) Over 240 divisional trainers undergo appropriate training.	<p><Achievement level: mostly achieved></p> <ul style="list-style-type: none"> The numbers of participants who completed the National INSET are 188 out of 192 participants (97.9%) in the first National INSET, 165 out of 177 (93.2%) in the second, 234 out of 244 (95.9%) in the third, and 60 out of 224 (26.8%) in the fourth. The number of participants who completed the fourth National INSET is notably low compared to other INSETs. This was caused by Divisional Trainers boycotting the training on its last day in protest for the amount of transport cost reimbursed on the spot and other administrative challenges.
1(b) National and Divisional Trainers obtain mean of over 3 on the scale of 0 to 4 in the Trainer Capacity Index administered by the M&E Team.	<p><Achievement level: achieved></p> <ul style="list-style-type: none"> Both National Trainers and Divisional Trainers obtained an overall mean value of over 3.0 in the Trainer Capacity Index in all INSETs conducted.

Overall Assessment: Mostly Achieved

Output 1 is evaluated to be mostly achieved based on the achievement levels of its two indicators. Despite the high marks given to the capacity of both National Trainers and Divisional Trainers, some weaknesses in their skills and capacities as trainers still exist. Major areas of weaknesses discussed in the third National INSET Report and the second Divisional INSET Report in 2011 and interviews conducted by the Team are time management (e.g. inadequate time for summarising main learning points in session conclusion), and facilitation (e.g. unable to fully involve all teachers with diverse backgrounds).

(2) Achievement of Output 2

Output 2: National INSET centre and Divisional INSET centre as resource centre are strengthened.	
Verifiable Indicators	Achievement Level
2(a) At least 1 national INSET centre and 19 divisional INSET centres are rehabilitated and equipped.	<p><Achievement level: achieved></p> <ul style="list-style-type: none"> • The National INSET Centre in DCE has been rehabilitated and equipped for National INSET as planned. • Necessary maintenance and rehabilitation works have been conducted at 19 Divisional INSET Centres, based on physical assessments of the Centres carried out between October 2009 and March 2010. • The rehabilitation of facilities and provision of equipment and materials for the third Divisional INSET (2012) is being implemented.
2(b) Guideline to improve physical and material environment for INSET centres is developed.	<p><Achievement level: achieved></p> <ul style="list-style-type: none"> • The <i>Guidelines for Management of Divisional INSET Centre</i> (February 2010), and the <i>Guidelines for Rehabilitation of Divisional INSET Centre</i> (November 2010) were developed by project stakeholders.
2(c) Physical and material environment for Divisional INSETs reach the level shown by INSET centre guideline.	<p><Achievement level: achieved to some extent></p> <ul style="list-style-type: none"> • In preparation for Divisional INSETs, rehabilitation of facilities and provision of equipment and materials have been carried out annually. This has been done based on the rehabilitation procedures and material checklists provided in the <i>Guidelines for Rehabilitation of Divisional INSET Centre</i> to ensure the physical and material environments meet the standards set by the guidelines. • The maintenance levels of INSET materials and equipment greatly vary from one Divisional INSET Centre to the other. For example, the Secretariat decided to temporarily suspend the operation of Mwanza Divisional INSET Centre because the administrative level and maintenance condition did not reach the satisfactory level.

2(d) INSET material and equipment are fully utilised for activities of teacher professional development.	<Achievement level: achieved > <ul style="list-style-type: none"> • INSET materials and equipment are fully utilised during Divisional INSETs. • Most Divisional INSET Centres are functioning as resources centres by allowing mathematics and science teachers from surrounding schools to borrow INSET materials and equipment, especially reference books (textbooks).
--	--

Overall Assessment: Mostly achieved

Output 2 is evaluated to be mostly achieved, based on the achievement levels of its four indicators. From undergoing two full annual INSET cycles of Divisional INSETs, most Divisional INSET Centres have gained foundational administrative capacities to ensure that the Centres' physical and material environments reach the level set by the guidelines for Divisional INSET. On the other hand, the maintenance levels of INSET materials and equipment greatly vary from one Divisional INSET Centre to the other. Some Divisional INSET Centres strictly adhere to the guidelines, compared to the others. This depends on the level of awareness towards maintenance by Divisional INSET Managers.

(3) Achievement of Output 3

Output 3: National & Divisional INSETs and M&E are implemented.	
Verifiable Indicators	Achievement Level
3(a) Every year, one INSET is conducted at over 19 INSET centres in Malawi.	<Achievement level: achieved> <ul style="list-style-type: none"> • Divisional INSETs were conducted in 2010 and 2011 at 19 INSET centres. In total 2,258 out of 2,722 participants (83.1%) and 2,083 out of 2,508 participants (83.0%) completed the annual training. • The third Divisional INSET is planned for April 2012.
3(b) National INSETs obtain mean of over 2.5 on the scale of 0 to 4 in the INSET Quality Index through Pre- and Post-INSET, Session and Overall INSET evaluation instruments administered by the M&E Team.	<Achievement level: achieved> <ul style="list-style-type: none"> • National INSETs obtained the overall mean value of 3.4 in 2009 and 2010, and 3.2 in 2011, exceeding the target value of 2.5.
3(c) Over 75% (2,500) of all M/S teachers in Public Secondary Schools attend Divisional INSETs.	<Achievement level: achieved> <ul style="list-style-type: none"> • A total number of 2,931 mathematics and science teachers including Divisional Trainers attended the first Divisional INSET (2010). In the following year, a total number of 2,756 M&S teachers including Divisional Trainers attended the second Divisional INSET (2011). The numbers of attendees in the two Divisional INSETs have exceeded the target value of 2,500.

3(d) 5 INSET write-ups per cycle (4 subjects & 1 general issue) are developed.	<Achievement level: achieved> <ul style="list-style-type: none"> At least five write-ups have been developed per annual INSET cycle. See Annex 8-1 for the list of write-up developed so far.
3(e) Divisional INSET M&E Reports are submitted for each INSET.	<Achievement level: achieved> <ul style="list-style-type: none"> The Divisional INSET M&E Reports for the first and second Divisional INSET were produced by the SMASSE Secretariat in August 2010 and August 2011. These reports summarize the analysis on INSET reports submitted by various stakeholders. They also cover M&E results of INSET and classroom observation.

Overall Assessment: Achieved

Output 3 is evaluated to be achieved based on the achievement levels of its five indicators. By the time of terminal evaluation, four National INSETs, two Divisional INSETs and M&E activities on INSETs have been implemented. By implementing two full annual INSET cycles, National Coordinators, National Trainers, Divisional Coordinators, and Divisional INSET Centre Managers have acquired sufficient administrative capacity to implement INSETs. Moreover, National Coordinators, National Trainers and Divisional Coordinators have acquired experiences and know-how of conducting M&E on INSET.

(4) Achievement of Output 4

Output 4: Sustainable INSET management system is strengthened at all levels.	
Verifiable Indicators	Achievement Level
4(a) SMASSE INSET budget is secured, and timely disbursed by MoEST.	<Achievement level: mostly achieved> <ul style="list-style-type: none"> DTED has improved its capacity for budget planning of SMASSE INSET activities. MoEST has secured the budget for all National and Divisional INSETs. INSET budgets have not been disbursed in a timely manner; they were disbursed at the last minute, not leaving a sufficient time for preparation (e.g. purchase of food items). There have been delays in budget disbursements for such activities as M&E.
4(b) Over 80% of the total number of National and Divisional Coordinators, and head-teachers at Divisional INSET centres participate in training sessions for strengthening their administrative capacity.	<Achievement level: achieved> <ul style="list-style-type: none"> All National Coordinators, Divisional Coordinators, and head-teachers/deputy head-teachers from all 19 Divisional INSET Centres (100%) participated in various training for strengthening their administrative capacity.

Overall Assessment: Mostly achieved

Output 4 is evaluated to be mostly achieved based on the achievement levels of its two indicators. By providing several kinds of training for strengthening administrative capacity to all those who are in managerial positions, the Project has ensured that they become fully informed on their expected roles and responsibilities in their public administrative positions. Through the training and the first-hand experiences of managing INSETs they have improved their INSET management capacity; however, there is room for improvement to deal with various administrative challenges that come about when implementing INSETs.

3-4. Prospect for Achieving the Project Purpose

Project Purpose: Quality INSETs for secondary mathematics and science teachers at Divisional level are provided.	
Verifiable Indicators	Achievement Level
By the end of the project, Divisional INSETs obtain mean of over 2.5 on the scale of 0 to 4 in the INSET Quality Index through Pre- and Post-INSET, Session and Overall INSET evaluation instruments administered by the M&E Team.	<Achievement level: achieved> <ul style="list-style-type: none">• The first and second Divisional INSET obtained the overall mean values of 3.3 and 3.4 respectively, exceeding the 2.5 target value.• In both Divisional INSETs, Post-INSET values were higher than Pre-INSET values. This means that INSETs brought about change in teachers' ideas and thinking for positive classroom practices.

Overall Assessment: Most likely to be achieved

Two Divisional INSETs have been successfully implemented in 2010 and 2011. Since the overall mean value exceeded the target value in both Divisional INSETs, it is evaluated that the Project Purpose is most likely to be achieved, if that the third Divisional INSET will be implemented at the same quality level (or a higher). The well-organized implementation of the planned third Divisional INSET is a necessary condition for the Project Purpose to be achieved.

Despite the progress made so far, there are various aspects of Divisional INSETs that require further enhancement. They are as follows:

- Divisional Trainers' mastery of INSET course contents;
 - Divisional INSET Centres Managers' capacity to handle various administrative challenges in Divisional INSET (e.g. transport cost reimbursement and allowance issues); and
 - Participants' motivation for training.
-

3-5. Prospect for Achievement of the Overall Goal

Overall Goal: The quality of teaching & learning of mathematics and science is improved in secondary schools in Malawi.													
Verifiable Indicators	Achievement Level												
<p>(a) Secondary maths/science lessons sampled nationally obtain mean of over 3.0 on the scale of 1 to 5 in the Teaching & Learning Quality Index administered by the DIAS of MoEST.</p>	<p><Achievement level: achieved></p> <ul style="list-style-type: none"> The 2011 M&E overall mean value of 2.9 (only slightly better than 3.0) achieved the Project's target value. <p style="text-align: center;">Evidence Form 1</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">Scale</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Very good</td> </tr> <tr> <td>2</td> <td>Good</td> </tr> <tr> <td>3</td> <td>Satisfactory</td> </tr> <tr> <td>4</td> <td>Barely satisfactory</td> </tr> <tr> <td>5</td> <td>Unsatisfactory</td> </tr> </tbody> </table>	Scale		1	Very good	2	Good	3	Satisfactory	4	Barely satisfactory	5	Unsatisfactory
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4	Barely satisfactory												
5	Unsatisfactory												
<p>(b) Secondary maths/science lessons sampled nationally obtain mean of over 2.5 on the scale of 0 to 4 in the ASEI/PDSI checklist administered by the project M&E team.</p> <p>(ASEI/PDSI: Activity, Student-Centred, Experiment and Improvisation / Plan, Do, See and Improve)</p>	<p><Achievement level: not yet achieved, but it is likely to be achieved in three to five years if the M&E results continued to improve in the same manner ></p> <ul style="list-style-type: none"> The overall mean value of the 2011 M&E was 1.8 up from the 2009 (baseline) and 2010 M&E results, which were 1.1 and 1.6 respectively. The overall mean value has increased by 42.5% from 2009 to 2010 and by 12.5% from 2010 to 2011. <p style="text-align: center;">ASEI/PDSI Checklist</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">Scale</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>A great deal</td> </tr> <tr> <td>3</td> <td>Adequately</td> </tr> <tr> <td>2</td> <td>Average</td> </tr> <tr> <td>1</td> <td>A little</td> </tr> <tr> <td>0</td> <td>Not at all</td> </tr> </tbody> </table>	Scale		4	A great deal	3	Adequately	2	Average	1	A little	0	Not at all
Scale													
4	A great deal												
3	Adequately												
2	Average												
1	A little												
0	Not at all												

Overall Assessment: Likely to be Achieved

Based on the continuous improvement of M&E results from the Baseline Survey to the 2011 M&E conducted by the Project M&E team after the second Divisional INSET and high marks given by DIAS in the 2011 M&E activity that exceeded the indicator's target value, the prospect for achieving the Overall Goal within three to five years after the completion of the Project is promising.

For the Overall Goal to be achieved, there are challenges that need to be addressed. Some are as follows:

- According to the second Divisional INSET M&E Report (2011) and interviews conducted by the Team, mathematics and science teachers find it difficult to fully apply the ASEI/PDSI approach that they have acquired in INSET in their regular lessons, partially due to their teaching environment (e.g. large class size, lack of materials, high teachers' workloads) and their general motivation;
- Many secondary school teachers do not prepare lesson plans, partly because lesson plan preparation is not fully enforced by DIAS, and
- School based monitoring is rarely conducted although it is important to have close and regular classroom supervisions in order to improve the quality of teaching and learning.

3-6. Implementation Process of the Project

The following factors have positively and negatively affected project implementation.

3-6-1. Contributing Factors

(1) Strong sense of ownership towards the Project by the Malawian side

The Project has been implemented with a strong sense of ownership by the Malawian side. The factors that formulated this ownership are as follows:

- (a) **Substantial involvement of a wide range of stakeholders in project planning:** The Project was formulated by involving a wide range of stakeholders. Due to their direct and substantial contributions to the project formulation, all stakeholders were able to fully familiarize themselves with PDM contents. Their understanding of the project framework and objectives has contributed to enhancing their ownership of SMASSE INSET and increased the level of their proactivity in project implementation and problem solving.
- (b) **Adoption of a comprehensive approach to ensure sustainability:** Sustainability and ownership have a mutually reinforcing relationship. The Project was designed with a strong consideration of SMASSE INSET's sustainability.
 - **Use of existing structure:** From its beginning, the Project has been fully incorporated within the MoEST's existing structure. SMASSE INSET activities have been conducted as a part of MoEST's regular work.
 - **Cost-sharing:** The Project adopted a cost-sharing approach. The Malawi side (MoEST and secondary schools) has born running costs for the implementation of INSETs (e.g. meals during INSET, allowance, and utilities of INSET Centres) while the Japanese side has born initial costs (e.g. rehabilitation of INSET Centres and procurement of equipment and materials). The SMASSE INSET budget of the Malawi side has steadily increased during the project period as planned.
 - **Capacity development of key persons:** The cascade approach was adopted in the SMASSE INSET structure for the maximum utilisation of MoEST's internal human resources. The Project provided an appropriate combination of various kinds of JICA overseas training to key persons from relevant departments at all levels.

- (c) **Well-functioning project management committees:** The Project was carefully planned, receiving inputs from various stakeholders at all management levels. This enabled the establishment of a project management committee structure that best suited the Malawian administrative context. All Committees (i.e. National Steering Committee (NSC), Stakeholders Committee, and Divisional Coordination Committee [DCC]) have been appropriately utilised as effective and efficient forums for sharing information and concerns related to the implementation of the Project and overcoming challenges.

(2) Robust organisational commitment to the Project by MoEST

This project was conducted with a robust organisational commitment from the Malawian side. Its commitment was demonstrated in the following forms and occasions.

- (a) **Financial commitment:** The MoEST's annual budget for the SMASSE program has doubled between the first year (20 million Malawian Kwacha [MWK] in fiscal year [FY] 2008/2009) and the last year (40 million MWK in FY 2011/2012).
- (b) **Flexible responses to challenges created by new budgetary control measures:** MoEST reacted flexibly to unintended negative effects on INSETs created by two budgetary control measures regarding the mode of payment by the all government departments and school revenues announced in early 2011. The first measure created a situation whereby payment procedures of the INSET implementation would be complicated, and the second measure placed severe financial strains on secondary schools. In order to ensure a successful implementation of the second Divisional INSET, MoEST relaxed the measures' applications of the mode of payment and allocated the DTED's budget to cover a half of the allowances of all the participants on behalf of secondary schools
- (c) **Minister's attendance at National INSETs' ceremonies:** The Minister of Education, Science and Technology showed his commitment to SMASSE INSET by attending National INSET's ceremonies. The Minister officially announced the closing of the second National INSET (2010) and the opening of the fourth National INSET (2012) at the ceremonies.

3-6-2. Impeding Factors

(1) Negative effects caused by fuel shortages

While fuel shortage is an external factor to the Project, they have created serious negative effects to the project implementation.

- (a) **Negative effect on budget management:** Due to fuel shortages, fares of public transports have been rising unpredictably. Increasing transportation costs have created serious differences between amounts budgeted for INSETs and actual amounts that participants had spent. This has caused situations whereby the SMASSE Secretariat was not able to reimburse the actual transportation costs in full amounts to participants at INSETs. Furthermore, it has added extra transaction costs to implement project activities.

(b) **Negative effect on participants' morale:** Such budget management issue discussed above have had a negative effect on INSET participants' morale. In the interviews by the Team, that the morale of participants decreased when they did not receive full-refund on transport (particularly during the fourth National INSET).

(2) Confusion brought by the new budgetary control measures

The new budgetary control measures created major challenges in administrative procedures for SMASSE INSET. These were announced close to the second Divisional INSET, and created confusion among those who were involved in implementation. While appropriate measures were taken, such as the preparation of payment guidelines for second Divisional INSETs, the confusion consumed extra time and efforts of those involved in implementation, which resulted in compromising the quality of the Divisional INSET.

(3) Weak recognition of SMASSE INSET certificate as a professional qualification

SMASSE INSET Completion Certificates (i.e. Certificate of National INSET, the Facilitation Certificate for Divisional Trainers, and Certificate of Divisional INSET) are not officially recognized as a professional qualification for promotion. In some cases, INSET participants show discontent with the fact that the certificate is not valued as they expect. This has lowered the motivation of INSET participants.

4. Evaluation Results

4-1. Evaluation by Five Criteria

Relevance: High
<p>The Relevance of the Project has been evaluated as high because the need for the quality improvement in education have continued to be in line with the Malawian Government's development policy and Japanese Government's aid policy to Malawi and continues to be in line with the needs of the Malawian people.</p> <p>Malawi's overarching development policies, the Vision 2020 (1998) and the Malawi Growth Development Strategy (MGDS) Phase 2 (draft), 2011-2016 (2011) stress the need for the improvement of the quality of education in Malawi. Within its education sector, the Policy and Investment Framework (2001), which is top of the national educational policy in Malawi places the improvement of the quality of education as one of the five objectives set in PIF and states "the need for a quality and sustainable teacher-training programme especially for primary and secondary institutions." More specifically, the institutionalisation of INSET and the continuous development of teachers for secondary education are included in the scope of the National Education Sector Plan (NESP) 2008-2017, the Education Sector Implementation Plan (ESIP) 2009-2013, and the National Strategy for Teacher Education and Development (NSTED) 2007-2017. These policies stress the need for improving the quality of teachers, highlighting that a significant number of secondary school teachers in Malawi are under-qualified (approx. 60%).</p>

The Japanese aid policy towards Malawi also includes the enhancement of quality education as one of its priority assistance areas. In addition, one of the focus areas of the Japan's Education Cooperation Policy 2011-2015 is to provide the quality education for all by improving the learning environment comprehensively, including teacher training. The Project is also in line with the Yokohama Action Plan, adopted at the Tokyo International Conference on Africa Development (TICAD) IV (2008). Based on these policies, Japan has been implementing capacity development projects targeting mathematics and science teachers in Africa; thus Japan has ample empirical and technical advantages in strengthening secondary level mathematics and science education.

Effectiveness: High

The Effectiveness of the Project has been evaluated as high. With the successful implementation of two Divisional INSETs in 2010 and 2011, the prospect for achieving the Project Purpose is promising on the condition that the third Divisional INSET will be implemented at the same quality level or higher as previous INSETs. The achievement of the Project Purpose is closely linked to successful productions of Outputs, as they cover all aspects of INSETs. It was evaluated that Output 1 (trainers' capacity), Output 2 (INSET Centres' facilities), and Output 4 (management of INSET) have been mostly achieved and Output 3 (implementation and M&E of INSETs) has been achieved. Thus, it is viewed that a solid technical, material, logistical, administrative, and managerial foundation for provision of quality mathematics and science teacher training has been established.

While the achievement levels of four Outputs are evaluated as high and the prospect for achieving the Project Purpose is deemed promising, there are areas that need be improved through continuing the implementation of annual INSET cycle, such as the capacity of Divisional Trainers and Division INSET Centre Managers.

Efficiency: Medium

The Efficiency of the Project has been evaluated as medium. All inputs planned in PDM have been appropriately allocated by both Malawian and Japanese sides. DCE and 19 secondary schools have been assigned as National and Divisional INSET Centres. The use of existing facilities (e.g. classrooms, laboratories, hostels and kitchens) has increased the Project's Efficiency. As for human resources, MoEST personnel and the Japanese expert who were involved in implementation of Phase 1 have been continuously assigned to the Project, which has also increased the Project's Efficiency. Through this, amicable working relationship established in Phase 1 and their understanding about how to apply INSET in the Malawian context have contributed to the smooth implementation of the Project activities.

On the other hand, there have been budget disbursement delays and boycotts of INSET by participants that reduced the extent to which Inputs were successfully converted into Outputs. While appropriate and flexible measures were taken to improve the budget planning and implementation, especially in regard to the introduction of budgetary control measures, extra transaction costs and efforts were spent. Due to the boycotts, some participants missed their opportunity to learn.

Impact: Medium

The Impact of the Project has been evaluated as medium.

On one hand the prospect for achieving the Overall Goal within three to five years after the completion of the Project is highly likely, considering the achievement levels of the Overall Goal's indicators. After the second Divisional INSET (2011), a joint classroom observation activity was conducted by the Project M&E team (DTED) and DIAS. The project M&E team's result indicated that the quality of teaching and learning have continuously improved since the Baseline Survey in 2009. DIAS's evaluation result exceeded the target value. According to members of the project M&E team, a joint M&E was a productive opportunity for two departments to share opinions for the improvement of SMASSE INSET and the teaching quality.

On the other hand, mathematics and science teachers have not been able to sufficiently apply skills and knowledge acquired from SMASSE INSET. Since Divisional INSET only takes place once a year and cluster and school-based training that could supplement Divisional INSETs have only been implemented in limited places and frequency, it still needs some time for teachers to substantially improve their teaching. In order to further improve the quality of lessons, there are essential issues that need to be addressed. For example, there are many mathematics and science teachers that do not sufficiently prepare lesson plans and many schools do not conduct school-based monitoring by the school management to control the quality of lessons. These are the basic conditions of delivering quality mathematics and science lessons.

In addition, an unintended positive impact was observed. The SMASSE Secretariat has been actively involved in the Secondary School Curriculum and Assessment Reform (SSCAR) process as the experiences of SMASSE INSET have been highly valued. They are invited as a core member of the SSCAR's technical working group. The Malawi Institute of Education (MIE), implementing body of SSCAR, is actively taking in the experiences of SMASSE INSET.

Sustainability: Medium

The Sustainability of the Project has been evaluated as medium.

From the institutional perspective, Malawi's education policy documents (i.e. NESP, ESIP, and NSTED) place a high priority on teachers' professional development. This ensures that the Malawi Government will continue its implementation for SMASSE INSET after the completion of the Project.

From the organisational and financial perspectives, SMASSE INSET has been solidly established as a DTED's regular programme. It is included in the department's annual Programme of Work (POW) for 2011/2012 and the budget of 40.0 million MWK for SMASSE INSET has been secured for FY 2011/2012, up from 20.0 million MWK in FY 2008/2009 and 29.9 million MWK in FY 2009/2010 and FY 2010/2011. One major issue with financial sustainability is that there is no general consensus on which departments/secondary schools should bear repair costs for National and Divisional INSET Centres after the Project, which have been covered by the Japanese side. The absence of the course of actions agreed among stakeholders on this issue lowers the Project's sustainability. Moreover, in order to enhance the level of sustainability, the following two issues need to be addressed: (1) the positions of National Coordinators and National Trainers from DTED have not been made official and (2) Education Division Offices do not have their own budgets for conducting M&E of SMASSE INSETs,

which limit their initiatives in implementing M&E on SMASSE INSETs.

From a technical perspective, through implementing two annual INSET cycles, those involved in INSET implementation have gained foundational technical and administrative capacities to carry out an annual INSET cycle. Nonetheless, there is still room for improvement of: (1) technical capacity of National Trainers and Divisional Trainers, (2) quality control of SMASSE INSET (write-ups and training sessions), and (3) administrative and management capacity of the SMASSE Secretariat and Divisional INSET Centres.

4-2. Conclusion

The Project launched in August 2008 with the Project Purpose of providing quality INSETs at the divisional level for secondary level mathematics and science teachers has entered into the last six month of the planned project period. Building onto the progress made in Phase 1, the Project has successfully expanded its target areas to cover all divisions and has established an INSET system that fits into an educational administrative structure of the Malawian Government.

Despite the many administrative and financial management challenges, the Project has: (1) strengthened professional capacity of National Trainers and Divisional Trainers; (2) strengthened National and Divisional INSET Centres' capacity as resource centres; (3) implemented two annual INSET cycles in 2010 and 2011, and (4) strengthened MoEST's budget planning capacity and INSET management capacity of those who are involved INSET implementation at all levels. Based on such production of Outputs, the Project Purpose (the provision of quality INSETs for secondary mathematics and science teachers at divisional level), is evaluated that it is likely to be achieved by the end of the Project period. This is, however, dependent on the successful implementation of the third Divisional INSET.

For the improvement of quality of mathematics and science in secondary education in Malawi, there are still many organisational, financial and technical challenges. In order to address them, the Team recommends the implementation of measures outlined in 5.1 Recommendation.

5. Recommendations and Lessons Learned

5-1. Recommendations

Based on the evaluation, recommendations are made in order to;

- ✓ establish a sustainable INSET system in Malawi (refer to 5-1-1.);
- ✓ improve and maintain the quality of INSET (refer to 5-1-2.); and
- ✓ ensure that teachers apply knowledge and skills acquired through INSET to their teaching (refer to 5-1-3.).

Upon consultation, both sides have agreed to take actions on the following recommended items. They are organized into three timeframes: short-term, mid-term, and long-term. Brackets following each recommendation indicate organisations/departments that are expected to be responsible for its implementation.

