

**エチオピア連邦民主共和国
農民支援体制強化計画
終了時評価調査報告書**

平成 24 年 6 月
(2012年)

独立行政法人国際協力機構
農村開発部

農村
JR
12-051

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序 文

独立行政法人国際協力機構（JICA）は、エチオピア連邦民主共和国からの要請に基づき、2004年7月より5年間の計画で技術協力プロジェクト「農民支援体制強化計画」を開始しました。

今般、プロジェクトのこれまでの実績及び実施プロセスを評価5項目の視点に基づいて総合的に評価し、課題への対応に関する提言と今後への教訓の抽出を行うことを目的として、2009年1月10日から30日の21日間にわたって終了時評価調査団が派遣されました。調査団はエチオピア連邦民主共和国政府関係者とともに入評価調査結果及び提言・教訓を合同評価報告書に取りまとめました。

本報告書は、その結果を取りまとめたものであり、他のプロジェクトを含め、プロジェクトの運営に広く活用されることを望むものです。ここに、終了時評価調査にあたってご協力を頂いた内外関係者の方々に、改めて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する次第です。

平成24年6月

独立行政法人国際協力機構
農村開発部長 熊代 輝義

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実績評価ワークショップ①



実績評価ワークショップ②



農民研究グループ（FRG）農家と
試験圃場



FRG 農家からの活動内容の説明



FRG 農家からのヒアリング



合同評価報告書署名

略 語 表

略語	英文名	和訳
ATARC	Adami Tulu Agricultural Research Center	アダミツール州立農業試験場
BPR	Business Process Re-engineering	ビジネスプロセス・リエンジニアリング
C/P	Counterpart	カウンターパート
DA	Development Agent	普及員
EARO	Ethiopian Agricultural Research Organization	エチオピア農業研究機構（EIAR の前身）
EIAR	Ethiopian Institute of Agricultural Research	エチオピア農業研究機構
FRG	Farmer Research Group	農民研究グループ
FTC	Farmer Training Center	農民トレーニングセンター
JICA	Japan International Cooperation Agency	国際協力機構
MARC	Melkassa Agricultural Research Center	メルカサ連邦農業試験場
MoARD	Ministry of Agriculture and Rural Development	農業農村開発省
MoFED	Ministry of Finance and Economic Development	財政経済開発省
OARI	Oromia Agricultural Research Institute	オロミア州農業研究局
PASDEP	Plan for Accelerated and Sustained Development to End Poverty	貧困削減のための加速的かつ持続可能な開発計画
PDM	Project Design Matrix	プロジェクト・デザイン・マトリックス
PRSP	Poverty Reduction Strategy Paper	貧困削減戦略文書
RCBP	Rural Capacity Building Project	農村能力構築プロジェクト
R/D	Record of Discussions	討議議事録
TICAD	Tokyo International Conference on African Development	アフリカ開発会議

終了時評価調査結果要約表

1. 案件の概要	
国名：エチオピア連邦民主共和国	案件名：農民支援体制強化計画
分野：農業一般	援助形態：技術協力プロジェクト
所轄部署：JICA農村開発部	協力金額（評価時点）：約5億3,000万円
協力期間	(R/D)：2004.7.16～2009.7.15
	先方関係機関（監督機関/実施機関）： エチオピア農業研究機構（EIAR）/メルカサ連邦農業試験場（MARC） オロミア州農業研究局（OARI）/アダミツール州立農業試験場（ATARC）
	日本側協力機関：なし
他の関連協力：技術協力プロジェクト「灌漑農業改善計画」、技術協力プロジェクト「ベレテ・ゲラ参加型森林管理計画プロジェクト・フェーズ2」	
<p>1-1 協力の背景と概要</p> <p>エチオピア連邦民主共和国（以下、「エチオピア」と記す）における農業は、国内生産の約50%、就業人口の85%を占める重要産業であり、エチオピアの貧困削減戦略文書（PRSP）である「貧困削減のための加速的かつ持続可能な開発計画」（PASDEP）においても、優先分野とされている。エチオピアでは長年にわたる食料不足の危機に瀕しており、農産物の97%を生産する小規模農家が、改善された技術を導入することによって、農業生産性を向上することが極めて重要である。そのためエチオピア農業研究機構（EIAR）は、農民にとって適用が容易な農業技術を農民参加の下に開発することを目的とし、1990年代後半から農民研究グループ（FRG）アプローチ（農民と研究者、そして普及員が共同して、農業技術の開発と改善を試みる研究アプローチ）を導入している。しかし、従来の活動はトップダウン式中心のため農民の要望を十分にくみ上げることができていなかったため、エチオピア政府は2003年に農民参加による技術開発体制の確立と適正技術普及体制の強化を目的とした技術協力を我が国に要請した。</p> <p>このような背景の下、技術協力プロジェクト「農村支援体制強化計画」（2004年7月～2009年7月）は4つの関係機関、すなわち研究全体の調整機関としてのEIAR、エチオピアにおける穀倉地帯であるオロミア州の行政機関としての州農業研究局（OARI）、研究機関としての連邦メルカサ農業試験場（MARC）とオロミア州立アダミツール農業試験場（ATARC）をカウンターパート（C/P）機関として、協力が開始された。</p>	
<p>1-2 協力内容</p> <p>(1) 事業目的</p> <p>エチオピアの農民が抱えている課題解決を図るため、農民の参加による研究活動・技術開発を行っていくための方策と体制を確立することを目的とする。</p> <p>(2) 上位目標</p> <ol style="list-style-type: none"> 1. 対象FRG農家の生計が向上する。 2. 対象地域の主要作物の生産量が増加する。 3. FRG体制が他試験場において活用される。 	

(3) プロジェクト目標

東ショワ・ゾーンにおいて、研究・普及の主要な手法の一つの核として、FRGアプローチが確立する。

(4) 成果

1. FRGガイドラインが策定される。
2. 農家のニーズと能力に見合った適正な技術が開発、もしくは改善される。
3. FRGアプローチの普及コンポーネントが改善される。
4. 関係者間の連携が強化される。
5. FRGアプローチの経験と教訓が発表される。

(5) 投入（評価時点）2009年1月現在

1) 日本国側

総投入額	約5.3億円（評価時点）
長期専門家派遣	延べ4名（3名体制）
短期専門家派遣	延べ16名（約27人月）
研修員受入れ	本邦研修31名（90人月）、第三国研修34名（10人月）
機材供与	約36,419千円
ローカルコスト負担	約100,903千円

2) エチオピア側

C/P配置	延べ13名
施設/機材提供	専門家執務室、車両、事務機器
ローカルコスト負担	約4,890千円

2. 評価調査団の概要

調査者	（担当分野・氏名・職位）		
	団長・総括	星 弘文	JICA農村開発部乾燥畑作地帯第一課 課長
	評価・分析	柿沼 潤	(株)アースアンドヒューマンコーポレーション 研究員
	計画管理	浅野 誠三郎	JICA農村開発部乾燥畑作地帯第一課 職員
調査期間	2009年1月10日～1月30日		評価種類：終了時評価

3. 評価結果の概要

3-1 実績の確認

3-1-1 各成果の実績

成果1：FRGガイドラインが策定される。

成果1は協力期間終了までに十分に達成見込みである。

指標1：FRGガイドラインの最終版が完成する。

(1) FRGガイドラインは2005年に草案が作成されて以来、数次の検討が重ねられてきている。

(2) 2009年3月には最終版についてのワークショップの開催が予定されており、その結果を踏まえ、2009年5月に最終版が完成予定である。

成果 2：農家のニーズと能力に見合った適正な技術が開発、もしくは改善される。

成果 2 は十分に達成されている。

指標 2-1：開発、もしくは改善された技術の 80% が、各 FRG 活動が開始されてから 3 年以内に、FRG 農家の 60% 以上に採用される。

指標 2-2：農民の 50% 以上が、技術に非常に満足している。

(1) 開発、もしくは改善された技術のうち 83% が有効な技術として、FRG 農家の 85% に採用されている。

(2) FRG 農家の 98% が FRG 活動に満足している。

成果 3：FRG アプローチの普及コンポーネントが改善される。

成果 3 は部分的に達成されている。

指標 3-1：普及活動に参加した非 FRG 農家の人数が、全 FRG 農家の 10 倍に達する。

指標 3-2：FRG 農家によるデモンストレーション、フィールド・デイ、農民研修のそれぞれが、毎年少なくとも 1 回は実施される。

指標 3-3：普及員のサービスのタイプ・頻度が改善する。

指標 3-4：終了した研究課題、そして/もしくは技術ごとに 1 つ以上の普及教材が作成される。

(1) 対象技術により、FRG 農家数の 20 倍の非 FRG 農家が普及活動に参加した場合もあった。技術によって取り入れることが想定される農家数の規模に違いがあるためばらつきが生じる。

(2) FRG 農家の圃場等でのデモンストレーション、フィールド・デイが定期的に行われ、これまでに 1,693 名の農家に参加している。

(3) 324 名の普及員 (DA) が研修を受講し、絵図を用いた普及方法などが実践された。一方、普及員は多くの業務を抱えているため、頻度を高めることには限外があることが確認された。

(4) 普及教材開発委員会が設立され、これまでに 2 回開催されているほか、FRG40 課題について普及教材作成が進められている。

成果 4：関係機関の連携が強化される。

成果 4 は部分的に達成されている。

指標 4-1：すべての関係機関が FRG 活動にかかわりをもつ。

指標 4-2：関係者間の連携形態が拡大する。

指標 4-3：関係機関の 80% 以上が連携関係に満足する。

(1) FRG 農家、研究者、州農業局関係者、普及員、非 FRG 農家が研究・普及の部分で FRG 活動にかかわった。

(2) 農民・研究者・普及員がプロジェクトで実施する研修やミーティングに参加したことに加え、NGO や企業などとも連携が図られた。

(3) 世銀の支援を受けている他州の研究所関係者がFRGプロジェクトの視察を行った。

成果5：FRGアプローチの経験と教訓が発表される。

成果5は十分に達成されている。

指標5-1：プロジェクト終了までに文書が出版される。

指標5-2：5つの論文が発表される。

(1) 研究目録、研究報告書、ガイドライン等が出版された。

(2) 10本の論文が発表された。

3-1-2 プロジェクト目標の達成状況

プロジェクト目標：東ショワ・ゾーンにおいて、研究・普及の主要な手法の一つの核として、FRGアプローチが確立する。

指標1：良好に機能しているFRGの数が、FRGの70%まで増加する。

指標2：FRG農家の対象作物の生産量が15%増加する。

指標3：FRG農家の対象作物の生産性が15%増加する

指標4：対象FRG農家周辺で新たに開発、もしくは改良された技術を採用する農家の数が増加する。

協力期間終了までに、プロジェクトの目標はおおむね達成する見込みである。指標ごとの達成状況・今後の見込みは以下のとおりである。特に、指標2及び指標3の増加がめざましいが、その背景には改良種子の導入や灌漑の実施などがあると思われる。