5-1-1. Recommendations to establish a sustainable INSET system

(1) Short-term (should be addressed by the end of the Project: early August 2012)

- (a) Implement successfully the third Divisional INSET in a good quality.
(DTED, Education Division Offices, and Divisional INSET Centres)
- (b) Prepare guidelines on financial management of Divisional INSET, which cover costing, requesting budget, disbursing, spending, and ensuring accountability, and communicate it to all stakeholders of Divisional INSET.
(DTED)
- (c) Secure and allocate sufficient budgets for INSET activities in FY2012/2013.
(SEST and Department of Education Planning)
- (d) Secure and allocate necessary budget to National and Divisional INSET Centres for repairing their facilities for INSET in FY2012/2013.
(SEST, Department of Education Planning, and Education Division Offices)
- (e) Improve managerial capacity of INSET Centre Managers by sharing good experiences among INSET Centre Managers and INSET Centre Coordinators.
(DTED, Department of Secondary Education, and Education Division Offices)

(2) Mid-term (should be addressed before the proposed next phase of SMASSE be approved)

- (a) Increase the budget allocation to Education Divisional Offices for a close monitoring of Divisional INSET.
(SEST, Department of Education Planning, DIAS, and Education Division Offices)

(b) Establish permanent posts of National Coordinators and National Trainers within the MoEST structure.

(SEST, Department of Education Planning, Department of Human Resource Management and Development, Department of Secondary Education, and DTED)

(3) Long-term (should be addressed with a longer perspective)

(a) Establish a career development system for teaching professions in which the Teaching Service Commission and the Department of Human Resource Management and Development appropriately recognize the Certificate of National INSET, the Facilitation Certificate for Divisional Trainers, and the Certificate of Divisional INSET during promotion.

(SEST, Department of Education Planning, Department of Human Resource Management and Development, Department of Secondary Education, DTED, and Teaching Service Commission)

5-1-2. Recommendations to improve and maintain the quality of INSET

(1) Short-term (should be addressed by the end of the Project: early August 2012)

(a) Compile and archive all existing INSET write-ups at Divisional INSET Centres for further reference. Those are expected to be referred to by teachers who did not attend the past INSETs.

(DTED)

(2) Mid-term (should be addressed before the proposed next phase of SMASSE be approved)

(a) Initiate the process of developing a strategy for the improvement and re-arrangement of INSET courses or sessions so as to accommodate diverse needs of teachers with different backgrounds.

(Department of Education Planning, DIAS, Department of Secondary Education, and DTED)

(b) Ensure to receive technical advice on all INSET write-ups from DIAS to enrich the contents.

(DIAS and DTED)

(3) Long-term (should be addressed with a longer perspective)

(a) In order to further strengthen the quality of Divisional Trainers, provide them with the following opportunities:

- ✓ Continuous training (e.g. National INSET);
- ✓ Be monitored in their teaching by DIAS and DTED; and
- ✓ Facilitating various teacher professional development activities (e.g. cluster training and school-based training).

(DIAS, DTED, Education Division Offices and secondary schools)

5-1-3. Recommendations to ensure the application of acquired knowledge and skills in teaching

(1) Short-term (should be addressed by the end of the Project: early August 2012)

- (a) Continue joint M&E activities (lesson observations).
(DIAS and DTED)
- (b) Conduct a situational analysis to explore contributing and impeding factors for teachers to apply the acquired knowledge and skills through SMASSE INSET.
(DTED)
- (c) Issue a circular or directive to enforce the preparation of lesson plans by secondary teachers as a part of their daily work.
(DIAS and Department of Secondary Education)

(2) Mid-term (should be addressed before the proposed next phase of SMASSE be approved)

- (a) Encourage school management to supervise teachers in preparing lesson plans and to monitor lesson implementation.
(DIAS, Department of Secondary Education, and DTED)

(3) Long-term (should be addressed with a longer perspective)

- (a) Continue SMASSE special training for student teachers at DCE.
(DCE, DTED, and JICA)
- (b) Conduct a tracking survey on student teachers who underwent SMASSE special training in 2011 to see whether their teaching is better than fellow teachers who had not attend SMASSE special training.
(DIAS, DCE, DTED, and JICA)

5-2. Lessons Learned

(1) Focus on capacity development of internal human resources and their active involvement ensures sustainability.

The Project had carefully planned to develop capacity of internal human resources of the responsible organisations at all levels by providing various overseas training opportunities and involving them in the Project. This combined strategy of capacity development and active involvement of key persons has contributed to establishing the strong foundation of organisational sustainability. It is important to develop capacity of internal human resources, instead of only exploiting their skills and expertise, when a project is implemented within an existing structure.

(2) Monitoring on Divisional Trainers in their teaching contributes to improving their capacity.

Divisional Trainers have been monitored by the national M&E team not only in Divisional INSET but also in their teaching. Classroom observation conducted after the Divisional INSET had been appreciated by Divisional Trainers because they could get technical advice for their teaching from the M&E team (National Trainers and Divisional Coordinators). This exercise contributes to improving the capacity of a Divisional Trainer as a trainer as well as a teacher.

(3) The joint monitoring activity done by DIAS and DTED produces synergetic effect.

The DIAS and DTED had conducted joint lesson observation for M&E purpose in 2011 for the first time. They found this activity effective because; (1) they could provide technical advice to teachers from their respective professional experiences; and (2) National Trainers from DTED could take advantages of DIAS's authority when entering into classrooms. In addition, this activity has promoted further technical collaboration between two departments, as in the case that DIAS staff participated in M&E of the 4th National INSET.

(4) The funding mechanism of Divisional INSET in Malawi is efficient and accountable.

The major part of funds of Divisional INSET is managed by DTED. Since all transactions of the fund are controlled and checked by the Secretariat, it is primarily accountable system and helps to efficiently standardize the level and contents of expenditure at each Divisional INSET Centre. Although the effective operation of this system highly depends on the timely disbursement of the government budget, adopting this centrally-controlled funding mechanism greatly contributes to ensuring accountability of INSET funds and equalising the INSET delivery at all centres to some extent.

Annex 1: Detailed Schedule of the Evaluation

Day	Date	Activities
08-Jan	Sun.	Arrival in Lilongwe (Ms. Setsuko Kanuka [Evaluation Analysis])
09-Jan	Mon.	Meeting at the JICA Malawi Office Interviews of MoEST Officials - Director, DIAS - Deputy Director and Education Officer, Department of Secondary Education Interview at DTED, MoEST - National Trainer (1 person)
10-Jan	Tue.	Interviews at DTED, MoEST - DTED Coordinator - National Coordinators (2 persons) - National Trainers (4 persons) - Japanese Expert assigned to the Project
11-Jan	Wed.	Interviews at DCE - Acting Principal of DCE - National Trainers (6 persons)
12-Jan	Thu.	Interviews at SEED Office - EDM - Divisional Coordinators / Inspectors (3 persons) Interviews at Mulungzi Secondary School (Divisional INSET Centre, SEED) - Head-Teacher / INSET Centre Manager - Divisional Trainer (1 person)
13-Jan	Fri.	Interview at SWED Office - EDM - Inspector (1 person) Interviews at Blantyre Secondary School (Divisional INSET Centre, SWED) - Head-teacher / INSET Centre Manager - Divisional Trainers (3 persons) Interviews at Thyolo Secondary School (Divisional INSET Centre, SHED) - Head-teacher / INSET Centre Manager - Divisional Trainer (1 person) Interviews at Mulanje Secondary School (Divisional INSET Centre, SHED) - Head-teacher / INSET Centre Manager - Divisional Coordinators / Inspectors (2 persons)
14-Jan	Sat.	Move to Lilongwe
15-Jan	Sun.	Analyse data and information collected from the interviews Draft the Evaluation Grid
16-Jan	Mon.	<Public Holiday: John Chilembwe Day> Analyse data and information collected from the interviews Draft the Evaluation Grid
17-Jan	Tue.	Interviews at Salima INSET Centre (Divisional INSET Centre, CEED) - Deputy Head-teacher - Divisional Trainer (1 person)
18-Jan	Wed.	Analyse data and information collected from the interviews Draft the Evaluation Grid
19-Jan	Thu.	Discussion with the Project Team

Day	Date	Activities
20-Jan	Fri.	Interviews at CWED Office - EDM - Divisional Coordinators / Inspectors (3 persons) Interviews - Japan Overseas Cooperation Volunteers (JOCVs) (4 persons, mathematics and science teachers)
21-Jan	Sat.	Draft the Evaluation Grid
22-Jan	Sun.	Draft the Evaluation Grid
23-Jan	Mon.	Arrival in Lilongwe (Mr. Satoru Takahashi [Team Leader] and Ms. Minako Sugawara [Evaluation Planning]) Discussion of evaluation findings
24-Jan	Tue.	Meetings with JICA Malawi Office and the Project Team Courtesy Call to SEST, MoEST Interviews at Lilongwe Girls' Secondary School (Divisional INSET Centre, CWED) - Head-teacher / INSET Centre Manager - Divisional Trainers (2 persons [1 Divisional Trainer from Likuni Secondary School])
25-Jan	Wed.	Interviews at Namitete Secondary School (Divisional INSET Centre, CWED) - Head-teacher / INSET Centre Manager
26-Jan	Thu.	Discussion with the SMASSE Secretariat
27-Jan	Fri.	Discussion with the JICA Expert and JICA Malawi Office
28-Jan	Sat.	Draft the M/M
29-Jan	Sun.	Draft the M/M
30-Jan	Mon.	Discussion on the drafted M/M - Coordinator, DTED Interviews at DTED - National Trainers (2 persons)
31-Jan	Tue.	Discussion on the drafted M/M - Director, Department of Education Planning - Principal Inspector of Schools, DIAS - Deputy Director and Education Officer, Department of Secondary Education - Coordinator, DTED - JICA Malawi Office (2 persons) Signing of M/M
01-Feb.	Wed.	NSC, Report to the Embassy of Japan and JICA Malawi Office
02-Feb	Thu.	Departure from Lilongwe

Annex 2: Project Design Matrix

Project Title: Strengthening of Mathematics and Science in Secondary Education (SMASSE) INSET Malawi Phase II
 Executing Bodies: Ministry of Education, Science and Technology (MoEST) and Japan International Cooperation Agency (JICA)
 Target Teachers: All mathematics and science teachers in public secondary schools (3,400 teachers) and head teachers in public secondary schools
 Target Area: 6 Divisions
 Duration: 4 years (2008 - 2012)

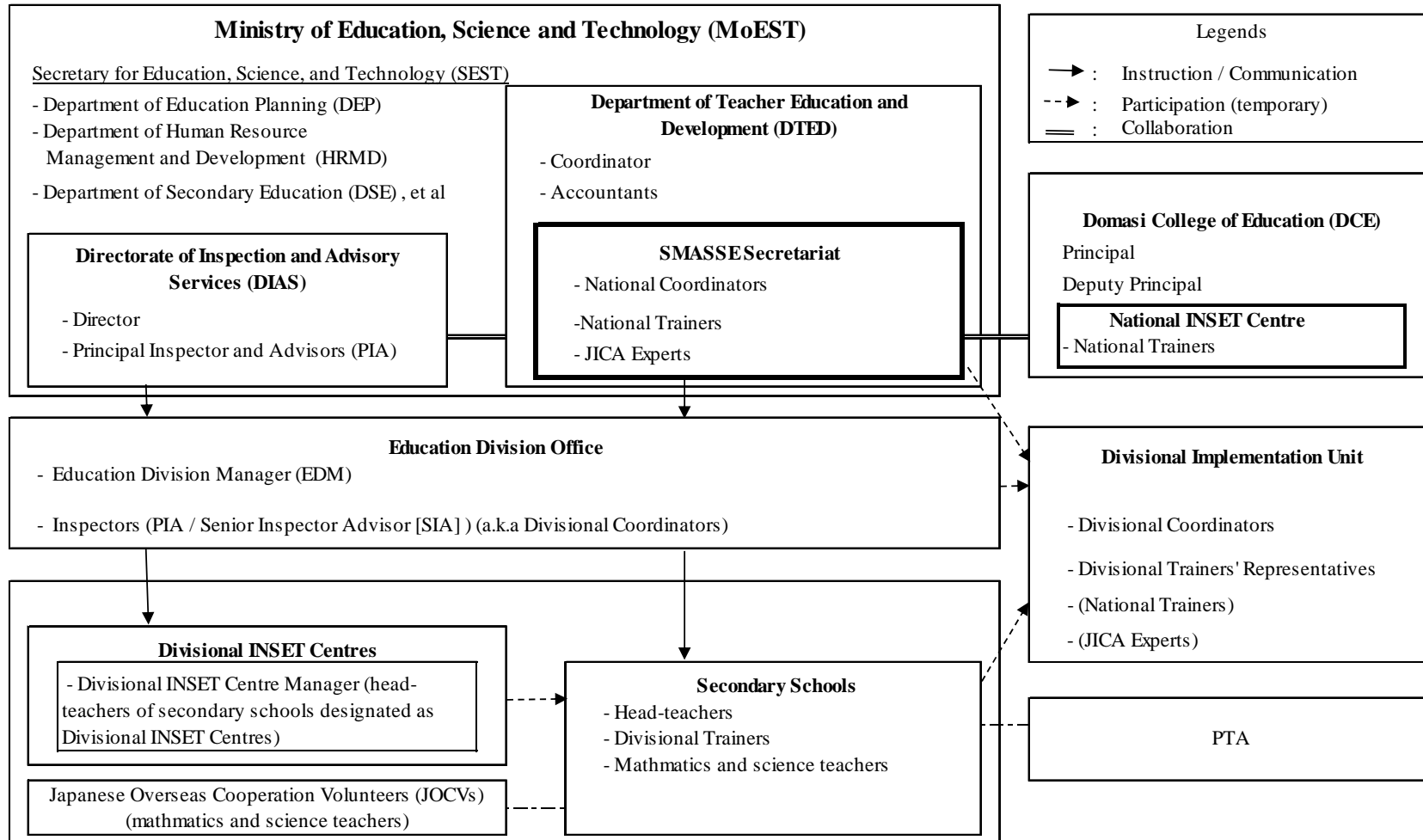
Version 2.1 (1st Nov, 2011)

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<u>Super goal:</u> The abilities of secondary school students in mathematics and science are improved in Malawi.	National Examination pass rate both at JCE and MSCE levels	National Examination results	The minimum number of M/S lessons/ periods per week is maintained. The learning environment of student is maintained.
<u>Overall goal:</u> The quality of teaching & learning of mathematics and science is improved in secondary schools in Malawi.	(a) Secondary maths/science lessons sampled nationally obtain mean of over 3.0 on the scale of 1 to 5 in the Teaching & Learning Quality Index administered by the DIAS of MoEST. (b) Secondary maths/science lessons sampled nationally obtain mean of over 2.5 on the scale of 0 to 4 in the ASEI/PDSI checklist administered by the project M&E team.	(a) DIAS M&E reports (b) Project M&E reports	The stability of the teaching force within schools is maintained.
<u>Project Purpose:</u> Quality INSETs for secondary mathematics and science teachers at Divisional level are provided.	<u>By the end of the project,</u> Divisional INSETs obtain mean of over 2.5 on the scale of 0 to 4 in the INSET Quality Index through Pre- and Post-INSET, Session and Overall INSET evaluation instruments administered by the Monitoring and Evaluation Team.	Project M&E reports	Stability of Divisional trainers within divisions is maintained.

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<p><u>Output(s):</u></p> <p>1. Capacity of Divisional Trainers is strengthened.</p> <p>2. National INSET centre and Divisional INSET centre as resource centre are strengthened.</p> <p>3. National & Divisional INSETs and M&E are implemented.</p> <p>4. Sustainable INSET management system is strengthened at all levels.</p>	<p><u>By the end of the project,</u></p> <p>1(a) Over 240 divisional trainers undergo appropriate training.</p> <p>1(b) National and Divisional Trainers obtain mean of over 3 on the scale of 0 to 4 in the Trainer Capacity Index administered by the Monitoring and Evaluation Team.</p> <p>2(a) At least 1 national INSET centre and 19 divisional INSET centres are rehabilitated and equipped.</p> <p>2(b) Guideline to improve physical and material environment for INSET centres is developed.</p> <p>2(c) Physical and material environment for Divisional INSETs reach the level shown by INSET centre guideline.</p> <p>2(d) INSET material and equipment are fully utilised for activities of teacher professional development.</p> <p>3(a) Every year, one INSET is conducted at over 19 INSET centres in Malawi.</p> <p>3(b) National INSETs obtain mean of over 2.5 on the scale of 0 to 4 in the INSET Quality Index through Pre- and Post-INSET, Session and Overall INSET evaluation instruments administered by the Monitoring and Evaluation Team.</p> <p>3(c) Over 75% (2,500) of all mathematics and science teachers in Public Secondary Schools attend Divisional INSETs.</p> <p>3(d) 5 INSET write-ups per cycle (4 subjects & 1 general issue) are developed.</p> <p>3(e) Divisional INSET M&E Reports are submitted for each INSET.</p> <p>4(a) SMASSE INSET budget is secured, and timely disbursed by MoEST.</p> <p>4(b) Over 80% of the total number of National and Divisional Coordinators, and head teachers at Divisional INSET centres participate in training sessions for strengthening their administrative capacity.</p>	<p>Project M&E reports</p>	<p>Stability of National trainers is maintained.</p> <p>Other educational activities will not interfere with the project activities</p> <p>Stability and cooperation of leadership at all levels are maintained.</p> <p>INSET activities will be priority assignment for officers involved.</p>

<p><u>Activities:</u></p> <p>1-1 Set TORs and recruitment criteria for National Trainers. 1-2 Recruit National Trainers. 1-3 Train National Trainers. 1-4 Sensitize M/S teachers for recruitment of Divisional Trainers. 1-5 Set TORs and recruitment criteria for Divisional Trainers. 1-6 Recruit Divisional Trainers. 1-7 Train Divisional Trainers. 1-8 Conduct Trainers' meetings.</p> <p>2-1 Set designation criteria for INSET centres. 2-2 Designate and equip DCE and (to be decided) as National INSET Centres. 2-3 Designate schools as Divisional INSET centres. 2-4 Set minimum standards for INSET centres. 2-5 Conduct a survey on current physical and material environment at designated schools. 2-6 Carry out necessary maintenance and rehabilitation of the designated centres. 2-7 Equip INSET centres with T/L materials and facilities. 2-8 Set up guidelines for maintenance of equipment and facilities at INSET centres.</p> <p>3-1 Conduct the baseline survey for M/S teachers. 3-2 Develop curriculums for INSETs. 3-3 Conduct National INSET. 3-4 Conduct monitoring and evaluation of National INSET. 3-5 Conduct Divisional INSET. 3-6 Conduct monitoring and evaluation of Divisional INSET.</p> <p>4-1 Set TORs for different INSET committees. 4-2 Sensitize all stakeholders such as PTA, School Management Committee, and MoEST officials. 4-3 Establish INSET committees at different levels. 4-4 Strengthen leadership at all levels through trainings, workshops and study tours. 4-5 Publicize INSET activities through newspapers, newsletters, radio and TV.</p>	<p><u>Inputs:</u></p> <p>1. <u>Malawian side:</u></p> <p>(a) Office space and facilities necessary for the Project (b) Expenses for monitoring and evaluation (c) Assignment of National Coordinator from DTED (d) Assignment of full time National Trainers to the Project (e) Expenses necessary for the implementation of the Project (Running cost for INSETs)</p> <p>2. <u>Japanese side:</u></p> <p>(a) Training of counterpart personnel in Japan, Kenya and other countries (b) Provision of equipment, materials and maintenance of facilities (if necessary) (c) Dispatch of short / long term experts (d) Expenses necessary for the implementation of the Project</p>		
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Annex 4: Project Implementation Structure



Annex 5: List of Main Interviewees

MoEST

(1) SEST

- Mr. John J. Bisika (SEST)

(2) Department of Education Planning

- Mr. Patrick G.J. Lapukeni (Director)

(3) DIAS

- Mr. Raphael Z.G. Agabu (Director-Inspectorate)
- Ms. Grace Chakwera (Principal Inspector of Schools)

(4) Department of Secondary Education

- Mr. Dedley Chiwala (Deputy Director)
- Mr. Felix Ungapembe (Education Officer)
- Ms. M. B. Banda (Education Officer)

(5) DTED

- Ms. Darles Mbewe (Coordinator)

SMASSE Secretariat

- Mr. Alfred Kamoto (National Coordinator)
- Mr. Godwin Jere (Deputy National Coordinator)
- Mr. George Vakusi (National Trainer, Biology)
- Mr. Andrew Thauzeni (National Trainer, Biology)
- Ms. Lucia Chidalenga (National Trainer, Biology)
- Mr. Livati Potiphar (National Trainer, Mathematics)
- Mr. Cedric Mpaso (National Trainer, Physical Science)
- Mr. Hikaru Kusakabe (Japanese Expert)

Education Division Offices

(1) SEED

- Mr. Gregory Samuel Alufandika (EDM)
- Mr. Patrick Mandalawe (Divisional Coordinator, Inspector)
- Mr. Cryton Tambala (Divisional Coordinator, Inspector)
- Ms. Irene Kamphonda (Divisional Coordinator, Inspector)

(2) SWED

- Sr. Eunice Dambo (EDM)
- Ms. Caroline Moto (Divisional Coordinator, Inspector)

(3) SHED

- Mr. Christopher Tsogolani (Divisional Coordinator, Inspector)
- Mr. Anthony Manja (Divisional Coordinator, Inspector)

(4) CWED

- Mr. Joseph Nkhata (EDM)
- Mr. Ernest Matengo (Divisional Coordinator, Inspector)
- Mr. Paul Miamba (Divisional Coordinator, Inspector)
- Mr. Joseph. Katona (Divisional Coordinator, Inspector)

DCE

- Mr. Alnord Mwanza (Acting Principal)
- Mr. Mathias January (National Trainer, Mathematics)
- Mr. Prince Phwetekere (National Trainer, Biology)
- Mr. Gift Moyo (National Trainer, Biology)
- Ms. Catherine Kumwamba (National Trainer, Biology)
- Ms. Florence Thomo (National Trainer, Mathematics)
- Mr. Joseph Mshanga (National Trainer, Physical Science)

Secondary Schools / Divisional INSET Centres

(1) Mulungzi Secondary School (Divisional INSET Centre, SEED)

- Mr. Silk Kadwala (Head-teacher)
- Mr. Henry Dzingo (Divisional Trainer)

(2) Blantyre Secondary School (Divisional INSET Centre, SWED)

- Ms. Madalitso Chamba (Head-teacher)
- Mr. Robin Francis Chataika (Divisional Trainer)
- Mr. Brian Matundu (Divisional Trainer)
- Mr. Richard Sabawo (Divisional Trainer)

(3) Thyolo Secondary School (Divisional INSET Centre, SHED)

- Mr. Wilfred Nyapwala (Head-teacher)
- Mr. Martin Sakala (Divisional Trainer)

(4) Mulanje Secondary School (Divisional INSET Centre, SHED)

- Mr. Sonnex Likharuwe (Head-teacher)

(5) Salima Secondary School (Divisional INSET Centre, CEED)

- Mr. Simiton Chimocha (Deputy Head-teacher)
- Mr. Bernard Thungwa (Divisional Trainer)

(6) Lilongwe Girls' Secondary School (Divisional INSET Centre, CWED)

- Ms. Anita Kaliu (Head-teacher)
- Mr. Votei Mboweni (Divisional Trainer)

(7) Namitete Secondary School (Divisional INSET Centre, CWED)

- Mr. Victor Chibwe (Head-teacher)

JOCVs (math and science teachers)

- Mr. Kiyoshi Furusawa (Mwatibu Community Day Secondary School [CDSS])
- Mr. Mitsuhiro Uchida (Ching'ombe CDSS)
- Mr. Akihito Miyamoto (Chambera CDSS)
- Ms. Erika Atarashi (Nsaru Secondary School)

Annex 6: Evaluation Grid

This evaluation grid is comprised of three sections: (1) project achievements, (2) project implementation process, and (3) evaluation by five criteria (Relevance, Effectiveness, Efficiency, Impact, and Sustainability).

SECTION I: Project Achievements

This section examines the achievement levels of the Super Goal, Overall Goal, Project Purpose, Outputs, Activities, and Inputs summarized in the most recently revised PDM (PDM Version 2.1, dated November 1, 2011).

Evaluation Questions		Results																																																																																								
Main Questions	Sub Questions																																																																																									
Achievement level of the Super Goal	<p>To what degree has the Super Goal been achieved?</p> <p><u>Super goal:</u></p> <p>The abilities of secondary school students in mathematics and science are improved in Malawi.</p>	<p>Verifiable indicator: National Examination pass rate both at JCE and MSCE levels</p> <p><Achievement level of the indicator> According to interviews to head-teachers, pass rates in math and science have improved at their schools, but it has not clearly manifested in the pass-rate patterns of the national examinations.</p> <ul style="list-style-type: none"> The MSCE pass rates from 2001 to 2010 have significantly fluctuated, showing no clear indication of an increase (or decrease) in the abilities of secondary schools students. The same volatile pattern also applies to SEED, the target division for Phase 1. <p style="text-align: center;">MSCE Results (2001-2010)</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Year</th> <th colspan="2">Math</th> <th colspan="2">Biology</th> <th colspan="2">Physical Science</th> <th rowspan="2">Note</th> </tr> <tr> <th>National</th> <th>SEED</th> <th>National</th> <th>SEED</th> <th>National</th> <th>SEED</th> </tr> </thead> <tbody> <tr> <td>2010</td> <td>54.6%</td> <td>55.8%</td> <td>63.8%</td> <td>67.1%</td> <td>72.8%</td> <td>73.2%</td> <td rowspan="3">Phase 2 (Aug. 2008- Aug. 2012) ↑</td> </tr> <tr> <td>2009</td> <td>54.8%</td> <td>54.0%</td> <td>68.3%</td> <td>68.6%</td> <td>65.5%</td> <td>63.7%</td> </tr> <tr> <td>2008</td> <td>84.6%</td> <td>85.1%</td> <td>86.8%</td> <td>87.9%</td> <td>91.0%</td> <td>91.8%</td> </tr> <tr> <td>2007</td> <td>51.2%</td> <td>49.2%</td> <td>31.6%</td> <td>28.7%</td> <td>54.0%</td> <td>51.5%</td> <td rowspan="5">Phase 1 (Sep. 2004- Sep. 2007) ↑</td> </tr> <tr> <td>2006</td> <td>38.9%</td> <td>37.5%</td> <td>48.9%</td> <td>45.9%</td> <td>50.7%</td> <td>50.9%</td> </tr> <tr> <td>2005</td> <td>49.4%</td> <td>48.8%</td> <td>74.6%</td> <td>73.6%</td> <td>57.2%</td> <td>57.3%</td> </tr> <tr> <td>2004</td> <td>42.7%</td> <td>93.5%</td> <td>57.8%</td> <td>56.7%</td> <td>73.3%</td> <td>70.2%</td> </tr> <tr> <td>2003</td> <td>46.8%</td> <td>-</td> <td>66.8%</td> <td>-</td> <td>75.5%</td> <td>-</td> </tr> <tr> <td>2002</td> <td>41.4%</td> <td>-</td> <td>56.5%</td> <td>-</td> <td>65.0%</td> <td>-</td> <td>-</td> </tr> <tr> <td>2001</td> <td>14.1%</td> <td>-</td> <td>28.2%</td> <td>-</td> <td>52.5%</td> <td>-</td> <td>-</td> </tr> </tbody> </table> <p style="text-align: center;">Trend of MSCE Results (2001-2010)</p> <ul style="list-style-type: none"> It is difficult to examine the impact of the Project on secondary school students' abilities in mathematics and science through national examinations as there are many external factors (beyond the Project's scope) which affect the test results. For example, national examinations are taken at all secondary schools in Malawi, including private schools which were not targeted within the Project. According to interviews to Divisional INSET Centre Managers (head-teacher of secondary schools), their students' academic performance in M/S has improved since the project beginning. 	Year	Math		Biology		Physical Science		Note	National	SEED	National	SEED	National	SEED	2010	54.6%	55.8%	63.8%	67.1%	72.8%	73.2%	Phase 2 (Aug. 2008- Aug. 2012) ↑	2009	54.8%	54.0%	68.3%	68.6%	65.5%	63.7%	2008	84.6%	85.1%	86.8%	87.9%	91.0%	91.8%	2007	51.2%	49.2%	31.6%	28.7%	54.0%	51.5%	Phase 1 (Sep. 2004- Sep. 2007) ↑	2006	38.9%	37.5%	48.9%	45.9%	50.7%	50.9%	2005	49.4%	48.8%	74.6%	73.6%	57.2%	57.3%	2004	42.7%	93.5%	57.8%	56.7%	73.3%	70.2%	2003	46.8%	-	66.8%	-	75.5%	-	2002	41.4%	-	56.5%	-	65.0%	-	-	2001	14.1%	-	28.2%	-	52.5%	-	-
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Achievement level of the Super Goal (continued)	To what degree has the Super Goal been achieved? (continued)	<ul style="list-style-type: none"> When the results of JCE and MSCE were compared by subject and education division, SEED is ranked the top or the second top in all related subjects, which can be constructed as the manifestation of the positive impact of SMASSE INSET. <p style="text-align: center;">JCE and MSCE Results by Division in 2010</p> <table border="1"> <thead> <tr> <th rowspan="2">Rank</th> <th colspan="4">JCE (2010)</th> <th colspan="4">MSCE (2010)</th> </tr> <tr> <th>Biology</th> <th>Mathmatics</th> <th>Physical Science</th> <th>Home Economics</th> <th>Biology</th> <th>Mathmatics</th> <th>Physical Science</th> <th>Home Economics</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>SHED (81.1%)</td> <td>SHED (63.1%)</td> <td>SEED (64.8%)</td> <td>SEED (84.2%)</td> <td>NED (69.7%)</td> <td>NED (60.1%)</td> <td>NED (78.7%)</td> <td>SHED (96.8%)</td> </tr> <tr> <td>2</td> <td>SEED (79.1%)</td> <td>SEED (59.6%)</td> <td>SHED (64.7%)</td> <td>NED (78.8%)</td> <td>SEED (67.1%)</td> <td>SEED (55.8%)</td> <td>SEED (74.5%)</td> <td>SEED (93.5%)</td> </tr> <tr> <td>3</td> <td>NED (78.7%)</td> <td>NED (55.5%)</td> <td>NED (61.6%)</td> <td>SWED (75.8%)</td> <td>SWED (63.6%)</td> <td>SWED (55.8%)</td> <td>SWED (73.8%)</td> <td>NED (92.5%)</td> </tr> <tr> <td>4</td> <td>SWED (76.4%)</td> <td>SWED (51.2%)</td> <td>SWED (58.7%)</td> <td>SHED (73.5%)</td> <td>CWED (62.4%)</td> <td>CWED (53.5%)</td> <td>CWED (71.8%)</td> <td>SWED (90.3%)</td> </tr> <tr> <td>5</td> <td>CWED (73.5%)</td> <td>CWED (50.8%)</td> <td>CWED (56.0%)</td> <td>CWED (72.7%)</td> <td>SHED (60.4%)</td> <td>SHED (52.2%)</td> <td>CEED (70.0%)</td> <td>CEED (86.3%)</td> </tr> <tr> <td>6</td> <td>CEED (69.5%)</td> <td>CEED (44.5%)</td> <td>CEED (49.7%)</td> <td>CEED (64.4%)</td> <td>CEED (58.2%)</td> <td>CEED (48.2%)</td> <td>SHED (67.7%)</td> <td>CWED (85.4%)</td> </tr> <tr> <td>National Average</td> <td>75.8%</td> <td>53.1%</td> <td>58.6%</td> <td>73.6%</td> <td>63.8%</td> <td>54.6%</td> <td>73.2%</td> <td>90.3%</td> </tr> </tbody> </table>	Rank	JCE (2010)				MSCE (2010)				Biology	Mathmatics	Physical Science	Home Economics	Biology	Mathmatics	Physical Science	Home Economics	1	SHED (81.1%)	SHED (63.1%)	SEED (64.8%)	SEED (84.2%)	NED (69.7%)	NED (60.1%)	NED (78.7%)	SHED (96.8%)	2	SEED (79.1%)	SEED (59.6%)	SHED (64.7%)	NED (78.8%)	SEED (67.1%)	SEED (55.8%)	SEED (74.5%)	SEED (93.5%)	3	NED (78.7%)	NED (55.5%)	NED (61.6%)	SWED (75.8%)	SWED (63.6%)	SWED (55.8%)	SWED (73.8%)	NED (92.5%)	4	SWED (76.4%)	SWED (51.2%)	SWED (58.7%)	SHED (73.5%)	CWED (62.4%)	CWED (53.5%)	CWED (71.8%)	SWED (90.3%)	5	CWED (73.5%)	CWED (50.8%)	CWED (56.0%)	CWED (72.7%)	SHED (60.4%)	SHED (52.2%)	CEED (70.0%)	CEED (86.3%)	6	CEED (69.5%)	CEED (44.5%)	CEED (49.7%)	CEED (64.4%)	CEED (58.2%)	CEED (48.2%)	SHED (67.7%)	CWED (85.4%)	National Average	75.8%	53.1%	58.6%	73.6%	63.8%	54.6%	73.2%	90.3%
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Achievement level of the Overall Goal	To what degree has the Overall Goal been achieved? <u>Overall Goal:</u> The quality of teaching & learning of mathematics and science is improved in secondary schools in Malawi.	<p><u>Verifiable indicator (a): Secondary maths/science lessons sampled nationally obtain mean of over 3.0 on the scale of 1 to 5 in the Teaching & Learning Quality Index administered by the DIAS of MoEST.</u></p> <p><Achievement level of the indicator: achieved></p> <ul style="list-style-type: none"> From the 10th of May to the 17th of June 2011, after the second Divisional INSET, school inspectors from DIAS and Education Division Offices spot-checked 135 lessons at 59 schools. The 2011 M&E overall mean value of 2.9 (slightly better than 3.0) achieved the Project's target value. <p style="text-align: center;">M&E Result by DIAS, MoEST in 2011</p> <table border="1"> <thead> <tr> <th>Teaching</th> <th>Learning</th> <th>Attainment</th> <th>Learner's attitude and behavior</th> <th>Assessment</th> <th>Use of resources</th> <th>Overall Mean Value</th> <th>Target value</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>3.0</td> <td>2.8</td> <td>2.8</td> <td>2.7</td> <td>3.1</td> <td>3.2</td> <td>2.9</td> <td>below 3.0*</td> <td>achieved</td> </tr> </tbody> </table> <p>(Note: the target value set in the Verifiable Indicator (a) for the Overall Goal is for the Teaching & Learning Quality Index that uses the scale of 1 to 5 (5 being the best condition); however the DIAS/Education Division Office M&E team used the Evidence Form 1 (DIAS's evaluation instrument) in the 2011 M&E, in which rates are the reverse with 1 being the best condition. Therefore, the target value should be construed as a "mean of less than 3.0," rather than a "mean of over 3.0.")</p> <ul style="list-style-type: none"> By the end of the Project, one more joint M&E activities are planned after the third Divisional INSET. The above results will be used to compare against the results of the next M&E activity. 	Teaching	Learning	Attainment	Learner's attitude and behavior	Assessment	Use of resources	Overall Mean Value	Target value	Status	3.0	2.8	2.8	2.7	3.1	3.2	2.9	below 3.0*	achieved																																																														
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Achievement level of the Overall Goal (continued)	To what degree has the Overall Goal been achieved? (continued)	<p><u>Verifiable indicator (b): Secondary maths/science lessons sampled nationally obtain mean of over 2.5 on the scale of 0 to 4 in the ASE/PDSI checklist administered by the project M&E team.</u></p> <p><Achievement level of the indicator: Not yet achieved, but it is likely to be achieved in three to five years if the M&E results continued to improve in the same manner ></p> <ul style="list-style-type: none"> After the second Divisional INSET (May - June 2011), the third M&E was conducted by the project's M&E team, comprised of National Trainers from DTED and National Trainers from DCE. The team visited 90 schools and observed 231 lessons in total. The overall mean value of the 2011 M&E was 1.8 up from the 2009 (baseline) and 2010 M&E results, which were 1.1 and 1.6 respectively. The overall mean value has increased by 42.5% from 2009 to 2010 and by 12.5% from 2010 to 2011. <p style="text-align: center;">M&E Results by the Project M&E Team from 2009 to 2011</p> <table border="1"> <thead> <tr> <th></th> <th>Attitude</th> <th>Activity</th> <th>Student-Centred</th> <th>Experiment</th> <th>Improvisation</th> <th>Planning</th> <th>Seeing</th> <th>Improving</th> <th>Overall Grade</th> </tr> </thead> <tbody> <tr> <td>2009 (baseline)</td> <td>1.7</td> <td>1.3</td> <td>0.6</td> <td>0.7</td> <td>0.7</td> <td>1.1</td> <td>1.6</td> <td>1.4</td> <td>1.1</td> </tr> <tr> <td>2010 (M&E)</td> <td>2.0</td> <td>1.8</td> <td>1.1</td> <td>1.3</td> <td>1.3</td> <td>2.2</td> <td>1.9</td> <td>1.6</td> <td>1.6</td> </tr> <tr> <td>2011(M&E)</td> <td>2.5</td> <td>2.0</td> <td>1.1</td> <td>1.2</td> <td>1.6</td> <td>2.1</td> <td>2.2</td> <td>1.8</td> <td>1.8</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Scorings of five evaluation items (<i>Attitude, Activity, Improvisation, Seeing and Improving</i>) increased consecutively in 2009 and 2011; however, three evaluation items (<i>Student-Centred, Experiment and Planning</i>) slightly decreased from 2009 to 2011. One factor that may have strongly influenced the result is that the 2011 M&E was conducted as spot-check without informing the schools in advance (to eliminate the possibility of lessons being staged). 		Attitude	Activity	Student-Centred	Experiment	Improvisation	Planning	Seeing	Improving	Overall Grade	2009 (baseline)	1.7	1.3	0.6	0.7	0.7	1.1	1.6	1.4	1.1	2010 (M&E)	2.0	1.8	1.1	1.3	1.3	2.2	1.9	1.6	1.6	2011(M&E)	2.5	2.0	1.1	1.2	1.6	2.1	2.2	1.8	1.8
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2011(M&E)	2.5	2.0	1.1	1.2	1.6	2.1	2.2	1.8	1.8																																	
Achievement level of the Project Purpose	To what degree has the Project Purpose been achieved? <u>Project Purpose:</u> Quality INSETs for secondary mathematics and science teachers at Divisional level are provided.	<p><u>Verifiable indicator (a): Divisional INSETs obtain mean of over 2.5 on the scale of 0 to 4 in the INSET Quality Index through Pre- and Post-INSET, Session and Overall INSET evaluation instruments administered by the Monitoring and Evaluation Team.</u></p> <p><Achievement level of the indicator: achieved ></p> <ul style="list-style-type: none"> The first and second Divisional INSET obtained the overall mean values of 3.3 and 3.4 respectively, exceeding the 2.5 target value set in the Project Purpose's Verifiable Indicator (a). In both Divisional INSETs, Post-INSET values were higher than Pre-INSET values. This means that INSETs brought about change in teachers' ideas and thinking for positive classroom practices. The overall mean value of the Post-Divisional INSET evaluation was 3.1 in the second Divisional INSET, up from 2.8 of Pre-INSET evaluation. As shown in the table in the next page, the evaluation results of the first and second Divisional INSET surpassed the target values in all fields. 																																								

Evaluation Questions		Results																																																
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Achievement level of the Project Purpose (continued)	To what degree has the Project Purpose been achieved? (continued)	M& E Results of Division INSET in 2010 and 2011																																																
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		Evaluation Instrument	Evaluator	1st (May 2010)	2nd (April 2011)																																													
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		INSET Session	Participants	3.5	3.6	2.5	achieved																																											
		Post INSET	Participants	3.0	3.1	2.5	achieved																																											
		Overall Mean:		3.3	3.4	2.5	achieved																																											
Achievement levels of the Outputs	To what degree has Output 1 been achieved? <u>Output 1:</u> Capacity of Divisional Trainers is strengthened.	<p><u>Verifiable indicator (a): Over 240 Divisional Trainers undergo appropriate training.</u></p> <p><Achievement level of the indicator: mostly achieved></p> <ul style="list-style-type: none"> The numbers of participants who completed the National INSET are 188 out of 192 participants (97.9%) in the first National INSET, 165 out of 177 (93.2%) in the second, 234 out of 244 (95.9%) in the third, and 60 out of 224 (26.8%) in the fourth. The number of participants who completed the fourth National INSET is notably low compared to other INSETs. This high incompleteness was caused by Divisional Trainers boycotting the training on its last day in protest for the amount of transfer cost reimbursed on the spot and other administrative challenges. <p style="text-align: center;">No. of National INSET Participants and Certificates Issued (2009-2012)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Year</th> <th rowspan="2">No. of Participants (Divisional Trainers)</th> <th colspan="2">Completion*</th> <th rowspan="2">No. of National Trainers</th> </tr> <tr> <th>No.</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>1st National INSET (2009)</td> <td style="text-align: center;">192</td> <td style="text-align: center;">188</td> <td style="text-align: center;">97.9%</td> <td style="text-align: center;">9</td> </tr> <tr> <td>2nd National INSET (2010)</td> <td style="text-align: center;">177</td> <td style="text-align: center;">165</td> <td style="text-align: center;">93.2%</td> <td style="text-align: center;">9</td> </tr> <tr> <td>3rd National INSET (2011)</td> <td style="text-align: center;">244</td> <td style="text-align: center;">234</td> <td style="text-align: center;">95.9%</td> <td style="text-align: center;">10</td> </tr> <tr> <td>4th National INSET (2012)</td> <td style="text-align: center;">224</td> <td style="text-align: center;">60</td> <td style="text-align: center;">26.8%</td> <td style="text-align: center;">13</td> </tr> </tbody> </table> <p style="font-size: small;">* Certificates of National INSET are given to those who fulfill the 90% session attendance rate requirement.</p> <p style="text-align: right;">Training of Trainers (ToT) (2008-2011)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Division</th> <th>No. of ToT Conducted</th> </tr> </thead> <tbody> <tr> <td>SEED*</td> <td style="text-align: center;">16</td> </tr> <tr> <td>NED</td> <td style="text-align: center;">7</td> </tr> <tr> <td>CEED</td> <td style="text-align: center;">5</td> </tr> <tr> <td>CWED</td> <td style="text-align: center;">7</td> </tr> <tr> <td>SWED</td> <td style="text-align: center;">6</td> </tr> <tr> <td>SH</td> <td style="text-align: center;">6</td> </tr> <tr> <td style="text-align: right;">Total:</td> <td style="text-align: center;">47</td> </tr> </tbody> </table> <p style="font-size: small;">*In Phase 2, ToT was conducted in SEED since 2008 and in other divisions since 2010.</p>						Year	No. of Participants (Divisional Trainers)	Completion*		No. of National Trainers	No.	%	1st National INSET (2009)	192	188	97.9%	9	2nd National INSET (2010)	177	165	93.2%	9	3rd National INSET (2011)	244	234	95.9%	10	4th National INSET (2012)	224	60	26.8%	13	Division	No. of ToT Conducted	SEED*	16	NED	7	CEED	5	CWED	7	SWED	6	SH	6	Total:	47
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Achievement levels of the Outputs (continued)	To what degree has Output 1 been achieved? (continued)	<ul style="list-style-type: none"> In total, 47 training sessions of ToT have been conducted to prepare Divisional Trainers for Divisional INSET by ensuring that they fully understand its implementation procedures, their expected roles and the training contents (See Annex 8-2). The number of Divisional Trainers who have completed all National INSETs from 2009 to 2012 is 41. The Project plans to conduct supplementary ToT before the third Divisional INSET. If the Project decides to provide completion certificates to those who attended the first three day of the fourth National INSET upon completion of ToT, and all who attended the first three days of the fourth National INSET receive the completion certificates, the number of those who completed all INSETs will be 127. This indicates that the Project has produced a good number of core key trainers at the divisional level. <p><u>Verifiable indicator (b): National and Divisional Trainers obtain mean of over 3 on the scale of 0 to 4 in the Trainer Capacity Index administered by the M&E Team.</u></p> <p><Achievement level of the indicator: achieved ></p> <ul style="list-style-type: none"> Both National Trainers and Divisional Trainers obtained an overall mean value of over 3.0 in the Trainer Capacity Index in all INSETs conducted. <p style="text-align: center;">Trainers' Capacity Evaluation in National and Division INSET (2009-2011)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">Trainer Capacity Index</th> <th colspan="3">National INSET</th> <th colspan="2">Divisional INSET</th> </tr> <tr> <th>1st (2009)</th> <th>2nd (2010)</th> <th>3rd (2011)</th> <th>1st (2010)</th> <th>2nd (2011)</th> </tr> </thead> <tbody> <tr> <td>Overall Mean</td> <td>3.3</td> <td>3.4</td> <td>3.1</td> <td>3.2</td> <td>3.3</td> </tr> <tr> <td>Target Value</td> <td>3.0</td> <td>3.0</td> <td>3.0</td> <td>3.0</td> <td>3.0</td> </tr> <tr> <td>Status</td> <td>achieved</td> <td>achieved</td> <td>achieved</td> <td>achieved</td> <td>achieved</td> </tr> </tbody> </table> <p>(Note: The evaluation result of the Trainer Capacity Index for the fourth National INSET (2012) was not available yet.)</p> <ul style="list-style-type: none"> The overall mean value of Training Capacity Index in the third National INSET is lower than the previous ones. This was partially due to the operational change in National INSET. From the third National INSET, National INSET begun to target Divisional Trainers from all Divisions, including ones from SEED that had started receiving INSET in Phase 1. Ones from SEED gave harsher evaluation than others. According to the third National INSET M&E Report, SEED Divisional Trainers found some overlaps in the third National INSET's course contents with what they have learned in Phase 1 and ToTs, which led to their low rating in Trainer Capacity Index. The overall mean value of Divisional Trainers' lesson observations (M&E) conducted in February 2011 after the second Divisional INSET was 2.6, which was notably higher than 1.8 of the randomly sampled mathematics and science teachers' lesson observations conducted in May 2011. The scores obtained by Divisional Trainers were higher in all evaluation items: Attitude, Activity, Student-Centred, Empowerment, Improvisation, Planning, Seeing and Improving. 	Trainer Capacity Index	National INSET			Divisional INSET		1st (2009)	2nd (2010)	3rd (2011)	1st (2010)	2nd (2011)	Overall Mean	3.3	3.4	3.1	3.2	3.3	Target Value	3.0	3.0	3.0	3.0	3.0	Status	achieved	achieved	achieved	achieved	achieved
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Achievement levels of the Outputs (continued)	To what degree has Output 1 been achieved? (continued)	<p align="center">Comparison of Lesson Observation (M&E) Results of Lessons Delivered by Divisional Trainers and Sampled Teachers</p> <table border="1"> <thead> <tr> <th></th> <th>Baseline Survey (August 2009)</th> <th>Post 1st Divisional INSET (June 2010)</th> <th>Post 2nd Divisional INSET (May 2011)</th> <th>Post 3rd. National INSET (February 2011)</th> </tr> </thead> <tbody> <tr> <td>Target Group</td> <td>M/S teachers</td> <td>M/S teachers</td> <td>M/S teachers</td> <td>Divisional Trainers</td> </tr> <tr> <td>Overall Mean</td> <td>1.1</td> <td>1.7</td> <td>1.8</td> <td>2.6</td> </tr> </tbody> </table> <ul style="list-style-type: none"> According to the National and Divisional INSET M&E Reports prepared in 2011 and interviews, while capacity of both National Trainers and Divisional Trainers are rated highly, there are areas of improvement, as shown below. <p><u>National Trainers</u></p> <ul style="list-style-type: none"> Time Management: Some National Trainers allocate disproportionate time for session introduction (explaining the rationale and the objectives of the sessions), group discussions and presentations, which result in inadequate time allocation for teaching materials to be sufficiently covered (development) and conclusion. Facilitation: Some National Trainers find it difficult to efficiently facilitate group discussions and summarize points to be learned. Some do not flexibly accommodate points or opinions raised by participants and stick with planned teaching materials. <p><u>Divisional Trainers</u></p> <ul style="list-style-type: none"> Time Management: Divisional Trainers tend to allocate insufficient time for conclusion, as a result of summarising of main learning points tends to be incomprehensive. Facilitation: Divisional Trainers find it difficult to fully involve all teachers with diverse backgrounds 		Baseline Survey (August 2009)	Post 1st Divisional INSET (June 2010)	Post 2nd Divisional INSET (May 2011)	Post 3rd. National INSET (February 2011)	Target Group	M/S teachers	M/S teachers	M/S teachers	Divisional Trainers	Overall Mean	1.1	1.7	1.8	2.6
		Baseline Survey (August 2009)	Post 1st Divisional INSET (June 2010)	Post 2nd Divisional INSET (May 2011)	Post 3rd. National INSET (February 2011)												
Target Group	M/S teachers	M/S teachers	M/S teachers	Divisional Trainers													
Overall Mean	1.1	1.7	1.8	2.6													
To what degree has Output 2 been achieved? <u>Output 2:</u> National INSET Centre and Divisional INSET Centre as resource centres are strengthened.	<p><u>Verifiable indicator (a): At least 1 National INSET Centre and 19 Divisional INSET Centres are rehabilitated and equipped.</u></p> <p><Achievement level of the indicator: achieved ></p> <ul style="list-style-type: none"> The National INSET Centre in DCE has been rehabilitated and equipped for National INSET as planned. Necessary maintenance and rehabilitation works have been conducted at 19 Divisional INSET Centres, based on physical assessments of the Centres carried out between October 2009 and March 2010. For the expenses of the rehabilitation and equipment at these facilities, see Annex 7-2 Cost of Rehabilitation and Provision of equipment and Teaching and Learning Materials, and for details of the major machinery and equipment provided to these centres, see Annex 7-6 Provision of Machinery and Equipment. The rehabilitation of facilities and provision of equipment and materials for the third Divisional INSET (2012) is being implemented. <p><u>Verifiable indicator (b): Guideline to improve physical and material environment for INSET centres is developed.</u></p> <p><Achievement level of the indicator: achieved ></p> <ul style="list-style-type: none"> The <i>Guidelines for Management of Divisional INSET Centre</i> (February 2010), and the <i>Guidelines for Rehabilitation of Divisional INSET Centre</i> (November 2010) were developed by project stakeholders. 																

Evaluation Questions		Results
Main Questions	Sub Questions	
Achievement levels of the Outputs (continued)	To what degree has Output 2 been achieved? (continued)	<p><u>Verifiable indicator (c): Physical and material environment for Divisional INSETs reach the level shown by INSET centre guideline.</u></p> <p><Achievement level of the indicator: achieved to some extent ></p> <ul style="list-style-type: none"> • In preparation for Divisional INSETs, rehabilitation of facilities and provision of equipment and materials have been carried out annually. This has been done based on the rehabilitation procedures and material checklists provided in the <i>Guidelines for Rehabilitation of Divisional INSET Centre</i> to ensure the physical and material environments meet the standards set by the guidelines. • The maintenance levels of INSET materials and equipment greatly vary from one Divisional INSET Centre to the other. For example, the Secretariat decided to temporarily suspend the operation of Mwanza Divisional INSET Centre because the administrative level and maintenance condition did not reach the satisfactory level. • Some Divisional INSET Centres strictly adhere to the guidelines, compared to the others. This depends on the level of awareness towards maintenance by Divisional INSET Centre Managers. <p><u>Verifiable indicator (d): INSET material and equipment are fully utilised for activities of teacher professional development.</u></p> <p><Achievement level of the indicator: achieved ></p> <ul style="list-style-type: none"> • INSET materials and equipment are fully utilised during Divisional INSETs. • Most Divisional INSET Centres are functioning as resources centres by allowing mathematics and science teachers from surrounding schools to borrow INSET materials and equipment, especially reference books (textbooks).
	To what degree has Output 3 been achieved? <u>Output 3:</u> National & Divisional INSETs and M&E are implemented.	<p><u>Verifiable indicator (a): Every year, one INSET is conducted at over 19 INSET centres in Malawi.</u></p> <p><Achievement level of the indicator: achieved ></p> <ul style="list-style-type: none"> • Divisional INSETs were conducted in 2010 and 2011 at 19 INSET centres. In total 2,258 out of 2,722 participants (83.1%) and 2,083 out of 2,508 participants (83.0%) completed the annual training. • The third Divisional INSET is planned for April 2012. • In addition to above, the 4th SEED INSET was conducted for two weeks in 2008 with the participation of 322 M&S teachers. <p><u>Verifiable indicator (b): National INSETs obtain mean of over 2.5 on the scale of 0 to 4 in the INSET Quality Index through Pre- and Post-INSET, Session and Overall INSET evaluation instruments administered by the Monitoring and Evaluation Team.</u></p> <p><Achievement level of the indicator: achieved ></p> <ul style="list-style-type: none"> • National INSETs obtained the overall mean values of 3.4 in 2009 and 2010, and 3.2 in 2011, exceeding the target value of 2.5. • The overall mean value of the post INSET evaluation was 3.2, up from 3.0 of pre-INSET evaluation in the third Divisional INSET evaluation. In the last two National INSETs, the overall mean values of post INSET evaluation were also higher than those of Pre-INSET evaluation. This means that National INSETs brought about change in teachers' ideas and thinking for positive classroom practices.