(1) 指標1：多くのFRGが機能しているが、研究対象の作物やテーマが多様であり、その機能のレベルも大きな違いが確認された。良好に機能している事例としては、あるFRGの結果が試験場を通じて他のFRGへ反映されているケースが確認された。

(2) 指標2：次のとおりめざましい伸びが確認された（いずれも2007年/2004年の生産量の比）。テフ225%、メイズ479%、インゲンマメ203%、タマネギ242%、トマト336%、トウガラシ137%。

(3) 指標3：次のとおりめざましい伸びが確認された（いずれも2007年/2004年の土地生産性の比）。テフ133%、メイズ210%、インゲンマメ150%、タマネギ185%、トマト335%、トウガラシ295%。

(4) 指標4：FRG農家数の5倍以上の農家が新しく開発、もしくは改良された技術を導入していた。

3-2 評価結果

3-2-1 妥当性：妥当性は高い。

本プロジェクトは国家開発計画「PASDEP 2005/06-2009/10」に明記されている新しい技術の開発、普及サービスの改善に向けた取り組みを支援するものである。また、我が国のエチオピア国別援助計画・TICAD IV横浜行動計画とも高い整合性を有する。加えて、FRGアプローチの導入は実施機関及び研究者、農家のニーズと合致することが確認された。

3-2-2 有効性：有効性は高い。

主な活動は計画通り実施され、各成果はプロジェクト目標達成に貢献した。つまり、必要な手法をガイドラインとして取りまとめ（成果1）、その有効性をプロジェクトでの実践として示す（成果2）とともに、研究部門と普及部門の協働を可能ならしめ（成果2、3）、プロジェクト終了後に形式知として残す（成果5）という構想が功を奏しているといえる。また、FRGアプローチはプロジェクト実施機関の核となるMARC及びATARCで公認されている。

3-2-3 効率性：C/Pの交代が生じたものの、プロジェクト目標の達成を阻害するには至らなかった。

日本側及びエチオピア側からの投入は、量・質・時期ともに計画通り行われた。また、C/Pの交代がプロジェクトの円滑な実施に影響を及ぼしているとのことが確認されたものの、効率性を阻害するには至っていない。また、プロジェクトの関係者が必ずしもすべての技術開発活動においてモニタリングとフォローアップを行うことができなかった。この点は、関係者の取り扱える適切な件数の開発活動を見極める必要があったと判断される。

3-2-4 インパクト：多くの正のインパクトが確認された。

対象FRG農家の生計向上、FRGアプローチの拡大に向けて他州の農業試験場との情報・経験の共有がなされるなどの正のインパクトが確認された。他方でプロジェクトがもたらした負のインパクトは確認されなかった。

3-2-5 持続性

(1) 財政的側面

エチオピア政府はこれまでプロジェクト事務所の光熱費等を負担してきたが、FRG研究活動費用の多くは日本側が負担してきた。今後はこれら経費の財源を独自に確保する必要がある。一方、農業農村開発省（MoARD）/世銀の農村能力構築プロジェクト（RCBP）によりFRGアプローチは今後全国レベルで普及される予定であるほか、農業試験場レベル・農家レベルともに本プロジェクトの効果が認識されていることから、今後プロジェクトの効果の広がりが期待される。

(2) 組織的側面

FRGアプローチを形成する主な要素である学際研究チーム及び農民主導による研究は、現在進行中の公務員改革（BPR）の基本原則に含まれていることから、FRGアプローチを維持発展させるための支援が今後期待される。

(3) 技術的側面

FRGアプローチはプロジェクト関係者によって明確に理解されている。また、当初プロジェクトに直接かかわっていなかった研究者も、FRGアプローチを認識し導入し始めている。技術的には今後ともMARCやATRACにおいて活用され続けるものと思われる。

3-3 効果発現に貢献した要因

- (1) 本プロジェクトはエチオピア政府の4つの関係機関（EIAR、OARI、MARC、ATARC）がそれぞれの役割を十分意識するとともに、各機関の連携の場所として「参加型研究」を位置づけることで求心力を保つことができたことが、効果発現に大きく貢献した。
- (2) 農民自身も、FRG農家として技術開発に参加する一団と、非FRG農家としてその後技術を学ぶ一団というように、関心の度合いに応じて関与の程度を選ぶことができ、普及方法の選択肢を示すことができたことが効果発現に貢献した。

3-4 問題点及び問題を惹起した要因

- (1) 研究者の基礎的能力が不十分であった。すなわち、研究計画の作成や実験データの収集方法に問題がみられ、そうした点から指導を始める必要があったため、FRGアプローチへの取り組み開始まで時間を要することになった。
- (2) 普及員の交代が頻繁に発生し、FRG活動の進捗や関係者間での連携に影響を及ぼした。

3-5 結論

- (1) 本プロジェクトはエチオピア政府の政策及び日本の援助政策と合致している。
- (2) 各投入も計画通りに実施され、協力期間終了までにプロジェクト目標及び各成果はおおむね達成される見込みである。また、プロジェクトの活動の結果として正のインパクトが発現している。一方、財政的な持続性に関しては、今後エチオピア政府が一層の配慮を行う必要がある。
- (3) 上記のことから、当初の計画通り、2009年7月をもって本プロジェクトは終了することが適切だと結論づけられる。

3-6 提言

- (1) **FRG活動の総括責任者の任命**
各研究機関はFRG活動を主体的に継続するための責任者を任命すべきである。
- (2) **FRG活動へのエチオピア政府による予算措置**
各研究機関は、既存予算もしくは新規予算の一部をFRG活動に充当すべきである。
- (3) **市場を意識したFRG活動**
農産物の市場価格は変動するため、技術開発の過程においても市場を意識すべきである。
- (4) **普及教材の増刷・配布とエチオピア政府による予算措置**
本プロジェクトで作成した普及教材は関係機関から高い評価を受けていることから、増刷・配布の予算措置を行うべきである。
- (5) **JICAによる“Farmer Research Group”と世銀による“Farmer Research Extension Group”の整理**
エチオピア政府は、両ドナーの支援によるプロジェクトで使用している名称の統一と考え方の整理を行い、無用の混乱を回避すべきである。

3-7 教訓

本プロジェクトでは、研究を担う機関をC/Pとしているが、成果の一部には普及まで含まれている。研究部門は普及部門と連携してその活動を行うのが望ましく、このプロジェクトでも普及を視野に入れた技術開発を行ってきた。しかしながら、プロジェクトが連携を行ってきた組織の中には普及部門の組織も含まれており、プロジェクト実施の過程で、関係者間で「研究」と「普及」についての理解が十分共有されてこなかった面がある。こうした点は、プロジェクト開始の早い段階で「研究」部門と「普及」部門の関係者間で十分理解を深める必要があったと思われる。

第1章 終了時評価調査の概要

1-1 調査団派遣の経緯

エチオピア連邦民主共和国（以下、「エチオピア」と記す）における農業は、国内総生産の52.3%、就業人口の85%を占める重要な産業であり、第二次国家開発5カ年計画及び貧困削減戦略文書（Poverty Reduction Strategy Paper : PRSP）においても優先分野とされている。エチオピアでは長年にわたる食料不足の危機に瀕しており、農産物全体の97%を生産する小規模農家が改善された技術を導入することによって、農業生産性を向上することが極めて重要である。そのためエチオピア農業研究機構（Ethiopian Institute of Agricultural Research : EIAR）は、農民が適用できる技術を農民参加の下に開発することを目的とし、1990年代後半から農民研究グループ（Farmer Research Group : FRG）アプローチ（農民と研究者、そして普及員が共同して、農業技術の開発と改善を試みる研究アプローチ）を導入している。しかし、従来のFRG活動はトップダウン式が中心のため、農民の要望を十分にくみ上げることができていない。そのためエチオピア政府は2003年に農民参加による技術開発体制の確立と適正技術普及体制の強化を目的とした技術協力を我が国に要請した。

このような背景の下、技術協力プロジェクト「農民支援体制強化計画」（2004年7月～2009年7月、以下「本プロジェクト」と記す）は、EIAR、オロミア州農業研究局（Oromia Agricultural Research Institute : OARI）、メルカサ連邦農業試験場（Melkassa Agricultural Research Center : MARC）、アダミツール州立農業試験場（Adami Tulu Agricultural Research Center : ATARC）をカウンターパート（Counterpart : C/P）機関として協力が開始され、現在3名の日本人長期専門家（チーフアドバイザー/制度構築、農業普及/適正技術、業務調整/人材育成）を派遣中である。本プロジェクトは、①FRG体制の指針策定、②農業技術の改善、③普及活動の改善、④関係者（研究－普及－農民）間の連携強化を通じ、「研究・普及手法の一つの核としてFRGアプローチが対象地域（東ショア・ゾーン）において確立されること」を目標に各活動を実施している。

2007年1月に中間評価調査が実施され、その時点までの実績、計画に対する達成度、そして評価5項目の観点から評価が行われた。同調査においては計画に対する成果の達成度に若干の遅れが生じていることが指摘されたものの、協力期間後半の活動に重大な支障を与える問題はなく、協力期間内にプロジェクト目標は十分に達成されるものと結論がなされている。

今般、プロジェクトが協力期間終了まで半年に至ったことから、「1-2」の調査団派遣の目的の下、終了時評価調査団（以下、「本調査団」と記す）を派遣することになった。

1-2 調査団派遣の目的

本調査団の派遣の目的は下記のとおりである。

- (1) プロジェクトの開始から現在までの実績と計画達成度を確認するとともに、評価5項目（妥当性、有効性、効率性、インパクト及び持続性）に沿って、日本側・エチオピア側双方で総合的に評価する。
- (2) 評価結果に基づき、残存協力期間の活動計画を明確にするとともに、その結果を両国政府関係者に報告・提言する。

(3) 今後、類似案件が実施される場合に、その案件を効率的に立案・実施するために、本協力の実施による教訓を取りまとめる。

1-3 調査団の構成と調査日程

1-3-1 調査団の構成及び担当分野

本調査団は下記のメンバーから構成された。また今回はエチオピア政府側との合同評価の方式を取ったことにより、エチオピア側評価団員も本調査に参団した。

〈日本側評価団員〉

	担当分野	氏名	所属
1	総括	星 弘文	JICA農村開発部 乾燥畑作地帯第一課 課長
2	計画管理	浅野 誠三郎	JICA農村開発部 乾燥畑作地帯第一課 職員
3	評価分析	柿沼 潤	(株)アース アンド ヒューマンコーポレーション 研究員

〈エチオピア政府側評価団員〉

	担当分野	氏名	所属
1	総括	Mr. Ibrahim Mohammed	Development Partners Linkage Caseworker Agricultural Extension, MoARD
2	研究・普及1	Mr. Shirif Aliy	Researcher, Debre-Zeit Agricultural Research Centre, EIAR
3	研究・普及2	Ms. Felekech Lemecha	Livestock researcher, OARI
4	研究制度・体制	Mr. Chimdo Anchala	Research –Extension Farmer Linkage Specialist, MoARD, Rural Capacity Building Project
5	裨益効果	Mr. Deriba Mekonnen Taddese	Lume Adama Farmers Cooperative Union
6	評価分析	Dr. Dejene Aredo	Monitoring and Evaluation Specialist, SG2000/SAA

1-3-2 調査日程

調査期間：2009年1月10日～1月30日

(うち総括、計画管理団員：2009年1月18日～1月30日、評価分析団員：2009年1月10日～1月30日)

月日		調査活動場所	活動
1月10日	土	羽田→関空→	日本発
1月11日	日	→ドバイ→アジスアババ	エチオピア着 調査活動準備
1月12日	月	アジスアババ→アダマ	JICAエチオピア事務所との協議 C/P及びFRG農家へのインタビュー (MARC)
1月13日	火	アダマ	FRG農家訪問 C/P及びFRG農家へのインタビュー
1月14日	水	アダマ→シャシャマネ →アダミツール	ATARC場長、C/P、ワレダ農業事務所、普及員及び FRG農家へのインタビュー (ARARC)
1月15日	木	ズワイ→アダマ	FRG農家及び非FRG農家訪問、 ゾーン農業事務所所長及び普及員へのインタビュー
1月16日	金	アダマ→ボセット	Abe Industry、FRG農家及び非FRG農家訪問及びイ ンタビュー JICA専門家インタビュー
1月17日	土	アダマ	資料整理、実績評価ワークショップ準備
1月18日	日	アダマ→アジスアババ	資料整理、実績評価ワークショップ準備
1月19日	月	アジスアババ	実績評価ワークショップ準備 (総括、計画管理団員エチオピア着) 調査団内打合せ
1月20日	火	アジスアババ	エチオピア側評価団員との協議 実績評価ワークショップ
1月21日	水	アジスアババ→アダマ	EIAR総裁表敬 研究員、普及員、FRG農家インタビュー (MARC)
1月22日	木	アダマ	研究員インタビュー (MARC) FRG農家、Lume Adama協同組合訪問
1月23日	金	アダマ→アダミツール →ズワイ	ATARC場長インタビュー FRG農家訪問
1月24日	土	ズワイ→アジスアババ	終了時評価レポート作成
1月25日	日	アジスアババ	終了時評価レポート作成
1月26日	月	アジスアババ	合同評価委員会
1月27日	火	アジスアババ	合同評価委員会 終了時評価レポート署名
1月28日	水	アジスアババ	第6回合同調整委員会
1月29日	木	アジスアババ→ドバイ →	在エチオピア日本大使館へ調査結果報告 エチオピア発
1月30日	金	→関空→羽田	日本着

1-4 評価方法

1-4-1 評価のフレームワーク

本終了時評価は、改訂版JICAの評価ガイドラインに基づき、プロジェクト・デザイン・マトリックス (Project Design Matrix : PDM) 手法を用いて、プロジェクトの当初計画、協力開始時から評価調査時点までの双方の投入・活動実績、プロジェクト実施の効果、運営管理体制等を踏まえたうえで、評価5項目 (妥当性、有効性、効率性、インパクト、持続性) の観点から多面的に評価を実施した。あわせて、協力期間終了後における対応についても、ワークショップを通じて検討し、両国政府関係当局に提言した。

1. 妥当性 (Relevance)	プロジェクトのめざしている効果(プロジェクト目標や上位目標)が、受益者のニーズに合致しているか、問題や課題の解決策として適切か、相手国と日本国側の政策との整合性はあるか、プロジェクトの戦略・アプローチは妥当か、公的資金であるODAで実施する必要があるかなどといった「援助プロジェクトの正当性・必要性」を問う視点。
2. 有効性 (Effectiveness)	プロジェクトの実施により、本当に受益者もしくは社会への便益がもたらされているか(あるいは、もたらされるのか)を問う視点。
3. 効率性 (Efficiency)	主にプロジェクトのコストと効果の関係に着目し、資源が有効に活用されているかを問う視点。
4. インパクト (Impact)	プロジェクトの実施によりもたらされる、より長期的、間接的効果や波及効果を見る視点。予期していなかった正・負の効果・影響を含む。
5. 持続性 (Sustainability)	援助が終了しても、プロジェクトで発現した効果が持続しているか(あるいは持続の見込みはあるか)を問う視点。

1-4-2 PDMe (終了時の際のPDM)

2003年8月の事前調査の際、最初のPDM案が作成され、2004年1月の討議議事録(Record of Discussions: R/D)で上位目標が追加され、暫定版PDMが作成された。さらに、2005年1月の運営指導調査で対象地域の一部変更(アカキ及びギンビチュワレダは、デブラゼイト農業研究所の管轄下のため対象地域から外し、その一方でアルシ・ゾーンのドドタシレがMARCの管轄であるため対象地域に追加された)が行われた。その後、2007年1月の中間評価調査の際、PDMの指標と活動の一部を改訂した。今回の終了時評価ではこのPDMを用いた。

なお、中間評価調査での主なPDMの改善点は以下のとおりである。

- (1) 上位目標及びプロジェクト目標の「良好に機能しているFRGが増加する」の定義を以下のとおりとした。
 - ・問題の診断、分析ができる。
 - ・問題解決のために外部から必要情報を収集できる。
 - ・他の農家を支援し、助言できる。
- (2) プロジェクト目標で指標2、3の「主要作物」を「対象作物」に変更した。
- (3) 成果1の「FRGのガイドライン」を「ガイドライン最終版が完成する」と変更し、入手手段を「社会経済調査」から「FRGガイドライン最終版」に変更した。

1-4-3 評価調査に用いた方法(評価手順及び情報・データ収集方法)

本評価では、プロジェクト関係の各種報告書の分析、現場の視察、プロジェクト関係者への聞き取り調査をした。また、C/P及び日本人専門家、そして合同評価チームが参加した実績評価ワークショップの結果等も参照し、調査結果を取りまとめた。

(1) プロジェクト関係書類の収集・検討(資料・文献レビュー)

評価を行うにあたり、調査前及び調査中に関連資料を収集してプロジェクトの概要を把握、その背景を整理するとともに進捗状況を再点検し、プロジェクトの抱える問題や課題

を検討した。

(2) 評価グリッド

参考資料等から情報を得て、現地での調査項目及び情報収集方法を検討し、評価デザインとして評価グリッドを作成した（評価グリッドは付属資料2．合同評価報告書参照）。

(3) 質問票の作成・改修

現地調査に先立ち、評価分析団員が評価グリッドを基に、C/Pであるプロジェクトマネージャーをはじめとした、各成果の主な担当者であるEIAR/MARC（4名）とOARI/ATARC（8名）職員及び日本人専門家（3名）に対し質問票を送付し、回収・分析を行った。また、本質問票を補う形で、C/P及び日本人専門家に対しては、個別にヒアリングを行った。

(4) 実績評価ワークショップ

PDM上の各成果及びプロジェクト目標がPDMの指標に従いどの程度達成されているか、またプロジェクト終了時までに対応すべき事項、更にはプロジェクト終了後の対応事項について確認するため、C/P、日本人専門家、合同評価チーム等、合計20名から成る実績評価ワークショップを2009年1月20日に開催した。

〈実績評価ワークショップ概要（2009年1月20日）〉

スケジュール	内容
13：00	開会挨拶
13：10	JICA評価ガイドラインと終了時評価についての説明
13：30	C/Pによるプロジェクトの実績発表
14：00	各成果の指標の達成度、促進要因及び阻害要因、今後の方向についてのグループ協議及び発表準備
15：00	グループごとの発表、発表に対する質疑応答
16：00	参加者全員によるプロジェクト目標指標の達成度、促進要因及び阻害要因、今後の方向についての検討
16：30	検討結果の発表及び発表に対する質疑応答
17：00	結論及び今後の方向性についての確認

ワークショップの結果は、5項目評価結果に反映させるとともに、プロジェクト終了時までの対応事項を短期的提言、プロジェクト終了後に対応すべき事項を中・長期的提言として、合同評価報告書に取りまとめた。

(5) 現場調査

合同評価チームは、EIAR/MARC及びOARI/ATARCのプロジェクト事務所の研究者、FRG農家、非FRG農家、普及員、対象地域（東ショア・ゾーン）の農業局長、NGO（SEDA、SAA）、世銀が実施している農村能力構築プロジェクト（Rural Capacity Building Project：RCBP）事務所への訪問インタビューや、現地視察を行った。

(6) 合同評価委員会

上記の調査・評価結果を評価5項目に沿って合同評価報告書に取りまとめ、エチオピア側との合同評価委員会において同報告書内容の詳細を検討した。その結果、2009年1月27日に内容について合意し、署名を行った。

第2章 プロジェクトの実績と現状

2-1 投入実績

評価時点（2009年1月）での投入実績は以下のとおりである。（詳細については付属資料2．合同評価報告書参照）

〈日本国側〉

長期専門家	延べ4名（3名体制）
短期専門家	延べ16名（27.0人月）
研修員受入れ（本邦研修）	31名（90人月）
（第三国研修）	34名（10人月）
機材供与	約36,419千円
ローカルコスト負担	約100,903千万円

〈エチオピア側〉

C/P配置	延べ13名
施設/機材提供	執務室、車両、事務機器
ローカルコスト負担	約4,890千円

2-2 成果の達成状況

成果ごとの達成状況は以下のとおりである。（詳細については付属資料2．合同評価報告書参照）

成果1：FRGガイドラインが策定される。

指標1：FRGガイドラインの最終版が完成する。

- （1）2005年に1stドラフトが完成、現在Ver.3.6まで改訂が重ねられている。
- （2）2009年3月にFRGガイドラインに関する最終ワークショップが開催され、その後同年5月に最終版が完成される予定となっている。

成果2：農民のニーズと能力に適合した適性技術が開発、もしくは改善される。

指標2-1：開発、もしくは改善された技術の80%が、各FRG活動が開始されてから3年以内に、FRG農家の60%以上に採用される。

指標2-2：農民の50%以上が、技術に非常に満足している。

- （1）FRG農家の85%がプロジェクトにより改良された技術を採用している。
- （2）FRG農家の98%がFRG活動に満足している。

成果3：FRGアプローチの普及コンポーネントが改善される。

指標3-1：普及活動に参加した非FRG農家の人数が、全FRG農家の10倍に達する。

指標3-2：FRG農家によるデモンストレーション、フィールド・デイ、農民研修のそれぞれが、毎年少なくとも1回は実施される。

指標3-3：普及員のサービスのタイプ・頻度が改善する。

指標3-4：終了した研究課題、そして/もしくは技術ごとに1つ以上の普及教材が作成される。

- (1) 非FRG農家の74%が、FRG農家から改良技術に関する情報を入手している。
- (2) 実績評価ワークショップによれば、FRG農家の圃場等でのデモンストレーション（平均年8回）、フィールド・デイ（平均年5回）が定期的に開催されており、これまでに1,693名の農民が参加している。
- (3) 普及員向けの研修をこれまでに5回実施し、計324名の普及員が研修に参加している。実施された研修のうち2回は、他の2つのJICAプロジェクト（技術協力プロジェクト「灌漑農業改善計画」及び技術協力プロジェクト「ベレテ・ゲラ参加型森林管理計画プロジェクト・フェーズ2」）と合同で実施されている。
- (4) 普及教材開発委員会が設立され、これまでに2回開催されている。また、FRG40課題について普及教材作成が進められている。