Evaluation Questions		Results																																											
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Achievement levels of the Outputs (continued)	To what degree has Output 3 been achieved? (continued)	<p style="text-align: center;">INSET Quality Result of National INSET (2009 – 2011)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">INSET Quality Index</th> <th colspan="3">National INSET</th> <th rowspan="3">Target value</th> <th rowspan="3">Status</th> </tr> <tr> <th rowspan="2">Evaluation Instrument</th> <th rowspan="2">Evaluators</th> <th>1st</th> <th>2nd</th> <th>3rd</th> </tr> <tr> <th>May '09</th> <th>Jan. '10</th> <th>Jan. '11</th> </tr> </thead> <tbody> <tr> <td>Overall INSET</td> <td>Divisional Trainers</td> <td>3.3</td> <td>3.3</td> <td>3.0</td> <td>2.5</td> <td>achieved</td> </tr> <tr> <td>INSET Session</td> <td>Divisional Trainers</td> <td>3.7</td> <td>3.6</td> <td>3.3</td> <td>2.5</td> <td>achieved</td> </tr> <tr> <td>Post INSET</td> <td>Divisional Trainers</td> <td>3.1</td> <td>3.2</td> <td>3.2</td> <td>2.5</td> <td>achieved</td> </tr> <tr> <td colspan="2" style="text-align: center;">Overall Mean Value:</td> <td>3.4</td> <td>3.4</td> <td>3.2</td> <td>2.5</td> <td>achieved</td> </tr> </tbody> </table> <p>(Note: The evaluation results of the INSET Session and the Overall Mean Value for the fourth National INSET (2012) were not available yet. The results of the Overall INSET and the Post INSET for the fourth National INSET were both 3.4.)</p> <ul style="list-style-type: none"> The overall mean value of the third National INSET is lower than the previous ones. The operational change in National INSET to incorporate Divisional Trainers from all Divisions, including ones from SEED that had started receiving INSET in Phase 1, affected the evaluation result. It was observed that ones from SEED gave harsher evaluation than others. For example, SEED participants' average score for the Overall INSET Evaluation Instrument was 2.7, lower than 3.0 of the average score for all six divisions and that for the Post INSET Evaluation Instrument was 3.0, lower than 3.2 of the average score for all six divisions. According to the third National INSET M&E Report, SEED Divisional Trainers found some overlaps between what they have learned in Phase 1 and ToTs and what was covered in the third National INSET. <p><u>Verifiable indicator (c): Over 75% (2,500) of all mathematics and science teachers in Public Secondary Schools attend Divisional INSETs.</u></p> <p><Achievement level of the indicator: achieved ></p> <ul style="list-style-type: none"> A total number of 2,931 M&S teachers including Divisional Trainers attended the first Divisional INSET (2010). In the following year, a total number of 2,756 M&S teachers including Divisional Trainers attended the second Divisional INSET (2011). The numbers of attendees in the two Divisional INSETs have exceeded the target value of 2,500. 	INSET Quality Index		National INSET			Target value	Status	Evaluation Instrument	Evaluators	1st	2nd	3rd	May '09	Jan. '10	Jan. '11	Overall INSET	Divisional Trainers	3.3	3.3	3.0	2.5	achieved	INSET Session	Divisional Trainers	3.7	3.6	3.3	2.5	achieved	Post INSET	Divisional Trainers	3.1	3.2	3.2	2.5	achieved	Overall Mean Value:		3.4	3.4	3.2	2.5	achieved
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Main Questions	Sub Questions																								
Achievement levels of the Outputs (continued)	To what degree has Output 3 been achieved? (continued)	No of Participants and Completion in Divisional INSET in 2010 and 2011																							
		<table border="1"> <thead> <tr> <th rowspan="2">Year</th> <th rowspan="2">(a) No. of Participants (M/S Teachers)</th> <th colspan="2">Completion*</th> <th rowspan="2">(b) No. of Divisional Trainers* *</th> <th rowspan="2">(a) + (b) No. of Attendees to Divisional INSET</th> </tr> <tr> <th>No.</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>1st (May 2010)</td> <td>2,722</td> <td>2,258</td> <td>83.0%</td> <td>209</td> <td>2,931</td> </tr> <tr> <td>2 nd (April 2011)</td> <td>2,508</td> <td>2,083</td> <td>83.1%</td> <td>248</td> <td>2,756</td> </tr> </tbody> </table> <p>* Certificates of Divisional INSET are given to those who fulfill the 90% session attendance rate requirement. ** Facilitaion Certificates are given to Divisional Trainers who facilitate Divisional INSET.</p> <p><u>Verifiable indicator (d): 5 INSET write-ups per cycle (4 subjects & 1 general issue) are developed.</u></p> <p><Achievement level of the indicator: achieved ></p> <ul style="list-style-type: none"> • At least five write-ups have been developed per annual INSET cycle. See Annex 8-3 for the list of write-ups developed so far. <p><u>Verifiable indicator (e): Divisional INSET M&E Reports are submitted for each INSET.</u></p> <p><Achievement level of the indicator: achieved ></p> <ul style="list-style-type: none"> • The Divisional INSET M&E Reports for the first and second Divisional INSET were produced by the SMASSE Secretariat in August 2010 and August 2011. • These reports summarise the analysis on INSET reports submitted to the SMASSE Secretariat by National Trainers, DIAS, the Department of Secondary Education, Divisional Coordinators, and 19 Divisional INSET Centres. The reports cover evaluation of the quality of INSET and the observation of lessons after the Divisional INSET (M&E activity). 					Year	(a) No. of Participants (M/S Teachers)	Completion*		(b) No. of Divisional Trainers* *	(a) + (b) No. of Attendees to Divisional INSET	No.	%	1st (May 2010)	2,722	2,258	83.0%	209	2,931	2 nd (April 2011)	2,508	2,083	83.1%	248
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	To what degree has Output 4 been achieved? <u>Output 4:</u> Sustainable INSET management system is strengthened at all levels.	<p><u>Verifiable indicator (a): SMASSE INSET budget is secured, and timely disbursed by MoEST.</u></p> <p><Achievement level of the indicator: achieved ></p> <ul style="list-style-type: none"> • DTED has improved its capacity for budget planning of SMASSE INSET activities. • MoEST has secured the budget for all National and Divisional INSETs. • INSET budgets have not been disbursed in a timely manner; they were disbursed at the last minute, not leaving a sufficient time for preparation (e.g. purchase of food items). • There have been delays in budget disbursements for such activities as M&E. 																							

Evaluation Questions		Results
Main Questions	Sub Questions	
Achievement levels of the Outputs (continued)	To what degree has Output 4 been achieved? <u>Output 4:</u> Sustainable INSET management system is strengthened at all levels. (continued)	<ul style="list-style-type: none"> The SMASSE Secretariat developed the <i>Guidelines for SMASSE Activities Funds Disbursement</i> (September 2010) to ensure the timely disbursement of SMASSE INSET budget. In order to cope with the budget reforms in early 2011, the Secretariat has also taken all necessary measures to ensure timely disbursement by preparing the <i>Guideline for Food Stuff Procurement of SMASSE Divisional INSET Centres Towards 2011 Divisional INSET</i> (February 2011) and the <i>Guideline for the Estimation of Participants' Transport Cost for 2011 Divisional INSET</i> (February 2011). <p><u>Verifiable indicator (b): Over 80% of the total number of National and Divisional Coordinators, and head-teachers at Divisional INSET centres participate in training sessions for strengthening their administrative capacity.</u></p> <p><Achievement level of the indicator: achieved ></p> <ul style="list-style-type: none"> All National Coordinators, Divisional Coordinators, and head-teachers/deputy head-teachers from all 19 Divisional INSET Centres (100%) participated in training for strengthening their administrative capacity: INSET Management for Anglophone Countries in Africa (A) and (B), and Strengthening of (Local) Education for SMASE-WECSA* for Sub-Saharan Africa (See 7-5 Training in Japan, Kenya and Malaysia and International Workshops). The achievement level of the number of Divisional Coordinators trained is calculated using the original number planned for Divisional Coordinators: two Divisional Coordinators per Division.
Implementation of Activities	To what degree have project activities been implemented as planned?	<ul style="list-style-type: none"> The Project was implemented mostly as planned based on the PO and PDM. There were some delays in implementing such activities as recruiting National Trainers (Activity 1-2) and Divisional Trainers (Activity 1-6), setting minimum standards for INSET Centres (Activity 2-4), and conducting baseline survey for mathematics and science teachers (Activity 3-1).
Achievement of Inputs	Have the Malawian side's inputs been allocated as planned?	<p>The Malawian side has allocated inputs mostly as planned.</p> <ul style="list-style-type: none"> Assignment of C/Ps: The Malawian side has assigned 40 C/Ps in total, comprised of 3 National Coordinators, 22 Divisional Coordinators, and 15 National Trainers (7 from DTED and 8 from DCE) (See Annex 7-1). Operational Expenses (running cost of INSET): MoEST allocated 94.9 million MKW as running cost of SMASSE INSET. (See Annex 7-2 (a)). Secondary schools, which are categorized as cost centres (i.e. government secondary schools and approved CDSS) have covered mathematics and science teachers' allowance and transportation costs to attend Divisional INSETs. CDSS that are categorized as non-cost centres (non-approved CDSS) have covered mathematics and science teachers' allowance. There is no reliable data to show exact amounts born by the secondary schools for Divisional INSETs. M&E expenses: the Malawian side has provided necessary in-kind contributions for INSET M&E activities by Education Division Offices (e.g. cost of fuel, allowances for inspectors and drivers, and vehicles for M&E). Provision of facilities: The Malawian side has provided the following office space and facilities necessary for the Project: (1) project office for the SMASSE Secretariat in DTED, (2) training and accommodation facilities for national INSET in DCE, (3) training and accommodation facilities for divisional INSET in 19 secondary schools across the country (See Annex 7-3).

* SMASE-WECSA: Strengthening of Mathematics and Science Education in Western, Eastern, Central and Southern Africa

Evaluation Questions		Results
Main Questions	Sub Questions	
Achievement of Inputs (continued)	Have the Japanese side's inputs been allocated as planned?	<p>The Japanese side has allocated inputs mostly as planned.</p> <ul style="list-style-type: none"> • Japanese Experts assigned to the Project: The Japanese side assigned two long-term and two short-term experts to the Project in the fields of: INSET Management (one long-term expert), Mathematics and Science Education (one long-term and one short term experts), and Mathematics and Science Education / M&E (one short-term expert) (See Annex 7-4). • Training in Japan, Kenya and Malaysia and International Workshops: 168 persons, including C/Ps and Divisional Trainers, received project related training overseas and attended international workshops. Among those trained, the costs of sending 46 persons to training or a workshop were covered by the Project's budget (See Annex 7-5). • Provision of Machinery and Equipment: The Japanese side provided machinery, equipment and other materials necessary for the implementation of the Project, amounting to 89.3 million MWK (See Annex 7-6). • Operational Expenses: The Japanese side allocated the total amount of 22.8 million MWK for the operational costs of project activities and the rehabilitation of Divisional INSET Centres (See Annex 7-2 (a) and (b)).

SECTION II. Implementation Process

This section examines factors that positively or negatively affected the implementation of the project activities.

Evaluation Questions		Results
Main Questions	Sub Questions	
Project ownership by the Malawian side	Has the PDM regularly been used as a project management tool among C/Ps?	<ul style="list-style-type: none"> • C/Ps are well-informed of the contents of PDM. Monitoring based on PDM is an integral part of Project activities. • In the interviews, it was confirmed that the Project was formulated by involving a wide range of stakeholders. Due to their direct and substantial contributions to the project formulation, all stakeholders were able to fully familiarize themselves with PDM contents.
	Have C/Ps been able to act proactively in implementing project activities and overcoming challenges?	<ul style="list-style-type: none"> • In the interviews, it was confirmed that C/Ps' understanding of the project framework and objectives has contributed to enhancing their ownership towards SMASSE INSET and increased the level of their proactivity in project implementation and problem solving. • Before the second Divisional INSET, two budgetary control measures were introduced (See two columns below). These measures created unintended negative effects on INSET; however, the SMASSE Secretariat was able to overcome issues created by the measures through implementation of preventive measures.
Work relationship / communication	Has there been effective communication between the SMASSE Secretariat and Education Division Offices, and Education Division Offices and Divisional INSET Centres?	<ul style="list-style-type: none"> • There has been an effective communication between the SMASSE Secretariat and Education Division Offices. Necessary information for preparation of Divisional INSET, ToT, M&E and other relevant SMASSE INSET activities have been provided in a timely and effective manner. • There has been a reasonably effective communication between Education Division Offices and Divisional INSET Centres. During interviews, some Divisional INSET Centre Managers reported improvements in communication with the Education Division Offices, stating that while they used to receive the first Divisional INSET related information in a last-minute manner, necessary information were passed more in timely manner for the second Divisional INSET. • Some Divisional INSET Centre Managers reported that the INSET Management course in Japan made them fully understand their expected roles and responsibilities, which facilitated them to proactively seek information from Education Division Offices
Budgetary Control Measures	How have budgetary control measures applied from early 2011 affected securing and disbursing the budgets for Divisional and National INSET?	<p>Impacts to National INSETs</p> <ul style="list-style-type: none"> • In December 2010, the Malawian Government introduced a budgetary control measure on payment methods ("Treasury Circular Payment through Banks Accounts: Mandatory Requirement for All Government Employees," Ref. No. ST/87, the 10th of December 2010). This circular instructed that all expenditures (including salaries, allowances, and transport refunds) to be paid into bank accounts or by check, rather than by cash to ensure a greater transparency and accountability. The allowances to National INSET's participants are also deposited into their bank accounts. Some Divisional INSET participants, especially those who are coming from areas where there are no nearby banks, missed an opportunity to learn when they left sessions to check their bank accounts. <p>Impacts to Divisional INSETs</p> <ul style="list-style-type: none"> • Another measure introduced before the second Divisional INSET was that all revenues, except for boarding fees, collected by schools must be deposited into the specified Malawi Government's account, referred to as Account Number 1 ("Depositing of Revenues into Malawi Government Account Number One," Ref No. EDU/F/Revenues/1, the 4th of May 2011). The arrangement laid was that the Government re-allocates the revenues on a monthly basis according to each school's monthly activity plan. The implementation of this measure resulted in delays in budget re-allocation to schools and reductions of school budgets for many schools. This placed heavy financial strains to schools, making them unable to cover the allowances and transportation costs for M&S teachers to participate in the second Divisional INSET.

Evaluation Questions		Results
Main Questions	Sub Questions	
Budgetary Control Measures (continued)	How have budgetary control measures applied from early 2011 affected securing and disbursing the budgets for Divisional and National INSET? (continued)	<ul style="list-style-type: none"> • In sensitisation meetings, this issue was reported by Education Division Offices to the SMASSE Secretariat. Upon internal consultation, DTED proposed a special measure of paying a half of the allowances to all the participants from DTED's budget, which was granted by MoEST. • The budgetary control measure on payment methods also affected the second Divisional INSET by making the payment procedures of the second Divisional INSET (e.g. payment for support staff or payments of foods brought from vendors) significantly complicated. In order to ensure the implementation of the second Divisional INSET, the SMASSE Secretariat requested to the authorities concerned for relaxing of the measures' application, which was approved by MoEST.
	Are there any foreseeable risks that the budgetary control measure will cause to the Project?	<ul style="list-style-type: none"> • In June 2011, the Malawi government revised the budgetary control measure in regard to handling of school revenues ("Depositing of Tuition Fees into Malawi Government Account Number One," Ref No. OA/1/15/2/250, the 13th of June 2011). It communicated to secondary schools that they should only deposit tuition fees to the Government Account Number 1 and keep the General Purpose Fund and all other fees, including boarding fees for school management. • According to secondary schools that the Team interviewed, this decision improved the financial situations of secondary schools, but financial resources available for schools are less than those in 2010 before the implementation of the budget. If delays in budget disbursements continue, it is likely to affect schools' capability to send mathematics and science teachers to Divisional INSETs.
Other contributing and/or impeding factors	Are there any other factors that have positively or negatively affected project implementation?	<p><Contributing Factor></p> <ul style="list-style-type: none"> • Strong sense of ownership towards the Project by the Malawian side: The Project has been implemented with a strong sense of ownership by the Malawian side. The factors that formulated this ownership are as follows: <ul style="list-style-type: none"> - Substantial involvement of a wide range of stakeholders in project planning: The Project was formulated by involving a wide range of stakeholders. Due to their direct and substantial contributions to the project formulation, all stakeholders were able to fully familiarize themselves with PDM contents. Their understanding of the project framework and objectives has contributed to enhancing their ownership of SMASSE INSET and increased the level of their proactivity in project implementation and problem solving. - Adoption of a comprehensive approach to ensure sustainability: Sustainability and ownership have a mutually reinforcing relationship. The Project was designed with a strong consideration of SMASSE INSET's sustainability. <ul style="list-style-type: none"> ➢ Use of existing structure: From its beginning, the Project has been fully incorporated within the MoEST's existing structure. SMASSE INSET activities have been conducted as a part of MoEST's regular work. ➢ Cost-sharing: The Project adopted a cost-sharing approach. The Malawi side (MoEST and secondary schools) has born running costs for the implementation of INSETs (e.g. meals during INSET, allowance, and utilities of INSET Centres) while the Japanese side has born initial costs (e.g. rehabilitation of INSET Centres and procurement of equipment and materials). The SMASSE INSET budget of the Malawi side has steadily increased during the project period as planned. ➢ Capacity development of key persons: The cascade approach was adopted in the SMASSE INSET structure for the maximum utilisation of MoEST's internal human resources. The Project provided an appropriate combination of various kinds of JICA overseas training to key persons from relevant departments at all levels. - Well-functioning project management committees: The Project was carefully planned, receiving inputs from various stakeholders at all management levels. This enabled the establishment of a project management committee structure that best suited the Malawian administrative context. All Committees (i.e. NSC, Stakeholders Committee, and DCC) have been appropriately utilised as effective and efficient forums for sharing information and concerns related to the implementation of the Project and overcoming challenges.

Evaluation Questions		Results
Main Questions	Sub Questions	
Other contributing and/or impeding factors (continued)	Are there any other factors that have positively or negatively affected project implementation? (continued)	<ul style="list-style-type: none"> • Robust organisational commitment to the Project by MoEST: This project was conducted with a robust organisational commitment from the Malawian side. Its commitment was demonstrated in the following forms and occasions. <ul style="list-style-type: none"> - Financial commitment: The MoEST's annual budget for the SMASSE program has doubled between the first year (20 million MWK in FY 2008/2009) and the last year (40 million MWK in FY 2011/2012). - Flexible responses to challenges created by new budgetary control measures: MoEST reacted flexibly to unintended negative effects on INSETs created by two budgetary control measures regarding the mode of payment by the all government departments and school revenues announced in early 2011. The first measure created a situation whereby payment procedures of the INSET implementation would be complicated, and the second measure placed severe financial strains on secondary schools. In order to ensure a successful implementation of the second Divisional INSET, MoEST relaxed the measures' applications of the mode of payment and allocated the DTED's budget to cover a half of the allowances of all the participants on behalf of secondary schools - Minister's attendance at National INSETs' ceremonies: The Minister of Education, Science and Technology showed his commitment to SMASSE INSET by attending National INSET's ceremonies. The Minister officially announced the closing of the second National INSET (2010) and the opening of the fourth National INSET (2012) at the ceremonies. <p><Impeding Factors></p> <ul style="list-style-type: none"> • Negative effects caused by fuel shortages : While fuel shortage is an external factor to the Project, they have created serious negative effects to the project implementation. <ul style="list-style-type: none"> - Negative effect on budget management: Due to fuel shortages, fares of public transports have been rising unpredictably. Increasing transportation costs have created serious differences between amounts budgeted for INSETs and actual amounts that participants had spent. This has caused situations whereby the SMASSE Secretariat was not able to reimburse the actual transportation costs in full amounts to participants at INSETs. Furthermore, it has added extra transaction costs to implement project activities. - Negative effect on participants' morale: Such budget management issue discussed above have had a negative effect on INSET participants' morale. In the interviews by the Team, that the morale of participants decreased when they did not receive full-refund on transport (particularly during the fourth National INSET). • Confusion brought by the new budgetary control measures: The new budgetary control measures created major challenges in administrative procedures for SMASSE INSET. These were announced close to the second Divisional INSET, and created confusion among those who were involved in implementation. While appropriate measures were taken, such as the preparation of payment guidelines for second Divisional INSETs, the confusion consumed extra time and efforts of those involved in implementation, which resulted in compromising the quality of Divisional INSETs. • Weak recognition of SMASSE INSET certificate as a professional qualification: SMASSE INSET Completion Certificates (i.e. Certificate of National INSET, the Facilitation Certificate for Divisional Trainers, and Certificate of Divisional INSET) are not officially recognized as a professional qualification for promotion. In some cases, INSET participants show discontent with the fact that the certificate is not valued as they expect. This has lowered the motivation of INSET participants.

SECTION III: Evaluation by the Five Criteria (Relevance, Effectiveness, Efficiency, Impact, Sustainability)

This section examines and analyses the project based on various questions set under five evaluation criteria, i.e. Relevance, Effectiveness, Efficiency, Impact, and Sustainability.

Evaluation Criteria	Evaluation Questions		Results
	Main Questions	Sub Questions	
Relevance	Relevance with the policy of the Government of Malawi	Is the Overall Goal of the Project in line with the priority of development policy of the Government of Malawi?	<p>The Overall Goal of the Project is in line with the development policy of the Government of Malawi.</p> <ul style="list-style-type: none"> • Malawi’s overarching development policies, the Vision 2020 (1998) and the MGDS Phase 2, 2011-2016 (draft) (2011) stress the need for the improvement of the quality of education in Malawi. • The Policy and Investment Framework (2001), which is top of the national educational policy in Malawi places the improvement of the quality of education as one of the five objectives set in PIF. • In the NESP 2008-2017, the institutionalisation of INSET and the continuous development of teachers for secondary education are included in Priority 2 under Teacher Education. • In the ESIP 2009-2013, the ESIP’s activity matrix includes conducting “in- service training for teachers in maths and science” under the NESP Goal 2 “improve quality and relevance of Secondary Teacher Education.” • In 2007 the NSTED 2007-2017 (2007) was developed. This strategy describes the principles and directions to be taken for teacher education and the provision of INSET is included in this strategy.
	Relevance with beneficiaries’ needs	Is the Project Purpose in line with the target group’s needs?	<p>One of the major challenges facing the secondary level education in Malawi is a significant number of secondary school teachers being under-qualified.</p> <ul style="list-style-type: none"> • In 2009 only 38.5 % secondary teachers were qualified. • This situation is compounded by limited teacher development programmes. Prior to SMASSE INSET, in-service teachers did not receive regular training. Therefore, the provision of a high quality INSET for secondary mathematics and science teachers are in line with the needs of the target group.
	Relevance of project design	Is the cascade-type INSET an appropriate method to improve the quality of teaching and learning of mathematics and science in Malawi?	<ul style="list-style-type: none"> • The cascade-type INSET is a method that allows the provision of standardised training to a large number of teachers at once. Since 60% of Malawi’s teaching force at the secondary level is under-qualified, the standardised training that can target a large number of teachers is an appropriate method for improving the quality of teaching and learning of mathematics and science in Malawi. • SMASSE INSET covers both contents (what) and teaching methodology (how). In order to improve the teaching quality, teaching paradigm shift of lessons from teacher-centeredness to student-centeredness is crucial; therefore, it is highly appropriated that SMASSE INSET has covered both aspects to facilitate the shift.

Evaluation Criteria	Evaluation Questions		Results
	Main Questions	Sub Questions	
Relevance (continued)	Relevance with the Japan's ODA policy	Is the Project in line with the Japanese Government's assistance policies in general and for Malawi?	<p>The Project is in line with the Japanese Government's assistance policies for Malawi.</p> <ul style="list-style-type: none"> • Japan's ODA policy towards Malawi is comprised of three priority areas: (1) sustainable economic growth (agriculture and rural development), (2) social development (improvement of education, water resources development, health and medical services), and (3) infrastructure development (transportation infrastructure development and rural electrification promotion). The Project falls under the second priority area. • In Japan's Education Cooperation Policy 2011-2015, one of the focus areas of the Japan's Education Cooperation Policy 2011-2015 is to provide the quality education for all by improving the learning environment comprehensively, including teacher training. • The Project is in line with the Yokohama Action Plan, adopted in the TICAD IV (2008). • Based on these policies, Japan has been implementing capacity development projects targeting mathematics and science teachers in Africa; thus Japan has ample empirical and technical advantages in strengthening secondary level mathematics and science education.
	Comparative empirical and technological advantage of Japan's cooperation	Does Japan have empirical and technological advantages in strengthening secondary level mathematics and science education?	<p>Japan has ample empirical and technical advantages in strengthening mathematics and science education in Africa.</p> <ul style="list-style-type: none"> • Japan has been implementing capacity development projects targeting mathematics and science secondary school teachers in Africa. • Japan conducted the "Strengthening of Mathematics and Science Education through In-Service Training Project" (SMASSE Phase 1) and supported training of mathematics and science teachers in the South Eastern Education Division (SEED) from 2004 to 2007.
Effectiveness	Achievement level of the Project Purpose	To what degree has the Project Purpose's OVI been achieved?	<ul style="list-style-type: none"> • See Section I: Project Achievement
		What is the prospect of achieving the Project Purpose by the end of the project period?	<ul style="list-style-type: none"> • The Project Purpose's verifiable indicators have been achieved so far. • The well-organized implementation of the planned third Divisional INSET is a necessary condition to achieve the Project Purpose.