成果4：関係者間の連携が強化される。

指標4-1：すべての関係者がFRG活動に参加する。

指標4-2：関係者間の参加形態が増加する。

指標4-3：関係者の80%以上が活動の関係に非常に満足する。

- (1) FRG40課題のうち20が、ワレダ農業・農村開発事務所と連携した活動を行っている。
- (2) FRG40課題のうち21が、協同組合・NGO・民間セクター・他の農業試験場等と連携した活動を行っている。
- (3) プロジェクトが実施した研修の約30%に、農民・普及員・研究員以外の関係者が参加した。また他の関係者はFRG課題ごとのミーティングに定期的に参加している。
- (4) 世銀が支援するRCBPと連携し、オロミア州以外の6州の農業関係者が本プロジェクトの活動を視察した。
- (5) FRG課題ごとに関係者の役割は検討され、関係者により普及教材の配布、開発された適正技術の普及、農器具の改良・普及等の活動が行われている。

成果5：FRGアプローチの経験と教訓が発表される。

指標5-1：プロジェクト終了までに文書が出版される。

指標5-2：5つの論文が発表される。

(1) 以下の文書が出版されている。

- ・“Analysis of Baseline Survey Results on FRG and Non-FRG farms” (2005)
- ・“Country Gender Profile Ethiopia” (2006)
- ・“FRG Research Inventory” (2008)
- ・“FRG Completed Research Report 2007” (2008)

(2) 以下のガイドラインが作成されている。

- ・“Make your field day more productive”
- ・“Gender sensitization workshop”
- ・“Make your action plan more effective”

(3) 以下のワークショップの議事録が取りまとめられている。

- ・“Workshop on the water harvesting technology in East Shewa and Arsi Zone” (開催期間23rd-24th February, 2006)
- ・“FRG concept and practice, proceeding of workshop” (開催期間20th-21st October, 2005)
- ・“Farmer produced seed workshop” (開催期間18th-19th 2008、今後印刷予定)

2-3 プロジェクト目標の達成状況

プロジェクト目標及び指標の達成状況は以下のとおり、おおむね達成されたことが確認された。

プロジェクト目標：東ショワ・ゾーンにおいて、研究・普及の主要な手法の一つの核として、FRG
アプローチが確立する。

指標1：良好に機能しているFRGの数が、FRGの70%まで増加する。

(1) 中間評価調査の際に設定された「良好に機能しているFRG」の定義は以下のとおりである。

- ・問題の診断、分析ができる。
- ・問題解決のために外部から必要情報を収集できる。
- ・他の農家を支援し、助言できる

(2) しかしながら、「良好に機能しているFRG」の意味は、本プロジェクトの主要な関係者間（研究者、FRG農家、普及員）で共通の理解が行われていなかった。また、本プロジェクトはFRG農家に対し、実績を自己評価するために質問票を関係者に配布したものの、すべてを回収することはできず、この時点で指標1を評価することは困難であった。

(3) 実績評価ワークショップの結果によれば、FRGの数は18から80に増加している。

(4) また合同評価団の現地調査では、作物の種類、企画された研究課題、研究者からのフォローアップ、及び他の関係者（NGOや普及員）からの支援により、FRGの「機能」の程度にはグループごとに差があることがわかった。例えば、タマネギの種子生産を行っているFRG農家は能動的な実証試験を行い、その結果は農業試験場を通じて他の農家へフィードバックされている。他方でいくつかの研究課題においては研究員・普及員とFRG農家間のコミュニケーションが密ではない事例がみられた。

指標2：FRG農家の対象作物の生産量が15%増加する。

プロジェクトが実施したインパクト調査報告書によると、FRG農家における対象作物（特にテフ、メイズ、小麦、ソルガム、インゲンマメ、タマネギ、トマト）の生産量は向上している。例えば、メイズの世帯当たり生産量はベースライン調査が実施された2004年の8.54qtから2007年には40.9qtまで増加している（qt=quintal=100kg）。同様に、インゲンマメは2004年の5.61qtから11.4qtに増加している。

表 2 - 1 対象作物の生産量の変化（qt/世帯）

作物	FRG農家		
	2004 (ベースライン調査)	2007 (インパクト調査)	変化率 (%)
テフ	6.16	13.9	225.6%
メイズ	8.54	40.9	478.9%
インゲンマメ	5.61	11.4	203.2%
タマネギ	31.45	76.1	242.0%
トマト	19.32	64.9	335.9%
トウガラシ	10.48	14.4	137.4%

出典：合同評価報告書

指標3：FRG農家の対象作物の生産性が15%増加する。

インパクト調査報告書によれば、FRG農家における対象作物の生産性は著しく向上している。例えば、メイズのha当たりの生産性は2004年と比べ、2007年には100%以上向上している。メイズの生産性の向上は、MARCによる技術移転、及び多くのFRG農家が改良種子生産に参加したことによるものと考えられる。

表 2 - 2 対象作物の生産性 (qt/ha)

作物	FRG農家		
	2004 (ベースライン調査)	2007 (インパクト調査)	変化率 (%)
テフ	6.9	9.2	133.3%
メイズ	10.0	21.0	210.0%
インゲンマメ	7.8	11.7	150.0%
タマネギ	90.05	166.7	185.1%
トマト	63.91	214.0	334.8%
トウガラシ	59.09	174.2	294.8%

出典：合同評価報告書

指標4：対象FRG農家周辺で新たに開発、もしくは改良された技術を採用する農家の数が増加する。

- (1) 実績ワークショップでは、対象FRG農家の数の5倍以上の農家が新しく開発、もしくは改良された技術を導入していることが確認された。
- (2) インパクト調査では、サンプル回答に応じた近隣の非FRG農家のうち98%がFRG活動を認識したことが確認されている。表 2 - 3にあるように、非FRG農家にとってFRG農家はFRG活動の重要な情報源の一つであり、農家間の情報伝達が進んでいることがわかっている。また非FRG農家の61%が1つ以上の技術をFRG農家から学んでいる。
- (3) 他方、インパクト調査において、非FRG農家に対し「なぜFRG活動に参加しないのか」について質問したところ、「FRGに興味がない」と回答した非FRG農家はわずか9.5%であった。そのため農業試験場の能力及びFRG活動についての情報の格差がFRG活動に参加する際の障害になっていると考えられる。
- (4) 合同評価チームはFRG農家及び非FRG農家へのインタビューを通じて、農家間及びFRG非FRG間での技術や情報の移転の程度に差があることがわかった。この差は農業試験場の能力、研究者からのアプローチ方法、普及員からの普及サービスが関係していると考えられる。

表 2 - 3 非FRG農家のための情報源 (N=129、重複回答可)

FRG活動についての情報源	該当する非FRG農家
同じコミュニティの農民	10
異なるコミュニティの農民	2
友人及び親戚	29
FRG農家	74
普及員	12
NGO	2
研究者	4

出典：合同評価報告書

2-4 プロジェクト実施プロセスにおける特記事項

(1) 行政改革過程での影響

評価時点で、オロミア州政府は公務員改革の一環であるビジネスプロセス・リエンジニアリング (Business Process Re-engineering : BPR) が実施されていた。オロミア州政府によれば、最終結果に関する文書の作成は終了し、既に新たな人員配置が進められているとのことであった。BPRでは体制の改革のみならず、研修アプローチについても提言があり、今後各農業試験場では“Case Team”と呼ばれる専門分野が異なる研究員が学際的チームを結成し、共同研究を行うこと、そして顧客（農民）志向型農業研究が重視されることになるが、この方向性は本プロジェクトの活動と一致するものである。

ただし、過去約2年にわたるBPR文書作成の過程で、C/Pがその準備会議への出席に多くの時間を割かれ、プロジェクトの進捗に影響を及ぼしたことは否めない。また改革に伴い、特にMARCでの離職・転職者が多く、中心的な役割を担っていたC/Pの外部流出が起きた。

(2) プロジェクト開始当初の研究員の能力

日本人専門家に対するインタビューの結果によれば、プロジェクト開始当初は研究員の研究計画作成方法、実験のデータ収集方法に問題がみられたことから、これらの指導から始めなければならず、FRGアプローチによる農業研究を開始するまでに時間を要した。

(3) 普及員の頻繁な異動

普及活動を担う普及員は頻繁に異動し、また前任者と後任者の間で十分な引継ぎが行われていないことが、各FRG活動の進捗、関係者間の連携に影響を及ぼした。

第3章 評価結果

3-1 5項目評価

3-1-1 妥当性

プロジェクトの開始当初から、エチオピアの開発政策及び日本政府のエチオピアに対する農業分野への援助政策に変更はなく、本プロジェクトの妥当性は維持された。

(1) エチオピアの政策との整合性

農業分野はGDP全体の約50%に寄与し、労働人口の85%を占めるなど、エチオピア経済は農業分野に依存している状況にある。そのため農業分野は国家開発計画「PASDEP 2005/06-2009/10」の優先分野に位置づけられている。PASDEPでは新しい技術の開発、普及サービスの改善を、天水農業に依存する農業生産による食料不足解決の手段と位置づけているが、本プロジェクトはこれに貢献するものである。

(2) 日本の援助政策との整合性

我が国の政府開発援助のエチオピア国別援助計画では食糧安全保障確立のため、農業・農村開発を重点分野の一つとして位置づけ、支援を行ってきた。JICAのエチオピアに対する援助実施計画は、改良型農業技術の研究と普及を通じた農業生産性向上への取り組みの必要性が強調されており、本プロジェクトはその具体的な取り組みとして位置づけられている。また、我が国政府はTICAD IVやG8サミットで表明した支援策において、農業分野を重視している。例えば、TICAD IV・横浜行動計画では、農業技術向上のための農業研究及び普及・指導サービスへの支援、小規模農家・農民組織への新技術の提供などが表明されている。したがって、本プロジェクトと我が国の開発政策との整合性は高い。

(3) 受益者のニーズとの整合性

現在、エチオピアでは農民のニーズに即した応用研究が求められており、FRGアプローチは農家・研究者のニーズにこたえるものである。具体的には、FRGアプローチにより農民のニーズに合致し、かつ農業試験場が支援可能な課題の選定及び農民参加型の研究活動が行えるようになった。また、研究成果をターゲットグループに向け発信するための普及教材開発の作成支援を行ったが、エチオピアの普及部門はこのような技術情報が不足している現状にあるため、これは農業普及にかかわる関係者のニーズとも合致している。

(4) 実施機関

長年にわたりエチオピアでは、農業研究と普及サービスの連携を強化することは優先課題であった。エチオピア農業研究機構（Ethiopia Agricultural Research Organization : EARO）（EIARの前身）は、90年代後半から農民の参加による有用技術開発のためFRGアプローチを導入してきている。したがって、本プロジェクトは実施機関の戦略とも整合している。

3-1-2 有効性

プロジェクトの有効性は高い。主な活動は計画通り実施され、各成果はプロジェクト目標達

成に貢献するとともに、FRGアプローチはプロジェクト実施機関の核となるMARC及びATARCで公認されている。加えて、前述の「2-3 プロジェクト目標の達成状況」で示したように、2009年1月20日に実施された実績ワークショップ、インパクト調査、及び合同評価チームの現地調査の結果から、プロジェクト目標はおおむね達成されたことが確認された。

3-1-3 効率性

(1) 投入の効率性

日本側及びエチオピア側からの投入は量、質、時期に関しておおむね適切であった。合同評価チームはプロジェクトの効率性を阻害する重要な問題はなかったと評価した。

(2) 投入と活動の効率性

能力のあるC/Pが適切に配置されたほか、機材はおおむね適切な時期に調達された。研修はプロジェクトの計画に従って実施され、研修プログラムの期間や内容は適切であった。しかしながら、FRG農家間でのコストシェアリングの方法やFRG農家の選定方法についてはFRGごとの研究課題の多様性が影響し、十分に確立することができていない。加えて、C/Pの転職やC/Pが他の業務に時間を割かれたことが、プロジェクトの円滑な実施に影響した。

40の研究課題のうち、21課題は他の関係者と効率的に連携しながら行われた。その一方で、モニタリングとフォローアップを十分に行うことができなかった状況が、少ないながらもいくつかの研究課題で見受けられた。

(3) 他のプロジェクトや他の組織との連携

他のJICAプロジェクトと連携し、普及員に研修を実施したほか、東京農業大学、現地の民間企業・農業協同組合とも連携し、プロジェクト活動が行われた。また合同調整委員会には農業農村開発省（Ministry of Agriculture and Rural Development : MoARD）や財政経済開発省、農業協同組合、農民及びNGO等の主要な関係者の参画があった。

3-1-4 インパクト

以下のとおり、多くの正のインパクトが認められた。

(1) 上位目標の達成見込み

設定された上位目標は以下のとおりである。

1. 対象FRG農民の生計が向上する。
2. 対象地域の主要農産物の生産が向上する。
3. FRGアプローチが他の研究所で導入・利用される。

インパクト調査によると、上位目標に対する正のインパクトが以下のとおり認められた。

1) 対象FRG農民の生計向上

表3-1のとおり、FRG農家は非FRG農家と比べ、高い収入を得ていることが判明した。また約84%のFRG農家の収入が向上したと報告された。これはプロジェクト対象地域の生産量と生産性が向上したためと考えられる（収入増加の理由については表3-2を参照）。

一方、FRG農家の12%は、収入に変化がない、あるいは減少したと回答した。収入が向上しなかった主な原因としては、洪水の被害、種子と一緒に肥料を与えられなかったこと、肥料価格の高騰、FRG農家に参加した期間が短いこと、FRG活動を通じ紹介された技術を実践しなかったことがあげられた。なお、FRG活動は農家の資産形成にも貢献しており、その結果は表3-3のとおりである。

表3-1 世帯収入見積もりと農作物生産費用（ETB）

項目	FRG農家	非FRG農家
総農業収入	35,205	17,804
農作物生産経費	19,086	10,641
粗利益	16,119	7,163

出典：合同評価報告書

表3-2 収入向上の理由

理由	FRG農家 (%)
改良された投入を利用	59.3
灌漑を利用	5.5
農業習慣の改善	22.0
家畜生産の改善	11.0
複合作物栽培	1.1
貯蓄習慣の変化	1.1
合計	100

出典：合同評価報告書

表3-3 FRGによる資産形成（N=102）

資産の種類	回答 (%)
家財（テレビ、ベッド、冷蔵庫等）	34.3
家畜	21.6
農具（荷車、ポンプ/発電機）	9.8
家の新築	29.4
携帯電話の購入	2.9
自転車の購入	2.9
子供の教育/人的資源開発	6.9
製粉機の購入	1.0
町に土地を取得	7.8

出典：合同評価報告書

2) 他機関等との情報共有

他の5州（ソマリ、アファル、ベニシヤングル・グムズ、ガンベラ、ティグライ）の農業試験場と州農業局の代表者がMARCとATARCを訪問し、FRGアプローチと活動についての情報と経験を共有した。現場レベルでは多くの訪問者がFRG農家の活動を見学し、改良種子や技術を分かち合っている。

(2) 食糧安全保障に対する波及効果

東ショア・ゾーン農業事務所長へのインタビューによると、過去に干ばつの際、特にボセットやアダミツールワレダのような慢性的食料不足に苦しんでいた地域においても、FRG活動がFRG農家間の食糧安全保障改善に貢献しているとのことであった。

(3) 予想される負のインパクト

プロジェクトがもたらす特定の負のインパクトは確認されなかったが、FRG農家及び非FRG農家へのインタビューを通じ、FRG農家と非FRG農家間でFRG活動によりもたらされた技術・投入、情報の共有について理解の差があることが確認された。

3-1-5 持続性

プロジェクトの効果は以下の理由により、プロジェクト終了後も持続することが期待される。

(1) 財政的側面

プロジェクト実施期間中、FRG研究活動費用の多くをJICA側が負担していることから、プロジェクト終了後は、エチオピア政府がFRG研究活動に対し、予算配分をしなければならない。なお、東ショア・ゾーンについては、既に2008年よりFTCでのFRG活動予算を、RCBPより拠出されている。加えて、普及教材の製作は本プロジェクトが予算を負担していたが、今後はMoARDより費用負担がなされるべきである。

(2) 組織的側面

2008/09年のオロミア州開発計画では、主要な研究と普及サービスとしてFRGアプローチの強化があげられている。さらに、世銀RCBPの支援によりMoARD/EIARが全国レベルでFRGアプローチを普及させる予定である。FRGアプローチを形成する主要要素である学際研究チーム及び農民主導による研究はBPRの基本原則に含まれていることから、FRGアプローチを維持発展させるための支援が今後期待される。

(3) 技術的・概念的側面

FRGアプローチはプロジェクト関係者によって明確に理解されている。現場レベルでは、プロジェクトによって導入された改良技術がFRG農家間で移転され、改善・実証されている。農業試験場レベルでは、当初プロジェクトに直接かかわっていなかった研究者も、FRGアプローチを認識し導入し始めている。

中央レベルでは、JICAとともに、世銀RCBPの支援を通じてMoARD/EIARがFRGアプローチを全国的に導入し始めている。加えて、農業試験場・NGO、RCBPからは、FRG活動の新

規導入、及び本プロジェクトサイトの訪問について、多くの要望があがっている。

以上より、FRGアプローチの概念は関係者に理解・導入され始めており、MARCやATRACにおいて活用され続け、のみならず他の地域への導入が開始されるものと考えられる。

3-2 結 論

- (1) 本プロジェクトはエチオピア政府の政策及び日本の援助政策と合致していることが確認されるとともに、協力期間終了までにプロジェクト目標及び各成果はおおむね達成される見込みであると判断される。
- (2) よって当初の計画通り、2009年7月をもって本プロジェクトは終了することが適切だと結論づけられる。

第4章 提言と教訓

4-1 提言

4-1-1 協力期間終了時までの対応事項

(1) FRGガイドラインへの必要事項の盛り込み

FRGガイドラインは、2009年5月に完成する見込みであるが、その際にFRG農家の選定基準、コストシェアリングの問題、非FRG農家への普及の観点について、ガイドラインに盛り込む必要がある。

(2) FRG活動の研究者によるモニタリング・評価体制の強化

今回の調査により、研究者がFRG活動の進捗を十分に把握していない事例が見受けられた。FRG活動には研究者による定期的な指導・モニタリングが重要であるところ、プロジェクト終了までに研究者によるモニタリング・評価体制の強化（意識づけの強化）が必要である。

(3) FRGごとのプロフィール・広告板の作成

個々のFRG活動は着実な成果が上がっているとはいえ、それに至るまでのプロセスは三者三様である。個々の事例はその後のFRG活動及び他地域においてFRGアプローチを普及するうえで、研究者にとり有益な情報となることから、プロジェクト期間内にプロフィールを作成する必要がある。また近隣農家への広報、巻き込み促進のため広告板を設置することを提言した。

4-1-2 協力期間終了後の対応事項

(1) FRG活動の総括責任者の任命

プロジェクト終了後、FRG活動を主体的に継続するために、相手国実施機関は総括責任者を任命するべきである。

(2) FRG活動への予算措置

現在、個々のFRG研究予算はJICAプロジェクトより支出されていることから、相手国実施機関がFRG活動を継続するには、新たにFRG研究予算を確保するか、もしくは既に予算が確保されている研究活動をFRGアプローチに沿って行うなどの措置が必要とされる。

(3) マーケティングの視点

現在、FRG活動は適正技術開発に主眼を置いているが、農産物の価格変動は農家の生計に大きく影響を与えることから、マーケティングの視点も取り入れる必要がある。

(4) 普及教材の増刷・配布

本プロジェクトが作成している普及教材はMoARD及び世銀をはじめとして、各関係者から高い評価を受けている。今後各農民トレーニングセンター（Farmer Training Center : FTC）に配布し、普及員に利用してもらうためには、普及教材の増刷と配布が必須である。既に、MoARD及び世銀が実施しているRCBPとは、同省・同プロジェクトの予算を活用した普及

教材の増刷・配布に合意していることから、今後その合意が履行されるようJICA事務所を通じてフォローする必要がある。

(5) “Farmer Research Group”と“Farmer Research Extension Group”

今後、FRGアプローチを普及・強化していくうえで、普及員の関与を強化することが肝要であるが、これを阻害する要因の一つが名称（“Farmer Research Group”）にあるという見解がある。他方、エチオピアの普及体制の強化を目的とし、普及員の研修、FTCの強化等を進めている世銀RCBPは普及員の参画を念頭に置いた“Farmer Research Extension Group”アプローチを国内全域で普及する計画を有している。本プロジェクトにより対象研究所においてFRGアプローチが浸透し、農家レベルでのインパクトが確実に発現しているとはいえ、今後本アプローチを普及・展開するためには、定義の整理、普及員の関与の促進、世銀RCBPとのデマケーション等の論点を十分に検討する必要がある。