Evaluation Criteria	Evaluation Questions		Results																
	Main Questions	Sub Questions																	
Effectiveness (continued)	Achievement level of the Project Purpose (continued)	To what degree is the achievement of the Project Purpose attributable to the successful achievement of the Outputs?	<ul style="list-style-type: none"> The Project Purpose's verifiable indicator is based on three evaluation instruments. Under these evaluation instruments, all aspects of Divisional INSET are covered. <table border="1"> <thead> <tr> <th></th> <th>Evaluation Instrument</th> <th>Evaluation Components</th> <th>Relevant Outputs</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Overall INSET</td> <td>content, facilitators, activities, materials, time management, facilities and welfare, communication, and relevance</td> <td>Outputs 1,2, 3, and 4</td> </tr> <tr> <td>2.</td> <td>INSET Session</td> <td>planning, discussion, hands-on activities, peer teaching, feedback</td> <td>Output 1</td> </tr> <tr> <td>3.</td> <td>Post INSET</td> <td>activities, student centeredness, experiment, improvisation, planning, and seeing</td> <td>Outputs 1 and 3</td> </tr> </tbody> </table> <ul style="list-style-type: none"> The four Outputs cover all components included in three evaluation instruments. The achievement of the Project Purpose is strongly linked to the successful achievement of the Outputs as the achievement level of the Project Purpose would decrease or would not be met at all if the Project fails to achieve any of the four Outputs. It is viewed that a solid technical, material, logistical, administrative, and managerial foundation for provision of quality mathematics and science teacher training has been established. 		Evaluation Instrument	Evaluation Components	Relevant Outputs	1.	Overall INSET	content, facilitators, activities, materials, time management, facilities and welfare, communication, and relevance	Outputs 1,2, 3, and 4	2.	INSET Session	planning, discussion, hands-on activities, peer teaching, feedback	Output 1	3.	Post INSET	activities, student centeredness, experiment, improvisation, planning, and seeing	Outputs 1 and 3
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3.	Post INSET	activities, student centeredness, experiment, improvisation, planning, and seeing	Outputs 1 and 3																
Contributing factors	To what degree has each Output been produced?	<p>< Follow-up on MTR's Recommendations 3-3-(1) & (2): INSET System ></p> <p>(1) To what extent has a new and uniformed training curriculum for six divisions been developed?</p> <p>(2) Have additional evaluations, which are separate from those conducted by participants and trainers, been conducted by EMAS official and/National Trainers to obtain a greater objectivity?</p>	<ul style="list-style-type: none"> See Section I: Project Achievement <p><u>Follow-up on the MTR's Recommendation: New and Uniform Training Curriculum for Six Divisions</u></p> <ul style="list-style-type: none"> For the 2011 INSET cycle (the third National INSET and the second Divisional INSET), uniformed curriculums (write-ups) for all six Education Divisions were developed (See Annex 8-3 List of Write-Ups). As SEED has been attending INSET since Phase 1, separate training curriculum was provided to SEED in the first two years of Phase 2. <p><u>Follow-up on the MTR's Recommendation: Additional Evaluation by DIAS Officials and National Trainers</u></p> <ul style="list-style-type: none"> School inspectors from DIAS, MoEST and each Education Division Offices carried out an additional evaluation of the third National INSET. For the second Divisional INSET, National Trainers from DCE carried out the evaluation as additional evaluators. 																

Evaluation Criteria	Evaluation Questions		Results										
	Main Questions	Sub Questions											
Effectiveness (continued)	Contributing factors (continued)	Have there been any synergetic effects through collaboration with JICA's other schemes (JOCV) and projects (SMASE-WECSA), and other donor agencies?	<ul style="list-style-type: none"> In two Education Divisions (i.e. CWED and SEED), JOCVs, assigned to schools within seven clusters (selected by the Education Division Offices) have facilitated the implementation of cluster training. According to interviews, with the support of JOCVs, such cluster training has supported Divisional INSET participants to share what they have learnt to other teachers. The ASEI/PDSI concept and checklist developed in SMASSE in Kenya has been well-adapted in SMASSE Phase 2. C/Ps, Divisional Trainers and other stakeholders who participated in training in Kenya (ASEI/PDSI Approach in Secondary Mathematics and Science Education in Africa) have become important resource persons to promote SMASSE activities in Malawi. Upon their return, they presented what they learned in the training and have been instrumental in deepening the understanding of the ASEI/PDSI concept among fellow trainers and teachers. 										
		Have there been any other factors that contributed to the achievement of the Project Purpose?	<ul style="list-style-type: none"> According to Divisional Trainers, INSETs encouraged them to work collegially, which results in a greater level of peer consultation with other teachers. 										
	Impeding factors	Has the Project Purpose's Important Assumption been met? Has the situation surrounding the Important Assumption been changed since the Mid-term Review?	<p><u>Important Assumption: Stability of Divisional Trainers within divisions is maintained.</u></p> <p>The Project Purpose's Important Assumption has been fulfilled to some extent.</p> <ul style="list-style-type: none"> The situation surrounding the stability of Divisional Trainers remains the same since the Mid-term Review. <ul style="list-style-type: none"> When teachers are transferred, they are usually transferred to other schools within the same Division. Among those who participated in both third and fourth National INSETs, only two were transferred to another division. In Malawi, it is prohibited for public servants to work in different sectors of public services. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">Stability of Divisional Trainers</th> <th rowspan="2">No. of Divisional Trainers who Participated in Both</th> </tr> <tr> <th colspan="2">No. of Participants in the third and fourth National INSET</th> </tr> <tr> <th>Third National INSET (2011)</th> <th>Fourth National INSET (2012)</th> <th></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">244</td> <td style="text-align: center;">224</td> <td style="text-align: center;">207</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Two hundred seven (207) Divisional Trainers attended in two of the third and fourth National INSET. Through interview and questionnaire surveys, it was observed that on one hand, Divisional Trainers appreciate INSETs for their professional growth as mathematics and science teachers and opportunities to be able to train fellow teachers; on the other hand, other issues such as a weak recognition of National INSET Certificates and Facilitation Certificate as professional qualification for promotion affect their motivation. 	Stability of Divisional Trainers		No. of Divisional Trainers who Participated in Both	No. of Participants in the third and fourth National INSET		Third National INSET (2011)	Fourth National INSET (2012)		244	224
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Third National INSET (2011)	Fourth National INSET (2012)												
244	224	207											
	Have there been any factors that impeded the achievement of the Project Purpose?	<ul style="list-style-type: none"> The fourth National INSET (2012) was boycotted on the last day of its training (See Section II Implementation Process for more details). If those Divisional Trainers who boycotted the fourth National INSET will not participate in ToT and the third Divisional INSET, it will adversely affect the achievement of the Project Purpose. 											

Evaluation Criteria	Evaluation Questions		Results
	Main Questions	Sub Questions	
Efficiency	Achievement of Outputs	To what degree has each Output been produced?	<ul style="list-style-type: none"> See Section I: Project Achievement
		Were the implemented activities sufficient in quality and quantity to produce planned Outputs?	<ul style="list-style-type: none"> Activities sufficient in quality and quantity to produce Outputs were conducted as planned
	Appropriateness of Inputs by the Japanese side	How appropriate has the assignment of experts been in terms of the number of experts, their expertise and capabilities, and the dispatched periods (durations) and timings?	<p>The assignment of experts has been appropriate in terms of the number of experts, their expertise and capabilities, and the dispatched periods (durations) and timings.</p> <ul style="list-style-type: none"> The long-term expert, assigned in the field of INSET Management from the project beginning, was also involved in Phase 1 as an INSET Planning Management Advisor. By assigning the same human resource to the Project, his knowledge about the Malawi's education system and issues, and the amicable relationship established in Phase 1 with the Stakeholders (C/Ps, other MoEST officials, and DCE's lecturers), contributed to an increase in the efficiency of the Project.
		How appropriate has the arrangement of training in Japan and a third party country (Kenya and Malaysia) been in terms of its content, timing and period?	<p>The arrangement of training in Japan and a third party country (Kenya and Malaysia) has been appropriate.</p> <ul style="list-style-type: none"> A considerable number of stakeholders including C/Ps, Divisional Trainers, head-teachers have attended training in Japan, Kenya or Malaysia, which created a strong technical foundation of human resources that share appreciation towards what the Project aims to accomplish and have broaden their views on education by acquiring the knowledge of educational practices in other countries.
		How appropriate has the provision of equipment by the Japanese side been in terms of its quality, quantity, and timing?	<p>The provision of equipment by the Japanese side has been conducted in a appropriate manner. .</p> <ul style="list-style-type: none"> As a part of activities to produce Output 2, the <i>Guidelines for Rehabilitation of Divisional INSET Centre</i> (November 2010) that contains the checklists of materials and equipment required for Divisional INSET was prepared by the Project. This ensured the appropriateness of the provision.
	Appropriateness of Inputs by the Malawian side	How appropriate has the assignment of C/Ps been in terms of the number of C/Ps, placement (i.e., balance between their regular tasks and Project activities) and their capacity?	<p>The assignment of C/Ps has been appropriate in terms of the number of C/Ps, placement and capacity.</p> <ul style="list-style-type: none"> In SEED, many of those who were assigned as C/Ps in Phase 1 have continued to be assigned as C/Ps in Phase 2. The placement of National Trainers from DTED in the SMASSE Secretariat greatly contributed to the establishing of operational procedures for SMASSE INSETs.
		<p>< Follow-up on MTR's Recommendation 3-1-(1)-2): Human Resources- Capacity Development></p> <p>Have the knowledge and experiences of National Trainers at DCE been fully utilised as valuable resources for capacity development of other National and Divisional Trainers?</p>	<p><u>Follow-up on the MTR's Recommendation: Efficient Use of the Knowledge and Experiences of National Trainers at DCE</u></p> <ul style="list-style-type: none"> After the Mid-term Review, National Trainers from DCE have had a greater involvement in such project activities as ToT, M&E of Divisional Trainers and mathematics and science teachers. In the third National INSET (January 2011), the National INSET Centre Coordinator was chosen from National Trainers from DCE who had been involved in SMASSE INSET since Phase 1. The Coordinator provided exceptional services in making administrative arrangements for the implementation of National INSET.

Evaluation Criteria	Evaluation Questions		Results											
	Main Questions	Sub Questions												
Efficiency (continued)	Appropriateness of Inputs by the Malawi side (continued)	How appropriate has the provision of facilities and equipment by the Malawian side been?	<p>The provision of facilities and equipment by the Malawian side has been appropriate.</p> <ul style="list-style-type: none"> • DCE and 19 secondary schools have been assigned as National and Divisional INSET Centres. • The use of existing facilities (e.g. classrooms, laboratories, hostels and kitchens) made it unnecessary to construct new facilities. The maintenance conditions of the facilities were not suitable for hosting INSETs, requiring rehabilitation works to be done by the Japanese side. 											
		<p>How appropriate has the provision of the Malawian budget for the Project been in scale and timing?</p> <p>< Follow-up on MTR's Recommendation 3-1-(1)-1): Human Resources- Capacity Development></p> <p>Has DTED conducted proactive budget planning and timely budget disbursements for National and Divisional INSETs?</p>	<ul style="list-style-type: none"> • See the Result of the achievement level of Output 4's indicator (a) in Section I for the evaluation result of the question regarding the budget provided by the Malawian side. . <p><u>Follow-up on the MTR's Recommendation: Proactive budget planning and timely budget disbursements for National and Divisional INSET by DTED</u></p> <ul style="list-style-type: none"> • As discussed in Section I (Project Achievement: Achievement levels of the Outputs), the SMASSE Secretariat has developed necessary guidelines to facilitate timely disbursements of budgets and to cope with changes made by the Government's budgetary reforms on mode of payment and school revenues. • As a result of such measures and proactive budget planning, notable improvements have been made in budget planning and distribution. For the second Divisional INSET there was a minor delay in budget disbursements despite the budgetary reforms that have caused unintended negative impacts as discussed in Section II (Implementation Process). For the fourth National INSET, the budget was disbursed in time, but in a last minute manner. 											
	Project Management	Have the NSC, DCC, and Stakeholders Committees been utilised appropriately as effective and efficient forums for sharing information and solving challenges of the Project?	<ul style="list-style-type: none"> • All Committees have been appropriately utilised as effective and efficient forums for sharing information related to the progress and implementation of the Project (See Annex 8-4). • Stakeholders Committee and DCC meetings have been used to communicate administrative matters as well as to discuss foreseeable challenges that may occur during the implementation of upcoming INSETs, and how to cope with such challenges. Many Divisional INSET Managers reported that DCC made them feel ready to welcome participants to their Divisional INSET Centres for Divisional INSET. <table border="1"> <thead> <tr> <th>Committee</th> <th>Frequency</th> <th>No of meeting conducted</th> </tr> </thead> <tbody> <tr> <td>NSC</td> <td>Annually</td> <td>3</td> </tr> <tr> <td>Stakeholders Committee</td> <td>Bi-annually: Before and after National INSETs</td> <td>7</td> </tr> <tr> <td>DCC</td> <td>Bi-annually: Before and after Divisional INSET</td> <td>25 (1 meeting for SEED in 2008 and 2 meetings in all six Divisions in 2010 and 2011)</td> </tr> </tbody> </table>	Committee	Frequency	No of meeting conducted	NSC	Annually	3	Stakeholders Committee	Bi-annually: Before and after National INSETs	7	DCC	Bi-annually: Before and after Divisional INSET
Committee	Frequency	No of meeting conducted												
NSC	Annually	3												
Stakeholders Committee	Bi-annually: Before and after National INSETs	7												
DCC	Bi-annually: Before and after Divisional INSET	25 (1 meeting for SEED in 2008 and 2 meetings in all six Divisions in 2010 and 2011)												

Evaluation Criteria	Evaluation Questions		Results
	Main Questions	Sub Questions	
Efficiency (continued)	Contributing factors	<Follow-up on MTR'S Recommendation 3-2-(3): Budget-Issues of Out-of-Pocket Allowance > Have there been such measures as the sensitisation of Divisional Trainers and teachers on the importance of INSET and the improvement of training contents that will better meet the needs and satisfaction of the participants taken?	<p><u>Follow-up on the MTR's Recommendation: Sensitisation of the Importance of INSET</u></p> <ul style="list-style-type: none"> The importance of INSET has been discussed by those in managerial positions in various forums (i.e. National INSET, Divisional INSET, ToT, and DCC). It was agreed that daily allowances for mathematics and science teachers to participate in Divisional INSET would be increased from 500 MWK to 1,000 MWK in the NSC in October 2010 and confirmed in sensitisation workshops for head-teachers and parent-teacher association (PTA) members conducted from December 2010 to March 2011.
		Are there any other factors that increased the efficiency of the Project	<ul style="list-style-type: none"> There are no other factors that increased the efficiency of the Project.
		Have the Important Assumptions for Outputs been met? Have the situations surrounding the Important Assumptions been changed since the Mid-term Review?	<p><u>Important Assumptions (IAs):</u></p> <p>IA-1 Stability of National trainers is maintained.</p> <ul style="list-style-type: none"> In interviews, National Trainers reported that they are committed to the roles and responsibilities that come with their position and wish to continue working as National Trainers as long as SMASSE INSET continues. According to them, the experiences as National Trainers have given them substantial professional growth and they feel a high sense of self-actualisation. According to National Trainers from DTED, their position is unstable. <p>IA-2 Other educational activities will not interfere with the project activities</p> <ul style="list-style-type: none"> By fully utilising committee meetings at all levels, the SMASSE Secretariat have ensured that its stakeholders are fully informed of upcoming INSET activities and other education activities would not interfere with INSET. <p>IA-3 Stability and cooperation of leadership at all levels are maintained.</p> <ul style="list-style-type: none"> The stability and cooperation of leadership at all levels have been maintained. <p>IA-4 INSET activities will be priority assignment for officers involved.</p> <ul style="list-style-type: none"> According to interviews, all officers (National Coordinators, National Trainers from both DTED and DCE, inspectors from Education Division Offices) involved have given priority to INSET activities.
	Impeding factors	Are there any factors that decreased the efficiency of the Project	<ul style="list-style-type: none"> In the second Divisional INSET, some participants (mathematics and science teachers) at Lilongwe Girls and Mwanza INSET Centres boycotted sessions in protest for delayed payment of allowances. In the fourth National INSET, a great number of participants boycotted sessions planned for the last day in protest for insufficient reimbursement of transport costs.

Evaluation Criteria	Evaluation Questions		Results
	Main Questions	Sub Questions	
Impact	Prospects of achieving the Overall Goal	Will the Overall Goal be achieved within 3 to 5 years after the completion of the Project?	<ul style="list-style-type: none"> • See Section I: Project Achievement
		Have teachers applied teaching methodologies and other know-how that they have learned in INSET in their classes?	<ul style="list-style-type: none"> • Many teachers find it difficult to fully apply teaching methodologies and other know-how that they learnt in INSET in their classroom. • In the evaluation, it was pointed out that in order to facilitate a greater application of skills and knowledge they obtained in INSET there needs to be more close supervision by school management team (head-teacher, deputy head teacher, and head of departments.)
		<p>< Follow-up of MTR's Recommendation 3-3-(4) Provision of Optional and Flexible Courses></p> <p>Have there been any measures taken for planning to provide optional and flexible courses in Divisional INSET depending on the diverse needs of participants?</p>	<p><u>Follow-up on the MTR's Recommendation: Provision of Optional and Flexible Courses</u></p> <ul style="list-style-type: none"> • The provision of optional and flexible courses in Divisional INSET has been discussed among stakeholders. Although the ground concept of tending to various needs of participants at Divisional INSET has been accepted by all stakeholders, the opinions on what approach should be used are divided. • Those who are involved in the implementing INSETs consider that it is too premature to change operational procedures of Divisional INSET. According to them, they need more experiences before changing the implementation pattern. • Suggestions given by stakeholders to deal with participants of different needs include: <ul style="list-style-type: none"> - The provision of facilitation courses for Divisional Trainers with a special focus on teaching adult learners so that they can better facilitate those who are more advanced to take a leading role in peer learning; - The provision of "actualisation" sessions separately for those in government secondary schools and for those in CDSS so that they can practice lesson demonstrations in a teaching environment closer to their usual teaching setting; and - The construction of a new National INSET centre that is designed only to provide INSET training.
		<p>< Follow-up on MTR's Recommendation 3-3-(3): Strengthening of Cluster-and School-based Training ></p> <p>To what extent have skills and knowledge of Divisional Trainers and INSET teaching/learning materials been utilised in cluster and school-based training?</p>	<p><u>Follow-up on the MTR's Recommendation: Strengthening of Cluster and School-based Training</u></p> <ul style="list-style-type: none"> • According to Divisional Coordinators, where there is cluster training being implemented, skills and knowledge of Divisional Trainers and INSET teaching/learning materials have been utilised. • Cluster and school-based training are limited in implementation in terms of its frequency and scale. • Divisional Coordinators, officers from Education Division Offices, head-teachers at Divisional INSET Centres who participated in INSET Management Training in Japan ("INSET Management for Anglophone Countries in Africa [B]") have prepared Action Plans. In many cases they include the implementation of Cluster Training in their Actions Plans as a way to improve the quality of teaching and use the skills and knowledge Divisional Trainers have obtained through SMASSE INSET.

Evaluation Criteria	Evaluation Questions		Results
	Main Questions	Sub Questions	
Impact (continued)	Prospects of achieving the Overall Goal (continued)	What is the prospect of the Important Assumption for the Overall Goal being fulfilled? Has the situation surrounding the Important Assumption changed since the Mid-Term Review?	<p><u>Important Assumption The stability of the teaching force within schools is maintained.</u></p> <ul style="list-style-type: none"> The situation surrounding the Important Assumption has remained the same since the Mid-term Review. <ul style="list-style-type: none"> From the perspective of retaining capacities developed, it is prohibited for teachers to cross over to other public sectors. If teachers are retained in the public sectors, their technical capacities strengthened in this Project will contribute to the attainment of the Overall Goal. Employment opportunities for the private sector are scarce in Malawi. The annual teacher attrition rate for secondary teachers from 2005 to 2007 is 10%, which is slightly higher than that of surrounding countries with similar socioeconomic situations, e.g., up to 10% in Lesotho, 6% in Uganda, and 9% in Zambia The most common reason for attrition in Malawi is resignation (29%), followed by prolonged illness (17%) (UNESCO/Teacher for EFA, 2010).
		Are they any other potentially contributing and/or impeding factors of the achievement of the Overall Goal?	<ul style="list-style-type: none"> PRESET: At the Project's planning stage, it was noted that there is a need to facilitate introduction and incorporation of ASEI/PDSI approaches in other higher learning institutions involved in PRESET for mathematics and science teachers, namely Chancellor College, Polytechnic University and Mzuzu University. The ASEI/PDSI approaches have been brought into lessons in DCE conducted by National Trainers from DCE, many of whom have been involved in SMASSE INSET since Phase 1. According to them, they have been able to share what they have learned with other colleagues in DCE. On the other hand, the other higher learning institutions that offer PRESET have not incorporated the approaches in their lessons. Cluster Training /School-based Training: In a few clusters, with a strong leadership by Divisional INSET Centre Managers and other head-teachers, cluster training has been revived and been proactively implemented; however, they are still few in numbers.
	Impact in relation to the new secondary education	Will SMASSE INSET be able to reflect the new secondary education curriculum?	<ul style="list-style-type: none"> It is highly possible that SMASSE INSET would incorporate the new secondary education curriculum in the future. The SMASSE Secretariat has been actively involved in the Secondary School Curriculum and Assessment Reform (SSCAR) process as the experiences of SMASSE INSET have been highly valued. They are invited as a core member of the SSCAR's technical working group. MIE, implementing body of SSCAR, is proactively taking in the experiences of SMASSE INSET and the technical expertise of the Secretariat.
Ripple effects in Malawi.	What is the prospect of the Super Goal being achieved?	<ul style="list-style-type: none"> See Section I: Project Achievement 	

Evaluation Criteria	Evaluation Questions		Results
	Main Questions	Sub Questions	
Impact (continued)	Ripple effects in Malawi. (continued)	What is the prospect of the Important Assumptions for the Super Goal being fulfilled? Have the situations surrounding the Important Assumptions changed since the Mid-Term Review?	<p><u>Important Assumptions</u></p> <p>IA-1 The minimum number of mathematics and science lessons/periods per week is maintained.</p> <ul style="list-style-type: none"> • The MoEST's regulation on the minimum number of mathematics and science lessons/periods per week is likely to remain unchanged. From this perspective, this Assumption for the Super Goal is likely to be achieved. For this Assumption to be met, one necessary condition is that mathematics and science teachers will appear to their duty. • If there is a high level of absenteeism among mathematics and science teachers, this Assumption will not be fulfilled. • In Malawi it is reported that teachers are often reluctant to leave their positions formally, but they tend to seek other ways of supplementing their income, especially when their salary payments are delayed, and this contributes to absenteeism. In 2000 a Presidential Commission of Inquiry, set up to investigate the reasons behind the poor examination performance of students at MSCE, found increasing levels of absenteeism and indiscipline among teachers. Students interviewed during the inquiry also reported that most of their teachers were engaged in moonlighting activities in order to generate extra income (Kadzamera 2006, UNESCO/Teacher for EFA, 2010). <p>IA-2 The learning environment of student is maintained.</p> <ul style="list-style-type: none"> • If Malawi's socio-economic conditions do not drastically change, the likelihood of this Assumption being fulfilled is high.
		Are there any other potentially contributing and/or impeding factors of the achievement of the Super Goal?	<ul style="list-style-type: none"> • There are no other potentially contributing and/or impeding factors of the achievement of the Super Goal.
	Other aspects	Are there any other positive or negative impacts of the Project?	<ul style="list-style-type: none"> • According to members of the project M&E team, the joint evaluation by DTED and DIAS was a productive opportunity for two departments to share opinions for the improvement of SMASSE INSET and the teaching quality in Malawi. • The Project M&E team have used M&E activities as opportunities to give advice to mathematics and science teachers at their respective teaching environments. According to National Trainers, teachers have gained a better attitude towards M&E as they started M&E as opportunities to learn, rather than an occasion they have to bear criticisms on their regular teaching style.
Sustainability	Institutional aspect	What is the prospect of the Malawian Government continuing its support for SMASSE INSET (project's approach and implementation style using the cascade system) after the project completion?	<ul style="list-style-type: none"> • Malawi's education policy documents (i.e. NESP, ESIP, and NSTED) place a high priority on INSET. This ensures that the Malawi Government will continue its implementation for SMASSE INSET after the completion of the Project.

Evaluation Criteria	Evaluation Questions		Results
	Main Questions	Sub Questions	
Sustainability (continued)	Organisational aspect	What is the prospect of INSET being continued to be maintained as a DTED's regular activity after the project completion?	The prospect of INSET being continued to be maintained as a DTED's regular activity after the project completion is high. <ul style="list-style-type: none"> • SMASSE INSET is included in DTED's annual Programme of Work (POW) for 2011/2012. • The budget of 40.0 million MWK for SMASSE INSET has been secured for FY 2011/2012, up from 20.0 million MWK in FY 2008/2009 and 29.9 million MWK in FY 2009/2010 and FY 2010/2011.
		What is the prospect for the continuous support for INSET (Divisional/ Cluster/School based training) from head-teachers?	The prospect for the continuous support for INSET from head-teachers is high. <ul style="list-style-type: none"> • In the interviews, head-teachers discussed positive changes caused by INSET to mathematics and science teachers and expressed their willingness to continuous support for INSET.
	< Follow-up of MTR's Recommendation 3-1-(2) Human Resources-Status and Motivation Trainers > <ul style="list-style-type: none"> • Have National Trainers in DTED been given a stable position in DTED? • Has there any organisational mechanism been developed to increase motivation of divisional trainers (e.g., skill-based or performance- based-assessment by MoEST in divisional trainers' career development)? 	<p><u>Follow-up on the MTR's Recommendation: Status of National Trainer</u></p> <ul style="list-style-type: none"> • The position of National Trainers remains the same since the Project beginning: they are secondary school teachers, attached to DTED from secondary schools. • Based on the instruction from the Principal Secretary of MoEST, the SMASSE Secretariat submitted the "Position Paper on Concerns of SMASSE INSET Malawi (2011)," recommending the posts of National Coordinators, National Trainers, and Division Coordinators be established within the Ministry; however, there has been no progress made in regards to establishing these posts. <p><u>Follow-up on the MTR's Recommendation: Motivation of Divisional Trainers</u></p> <ul style="list-style-type: none"> • There has not been any organisational mechanism developed to increase motivation of Divisional Trainers. • There is a strong need for INSET certificates to be officially accredited by MoEST in its human resources management to further incorporate SMASSE INSET into the Ministry's structure and to increase its perceived value by participants. 	
Financial aspect	< Follow-up of MTR's Recommendation 3-2-(1) Securing of SMASSE Budget > What is the prospect of securing INSET's financial sustainability after the project completion?	The prospect of securing INSET's financial sustainability after the Project completion is medium. <p><u>Follow-up on the MTR's Recommendation: Securing of SMASSE Budget</u></p> <ul style="list-style-type: none"> • As requested by the SMASSE Secretariat, MoEST secured 40.0 million MWK for SMASSE INSET from the FY 2011/2012 budget. In FY 2010/2011, 29.9 million MWK was secured by SMASSE INSET and 42.2 million MWK was allocated. The increase was to cover a half of allowance of participants to the second Divisional INSET (2011) in order to mitigate the financial strains resulted from the implementation of the new budgetary control measure on school revenues (See Section II Implementation Process). • The absence of the course of actions agreed among stakeholders on this issue negatively affects the Project's sustainability. • Education Division Offices do not have their own budgets for conducting M&E of SMASSE INSETs, which limit their initiatives in implementing M&E on SMASSE INSETs. 	

Evaluation Criteria	Evaluation Questions		Results
	Main Questions	Sub Questions	
Sustainability	Financial aspect (continued)	<p>< Follow-up of MTR's Recommendation 3-2-(2) –Maintenance of INSET Centres></p> <p>What is the allocation status of the maintenance budget for INSET Centres' equipment and facilities? Will sufficient maintenance budget be allocated and distributed in a timely manner after the project completion?</p>	<p><u>Follow-up on the MTR's Recommendation: Maintenance of INSET Centres</u></p> <ul style="list-style-type: none"> • According to the <i>Guidelines for Management of Divisional INSET Centre</i>, the expenses for maintenance of equipment should be budgeted within annual Other Recurrent Transaction (ORT) of their respective centres (schools). • In the interviews and questionnaire surveys, it was confirmed that Divisional INSET Centres are financially capable of conducting minor repair works of their facilities and maintaining office equipment, such as printers and photo-copiers, by using their ORT budgets and other school-based revenues (e.g. Development Fund). • In order for Divisional INSET Centres to maintain the minimum level of physical and material environment for the operation of Divisional INSET, set by the <i>Guidelines for Rehabilitation of Divisional INSET Centres</i>, additional budgets for facility repairs that have been covered by the Japanese side will be needed from the next fiscal year. There is no general consensus on which departments/secondary schools should bear the costs for INSET Centres after the Project.
	Technical aspect	Have National and Divisional Trainers been trained sufficiently in number and quality for continuation and expansion of INSET?	<ul style="list-style-type: none"> • Through implementing two annual INSET cycles, those involved in INSET implementation have gained foundational technical and administrative capacities to carry out an annual INSET cycle. • By conducting National INSET annually, the Project has trained a sufficient number of core trainers at the Divisional level (See Annex 8-1). • There is still room for improvement of: (1) technical capacity of National Trainers and Divisional Trainers, (2) quality control of SMASSE INSET (write-ups and training sessions), and (3) administrative and management capacity of the SMASSE Secretariat and Divisional INSET Centres.
		Have Divisional INSET Centres sufficiently been informed of how to maintain equipment, materials and facilities provided and rehabilitated in the Project? Will they be able to maintain them?	<ul style="list-style-type: none"> • The <i>Guidelines for Management of Divisional INSET Centre</i> specifies how the equipment, material, and facilities should be used, but it does not specify how they should be maintained. • For maintaining such equipment as printers and photocopiers, Divisional INSEST Centres rely on local technicians. • Some Divisional INSET Centres reported that it would be helpful to have basic maintenance instructions so that they would be in a better position for taking care of the equipment provided.
	Other promoting and impeding factors to the Project's Sustainability	Are there any other (possible) factors that have increased or decreased the sustainability of the Project?	<ul style="list-style-type: none"> • There are no other main factors that have increased or decreased the sustainability of the Project.

Annex 7: Project Inputs

Annex 7-1: List of Counterpart Personnel Assigned to the Project

(1) National Coordinators

No.	Name	Title	Organisaton	From	To
1	Mr. Alfred Kamoto	Secondary Training Manager	DTED	Aug. 2008	Present
2	Mr. Absalom Phiri	Secondary Training Manager	DTED	Aug. 2009	Mar. 2010
3	Mr. Godwin Jere	Secondary Training Manager	DTED	Sep. 2009	Present

(2) Divisional Coordinators

No.	Name	Title	Division	From	To
1	Mr. Rosario Soko	Inspector (PIA)	NED	Aug. 2008	Present
2	Mr. Earnest Luhanga	Inspector (SIA)	NED	Aug. 2008	Present
3	Mr. Victor Lungu	Inspector (SIA)	NED	Sep. 2011	Present
4	Mr. V. I. C. Kaunda	Inspector (SIA)	NED	Sep. 2011	Present
5	Ms. Edith Munthali	Inspector (PIA)	CEED	Aug. 2008	Present
6	Mr. William Kanyemba	Inspector (SIA)	CEED	Aug. 2008	Jul. 2009
7	Mr. Sakayi Musopole	Inspector (SIA)	CEED	Aug. 2008	Present
8	Ms. Isabel Mwangi	Inspector (SIA)	CEED	Sep. 2011	Present
9	Mr. Ernest Matengo	Inspector (SIA)	CWED	Aug. 2008	Present
10	Mr. Paul Miamba	Inspector (SIA)	CWED	Aug. 2008	Present
11	Mr. Joseph Katona	Inspector (SIA)	CWED	Sep. 2011	Present
12	Mr. Harlod Chigalu	Inspector (SIA)	SEED	Aug. 2008	(Present)
13	Mr. Jeremiah Kamukuza	Inspector (PIA)	SEED	Aug. 2008	Jul. 2011
14	Mr. Patrick Mandalawe	Inspector (SIA)	SEED	Sep. 2011	Present
15	Mr. Cryton Tambala	Inspector (SIA)	SEED	Sep. 2011	Present
16	Ms. Irene Kamphonda	Inspector (SIA)	SEED	Aug. 2008	Present
17	Ms. Caroline Moto	Inspector (PIA)	SWED	Aug. 2008	Present
18	Mr. Peatry Kandio	Inspector (SIA)	SWED	Aug. 2008	Present
19	Mr. Chimwemwe Juwa	Inspector (SIA)	SWED	Sep. 2011	Present
20	Mr. Christopher Tsogolani	Inspector (SIA)	SHED	Aug. 2008	Present
21	Mr. Anthony Manja	Inspector (SIA)	SHED	Aug. 2008	Present
22	Ms. (Sr) Margaret Chitseko	Inspector (SIA)	SHED	Sep. 2011	Present

(3) National Trainers from DTED

No.	Name	Subject	Organization	From	To
1	Mr. George Vakusi	Biology	SMASSE Secretariat, DTED	Aug. 2008	Present
2	Mr. Enock Chinomba*	Physical Science	SMASSE Secretariat, DTED	Aug. 2008	Present
3	Mr. Justus Nkhata*	Mathematics	SMASSE Secretariat, DTED	Aug. 2008	Present
4	Ms. Lucia Chidalengwa	Biology	SMASSE Secretariat, DTED	Jun. 2010	Present
5	Mr. Andrew Thauzeni	Biology	SMASSE Secretariat, DTED	Jun. 2010	Present
6	Mr. Livati Potiphar	Mathematics	SMASSE Secretariat, DTED	Jun. 2010	Present
7	Mr. Cedric Mpaso	Physical Science	SMASSE Secretariat, DTED	Jun. 2010	Present

* On study leave in Japan at the time of terminal evaluation

(4) National Trainers from DCE

No.	Name	Subject	Position	From	To
1	Mr. Mathias January	Mathematics	Lecturer, DCE	Aug. 2008	Present
2	Mr. Siegfried Mkandawire	Mathematics	Lecturer, DCE	Aug. 2008	Mar. 2011
3	Ms. Florence Thomo	Mathematics	Lecturer, DCE	Apr. 2011	Present
4	Mr. Phaundi Shonga	Physical Science	Lecturer, DCE	Aug. 2008	Present
5	Mr. Joseph Mshanga	Physical Science	Lecturer, DCE	Aug. 2008	Present
6	Mr. Gift Moyo	Biology	Lecturer, DCE	Aug. 2008	Present
7	Mr. Prince Phwetekere	Biology	Lecturer, DCE	Aug. 2008	Present
8	Ms. Catherine Kumwamba	Biology	Lecturer, DCE	Apr. 2009	Present

Annex 7-2 (a): Implementation Budget of INSETs

Contribution (MKW)	FY 2008/2009		FY 2009/2010		FY 2010/2011		FY 2011/2012		FY08/09-FY11/12	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
MoEST	20,000,000	11,277,387	29,862,600	28,491,372	29,862,600	42,177,000	40,000,000	12,930,000	119,725,200	94,875,759
Secondary Schools *	1,501,500	*	18,750,000	*	18,750,000	*	18,750,000	*	57,751,500	*
Malawi (Total)**	21,501,500	11,277,387	48,612,600	28,491,372	48,612,600	42,177,000	58,750,000	12,930,000	177,476,700	94,875,759
Japan***	40,528,000	44,982,908	66,522,000	92,636,791	42,680,000	49,735,484	34,450,000	41,460,858	184,180,000	228,816,041
Total	62,029,500	56,260,295	115,134,600	121,128,163	91,292,600	91,912,484	93,200,000	54,390,858	361,656,700	323,691,800

* Secondary schools, which are categorized as cost centres (i.e. government secondary schools and approved CDSS) have covered mathematics and science teachers' allowance and transportation costs to attend Divisional INSETs. CDSS that are categorized as non-cost centres (non-approved CDSS) have covered mathematics and science teachers' allowance. There is no reliable data to show exact amounts born by the secondary schools for Divisional INSETs.

** The Malawian side's contributory amounts are based on its accounting cycle from July to June. The actual amount for FY 2011/2012 is the combined figure of the total amounts for SMASSE INSET based on the first and second quarterly reports submitted by DTED (the first quarterly report: July - Sep. 2011, the second quarterly report: Oct. - Dec. 2011). In addition to the amounts indicated above for running INSETs, the Malawian side has provided necessary in-kind contributions for INSET M&E activities by Education Division Offices (e.g. cost of fuel, allowances for inspectors and drivers, and vehicles for M&E).

*** The Japanese side's contributory amounts are based on its accounting cycle from April to March. The actual amount for FY 2011/2012 covers up the 20th of January 2012.

Annex 7-2 (b): Costs of Rehabilitation and Provision of Equipment and Teaching and Learning Materials

(1) National INSET Centre (DCE)

Year	Total (MWK)
2009	3,315,916
2010	1,627,558
2011	2,545,028
Total	7,488,502

(2) Divisional INSET Centres

Division	INSET Centres		2008/2009	2009/2010	2010/2011
NED	1	Chitipa Secondary School	-	2,625,734	2,153,524
	2	Euthini Secondary School	-	2,633,286	2,177,959
	3	Mzuzu Secondary School	-	3,111,414	3,536,871
	4	Mzimba Secondary School	-	3,244,685	2,153,424
CEED	5	Chayamba Secondary School	-	3,056,562	2,168,869
	6	Madisi Secondary School	-	2,729,062	2,120,966
	7	Salima Secondary School	-	2,945,683	2,112,417
CWED	8	Lilongwe Girls' Secondary School	-	3,095,803	3,296,715
	9	Dedza Secondary School	-	3,830,359	3,540,659
	10	Namitete Secondary School	-	3,269,921	2,146,125
	11	Mchinji Secondary School	-	3,478,866	2,112,536
SEED	12	Mulungzi Secondary School	1,723,157	1,513,927	1,524,957
	13	Balaka Secondary School	1,008,200	1,096,959	1,655,997
	14	Lisumbwi Secondary School	1,217,387	921,041	1,559,601
SWED	15	Blantyre Secondary School	-	4,403,890	3,537,424
	16	Mwanza Secondary School	-	2,544,525	2,128,896
	17	Ngabu Secondary School	-	2,702,234	2,154,444
SHED	18	Mulanje Secondary School	-	2,601,469	2,102,114
	19	Thyolo Secondary School	-	2,383,207	3,303,940
Total (MWK)			3,948,744	52,188,627	45,487,438

(3) Breakdown of Costs Spent for Divisional INSET Centres in FY 2010/2011

Division	INSET Centres		Repair Items	Science Equipment and Other Teaching and Learning Materials			FY 2010/2011 (Total)
				Science Equipment and Chemicals	Stationery	Reference Books (Texts)	
NED	1	Chitipa Secondary School	500,000	1,300,045	117,879	235,600	2,153,524
	2	Euthini Secondary School	524,435	1,300,045	117,879	235,600	2,177,959
	3	Mzuzu Secondary School	496,971	2,450,821	117,879	471,200	3,536,871
	4	Mzimba Secondary School	499,900	1,300,045	117,879	235,600	2,153,424
CEED	5	Chayamba Secondary School	515,345	1,300,045	117,879	235,600	2,168,869
	6	Madisi Secondary School	467,442	1,300,045	117,879	235,600	2,120,966
	7	Salima Secondary School	458,893	1,300,045	117,879	235,600	2,112,417
CWED	8	Lilongwe Girls' Secondary School	491,655	2,451,581	117,879	235,600	3,296,715
	9	Dedza Secondary School	499,999	2,451,581	117,879	471,200	3,540,659
	10	Namitete Secondary School	492,601	1,300,045	117,879	235,600	2,146,125
	11	Mchinji Secondary School	459,012	1,300,045	117,879	235,600	2,112,536
SEED	12	Mulungzi Secondary School	463,010	944,068	117,879	0	1,524,957
	13	Balaka Secondary School	594,050	944,068	117,879	0	1,655,997
	14	Lisumbwi Secondary School	497,654	944,068	117,879	0	1,559,601
SWED	15	Blantyre Secondary School	496,764	2,451,581	117,879	471,200	3,537,424
	16	Mwanza Secondary School	475,372	1,300,045	117,879	235,600	2,128,896
	17	Ngabu Secondary School	500,920	1,300,045	117,879	235,600	2,154,444
SHED	18	Mulanje Secondary School	448,590	1,300,045	117,879	235,600	2,102,114
	19	Thyolo Secondary School	499,640	2,450,821	117,879	235,600	3,303,940
Total (MWK)			9,382,253	29,389,084	2,239,701	4,476,400	45,487,438

Annex 7-3: List of INSET Centres

(1) National INSET Center		
1	Domasi College of Education	
(2) Divisional INSET Centers		
(2) Divisional INSET Centers		Division
1	Chitipa Secondary School	NED
2	Euthini Secondary School	
3	Mzuzu Secondary School	
4	Mzimba Secondary School	
5	Chayamba Secondary School	CEED
6	Madisi Secondary School	
7	Salima Secondary School	
8	Lilongwe Girls' Secondary School	CWED
9	Dedza Secondary School	
10	Namitete Secondary School	
11	Mchinji Secondary School	
12	Mulungzi Secondary School	SEED
13	Balaka Secondary School	
14	Lisumbwi Secondary School	
15	Blantyre Secondary School	SWED
16	Mwanza Secondary School	
17	Ngabu Secondary School	
18	Mulanje Secondary School	SHED
19	Thyolo Secondary School	

Annex 7-4: Japanese Experts Assigned to the Project

(1) Long-term Experts

No.	Name	Title	From	To
1	Mr. Hikaru Kusakabe	INSET Management	Aug. 2008	Present
2	Ms. Ayumi Kikuchi	Mathematics and Science Education	Sep. 2008	Apr. 2011

(2) Short-term Experts

No.	Name	Title	From	To
1	Ms. Aya Hosokawa	Mathematics and Science Education / M&E	May. 2011	Jul. 2011
2	Mr. Tsutomu Takahashi	Mathematics and Science Education	Sep. 2011	Jan. 2012

Annex 7-5: Training in Japan, Kenya and Malaysia and International Workshops

(0) Summary

Type of Training	Participants Trained		
	Total	by the Project budget	
(1) Long term training in Japan (Master's Degree)	5	0	
(2) Short-term training in Japan	75	4	1 Seminar for Educational Evaluation and Monitoring in JFY* 2008/2009 3 INSET Management for Anglophone Countries in Africa (B) in JFY 2011/2012
(3) Training in Kenya	37	3	3 ASEI/PDSI Approach In Secondary Mathematics and Science Education in Africa (No.14) in JFY 2010/2011
(4) Training in Malaysia	40	36	11 Secondary Science & Mathematics Teacher Educators Training for Malawi in JFY 2008/2009 25 Secondary Science & Mathematics Teacher Educators Training for Malawi in JFY 2009/2010
(5) International Workshop	11	3	3 Understanding and Actualisation of Good Lesson and Super Mathematics and Science Teacher Contest in Uganda in JFY2009
Total:	168	46	46

* JFY: Japanese Fiscal Year

(1) Long-term training in Japan (Master's Degree)

No.	Course title	Venue	Duration	Name	Organisation	Note
1	Enhancing the Quality of Primary and Secondary Education (Science and Maths) in Sub-Saharan Africa	Hiroshima University	Mar. 2009 - Mar. 2011	Mr. George Vakusi	DTED, MoEST	
2	Enhancing the Quality of Primary and Secondary Education (Science and Maths) in Sub-Saharan Africa	Hiroshima University	Mar. 2009 - Mar. 2011	Ms. Florence Thomo	DCE	
3	Enhancing the Quality of Primary and Secondary Education (Science and Maths) in Sub-Saharan Africa	Hiroshima University	Sep. 2009 - Sep. 2011	Ms. Chimwemwe Ngwira	Katoto Secodnary School / Mzuzu University	
4	Improvement of Mathematics and Science Teacher Education	Naruto University of Education	Mar. 2010 - Mar. 2012	Mr. Enock Chinomba	DTED, MoEST	
5	Enhancing the Quality of Primary and Secondary Education (Science and Maths) in Sub-Saharan Africa	Hiroshima University	Sep. 2010 - Sep. 2012	Mr. Justus Nkhata	DTED, MoEST	

(2) Shot-term training in Japan

	No	Course title	Venue	Duration	Name	Organisation	Note
JFY2008/09	1	Practice of Science Education for Secondary School	Hiroshima	5th Aug. - 28th Sep.	Mr. Mathias January	DCE	
	2	Study on Education Improvement of Training Course of Teachers for African Countries	Kyushu	3rd Nov.- 10th Nov.	Mr. Alnord Mwanza	DCE	
	3				Mr. Alfred Kamoto	DTED, MoEST	
	4	Seminar for Educational Evaluation and Monitoring	Tokyo	24th Oct. - 14th Nov.	Mr. John Mswayo	EMAS, MoEST	*
	5	Strengthening of (Local) Education for SMASE-WECSA for Sub-Saharan Africa	Sapporo	13th Jan. - 14th Feb.	Mr. Jeremiah Kamukuza	SEED Office	
	6				Mr. Elvis Salagi	DTED, MoEST	
JFY2009/10	7	Practice of Science Education for Secondary School	Hiroshima	4th Aug. - 27th Sep.	Mr. Austin Kalambo	MIE, MoEST	
	8	Improving Teaching Methods in Science & Mathematics in Primary Education	Sapporo	6th Oct. - 21th Nov.	Ms. Donna Namaona	DTED, MoEST	
	9	Study on Education Improvement of Training Course of Teachers for African Countries	Kyushu	3rd Nov. - 30th Nov.	Mr. Elias Chakwera	DCE	
	10				Ms. Darles Mbewe	DTED, MoEST	
	11	Seminar for Educational Evaluation and Monitoring	Tokyo	26th Oct. - 20th Nov.	Ms. Chrissie Soko	EMAS, MoEST	
	12	Strengthening of (Local) Education for SMASE-WECSA for Sub-Saharan Africa	Sapporo	13th Jan. - 14th Feb.	Mr. Mc Gregory Alufandika	SEED Office	
	13				Ms. Thoko Banda	CWED Office	
	14	INSET Management for Anglophone Countries in Africa (A)	Hiroshima	17th Nov. - 20th Dec.	Mr. Absalom Phiri	DTED, MoEST	
	15	INSET Management for Anglophone Countries in Africa (B)	Hiroshima	26th Jan. - 28th Feb.	Mr. Bona Mjojo	HRMD, MoEST	
	16				Mr. Charles Inani	DSE, MoEST	
	17				Mr. William Kanyemba	EMAS, MoEST	
	18				Mr. Earnest Luhanga	NED Office	
	19				Mr. Rosario Soko	NED Office	
	20				Ms. Edith Munthali	CEED Office	
21	Mr. Earnest Matengo				CWED Office		
22	Mr. Harlod Chigalu				SEED Office		
23	Ms. Eunice Dambo				SWED Office		
24	Ms. Caroline Moto				SWED Office		
25	Mr. Christopher Tsogolani				SHED Office		
26	Mr. Sonnex Likharuwe				Mulanje SS		
27	Mr. Silk Kadwala				Mulunguzi SS		
28	Mr. John Phiri	Balaka SS					
29	Mr. Peter Benson	Lisumbwi SS					

* The costs for sending one participant to this training were covered by the Project budget.

** SS: Secondary School

No	Course title	Venue	Duration	Name	Organisation	Note	
JFY 2010/11	30	Study on Education Improvement of Training Course of Teachers for African Countries	Kyushu	25th Oct.- 28th Nov.	Mr. Ndalapa Mhango	DCE	
	31				Mr. Patric Themu	DTED, MoEST	
	32	Seminar for Educational Evaluation and Monitoring	Tokyo	25th Aug. - 18th Sep.	Mr. Siegfried Mkandawire	DCE	
	33				Mr. Livati Potiphar	DTED, MoEST	
	34	Strengthening of (Local) Education for SMASE-WECSA for Sub-Saharan Africa	Sapporo	16th Jan. - 11th Feb.	Mr. Godwin Jere	DTED, MoEST	
	35	INSET Management for Anglophone Countries in Africa (A)	Hiroshima	17th Nov. - 18th Dec.	Mr. Peatry Kandio	SWED Office	
	36	INSET Management for Anglophone Countries in Africa(B)	Hiroshima	25th Jan. - 16th Feb.	Ms. Anita Kalu	Lilongwe Girls' SS	
	37				Ms. Ida Kamoto	Mchinji SS	
	38				Ms. Melayi Kapunda	DSE, MoEST	
	39				Ms. Madalitso Chamba	Blantyre SS	
	40				Ms. Patience Mamba	HRMD, MoEST	
	41				Mr. Deusdedit Gondwe	Mzuzu Government SS	
	42				Mr. Kenias Mchuchu	Chayamba SS	
	43				Mr. Wilfred Nyapwala	Tyolo SS	
	44				Mr. Victor Chibwe	Namitete SS	
	45				Mr. Rhonex Banda	Madisi SS	
	46				Mr. Anthony Manja	SHED Office	
	47				Mr. Valentino Zimpita	Domasi Demonstration SS	
	48				Mr. Thomas Mkandawire	CEED Office	
	49	Mr. Benford Mwakayuni	Euthini SS				
50	Improvement of Lesson Evaluation in Science for Sub-Sahara African Countries	Osaka	31st Jan. - 26th Feb.	Ms. Lucia Chidalengwa	DTED, MoEST		
51				Ms. Catherine Kumwamba	DCE		
52	Seminar for Educational Evaluation and Monitoring	Tokyo	23rd Aug. - 18th Sept.	Mr. Levis K Eneya	Chancellor College		
53				Mr. Cedric Mpasu	DTED, MoEST		
54	Improvement of Lesson Evaluation in Science for Sub-Sahara African Countries	Osaka	3rd Sep. - 2nd Oct.	Mr. Andrew Thauzeni	DTED, MoEST		
55				Ms. Grace Chakwera	DIAS, MoEST		
56	Strengthening of (Local) Education for SMASE-WECSA for Sub-Saharan Africa	Sapporo	15th Jan. - 10th Feb.	Mr. Saulos Namani	Salima SS		
57	INSET Management for Anglophone Countries in Africa (A)	Hiroshima	15th Nov. - 15th Dec.	Mr. Alfred Kamoto	DTED, MoEST		
JFY 2011/12	58	INSET Management for Anglophone Countries in Africa(B)	Hiroshima	24th Jan. - 23rd Feb.	Mr. Alex Chiumia	MIE, MoEST	***
	59				Mr. Joseph Nkhata	CWED Office	
	60				Ms. (Sr.) Margaret Chitseko	SHED Office	
	61				Ms. Isabel Mwage	CEED Office	
	62				Mr. Joseph Katona	CWED Office	
	63				Mr. Victor Lungu	NED Office	
	64				Mr. Patrick Mandalawe	SEED Office	
	65				Mr. Cryton Tambala	SEED Office	
	66				Mr. Chimwenwe Juwa	SWED Office	
	67				Mr. Fackson Mwale	Dedza SS	
	68				Mr. Whyson Amigo	Mchinji SS	
	69				Ms. Loyce Mponda	Mwanza SS	
	70				Mr. Nixon Kaitano	Ngabu SS	
	71				Mr. Emmerson Lupiya	Blantyre SS	
	72				Mr. Nyemba Muvutika	Chitipa SS	
	73				Mr. Archibald Kapila	Mzimba SS	
	74				Mr. Alexis F. Bwanthi	Santhe SS	
	75				Ms. G.T. Phiri	HRMD, MoEST	

*** The costs for sending three participants to this training were covered by the Project budget.

(3) Training in Kenya

No.	Course title	Venue	Duration	Name	Organisation	Note	
JFY 2008/09	1	ASEI/PDSI Approach In Secondary Mathematics and Science Education in Africa (No.8)	Nairobi	6th Oct. - 31st Oct.	Mr. Ernest Kachile	Likuni Boys SS	
	2	ASEI/PDSI Approach In Secondary Mathematics and Science Education in Africa (No.10)	Nairobi	3rd Nov. - 28th Nov.	Mr. Prince Phwetekele	DCE	
	3				Mr. Lloyd Mataka	DCE	
	4				Mr. Absalom Phiri	DTED, MoEST	
	5				Mr. Jackson Yekha	MIE, MoEST	
	6				Mr. Austin Kalambo	MIE, MoEST	
	7				Mr. Christopher Neba	MANEB**, MoEST	
	8				Mr. Maxwell Magalasi	Lilongwe TTC***	
	9				Mr. Francis Luhanga	Brantyre TTC	
JFY 2009/10	10	ASEI/PDSI Approach In Secondary Mathematics and Science Education in Africa (No.11)	Nairobi	21st Sep. - 16th Oct.	Ms. Martha Kayuwe	Chankhanga CDSS	
	11				Mr. Livati Potiphar	Dedza SS	
	12				Mr. Charles Maonga	Dzenje CDSS	
	13				Ms. Fides Msowoya	Bandawe Girls SS	
	14				Ms. Lucia Chidallengwa	Mkwichi SS	
	15				Mr. Chimwenwe Juwa	Njamba SS	
	16				Mr. John Gondwe	Nkhata-bay SS	
	17				Mr. Nixon Kaitano	Ngabu SS	
	18				Mr. Omega Mkandawire	Chiradzuru SS	
	19				Mr. Paul Mgunda	Dowa SS	
JFY 2010/11	20	ASEI/PDSI Approach In Secondary Mathematics and Science Education in Africa (No.14)	Nairobi	19th Sep. - 16th Oct.	Mr. Lameck Kaonga	Chichiri SS	*
	21				Mr. Lovemore Likupha	Mulanje SS	
	22				Mr. Cedrick Mpasoo	DTED, MoEST	
	23				Mr. Fanwell Chiwowa	St. John Bosco SS	
	24				Mr. Dominic Phiri	Chiphaso CDSS	
	25				Mr. Oswald Lungu	Mzuzu SS	
	26				Mr. Votie Mboweni	Lilongwe Girls SS	
	27				Mr. Andrew Thauzeni	DTED, MoEST	
	28				Mr. Albert Nkhonya	Katoto SS	
	29				Mr. Nchachi Mughandira	Chitipa SS	
	30				Mr. Frank Masewo	Maghembo SS	
	JFY 2011/12				31	ASEI/PDSI Approach In Secondary Mathematics and Science Education in Africa (No.19)	
32		Mr. Lemani Packson Mphonda	Ludzi Girls' SS				
33		Mr. Chiyanga Daniel	Kasungu SS				
34		Mr. Kawaye Rollina	Mvunguti CDSS				
35		Mr. Njolinjo Blessings Chisomo	Phalombe SS				
36		Mr. Mwenye Joe Dan	Ngabu SS				
37		Mr. Malambo Aubrey	Golomototi CDSS				

* The costs for sending three participants to this training were covered by the Project's budget.