4-2 教訓

本プロジェクトはFRGアプローチを通じ農家のニーズに的確に対応した技術開発を行うための研究方法を確立するものであるが、研究成果を確実に広めるために普及の要素も取り入れたプロジェクトの枠組みとなっている。したがって、C/P機関は政府の研究部門の組織であるが、プロジェクトにおいては普及部門の組織との連携を行うことになっている。このように、科学的関心のみから行われる研究ではなく、普及を見据えた研究を行うため、関係機関の中には研究部門と普及部門の組織が含まれることになったが、これが「研究プロジェクト」と「普及プロジェクト」のどちらを行っているのか、関係者間で理解が分かれる一因となった。プロジェクトを実施していく過程で、本件はあくまで普及の要素を取り入れた「研究プロジェクト」であることで認識が統一されたが、このような両部門の橋渡しを行うようなプロジェクトでは可能な限り早い段階において関係者間でプロジェクトの主軸がどこにあるのか明確にしておき、研究と普及の連携を進めていくこと必要である。

付 属 資 料

1. 主要面談者一覧
2. 合同評価報告書

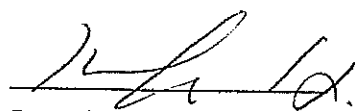
1. 主要面談者一覧

1. エチオピア農業研究機構 (Ethiopian Institute of Agricultural Research: EIAR)	
Dr. Solomon	General Manager
Dr. Fasil	Former, Project Manager
Dr. Lmma	Project Manager
2. オロミア州農業研究局 (Oromia Agricultural Research Institute: OARI)	
Dr. Alye	Director General
Dr. Asafa	Deputy Director
3. メルカサ農業試験場 (Melkassa Agricultural Research Center: MARC)	
Dr. Gora Tegegne	Crop Protection Division Head
Mr. Endeshaw Habte	Researcher, Research-Extension Division
Mr. Jibisho Geleto	Researcher
Mr. Tsigie Dessalegne	Senior Technical Assistance III
Dr. Senayit Yetneberk	Division Head, Food Science Researcher
Mr. Kidanitumsa	Researcher, Pathologist,
Mr. Mulugeta Teamiv	Researcher, Food technologist
Mr. Bedrew	Researcher
Mr. Yiteyei Abebe	Researcher, Socio-economist
4. アダミツール農業試験場 (Adami-Tulu Agricultural Research Center: ATARC)	
Dr. Brahanu Shelima	Head ATARC
Mr. Thaha Mume	Researcher
Mr. Dawit Asafa	Researcher
Mr. Taddese Asafa	Researcher
Mr. Mesky Deressa	Team leader, Resercher of Agroforestry and Water Harvesting
Mr. Tekalign Gutu	Researcher
Mr. Wole Kinati	Researcher
5. 普及員 (Development Agent: DA)	
Mr. Amon Hussein	Bosit Woreda
Mr. Dagnachew Kebede	Bosit Woreda
Mr. Amand Heleto	Amami-Tulu Woreda
Mr. Hortega Abnne	Dugda badora Woreda
Mr. Abera Bekele	Adama Woreda
Ms. Mekda Yusuf	Shella Wolleda
6. 地方行政事務所	
Mr. Said Turbuki	Head, Western Woreda Agriculture Office
Mr. Weyo Roba	Head, East Shewa Zone Rural and Agricultural Development Office
7. 世界銀行: Rural Capacity Building Project (RCBP)	
Mr. Chimdo	Specialist
Mr. Hail	Coordinator, Oromia Region
8. 農業組合・民間企業・NGO	
Ms. Abay Yeshat	Home economist, Woreda Agricultural Office / Lume-Aadama Farmers Cooperative Union
Mr. Henok Abebe	General Manager, Abe Industry
Mr. Teshite Guye	Field Program Coordinator, Selan Environmental Development
間遠 登志郎	笹川アフリカ協会

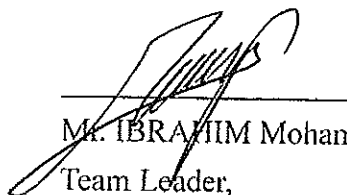
9. JICA「農民支援体制強化計画」	
白鳥 清志	長期専門家(チーフアドバイザー/制度構築/農村社会経済)
松本 巖	長期専門家(農業普及/適正技術)
新潟 真紀	長期専門家(業務調整/人材育成)
10. 在エチオピア日本大使館	
駒野 欽一	特命全権大使
11. 在エチオピアJICA事務所	
佐々木 克宏	所長
安藤 直樹	次長
中村 貴弘	所員
大野 光明	所員
Mr.Gezahegn Alem Tadesse	Program Officer

THE TERMINAL EVALUATION REPORT FOR
PROJECT ON STRENGTHENING TECHNOLOGY DEVELOPMENT,
VERIFICATION, TRANSFER AND ADOPTION THROUGH
FARMER RESEARCH GROUPS (FRGs)
IN FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

ADDIS ABABA, JANUARY, 2009



Dr. HOSHI Hirofumi
Team Leader,
Japanese Evaluation Team



Mr. IBRAHIM Mohammed
Team Leader,
Ethiopian Evaluation Team

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Acronyms

ADLI	Agricultural Development Led Industrialization
AEZ	Agro-ecological Zone
APO	Annual Plan of Operation
ARTP	Agricultural Research and Training Project
ATARC	Adami Tulu Agricultural Research Centre
BoARD	Bureau of Agriculture and Rural Development
BPR	Business Process Re-engineering
DA	Development Agent
EARO	Ethiopian Agricultural Research Organization
EIAR	Ethiopian Institute of Agricultural Research
FDRE	Federal Democratic Republic of Ethiopia
FRG	Farmer Research Group
MARC	Melkassa Agricultural Research Centre
MoARD	Ministry of Agriculture and Rural Development
MoFED	Ministry of Financial and Economic Development
NARS	National Agricultural Research System
NER	Net Enrolment Ratio
OADB	Oromia Agricultural Development Bureau
OARI	Oromia Agricultural Research Institute
PA	Peasant Association
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
RCBP	Rural Capacity Building Program
REAC	Research Extension Advisory Council
RED	Research Extension Division
REFL	Research Extension Farmer Linkage Strategy
SDPRP	Sustainable Development and Poverty Reduction Program
SEDA	Selam Environmental Development Association
SG 2000	Sasakawa Global 2000
SMS	Subject Matter Specialist
WARDO	Woreda Agricultural and Rural Development Office



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1. Objectives and Method of the Evaluation

1-1 Objectives of the Evaluation

The evaluation activities were performed with the objectives:

- 1) To evaluate the overall achievement of the “The Project on Strengthening Technology Development, Verification, Transfer and Adoption through farmers Research Groups (FRG Project)”(hereinafter referred to as “the Project”), based on the Record of Discussion(R/D), Project Design Matrix (PDM) and Plan of Operations (PO). (PDM, PO and Progress of Project Activities are attached in ANNEX 1 ~3.)
- 2) To identify problems on any aspects of the Project implementation and proposing necessary solutions.
- 3) To consider the lessons obtained from the Project activities in order to reflect them on future projects in the interest of making them more effective and efficient.

1-2 Members of the Evaluation Team

1) The Japanese Team

Name	Title	Occupation
Dr. Hirofumi HOSHI	Team Leader	Team Director, East & Southern Africa Division, Rural Development Department, JICA
Mr. Seizaburo ASANO	Research and Extension	Program Officer, East & Southern Africa Team, Rural Development Department, JICA
Ms. Jun KAKINUMA	Evaluation and Analysis	Consultant, Earth & Human Corporation

2) The Ethiopian Team

Name	Job title	Occupation
Mr. Ibrahim Mohammed	Team Leader	Development Partners Linkage Caseworker Agricultural Extension, MoARD
Mr. Shirif Aliy	Research and Extension	Researcher, Debre-Zeit Agricultural Research Centre, EIAR

Ms. Felekech Lemecha	Research and Extension	Livestock researcher, OARI
Mr. Chimdo Anchala	Institutionalization of the FRG approach	Research –Extension Farmer Linkage Specialist, MoARD, Rural Capacity Building Project
Mr. Deriba Mekonnen Taddese	Impact on the stakeholders	Lume Adama Farmers Cooperative Union
Dr. Dejene Aredo	Evaluation Analysis	Monitoring and Evaluation Specialist, SG2000/SAA

1-3 Method of the Evaluation

To carry out Terminal Evaluation, the Joint Evaluation Team (hereinafter referred to as “the Team”) consisting of both the Ethiopian and Japanese side has conducted evaluation activities are as follows

- Hearing of the presentation made by the counterparts of the Project,
 - Visiting fields and interviewing stakeholders (MARC and ATARC Researchers, FRG/ non-FRG farmers, DAs, Woreda Agriculture Office staff, JICA experts, NGOs, and private sectors)
 - Referencing impact survey report “Evaluation of impacts of farmers research group activities in the Rift Valley of Ethiopia” which was prepared by Ethiopian consultant.
 - Implementing an achievement workshop with stakeholders (about 20 participants, “Participants List of Achievement Workshop” is attached in ANNEX 12)
 - Referencing the results of questionnaires to the 12 counterparts in MARC and ATARC
 - Referencing the results of questionnaires to the 3 Japanese experts
- (A Japanese consultant started the study from 11 January, with JICA experts and Ethiopian counterparts)

The evaluation was made based on the findings from the above activities, and the following five evaluation criteria. (“Evaluation Grid” is attached in ANNEX 4)

- a) Relevance: Relevance is referred to the validity of the Project Purpose and the Overall Goal in compliance with the development policy of the Government of Ethiopia as well as the needs of beneficiaries.
- b) Effectiveness: Effectiveness is referred if the expected benefits of the Project

have been achieved as planned and if the benefit was brought about as a result of the Project (not of the external factors).

c) Efficiency: Efficiency is referred to the productivity of the implementation process and examined if the input of the Project was efficiently converted into the output.

d) Impact: Impact is referred to direct and indirect, positive and negative impacts caused by implementing the Project including the extent of the prospect of the achievement of the Overall Goal.

e) Sustainability: Sustainability is referred to the extent that the Project can be further developed by the recipient country and the benefits generated by the Project can be sustained under the recipient country's policies, technology, systems, and financial state.