** MANEB: Malawi National Examination Board

*** TTC: Teacher Training College

(4) Training in Malaysia

	No	Course title	Venue	Duration	Name	Organisation	Note
JFY2008/09	1	Secondary Science & Mathematics Teacher Educators Training for African Countries	Penang	4th Aug. - 29th Aug.	Mr. Phaundi Shonga	DCE	
	2				Mr. George Vsakusi	DTED, MoEST	
	3				Mr. Enock Chinomba	DTED, MoEST	
	4				Mr. Justus Nkhata	DTED, MoEST	
	5	Secondary Science & Mathematics Teacher Educators Training for Malawi	Penang	2nd. Feb. - 13th Feb.	Mr. Collentino Chamangwana	Lisumbwi SS	*
	6				Mr. Dyton Namikungulu	Ulongwe CDSS	
	7				Mr. Frazer Ngaunje	Masongola SS	
	8				Mr. Fletcher Tewesa	St. Michaels SS	
	9				Mr. Patrick Njala	Lisumbwi SS	
	10				Mr. Joseph Katona	Chimwalira SS	
	11				Mr. John Nanga	Chimwalira SS	
	12				Mr. Francis Nyambalo	Masongola SS	
	13				Mr. Reuben Mkwapatira	Mangochi SS	
	14				Mr. Patrick Mandalawe	Songani CDSS	
	15				Mr. Manjomo Somanje	MANEB, MoEST	
JFY2009/10	16	Secondary Science & Mathematics Teacher Educators Training for Malawi	Penang	16th Nov. - 25th Nov.	Mr. Evance Chikwati	Kankao CDSS	**
	17				Mr. Ben Nantunga	Likangala SS	
	18				Mr. Benson Namacha	Mbenjere SS	
	19				Mr. Albert Msekandiana	Masongola SS	
	20				Mr. Henry Dzingo	Mulunguzi SS	
	21				Mr. Ishmael Mgadamika	Mangochi SS	
	22				Mr. Henry Lweya	Liwonde CDSS	
	23				Mr. Innocent Chikopa	Malindi SS	
	24				Mr. Master Kajawo	Balaka SS	
	25				Mr. Siege Mkandawire	DCE	
	26				Mr. Justus Nkhata	DTED, MoEST	
	27				Mr. John Phiri	Balaka SS	
	28				Mr. Kidwell Chipwatali	St Monica SS	
	29				Ms. Esther Nthumbu	St Michaels SS	
	30				Mr. Shadreck Mota	Lisumbwi SS	
	31				Mr. Richard Yaya	Domasi Demonstration SS	
	32				Mr. Andrew Nasalangwa	Malosa SS	
	33				Mr. Stanely Mandala	Mbenjere SS	
	34				Mr. Verson Makaika	Toleza CDSS	
	35				Mr. Gilbert Kaponda	Balaka SS	
	36				Mr. Hamil Chimberenga	Domasi Demonstration SS	
	37				Mr. Joseph Mshanga	DCE	
	38				Mr. Gift Moyo	DCE	
	39				Ms. Catherine Kumwamba	DCE	
	40				Mr. Silk Kadwala	Mulunguzi SS	

* The costs for sending 11 participants to this training were covered by the Project's budget.

** The costs for sending 25 participants to this training were covered by the Project's budget.

(5) International Workshops in Kenya, Uganda and Botswana

No.	Course title	Venue	Duration	Name	Organisation	Note
1	8th SMASE-WECSA Regional Conference	Kenya	26th - 30th May 2008	Ms. Lonely Magareta	DSE, MoEST	
2				Mr. Mathias January	DCE, MoEST	
3	Understanding and Actualization of Good Lesson and Super Mathematics and Science Teacher Contest	Uganda	23rd - 29th Mar. 2009	Mr. Absalom Phiri	DTED, MoEST	*
4				Mr. Enock Chinomba	DTED, MoEST	
5				Mr. Justus Nkhata	DTED, MoEST	
6	9th SMASE-WECSA Regional Conference	Kenya	16th - 20th Nov. 2009	Mr. Alfred Kamoto	DTED, MoEST	
7	Monitoring And Evaluation Technical Workshop	Botswana	24th - 28th May 2010	Mr. John Mswayo	DIAS, MoEST	
8				Mr. William Kanyemba	DIAS, MoEST	
9	10th SMASE-WECSA Regional Conference	Kenya	6th -9th Dec. 2010	Ms. Darles Mbewe	DTED, MoEST	
10				Mr. Alfred Kamoto	DTED, MoEST	
11	11th SMASE-WECSA Regional Conference	Kenya	13th -16th Dec. 2011	Ms. Lucia Chidalengwa	DTED, MoEST	

*The costs for sending three participants to this workshop were covered by the Project's budget.

Annex 7-6: Provision of Machinery and Equipment

(1) DTED (SMASSE Secretariat)

Equipment	Specification	Company	Unit Cost (MWK)	QTY	Sub-Total Cost (MWK)	Year for Delivery
Vehicle	Toyota Prado GX8 Station Wagon 4WD	Toyota Malawi Limited	6,350,000	1	6,350,000	2008
Vehicle	Toyota Hiace Minibus - 14 or 16 seater	Toyota Malawi Limited	5,100,000	1	5,100,000	2008
Laptop Computers	Hp Compaq 530 Laptop Computers	IT Centre	175,578	7	1,229,046	2008
	Lenovo 3000 Laptops	IT Centre	133,280	1	133,280	2009
	Toshiba Satellite Pro L300	Xerographics Limited	195,000	3	585,000	2009
Desktop Computers	Hp DX2300 Desktop Computers & HP 17" TFT Screens	IT Centre	140,070	3	420,210	2008
Laser-jet Printer	Hp Laser-jet 4250n Printer	IT Centre	255,925	1	255,925	2008
	Hp Laser-jet P2014 Printers	IT Centre	42,750	2	85,500	2008
Color Laser-jet Printer	Hp Color Laser-jet CP1515n Printer	IT Centre	73,660	1	73,660	2008
Scanner	Hp Scanjet 2400 Scanner	IT Centre	24,000	1	24,000	2008
LCD Projector	Sonny VPL ES7 2000 Lumens SVGA Projector	Globe Computer Systems Limited	217,010	1	217,010	2009
Flash Memory	4GB Flash Memory Disk	IT Centre	9,860	6	59,160	2008
	4GB Flash Memory Disk	IT Centre	6,900	14	96,600	2009
Computer Software	Microsoft Office 2007 Professional	IT Centre	55,000	12	660,000	2008
Antivirus Software	Norton Antivirus Software	IT Centre	18,050	12	216,600	2008
External Floppy Disk Drive	External Floppy Disk Drive	IT Centre	11,775	6	70,650	2008
Photocopier	Heavy Duty Photocopier 38ppm	Xerographics Limited	1,700,000	1	1,700,000	2008
Uninterruptible Power Supply	APC / Sollatek Back up Electricity Supplier 1500 VA	Xerographics Limited	60,000	3	180,000	2008
Supply Voltage Supervisor	APC / Sollatek Voltage Supervisor 1KVA	Xerographics Limited	24,000	1	24,000	2008
Digital Video Camera	HANDYCAM DCR-HC54E	Consumer Electronic Services	94,950	1	94,950	2008
Photocopier	DP-S550 digital printing system	Xerographics Limited	2,038,750	1	2,038,750	2011
Desktop Computers	COM-HPX-0045	IT Centre	150,248	2	300,496	2011
Server	HP ML330G6	IT Centre	564,957	1	564,957	2011
Vehicle	NISSAN Patrol Station Wagon 4WD	NISSAN trading Europe	4,727,125	1	4,727,125	2012
Total:					25,206,920	

(2) Education Division Offices

Equipment	Specification	Company	Unit Cost (MWK)	QTY	Sub-Total Cost (MWK)	Year for Delivery
Desktop Computers	Hp DX2300 Desktop Computers & HP 17" TFT Screens	IT Centre	140,070	6	840,420	2009
Laser-jet Printers	Hp Laser-jet P2014 Printers	IT Centre	42,750	6	256,500	2009
Flash Memory	4GB Flash Memory Disk	IT Centre	9,860	6	59,160	2009
Computer Software	Microsoft Office 2007 Professional	IT Centre	55,000	6	330,000	2009
Antivirus Software	Norton Antivirus Software	IT Centre	18,050	6	108,300	2009
External Floppy Disk Drive	External Floppy Disk Drive	IT Centre	11,775	6	70,650	2009
Uninterruptible Power Supply	APC / Sollatek Back up Electricity Supplier 1500 VA	Xerographics Limited	60,000	6	360,000	2009
Vehicles	NISSAN Patrol Station Wagon 4WD	NISSAN trading Europe	4,727,125	6	28,362,752	2012
Total:					30,387,782	

(3) National INSET Centre (DCE)

Equipment	Specification	Company	Unit Cost (MWK)	QTY	Sub-Total Cost (MWK)	Year for Delivery
Photocopier	Heavy Duty Photocopier 25ppm	Xerographics Limited	685,000	1	685,000	2009
Supply Voltage Supervisor	APC / Sollatek Voltage Supervisor 1KVA	Xerographics Limited	24,000	1	24,000	2009
TV Screen	Sony Bravia TV Screen	LORDS BEST COLLECTION	220,000	1	220,000	2010
DVD	LG DVD	LORDS BEST COLLECTION	14,500	1	14,500	2010
VCR	Panasonic VCR	LORDS BEST COLLECTION	22,500	1	22,500	2010
LCD Projector	Infocus IN2102 LCD Projector	IT Centre	186,275	1	186,275	2010
Laptop Computers	Hp Compaq 530 Laptop Computers	IT Centre	160,325	7	1,122,275	2011
Vehicle	NISSAN Patrol Station Wagon 4WD	NISSAN trading Europe	4,727,125	1	4,727,125	2012
Total:					7,001,675	

(4) Divisional INSET Centres

Equipment	Specification	Company	Unit Cost (MWK)	QTY	Sub-Total Cost (MWK)	Year for Delivery
Laptop Computers	Hp Compaq 530 Laptop Computers	IT Centre	175,578	4	702,312	2010
	Lenovo 3000 Laptops	IT Centre	133,280	12	1,599,360	2010
Laser-jet Printers	Hp Laser-jet P2014 Printers	IT Centre	42,750	4	171,000	2010
	HP LaserJet P1505 Printers	IT Centre	46,782	12	561,384	2010
Computer Software	Microsoft Office 2007 Professional	IT Centre	55,000	16	880,000	2010
Antivirus Software	Norton Antivirus Software	IT Centre	18,050	3	54,150	2010
	Norton Antivirus Software	IT Centre	15,200	13	197,600	2010
Photocopiers	Heavy Duty Photocopier 25ppm	Xerographics Limited	685,000	4	2,740,000	2010
	Desktop digital copiers	Xerographics Limited	750,000	12	9,000,000	2010
Supply Voltage Supervisor	APC / Sollatek Voltage Supervisor 1KVA	Xerographics Limited	24,000	4	96,000	2010
	Voltage Stabilizers	Xerographics Limited	45,000	12	540,000	2010
TV Screen	Sony Bravia TV Screen	LORDS BEST COLLECTION	220,000	16	3,520,000	2010
DVD	LG DVD	LORDS BEST COLLECTION	14,500	16	232,000	2010
VCR	Panasonic VCR	LORDS BEST COLLECTION	22,500	16	360,000	2010
Digital Video Camera	HANDYCAM DCR-HC54E	Consumer Electronic Services	94,950	4	379,800	2011
		LORDS BEST COLLECTION	89,500	12	1,074,000	2011
LCD Projector	Sony Projector VPL E-series	LORDS BEST COLLECTION	214,000	19	4,066,000	2011
Laptop Computers	Hp Compaq 530 Laptop Computers	IT Centre	160,325	3	480,975	2011
Total:					26,654,581	

Annex 8: Project Outputs

Annex 8-1: National and Divisional INSETs

(1) National INSET

Activity	Date	Year	No. of Participants	No. of Those Who Completed	Completion Rate (%)	No. of National Trainers
1st National INSET	25th May - 5th Jun.	2009	192	188	97.9%	9
2nd National INSET	4th - 8th Jan.	2010	177	165	93.2%	9
3rd National INSET	3rd - 7th Jan.	2011	244	234	95.9%	10
4th National INSET	3rd - 6th Jan.	2012	224	60	26.8%	13

(2) Divisional INSET

Activity	Date	Year	No. of Participants	No. of Those Who Completed	Completion Rate (%)	No. of Divisional Trainers
1st Divisional INSET	24th - 28th May	2010	2,722	2,258	83.0%	209
2nd Divisional INSET	17th - 22nd Apr.	2011	2,508	2,083	83.1%	248

Annex 8-2: Training of Trainers

Division	Year	No.	Date	No. of Participants
SEED	2008	1	12th Sep.	38
		2	2nd - 3rd Oct.	43
		3	10th - 14th Nov.*	44
	2009	4	30th Oct.	32
		5	18th Dec.	34
	2010	6	22nd. Jan.	31
		7	1st - 5th Feb.*	26
		8	23rd Apr.	25
		9	5th Nov.	25
		10	21st Dec.	12
		11	22nd Dec.	12
	2011	12	2nd Feb.	40
		13	6th Apr.	8
		14	5th Oct.	34
		15	16th Nov.	32
		16	14th - 15th Dec.	6
NED	2010	1	6th May	26
		2	7th May	12
		3	20th Dec.	8
		4	21st Dec.	44
	2011	5	31st Jan.	44
		6	4th Apr.	33
		7	18th Nov.	43
CEED	2010	1	10th May	33
		2	15th Dec.	11
		3	16th Dec.	35
	2011	4	1st Feb.	40
		5	5th Apr.	26
CWED	2010	1	11th May	31
		2	13th Dec.	15
		3	14th Dec.	47
	2011	4	2nd Feb.	41
		5	6th Apr.	28
		6	16th Nov.	41
		7	17th Nov.	32
SWED	2010	1	12th May	26
		2	15th Dec.	13
		3	16th Dec.	24
	2011	4	1st Feb.	38
		5	5th Apr.	11
		6	17th Nov.	34
SHED	2010	1	23rd May	17
		2	13th Dec.	7
		3	14th Dec.	28
	2011	4	31st. Jan.	26
		5	4th Apr.	7
		6	15th Nov.	25

* Intensive Training

Annex 8-3: List of Write-Ups

(1) The Fourth SEED INSET in 2008

No.	Title of Write-Ups
1	Student Centeredness (General Issue)
2	Polynomials (Mathematics)
3	Matrics (Mathematics)
4	Trigonometry (Mathematics)
5	Statistics (Mathematics)
6	Scientific Investigation (Physical Science)
7	Oxidation and Reduction (Physical Science)
8	Moles and Molarity (Physical Science)
9	Semiconductors (Physical Science)
10	Respiration (Biology)
11	Coordination (Biology)
12	Micro-organisms (Biology)
13	Transport in Plants (Biology)
14	Garment Construction Processes (HEC)
15	Kitchen Equipment (HEC)
16	Planning and Preparation of Meals of People with Special Needs
17	Table Setting (HEC)
18	Laundry Processes (HEC)

(2) The First National INSET in 2009

No.	Title of Write-Ups
1	Overview of SMASSE
2	INSET Management
3	Team Building
4	Attitude towards Math and Science
5	ASEI/PDSI Approach
6	Write-up Development
7	Facilitation and Presentation
8	Monitoring and Evaluation

(3) The Second National INSET and the First Divisional INSET in 2010

No.	Title of Write-Ups
1	Findings of Baseline Survey
2	Attitude (Math, Physical Science, Biology)
3	ASEI/PDSI Approach (Math, Physical Science, Biology)
4	Arithmetic Progressions (Mathematics)
5	Oscillations and Waves (Physical Science)
6	Investigative Skills (Biology)

(4) The Fifth SEED INSET in 2010

No.	Title of Write-Ups
1	Planning for effective teaching and learning of M/S (General issue)
2	Indices and Logarithms (Mathematics)
3	Density and Mixtures (Mathematics)
4	Electricity (Physical Science)
5	Acids and Bases (Physical Science)
6	Human Nutrition (Biology)
7	Ecology (Biology)
8	Cleaning Aids (HEC)
9	Labour Saving (HEC)

(5) The Third National INSET and the Second Divisional INSET in 2011

No.	Title of Write-Ups
1	Experiments (General Issue)
2	Probability (Mathematics)
3	Problem Solving Approach (Mathematics)
4	Chemical Reactions II (Physical Science)
5	Tropisms (Biology)
6	Rechauffe's dishes (HEC)

(6) The Fourth National INSET and the Third Divisional INSET in 2012

No.	Title of Write-Ups
1	Student Centeredness (General Issue)
2	Lesson study (General Issue)
3	Transformation and Linear Programming (Mathematics)
4	Nuclear Physics and Electricity (Physical Science)
5	Genetics, Coordination and Ecosystem (Biology)
6	Garments Construction (HEC)
7	Soups (HEC)

Annex 8-4: INSET Committee and Sensitisation Meetings

(1) NSC Meetings

No.	Title	Date	Year	No. of Participants
1	1st NSC Meeting	15th Sep.	2009	25
2	2nd NSC Meeting	26th Oct.	2010	27
3	3rd NSC Meeting	1st Feb.	2012	(planned)

(2) Stakeholder Meetings

No.	Title	Date	Year	No. of Participants
1	Stakeholder Meeting in Lilongwe	29th-30th Sep.	2008	21
2	Stakeholder Meeting in Domasi	26th-27th Jan.	2009	18
3	Stakeholder Meeting in Lilongwe	2nd-3rd Nov.	2009	20
4	Stakeholder Meeting in Lilongwe	13th Jan.	2010	19
5	Stakeholder Meeting in Mzuzu	8th Sep.	2010	22
6	Stakeholder Meeting in Lilongwe	18th - 19th Mar.	2011	28
7	Stakeholder Meeting in Dedza	19th - 20th Sep.	2011	30

(3) DCC Meetings

No.	Title	Date	Year	No. of Participants
1	DCC Meeting in SEED	7th Nov.	2008	17
2	DCC Meeting in SEED	16th Apr.	2010	14
3	DCC Meeting in NED	26th Apr.	2010	15
4	DCC Meeting in CEED	27th Apr.	2010	12
5	DCC Meeting in SHED	30th Apr.	2010	9
6	DCC Meeting in SWED	3rd May.	2010	10
7	DCC Meeting in CWED	6th May.	2010	13
8	DCC Meeting in CEED	5th Jul.	2010	13
9	DCC Meeting in SHED	12th Jul.	2010	10
10	DCC Meeting in SEED	14th Jul.	2010	11
11	DCC Meeting in NED	15th Jul.	2010	15
12	DCC Meeting in SWED	18th Jul.	2010	14
13	DCC Meeting in CWED	19th Jul.	2010	12
14	DCC Meeting in NED	23rd Mar.	2011	18
15	DCC Meeting in CEED	24th Mar.	2011	15
16	DCC Meeting in CWED	25th Mar.	2011	16
17	DCC Meeting in SEED	30th Mar.	2011	15
18	DCC Meeting in SWED	29th Mar.	2011	14
19	DCC Meeting in SHED	28th Mar.	2011	10
20	DCC Meeting in NED	12th Sep.	2011	18
21	DCC Meeting in CEED	16th Aug.	2011	13
22	DCC Meeting in CWED	22nd Aug.	2011	15
23	DCC Meeting in SEED	12th Aug.	2011	15
24	DCC Meeting in SWED	11th Aug.	2011	11
25	DCC Meeting in SHED	10th Aug.	2011	9

(4) Sensitisation Workshops

No.	Title	Date	Year	No. of Schools Participated	No. of Participants
1	Sensitization Workshop for recruitment of Divisional Trainers	February	2009	641	1,498
2	Sensitization Workshop for Head Teachers and PTA members	December	2009	658	1,261
3	2nd Sensitization Workshop for Head Teachers and PTA members	Dec. - Mar.	2010-2011	520	1,033

2. 評価ツール：研修の質指標（INSET Quality Index）

2-1 参加者による研修全体評価
(INSET Overall Evaluation Instrument by Participants)

INSET Overall Evaluation Questionnaire

INSET Centre: _____

Qualification	B. Ed. or M. Ed.	Subject(s) currently teaching	Biology	Years of teaching experience at Secondary	Less than 3 yrs
	UCE		Physical Science		3 – 5 yrs
	Dip. Ed.		Mathematics		6 – 10 yrs
	MSCE				More than 10 yrs

The purpose of this questionnaire is to evaluate the INSET participants' overall opinion on the INSET in which they participated.

Please consider each of the following statements and indicate the response that reflects your opinion about the INSET by ticking (✓) the appropriate column on this sheet.

Key: 0 – Strongly Disagree; 1 – Disagree; 2 – Not Sure; 3 – Agree; 4 – Strongly Agree

		0	1	2	3	4
1	The purpose of each session was clear.					
2	The expected outcomes of each session were clear.					
3	The purpose and expected outcomes of each session were generally achieved.					
4	The content of the INSET was adequate in quantity for 1-week sessions.					
5	The INSET taught me lots of new things I had never known so far.					
6	Facilitators were fully conversant with the contents of their sessions.					
7	Facilitators were focused during their sessions.					
8	Facilitators guided group activities well.					
9	Facilitators interjected at the right time during their sessions (e.g. to keep the groups focused, etc.)					
10	Facilitators were keeping good eye contact on participants.					
11	The quality of participation (of the participants in the sessions) was high.					
12	Participatory approach was frequently used during the INSET.					
13	Variety of activities (hands-on, minds-on, presentations etc.) were included during the INSET.					

14	The size of groups was suitable for the group activities.					
15	Visual aids for the sessions were effectively used.					
16	The training materials were distributed adequately.					
17	The training materials were used effectively (i.e. to achieve intended objective).					
18	The training materials were used efficiently (i.e. economic use).					
19	The quality of the distributed write-ups was high.					
20	The distributed write-ups were useful during the INSET.					
21	The distributed write-ups will be useful during my ordinary classroom teaching.					
22	Punctuality was observed during the INSET.					
23	During the whole INSET, time management was good.					
24	The use of the room for general sessions (i.e. hall) was appropriate.					
25	The use of the room for subject-based sessions (i.e. classroom) was appropriate.					
26	The use of laboratories was appropriate.					
27	Meals were acceptable.					
28	The state of accommodation (beds etc.) was acceptable.					
29	The state of ablution block was acceptable.					
30	The welfare of the participants was well taken care of.					
31	The problems the participants faced were properly handled by the facilitators.					
32	Prior to the INSET, communication regarding the INSET was properly made in time.					
33	During the INSET, necessary information was properly given to the participants in time.					
34	The INSET was relevant to my needs in relation to math/science teaching.					
35	The INSET was effective for addressing the problems I had been facing in my math/science teaching.					
36	It was worth attending this INSET.					
<i>Please give us freely your comments on the INSET.</i>						

Thank you for the thought, time and effort you have put into completing this questionnaire!

2-2 研修講師による研修全体評価
(INSET Overall EVALUATION by Facilitators)

INSET Centre: _____ Subject: _____

The purpose of this checklist is to evaluate this INSET by compiling the viewpoint of the INSET organisers (facilitators) themselves.

Please consider each of the following statements and indicate the response that reflects your opinion about this INSET by ticking (✓) the appropriate column on this sheet.

Key: 0 – Not at all; 1 – A little; 2 – Fairly adequately; 3 – Adequately; 4 – To a great extent

	PLANNING	0	1	2	3	4
1	Planning for the INSET was properly done.					
2	Tasks were equitably and fairly distributed among the Divisional Trainers during the preparation of the INSET.					
	The deadline for each task was clearly given to the Divisional Trainers.					
3	The number of preparatory meetings for the INSET was enough.					
4	The attendance for the preparatory meetings was good.					
5	Prior to the INSET, communication regarding the INSET was properly made in time.					
	INSET CONTENTS	0	1	2	3	4
6	The content of the INSET was adequate in quantity for 1-week sessions.					
7	The content and/or approach of the INSET was original and innovative (i.e. something new) for the participants.					
8	The content of the INSET was relevant to the needs of the participants in relation to math/science teaching.					
9	The timetable for the INSET was appropriate.					
10	The purpose of each session was clear.					
11	The expected outcomes of each session were clear.					
	INSET MATERIALS	0	1	2	3	4
12	The write-ups and other materials for the INSET were produced in time.					
13	The write-ups and other materials for the INSET were adequate (in quantity).					
14	The write-ups were useful to the participants during the INSET.					
15	The write-ups will be useful to the participants during their ordinary classroom teaching.					
16	The materials procured for the INSET were adequate (in quantity).					
17	The materials procured for the INSET were relevant and useful.					
18	The materials procured for the INSET were appropriate for the purpose of the INSET.					
19	The materials for the INSET were procured in time.					

	DOING	0	1	2	3	4
20	The Secretariat was organised in implementing the INSET.					
21	The facilitators were organised in implementing the INSET.					
22	The facilitators were enthusiastic and professional in implementing the INSET.					
23	Flexibility (ability to adjust plan) was observed during the INSET.					
24	The purpose and expected outcomes of each session were generally achieved.					
25	Tasks were equitably and fairly distributed among the facilitators during the INSET.					
26	During the INSET, necessary information was properly given to the participants in time.					
27	There was a good communication between the Secretariat and each INSET Centre during the INSET.					
28	The use of the room for general sessions (i.e. hall) was appropriate.					
29	The use of the room for subject-based sessions (i.e. classroom) was appropriate.					
30	The use of laboratories was appropriate.					
31	Meals were acceptable to the participants.					
32	The state of accommodation (beds etc.) was acceptable to the participants.					
33	The state of ablution block was acceptable to the participants.					
34	The welfare of the participants was well taken care of.					
	SEEING	0	1	2	3	4
35	The facilitators were sensitive enough to promptly identify the problems during the INSET.					
36	The Secretariat was sensitive enough to promptly identify the problems during the INSET.					
37	There was an appropriate mechanism to identify the problems at the INSET Centre level. (e.g. wrap-up meetings, etc.)					
	IMPROVING	0	1	2	3	4
38	The problems the participants faced were properly handled by the Secretariat.					
39	There was an appropriate mechanism to report the problems to the Secretariat.					
	GENERAL	0	1	2	3	4
40	Willingness and commitment was evident among the Core Trainers.					
41	Facilitators were given enough academic support for the INSET.					
42	Facilitators were given enough administrative support during the INSET.					
43	The INSET was effective for addressing the problems the participants had been facing in their math/science teaching.					
44	The implementation of this INSET was successful.					
<i>Please write freely your thoughts on this INSET.</i>						

2-3 参加者によるセッション評価
(SESSION EVALUATION)

INSET Centre:	Date:	Session Title/Topic:
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Key: 0 – Strongly Disagree; 1 – Disagree; 2 – Not Sure; 3 – Agree; 4 – Strongly Agree

	It was interesting.					It was relevant to my needs.					The involvement of participants was good					Time management was good.				
	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
Plenary																				
Discussion																				
Hands-on activities																				
Peer teaching																				
Feedback on Peer Teaching																				

2-4 参加者による研修後の自己評価¹
(Post INSET Evaluation Instrument by Participants)

INSET Centre: _____

Qualification	B. Ed. or M. Ed.		Subject(s) currently teaching	Biology		Years of teaching experience at Secondary	Less than 3 yrs	
	UCE			Physical Science			3 – 5 yrs	
	Dip. Ed.			Mathematics			6 – 10 yrs	
	MSCE						More than 10 yrs	

The purpose of this questionnaire is to evaluate the INSET participants' opinion on certain aspects of maths/science teaching in their respective schools, before the INSET begins.

Please consider each of the following statements and indicate the response that reflects your opinion about maths/science teaching by ticking (✓) the appropriate column on this sheet.

Key: 0 – Strongly Disagree; 1 – Disagree; 2 – Not Sure; 3 – Agree; 4 – Strongly Agree

Category A						
	<i>"Activities" in this category refer to teachers' teaching modes such as practical work and group discussions.</i>	0	1	2	3	4
1	Including activities in lessons is not time-consuming.					
2	The need to cover the syllabus does not prevent teachers from including activities in their lessons.					
3	Heavy workloads of teachers do not prevent them from including activities in their lessons.					
4	High student/teacher ratio in class does not prevent teachers from including activities in their lessons.					
5	Incorporating activities into lessons helps students enhance their abilities in maths/science.					

Category B						
	<i>"Student-centered teaching" in this category refers to the type of teachers' teaching mode, whereby students are given such opportunities as, to a large extent, to give their own experiences, explain their own ideas, give their predictions, verify the predictions on their own, and evaluate the teachers' lessons.</i>	0	1	2	3	4
6	Apart from teachers, students can be also the source of information on the topic.					
7	Teachers should not fear being asked difficult or challenging questions by students.					
8	Student-centred teaching can be effective regardless of the current abilities of students.					
9	Student-centred teaching can be effective regardless of the current level of motivation of students.					
10	Student-centred teaching is not time-consuming.					
11	The need to cover the syllabus does not hinder student-centred teaching.					
12	The situation where teaching and learning materials are scarce does not hinder					

¹参加者による研修前の自己評価 (Pre INSET Evaluation Instrument by Participants) も同じ評価ツールが使用されている。

	student-centred teaching.					
13	High student/teacher ratio in class does not hinder student-centred teaching.					
14	Full participation of students in lessons does not disrupt class discipline.					
15	Student-centred teaching helps students enhance their abilities in maths/science.					

Category C		0	1	2	3	4
16	Teachers can always predict the results of experiments to a considerable degree.					
17	Teachers should always perform experiments prior to their lessons as part of the preparation.					
18	Experiments should be conducted even if they are not greatly featured in the exams.					
19	The situation where materials and laboratory apparatus are scarce does not prevent teachers from conducting experiments.					
20	High student/teacher ratio in class does not prevent teachers from conducting experiments.					
21	Lack of laboratory structures does not prevent teachers from conducting experiments.					
22	Experiments can still be effectively conducted even if the school does not have laboratory assistants.					
23	Experiments are not time-consuming.					
24	The need to cover the syllabus does not prevent teachers from conducting experiments.					
25	Heavy workloads of teachers do not prevent them from conducting experiments.					
26	Experiments can still be effectively conducted by a teacher without relying much on the full support from school administration.					
27	Experiments can still be effectively conducted by a teacher without relying much on the cooperation among his/her fellow teachers.					
28	Students' carelessness can be reduced by giving more opportunities for experiments.					
29	Students prefer doing experiments rather than being told the results by teachers.					
30	Experiments help students enhance their abilities in maths/science.					

Category D		0	1	2	3	4
31	Improvised equipment/materials can be as effective as conventional ones.					
32	Students can be guided to regard improvised equipment/materials as effective.					
33	Many of the conventional equipment/materials can be improvised in one way or another.					
34	Producing improvised equipment/materials is not time-consuming.					
35	Heavy workloads of teachers do not prevent them from producing improvised equipment/materials.					
36	Effective improvised equipment/materials can be produced without spending much money.					
37	Effective improvised equipment/materials can be produced even where the resources are scarce.					
38	Effective improvised equipment/materials can still be produced by a teacher without relying much on the cooperation among his/her fellow teachers.					
39	The problem of inadequate teaching and learning materials can be addressed by improvisation to a large extent.					

Category E		0	1	2	3	4
40	Lesson plans are for the use of teachers themselves, not of supervisors such as headteachers and SEMAs.					
41	Lesson plans have a number of important features which lesson notes do not have.					
42	Lesson plans need to be prepared even by experienced teachers.					
43	Lesson plans are necessary for not only primary school teachers but also secondary school teachers.					
44	Preparing lesson plans is not time-consuming.					
45	Heavy workloads of teachers do not prevent them from preparing lesson plans.					
46	Lesson planning can still be effectively done without lots of reference books.					
47	Lesson planning can still be effectively done even by the teachers without sufficient content mastery.					
48	Lesson planning can still be effectively done without lots of resources such as notebooks, pens, paper, etc.					
49	In order to teach effectively, teachers must always prepare lesson plans.					

Category F		0	1	2	3	4
50	High student/teacher ratio in class does not prevent teachers from giving assignments to students.					
51	Teachers can give assignments to students in any subjects.					
52	All teachers have something to improve on in their lessons, regardless of experience and qualification.					
53	Accepting the weaknesses is the first step for improving lessons.					
54	Teachers' lessons can be assessed by teachers themselves for their own improvement, not only by supervisors.					
55	Self-assessment can be as effective as external assessment.					
56	Self-assessment is not time-consuming.					
57	Heavy workloads of teachers do not prevent them from assessing their lessons.					
58	Self-assessment can still be effectively done even by the teachers without sufficient content mastery.					
59	In order to teach effectively, teachers must always assess their own lessons for further improvement.					

Thank you for the thought, time and effort you have put into completing this questionnaire!

3. 評価ツール：研修講師能力評価

3-1 研修講師による自己能力評価
(Facilitator Self-Evaluation Checklist)

INSET Centre: _____ Subject: _____

The purpose of this checklist is to self-evaluate the performance of the INSET facilitator during this INSET.

Please consider each of the following statements and indicate the response that reflects your opinion about your performance by ticking (✓) the appropriate column on this sheet.

Key: 0 – Not at all; 1 – A little; 2 – Fairly adequately; 3 – Adequately; 4 – To a great extent

		0	1	2	3	4
1	I did properly the task I was allocated for the INSET preparation.					
2	The adaptation of the write-ups was done properly so that they suited well in Malawian context.					
3	I included enough materials for utilising participatory approach (activity guides, worksheets, etc.) in my write-ups.					
4	I prepared enough relevant/appropriate improvised materials for my sessions.					
5	I prepared the write-ups properly in time (by the deadline).					
	I had enough rehearsals for my sessions.					
6	The write-ups I prepared were adequate (in quantity).					
7	The write-ups I prepared were relevant and useful.					
8	The write-ups I prepared were appropriate in relation to the purpose of the INSET.					
9	The quality of the write-ups I developed was high.					
10	I distributed the training materials to the participants adequately.					
11	I used the training materials effectively (i.e. to achieve intended objective).					
12	I used the training materials efficiently (i.e. economic use).					
13	The improvised materials I prepared were relevant to the participants.					
14	The improvised materials I prepared were effective for my sessions.					
15	My sessions were interesting to the participants.					
16	My sessions were relevant to the needs of the participants.					
17	I was fully conversant with the contents of my sessions.					
18	I was focused during my sessions.					
19	I guided group activities well.					
20	I interjected at the right time during my sessions (e.g. to keep the groups focused, etc.)					

21	I kept good eye contact on participants.					
22	The quality of participation (of the participants in my sessions) was high.					
23	Participatory approach was frequently used during my sessions.					
24	I included variety of activities (hands-on, minds-on, presentations etc.) during my sessions.					
25	I used the suitable size of groups for the group activities.					
26	I used visual aids effectively for my sessions.					
27	I was punctual during the INSET.					
28	During the whole INSET, I managed time well.					
29	I managed late-coming and absenteeism of the participants properly.					
30	Sessions were smoothly carried out as planned.					
31	Adjustment of the plan was properly made during the INSET where necessary.					
32	I maintained good relationship between myself and other facilitators					
33	I maintained good relationship between myself and the INSET participants.					
34	I maintained good relationship between myself and the support staff.					
35	There was a good teamwork among the facilitators at our INSET Centre.					
36	Good leadership was observed at our INSET Centre.					
37	Workload was equitably distributed among the facilitators at our INSET Centre.					
38	Registers for participants were kept neatly at our INSET Centre.					
39	Records during the INSET (group discussion reports, minutes of discussions, etc.) were kept neatly at our INSET Centre.					
40	Daily evaluation reports were kept properly at our INSET Centre.					
41	The inventory of equipment, apparatus and other training materials for the INSET Centre was properly maintained at our INSET Centre.					
42	I gave proper advice to the participants who came to report problems.					
43	I suggested to the Secretariat suitable actions for solving problems during the INSET where necessary.					
44	Overall, I played my role as a facilitator satisfactorily during this INSET.					
<i>Please write freely your comments on your performance as a facilitator during this INSET.</i>						

**3-2 プロジェクト M&E チームによる「研修講師能力評価」
(Ability of Divisional Trainers Checklist)**

The purpose of this checklist is to evaluate the performance of the facilitators

INSET Centre: Name of Facilitator:

Subject Date:

Topic

Time:

Observer and Designation

.....

Key: 0 – Not at all; 1 – A little; 2– Fairly adequately; 3 – Adequately; 4 – To a great extent

	Areas Observed	Rating Scale					Comments
		0	1	2	3	4	
1	Introduction						
	Facilitator clearly stated objectives, rationale, and session flow/plan.						
2	Development						
	Challenging areas – Facilitator give special attention to definition and understanding of terms in the challenging areas.						
	Content knowledge – Facilitator has enough content mastery of their sessions						
	Preparation – Facilitator prepared facilitation fully (not reading write-up only.						
	Facilitation – Facilitator involves participants fully to develop the sessions (ask questions, accept/respect and summarise the views.						
	Sharing of experiences in groups – Facilitator assists in the formulation of groups, clearly define group tasks, closely monitor the progress of group activities and give advice.						
	Reporting of group activities – Facilitator guides participants during reaction time, interjects while commenting about some of the issues						
	Practical activities – Facilitator includes hands-on/minds-on activities, giving of clear instructions, allocation of time, relevance and adequacy of materials, checking/assisting participants and bridging of outcomes/results of the activities to the relevant concepts.						

	Lesson planning – Facilitator assists how to design ASEI lesson with close monitoring the progress of lesson development.						
	Peer teaching and feedback on peer-teaching – Facilitator handles issues related to errors, misconceptions, weaknesses, strengths and areas of improvement. It is also important to check on general lesson management and how the facilitator consolidates reactions from the participants						
3	Conclusion/Summary						
	Summary of main ideas with respect to purpose/objectives of the session, a highlight of weaknesses and strengths during session facilitation and encouragement to implement all the skills and knowledge learnt.						
4	Quality of write-up						
	Contents of the write-up are relevant and useful for the participants						
5	Over all						
	Facilitator manages time efficiently.						
	Facilitator use materials (visual aid, equipment, etc) effectively.						
	Facilitator is enthusiastic and professional in implementing the session						

4. 評価ツール : ASEI/PDSI チェックリスト

SMASSE INSET MALAWI LESSON OBSERVATION CHECKLIST

Name of Monitor _____ Date _____ School _____ District _____

Name of Teacher Observed _____ Class _____ Subject _____ Topic _____

KEY: 0 – Not At All; 1 – A Little; 2 – Average; 3 – Adequately; 4 – A Great Deal; N/A – Not Applicable

Attitude		0	1	2	3	4	N/A
1	Did the teacher appear to be enjoying the teaching?						
2	Was the teacher sympathetic to the problems/needs of each student?						
3	Did the teacher exercise patience with students?						
4	Was the teacher gender-sensitive?						
Activity		0	1	2	3	4	N/A
5	Did the teacher incorporate appropriate activities for students into the lesson?						
6	Did the teacher successfully engage students in the activities?						
7	Did the activities arouse students' interests?						
8	Were the activities meaningful for enhancing students' understanding?						
9	Did the teacher give students appropriate tasks for discussions?						
10	Did the teacher relate activities to theories/concepts clearly?						
Student-Centred		0	1	2	3	4	N/A
11	Did students do something to show the whole class or the group?						
12	Did students give their prior experiences or explain their ideas related to the content?						
13	Did students come up with their own predictions/suggestions for concepts/theories/rules/methods etc. in the lesson?						
14	Did students discuss the difference in their own predictions/suggestions?						
15	Did students verify their predictions/suggestions on their own?						
16	Did students present their own observations/results of their activities?						
17	Did students discuss the differences in their observations/results of their activities?						
18	Did the teacher summarise the activities by giving clear explanation?						
19	Did students evaluate the lesson?						
Experiments (i.e. Activities to Verify the Predictions/Suggestions of the Students)		0	1	2	3	4	N/A
20	Was an experiment conducted?						
21	Did students deduce theories/concepts from the experiment?						
22	Did the teacher relate experiments to theories/concepts clearly?						

Improvisation		0	1	2	3	4	N/A
23	Did the teacher simplify methods for activities, in consideration of efficient resource use?						
24	Did the teacher utilise materials available in students' local environment?						
25	Did the teacher use improvised equipment/materials for activities?						
Planning		0	1	2	3	4	N/A
26	Did the teacher prepare a lesson plan?						
27	Was the lesson presentation well organised (not in a haphazard way)?						
28	Did the teacher prepare appropriate materials for students' use?						
Seeing		0	1	2	3	4	N/A
29	Was the teacher paying attention to the progress of students during class work?						
30	Was the teacher keeping good eye contact?						
31	Did the teacher invite questions from students in the course of the lesson?						
32	Did the teacher ask the questions to check the level of students' understanding?						
Improving		0	1	2	3	4	N/A
33	Did the teacher rephrase questions/instructions where necessary?						
34	Did the teacher give further guidance to students on activities?						
35	Did the teacher adjust the lesson where necessary?						
36	Was the teacher able to indicate some points to improve?						
<u>General Comments:</u>							

**ASEI/PDSI チェックリストの評価視点
(Interpretation Table)**

Attitude		Interpretation
1	Did the teacher appear to be enjoying the teaching?	This is rated on impression that the teacher gives to the observer, it includes how the teacher looks prepared for the lesson, how he/she starts the lesson and how confident he/she is throughout the lesson.
2	Was the teacher sympathetic to the problems/needs of each student?	This is rated on how the teacher takes care and handles the need for each student from the beginning of the lesson until the end. Eg. Teacher accepting students' misconceptions and trying clear them.
3	Did the teacher exercise patience with students?	This is rated on how the teacher handles slow learners, students' misconceptions and the use of T/L materials by all the students. How long does the teacher wait after posing a question to students? Eg. A teacher allowing more time for students to do an activity where they are struggling.
4	Was the teacher gender-sensitive?	This is rated on how the teacher involves all students regardless of their sex, it could also be rated from examples that the teacher selects. This is applicable even in a single sex class.
Activity		
5	Did the teacher incorporate appropriate activities for students into the lesson?	This is rated using the availability/presence of appropriate activities in a lesson, clarity of instructions used and level of students.
6	Did the teacher successfully engage students in the activities?	This is rated on how the teacher engages the students in the lesson, does the activity make the students think and how does the teacher use students thoughts, ideas, responses, suggestion in making them understand the concepts.
7	Did the activities arouse students' interests?	This rated on how eager students are to do the activity; it could be evidenced by how curious students are in answering questions, the numbers of questions they ask, time they take to finish the activity. Whether they taking notes or not. Discuss with their friends.
8	Were the activities meaningful for enhancing students' understanding?	This is rated on how the activity can lead to the development of the concept. By the students themselves as they do the activity.
9	Did the teacher give students appropriate tasks for discussions?	This is rated on clarity of instructions that would initiate discussions.
10	Did the teacher relate activities to theories/concepts clearly?	This is rated on how the teacher bridges the activities to the concept/theory.
Student-Centred		
11	Did students do something to show the whole class or the group?	This is rated from the interaction among students in a class when carrying out activities, how they share what they are doing/thinking or have done/thought to each other: it could be through presenting what they have to the whole class, groups, pairs. It should be noted that when a student responds to a question to a teacher is showing what s/he thinks to the whole class.
12	Did students give their prior experiences or explain their ideas related to the content?	This is rated on whether students are given chance to explain the experiences that they have from either the previous lesson or their daily life that are related to the concepts that they are going to learn in a lesson

13	Did students come up with their own predictions/suggestions for concepts/theories/rules/ methods etc. in the lesson?	This is rated on how students express their thoughts on what they think about the concepts/theories/rules they are going to learn. Are students given chance to make suggestions/predictions for theories/concepts/rules/ definitions/methods before they carry out the activity that leads to the development of the concepts.
14	Did students discuss the difference in their own predictions/suggestions?	This is rated according to how the students explain their suggestions /predictions for rules/methods/definitions that they make before they do the activity/experiment.
15	Did students verify their predictions/suggestions on their own?	This is rated by looking at whether the students conduct an activity to verify their suggestions/predictions on their own.
16	Did students present their own observations/results of their activities?	This is rated on how students present and explain their results to others clearly.
17	Did students discuss the differences in their observations/results of their activities?	This is rated on how the students discuss the results found from their activities. Are students given chance to compare their findings/results and does it assist them in understanding the concepts?
18	Did the teacher summarise the activities by giving clear explanation?	This is rated on how the teacher summarises the students' findings from the activities, how the teacher handles or correct students' misconceptions.
19	Did students evaluate the lesson?	This rated on whether students are given chance to rate the lesson: This could be done by asking what they have learnt in the lesson, which areas did the students understand and it was more challenging.
Experiments (i.e. Activities to Verify the Predictions/Suggestions of the Students)		
20	Was an experiment conducted?	This is rated on whether an appropriate experiment was conducted. It should be noted that experiment could be conducted even in Maths lessons (This is where students predict/suggest and verify.
21	Did students deduce theories/concepts from the experiment?	This rated on whether students are able to deduce theories/concepts from the experiment.
22	Did the teacher relate experiments to theories/concepts clearly?	This is rated on how the teacher bridges the experiment to the concept/theory.
Improvisation		
23	Did the teacher simplify methods for activities, in consideration of efficient resource use?	This is rated on how the teacher puts effort to simplify methods or Teaching & Learning materials used in the lesson. It rates how efficient the teacher uses the methods and resources. Eg. Use of chemicals in smaller quantities.
24	Did the teacher utilise materials available in students' local environment?	This rates the teaching and learning using locally available resources (TALULAR) - these are the materials that students interact with in daily life.
25	Did the teacher use improvised equipment /materials for activities?	This rates the use of materials when conventional materials are not available, use of conventional equipment for purposes they were not intended.

Planning		
26	Did the teacher prepare a lesson plan?	This checks the availability of a lesson plan.
27	Was the lesson presentation well organised (not in a haphazard way)?	This rates the flow of the lesson from introduction, development of the lesson to conclusion.
28	Did the teacher prepare appropriate materials for students' use?	This rates the materials used, can they assist to achieve the objectives, are they appropriate for a particular level of students, are they safe for students, do they attract students interest?
Seeing		
29	Was the teacher paying attention to the progress of students during class work?	This rates on how the teacher checks on the students' learning. This could be by asking questions, guiding students individually, in groups or pairs as they are carrying out the activities.
30	Was the teacher keeping good eye contact?	This rates on how the teacher checks the behaviour of each student in a lesson, to involves all students.
31	Did the teacher invite questions from students in the course of the lesson?	This rates on how often the teacher gives opportunity to students to ask questions at every step in the lesson.
32	Did the teacher ask questions to check the level of students' understanding?	This rate on the type of questions that the teacher asks to check students' understanding. Does the teacher ask questions in the course of the lesson (Formative evaluation) and after the lesson (summative evaluation)
Improving		
33	Did the teacher rephrase questions /instructions where necessary?	This checks on whether the teacher makes efforts to improve on the instruction/questions/methods/procedure to make students understand in the lesson.
34	Did the teacher give further guidance to students on activities?	This is rated on how a teacher helps groups, class and individuals to understand what they are supposed to do in the activities.
35	Did the teacher adjust the lesson where necessary?	This is rated on how the teacher changes some of the components of the lesson or the whole lesson altogether with the aim of making students understand.
36	Was the teacher able to indicate some points to improve?	This rates the quality of the teacher's self-evaluation that can assist in improving the lesson.
General Comments:		

5. 評価ツール : Evidence Form 1

School name:	Teacher's name:
Number on roll:	Form:Date.....
Lesson subject:	Number in class: (F)..... (M).....Total.....
Lesson topic:	Age range: Youngest.....Oldest.....
Time: from..... To.....	Inspector's name:
Lesson objectives:-	
	<input type="text"/>
Teaching	
	<input type="text"/>
Learning	
	<input type="text"/>
Attainment	
	<input type="text"/>
Pupil's attitude and behaviour	
	<input type="text"/>
Assessment	
	<input type="text"/>
Resources	
	<input type="text"/>
Overall grade based on teaching, learning and attainment	
	<input type="text"/>

Key: 1=Very good 2=Good 3=Satisfactory 4=Barely Satisfactory 5=Unsatisfactory

Evidence Form 1 の評価視点

<p>Prompt sheet</p> <p>This sheet is intended to help inspectors when observing classes during an inspection. Whenever possible inspectors should note either positive (+) or negative (-) examples of these features. If the feature in the class being observed is neither (+) nor (-) then do not waste the space mentioning it. Inspectors should try to comment on as many features under each heading as possible. Remember the features you cite may be used as examples in the final report. Make sure that the comments you make match the grade you award under each section.</p>	
<p>Teaching</p> <ul style="list-style-type: none"> • Effectiveness of planning • Introduction & sequence of content • Use of basic teaching skills • Appropriateness of methods • Level of subject knowledge • Understanding of pupils' needs 	<ul style="list-style-type: none"> • Effectiveness of resource use • Achievement of lesson objectives • Class management and control • Assessment and feedback • Promotion of home study • Language used
<p>Learning</p> <ul style="list-style-type: none"> • acquire new knowledge or skills, develop ideas, increase understanding; • show interest, work productively at good pace, apply effort, learn for themselves; • follow instructions and ask pertinent questions; • sustain concentration, understand how well they have done and how they can improve; • work in books shows development over time. 	
<p>Attainment</p> <ul style="list-style-type: none"> • what do children know? How does this compare with what they ought to know (as in syllabuses); • what can children do and how does this compare with what they ought to be able to do; • what do children understand and how does this compare with what they ought to understand; • want attitudes to learning do they have and how do they compare with what they ought to have; • look for strengths and weaknesses in knowledge, skills, understanding, attitudes; • any variations in attainment between boys and girls. 	
<p>Pupils' attitudes and behaviour</p> <ul style="list-style-type: none"> • pupils' attentiveness and interest in the lesson; • appropriateness of teacher's behaviour towards pupils; • appropriate attitude of pupils towards teacher; • willingness to take responsibility; • degree of pupil participation. 	
<p>Education For All (Inclusion)</p> <ul style="list-style-type: none"> • classroom environment physical; • classroom atmosphere: equal respect for all; • special educational needs; • gender issues; • readiness for standard and age; • others. 	
<p>Remarks</p>	
<p>Overall grade</p>	