1-4 Schedule of the Study

Date	Day	Destination	Activities
09/01/11	Sun	Dubai → Addis Ababa	Arrival at Addis Ababa, preparation for study
09/01/12	Mon	Addis Ababa → Adama	Meeting with JICA Ethiopia, Interview with counterparts & FRG in MARC
09/01/13	Tue	Adama	Site visit and interview with counterparts and FRG
09/01/14	Wed	Adama → Shashammanne → Adamitulu	Interview with ATARC head and counterparts, DAs, Head of Woreda and FRG
09/01/15	Thu	Zeway → Adama	Visit and interview with FRG/ non-FRG in Meki and ATARC, interview with Zonal head of MoARD in East Shewa and DAs
09/01/16	Fri	Adama → Boset	Site visit and interview with Abe industry and FRG/ non-FRG in Boset Woreda and JICA experts
09/01/17	Sat	Adama	Data analysis and preparation for Achievement Workshop
09/01/18	Sun	Adama →	Data analysis and preparation for

		Addis Ababa	Achievement Workshop
09/01/19	Mon	Addis Ababa	Preparation for Achievement Workshop, meeting within the Japanese Study Team
09/01/20	Tue	Addis Ababa	Meeting with Ethiopian Evaluation Team, Achievement Workshop
09/01/21	Wed	Addis Ababa → Adama	Courtesy call to General Manager of EIAR, Interview with researchers, DAs, FRGs.
09/01/22	Thu	Adama	Interview with Researchers in MARC, visiting sites of FRGs in Bishola, and women groups at Lume Adama Farmers Cooperative Union
09/01/23	Fri	Adama → Adami-Tulu → Zeway	Interview with Head of ATARC, visiting sites of FRGs in Adami-Tulu
09/01/24	Sat	Zeway → Addis Ababa	Drafting of evaluation report
09/01/25	Sun	Addis Ababa	Drafting of evaluation report
09/01/26	Mon	Addis Ababa	Joint evaluation meeting
09/01/27	Tue	Addis Ababa	Joint evaluation meeting
09/01/28	Wed	Addis Ababa	Joint Coordination Committee
09/01/29	Thu	Addis Ababa → Dubai	Departure from Addis Ababa




2. Outline of the Project

2-1 Background of the Project

In the Federal Democratic Republic of Ethiopia (hereinafter referred to as FDRE), people engaged in agriculture constitute 85% of its population and agricultural production accounts for about 50% of its GDP. As can be seen, the agricultural industry is tremendously important in its economy and industry. In fact, the “Sustainable Development and Poverty Reduction Program (SDPRP)” that was formulated by the government of FDRE in September 2002 discusses the enhancement of “agricultural development-led industrialization (ADLI).” On the other hand, Ethiopia suffers acutely from food shortages caused by droughts in the past years which imposes a dreadfully adverse effect upon its economy and industry. With this in mind, the government of FDRE considers the issue of establishing food security to be its utmost priority and has been striving to increase agricultural productivity and diversification.

Japan International Cooperation Agency (herein after referred to as JICA) acknowledges the above issues, and places agricultural development and food security at one of its main cooperation area for Ethiopia. In line with this, JICA conducted a basic study on agricultural development in September 2002 for formulating projects related to agricultural research and small scale irrigation. Following the suggestions made by the basic study team, the Government of FDRE submitted a proposal on the Project in April 2003 to the Government of Japan.

The proposal was made in accordance with a strategy of the then Ethiopian Agricultural Research Organization (EARO), now called Ethiopian Institute of Agricultural Research (EIAR), which aimed at promoting Farmer Research Group (FRG) approach to develop appropriate technologies for farmers through strengthening the linkage among research, extension and farmers. Research centres under EARO (EIAR) and regional governments started practicing FRG approach since the late 90's by Agricultural Research Training Project(ARTP) funded by The World Bank, but the FRG activities had limited outputs to meet farmer's needs in livelihood sufficiently.

To respond to the proposal from the Government of FDRE, JICA sent the preparatory study team to FDRE for conducting a preliminary evaluation to assess the justifiability of the implementation of the proposed project, and JICA has agreed to implement the project to improve and institutionalise the FRG approach in the East Shewa Zone, Oromia Region.

The project officially started in 2004, jointly implemented by EARO (EIAR) and



Oromia Agricultural Research Institute (OARI).

2-2 Summary of the Project

Project Purpose: FRG approach is established as one of the core methods of research and extension in the East Shewa Zone.

- Outputs:
1. FRG guideline is developed.
 2. Appropriate technologies which meet farmer's needs and capacities are developed /improved.
 3. Extension components of FRG approach are improved.
 4. Linkage among stakeholders is strengthened.
 5. Document on experience and lessons from FRG approach published.

2-3 Project Performances and Implementation Process

(1) Inputs (as of January 2009)

<Japanese side>

Long-term Expert: Total number 4

Short-term Expert: Total number 16 (27.0 M/M)

Trainees received in Japan: Total number 31 (90 M/M)

Trainees received in 3rd Country: Total number 34 (10 M/M)

Provision and Procurement of Equipment (from 2004): Approx. 3,934,198ETB

Local Cost (from FY2004 to FY2008): 10,900,094 ETB

<Ethiopian Side>

Counterparts: In total 13

Facilities (Office, Vehicles, Office equipments)

Local Cost (from 2004): 528,152ETB

Lists of Inputs are attached in ANNEX (see ANNEX 5~10).

(2) Outputs

It is confirmed that the Project has implemented the following activities as per the plan stipulated in the R/D, M/M, PDM and PO without notable delays or unprecedented difficulties, thus that the Project would come up with most of its expected outputs by the end of the Project period, based on the following findings; (The detailed information on the achievements is found in the ANNEX 11.)



Output1: FRG guideline is developed

Indicators
1 The final version of FRG guideline is completed.
Achievement:
- In 2005, draft guideline was prepared, and has been revised since then.
- Guideline development meetings by research teams since the mid of 2008.
- Workshop to finalize the guideline will be held in March 2009
- The final version will be ready in May 2009

Output2: Appropriate technologies which meet farmer's needs and capacities are developed/improved.

Indicators
2-1. 80% of technologies developed/improved are adopted by more than 60% of FRG farmers by the 3rd year from starting each FRG activities.
2-2. More than 50% of Farmers are highly satisfied with technologies.
Achievement
- 85% of FRG farmers have applied technology developed/improved by FRG research
- 98% of FRG farmers satisfied with FRG activities.
- 61% of non-FRG farmers have learnt technologies from FRG farmers

Output3: Extension components of the FRG approach are improved.

Indicators
3-1. The number of non-FRG farmers' participation in the extension activities will be 10 times of the total FRG farmers.
3-2. Demonstration, field day and farmers' training by FRG farmers are conducted respectively at least once per year.
3-3. Type/Frequency of DA's service improved.
3-4. More than one extension material for each completed subject and/or technology is developed



Achievement

- 74% of non-FRG farmers have received technical information from FRG farmers.
- Demonstration, field day and farmer training are conducted regularly.
- 324 DAs were trained in 5 training programs during the project period, including 2 joint DA training with Irrigation Farming Improvement Project and Belete- Gera Participatory Forest Management Project
- Extension material development committee established and 2 meetings held
- 40 extension materials developed
- Out of 40 materials, 4 have been improved as clip chart and being tested with some DAs
- 33 materials are under improvement into posters, leaflets, manuals and clip charts

Output4: Linkage among stakeholders is strengthened.

Indicators

- 4-1. All concerned stakeholders involved in FRG activities.
- 4-2. Type of joint activities among stakeholders increased.
- 4-3. More than 80% of stakeholders are highly satisfied with work relationship among themselves.

Achievement

- 20 out of 40 FRG researches have functional linkage with Woreda Agricultural and Rural Development Offices (WARD)
- 21 out of 40 FRG researches have active linkage with stakeholders.
- One-third of trainings were participated by other stakeholder.
- Many of them participated regular FRG meetings
- Experience sharing visits from different regional states on FRG activity coordinated by RCBP
- The role of stakeholder are prepared for every FRG research team

Output5: Document on experience and lessons from FRG approach published.

Indicators

- 5-1 One published document at the end of the Project.
- 5-2 5papers are published

Achievement



- Publications: “Analysis of baseline survey results on FRG and Non-FRG farmers”(2005), “Country gender profile Ethiopia”(2006), “FRG research inventory”(2008), “FRG completed research report 2007”(2008)
- Guideline, Workshop proceedings, Extension materials and Scientific papers etc. have been published.

(3) Implementation Process

It is confirmed that there were some problems caused some delay of the implementation process, but the main activities of the Project has been implemented according to the Plan of Operations. .

The main problems are;

- Turnover of DAs
- Loose engagement of stakeholders at the beginning



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3. Results of the Evaluation with Five Criteria

3-1. Relevance

The relevance of the Project considered has been kept high, because the Ethiopian development policy and Japanese aid policy on agricultural sector in Ethiopia has not been changed since the commencement of the Project.

(1) Consistency with the Ethiopian Government Policy

Ethiopia's economy relies significantly on agriculture. Agriculture contributed about 50% of the total GDP and 85% of the work force is employed in the agricultural sector, therefore the agriculture sector is the priority sector for PRSP/ PASDEP. Agricultural Development Led Industrialization (ADLI) strategy has been under implementation since 1994 as reflected in and then Sustainable Development and Poverty Reduction Program (SDPRP, 2002/03-2004/05) and A Plan for Accelerated and Sustained Development to End Poverty (PASDEP, 2005/06-2009/10). PASDEP among others places improvement of conventional agricultural technologies, development of new technologies and improvement of extension services, as measures to solve the problem of food shortage, which are caused usually by drought affecting rain-fed agriculture's productivity.

(2) Consistency with the Japanese Aid Policy

The Japanese country assistant strategy to Ethiopia, states that 'Improvement of Agricultural Technology in Agriculture and Rural Development Sector for food security' is one of the highest priorities of the Japanese aid policy. JICA's rolling plan to Ethiopia emphasizes on improvement in productivity through strengthening linkage with research and extension for improved agricultural technologies, and the Project is placed as one of the concrete approaches for the plan. Japanese government manifested agriculture sector is the priority at the G8 summit and the TICAD IV. For instance, providing assistance to expand agricultural research, extension and advisory services, and assist smallholder farmers and farmers' organizations to adopt new technologies etc. are stated on the TICAD IV Yokohama Action Plan.

(3) Needs of Beneficiaries (Target Group)

Applicable research activities for farmers have been required; the FRG approach provided practical supports to meets such farmers' needs. The FRG approach is in



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line with the farmers' demands, which made it possible to select the subjects that research centres have the ability to support.

Therefore the Project is relevant in line with the research centres demands.

Development of extension materials for disseminating the Outputs of the Project to the target group is in line with demands of the present extension services.

(4) Implementing Agency

Strengthening the linkage between agricultural research and extension services has been the priority issue in Ethiopia for many years. EARO (EIAR) adopted the FRG approach since the late 1990s, in order to develop applicable technologies by farmers' participation; therefore, the Project is in line with the MoARD/EIAR's strategy.

3-2. Effectiveness

The Project purpose is 'FRG approach is established as one of the core methods of research and extension in the East Shewa Zone'.

The main activities have been implemented as scheduled, and each Output has been contributed to the achievement of the Project purpose. The FRG approach has been adopted in MARC and ATARC as core for the Project implementation bodies; on the other hand, extension component's (Output 3) level of achievement was wide range depending on each condition of FRG.

According to the results of the achievement workshop which was held in Addis Ababa on 20 January 2009, the impact study, and field survey by the team, in general achievements of project purpose were almost confirmed with indicators as follows.

(1) Indicator 1: Number of well-functioning FRG increase up to 70% of FRGs

The definition of 'well-functioning FRG' was confirmed as followed;

- Capable to diagnose and analyze problem
- Capable to collect necessary information from outside for solving problem
- Capable to help and advice other farmers.

However, the meaning of 'well-functioning FRG' was not commonly understood among the core stakeholders (researchers, FRG farmers and DAs). The questionnaire for each FRG in order for self-evaluation performance has been conducted during the Study period. However, the result was not submitted to the



Project yet. Therefore, it was difficult to measure this indicator at this stage.

On the other hand, according to the result from the achievement workshop, the participants evaluated that existing number of FRG increased from 19 to 80.

Through the site visits by the Evaluation Team, it was observed wide range of level of functioning FRGs caused by crop selection, subjects proposed and follow-up from the researchers, and support from other stakeholders (e.g. DAs and NGOs).

During the site visits and interviews by the team, some examples of well-functioning FRGs were observed in some FRGs (e.g. onion seeds producing FRG implemented verification research and put feedback to the other FRGs through research centres), on the other hand some challenges were found (e.g. there was a case of new FRG farmer who had very limited communication with researchers and DAs, then the FRG farmer was not sure if he was a member of FRG or not)

(2) Indicator 2: Production of target commodities is increased by 15% in the FRG farmers.

The impact survey report (Evaluation of impacts of farmers research group activities in the Rift Valley of Ethiopia) entails that the FRG intervention has contributed to remarkable results in boosting agricultural production of target commodities (e.g. Teff, Maize, Haricot beans, Onion, Tomato, Pepper). Maize production per household has increased from 10.42qt in 2004 to 40.9qt in 2007 FRG farmers. Annual Teff production for household has increased 6.16 qt in 2004 to 13.9qt in FRG farmers. Similarly haricot bean production per household has increased from 6.81 qt in 2004 to 11.4qt in 2007 FRG farmers. Vegetable production is carried out twice in a year. The first cycle is made using irrigation while the second cycle is made using rain and supplementary irrigation. Relatively large number of FRG farmers produces larger quantity of vegetables since they allocate larger size to onion and tomato production. Therefore, intervention of the FRG Project has contributed to more than the planned target of 15% increase in production of target commodities in target area.

Table 1: Change in target commodities production (qt per household)

Crop Type	FRG Farmers		
	2004(Baseline)	2007	% change

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Teff	6.16	13.9	126.0
Maize	8.54	40.9	379.2
Haricot beans	5.61	11.4	102.3
Onion	31.45	76.1	142.0
Tomato	19.32	64.9	235.7
Pepper	10.48	14.4	37.1

Source: Baseline data for 2004 and Impact study (Evaluation of impacts of farmers research group activities in the Rift Valley of Ethiopia)

(3) Indicator 3: Productivity of the target commodities is increased by 15% in the FRG farmers.

According to the results of the impact study report, the Project contributed a significant productivity change for all target commodities against the baseline for the FRG. The Project has contributed to the productivity of maize which has increased more than 100% in addition to other production factors. The higher percent of increase of maize productivity has been partly attributed to technologies released by MARC and subsequent involvement of a large number of FRG farmers in improved seed multiplication.

Table 2: Productivity of target commodities in the target project area (q/ha)

Crop Type	FRG Farmers		
	2004 (Baseline)	2007	% change
Teff	6.9	9.2	32.53
Maize	10.0	21.0	110.97
Haricot beans	7.8	11.7	50.52
Onion	90.05	166.7	85.14
Tomato	63.91	214.0	234.87
Pepper	59.09	174.2	194.83

Source: Baseline data for 2004 and Impact study (Evaluation of impacts of farmers' research group activities in the Rift Valley of Ethiopia)

(4) Indicator 4: The number of the farmers adopting new/improved technologies

increase around the target FRG

The result from the Achievement Workshop indicated that the number of farmers who were adopting new/improved technologies increased more than 5 times of the FRG numbers around the target FRG.

The impact survey result also showed that 92% of the sample respondents were aware of the FRG activities. FRG farmers are one of the important sources of information about FRG activities to the non-FRG members as shown in Table 3. Interesting finding which has implications for expansion of FRG activities is related for the reason why non -FRG farmers did not join FRG. Only 9.5% of them had no interested and the rest were constrained by limited capacity of the research centres of information gap. The results also showed that the non-FRG farmers learnt different technologies from the FRG farmers. Accordingly, 61% of the sample non-FRG framers indicated that they learnt one or more of the technologies listed in Table 4.

Table 3: Source of information for Non-FRG farmers
(N=129)

Source of information about FRG activities	% of non-FRG Farmers
People in the community	10
People outside the community	2
Friends and relatives	29
FRG farmers	74
DA	12
NGO	2
Researchers	4

Source: Impact study (Evaluation of impacts of farmers' research group activities in the Rift Valley of Ethiopia) December 2008

Table 4: Type of technology learnt by non-FRG farmers from FRG (N=61)

Type of technology	% of Respondents
Fattening of livestock	3.3
Row planting of seed/ seedlings rate	21.3
Learnt new variety of maize, Melkasa 2	19.7
Preparation of compost and its use	1.6

Planting trees around house provided fresh air	4.9
Fodder crops	4.9
Improved management of livestock	8.2
Improved crop management	34.4
Improved plough	1.6

Source: Impact study (Evaluation of impacts of farmers' research group activities in the Rift Valley of Ethiopia) December 2008

The Evaluation Team observed through the interview with both FRG and non- FRG farmers that the level of transfer of technologies and information was quite different among members of each FRG, between FRGs and non-FRGs, which also depends on the method of approach from researchers, and extension services from different DAs to FRG and non-FRG farmers, as well as non-FRG farmers' interests.

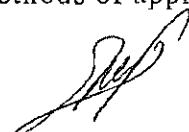
➤ The following points have been identified as promoting or hindering factors for achievement of the Project Purpose.

<Major factors that promoted realization of effects>

- 1) Improvement of extension service (facilitation and support) from researchers, DAs and NGOs because of their changed attitude towards participatory approach.
- 2) Improvement of participation of many stakeholders concerned (multi-disciplinary) to research approach.
- 3) A number of appropriate technology that fit farmers' demand developed/verified.
- 4) Farmers' initiatives to invite others and share experiences.
- 5) Improvement of crop, livestock and natural resources management practices.
- 6) Well-functioning joint project coordination among several implementing agencies.

<Factors that hindered realization of effects>

- 1) Differences in degree of involvement in the Project implementation by WARD for extension service. Instead of that, action plan was prepared with WARD and DAs.
- 2) Lack of meeting on regular bases as planned.
- 3) Lack of access to input (seeds, fertilizer etc.) on time.
- 3) Shortage of land and other input to expand production.
- 4) Information gap from researchers to FRGs by the different methods of approach



and/or farmers' interests.

- 5) Increased price of some complementary inputs and unavailability of technologies (; dairy technology).
- 6) Inadequate joint monitoring and evaluation system at field level.
- 7) Lack of effective mechanism to transfer technology/information from farmer to farmer.
- 8) Provision of yield increasing inputs without cost sharing arrangement for same trial farmer for consecutive years results in complaints due to imbalance in public resources distribution.
- 9) Inconsistent and irregular visit to the FRG activity by the researchers.
- 10) Concentration of several technologies on single progressive farmers and selection of few farmers for training and exposure visit.

3-3. Efficiency

(1) Efficiency of the Project Inputs

In general, the inputs from the Japanese side and the Ethiopian side have been appropriate in terms of quality, quantity and timing. The Study Team observed that here was no critical problem that hindered the efficiency of the Project.

(2) The efficiency between the activities and the inputs

Appropriate numbers of counterparts who have enough ability were assigned. Almost all equipment was procured at the appropriate time. Also, all trainings in the Project have been implemented according to the Project Plan. In general the contents and duration of the training program were appropriate. However, the methods of cost sharing with FRGs and selection of FRG farmers were not fully established due to differences in approach among research subjects and researchers which affected the extension services to the surrounding farmers around the target FRGs. Likewise, turnover of staff and staff assignment for other activities affected smooth implementation of the project.

Out of 40 research subjects, 21 had effective linkages with stakeholders. On the other hand, some of the subjects were beyond the institutional capacity for monitoring and the follow-up was not adequately done for each subject which in turn affect the efficiency of the Project operation.

(3) Linkage with other projects and other organizations

In collaboration with Irrigation Farming Improvement Project and Belete- Gera



Participatory Forest Management Project by JICA, training program for DA was implemented. The member of JCC includes variety of stakeholders such as MoARD, MoFED, Agricultural Cooperatives, farmers and NGOs (such as SEDA). During the implementation, the Project also collaborated with private sectors, Agricultural Cooperative Unions and Tokyo University of Agriculture.

3-4. Impact

The Project is assessed to have many positive impacts, however there are some prospective some of negative impacts observed these are;

(1) Achievement of the Overall Goals

The Overall goals of this Project are as follows;

1. Livelihood of the target FRG members is improved.
2. Production of target commodities in target area is increased.
3. FRG approach is adopted and utilized other research centres.

According to the impact survey report, many positive impacts relating to the Overall Goals have been observed as follows;

- a) The FRG farmers earn significantly high income as compared to the non-FRG farmers.

Table 5: Estimated household income and cost of crop production (ETB)

Items	FRG Farmers	Non-FRG farmers
Gross farm income	35,205	17,804
Cost of crop production*	19,086	10,641
Gross margin	16,119**	7,163

*Cost of livestock Production could not be easily captured

** Corrected by the team

Source: Impact study (Evaluation of impacts of farmers' research group activities in the Rift Valley of Ethiopia) December 2008

About 84% of the FRG farmers reported that their income has increased. This could be partly due to increase in production and productivity as the result of the

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project intervention in the area. The reasons are shown in the table 6. On the other hand, some 12% of the sample respondents indicated that no change or decrease in household income. The major reasons mentioned in order of importance why production could not increase were; flooding problem; no fertilizer supplied with seed; increasing fertilizer price; short time since started; and did not practice any improved technology.

Table 6: Reasons for income increase (%)

Reasons for income increase	% of FRG members
Used improved agricultural inputs	59.3
Used irrigation	5.5
Improved agronomic practice	22.0
Improved livestock production	11.0
Multiple cropping	1.1
Saving behaviour change	1.1
Total	100

Source: Impact study (Evaluation of impacts of farmers' research group activities in the Rift Valley of Ethiopia) December 2008

There were assets building due to FRG activities. Table 7 shows the different types of assets created due to income generated from FRG activities and the proportion of beneficiaries.

Table 7: Assets built due to FRG (N=102)

Type of asset	% of respondents
Household furniture/items (TV, Bed, Refrigerator, etc)	34.3
Livestock	21.6
Farm tools (cart, water pump/generator)	9.8
Constructed new corrugated iron sheet house	29.4
Cell/mobile phone purchased	2.9
Bicycle purchased	2.9
Educate children/human resources development	6.9
Grinding mill purchased	1.0

Acquired land in urban area	7.8
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Source: Impact study (Evaluation of impacts of farmers' research group activities in the Rift Valley of Ethiopia) December 2008

b) From 5 other regions' (Somali, Afar, Beneshangul Gumuz, Gambella) representative of Agriculture Research Centres and staff BoARD visited MARC and ATARC and shared experiences and information on FRG approach and activities. At the field level, many visitors came to see FRG farmers' activities and sharing the improved seeds and technologies.

(2) Ripple Effect to Food Security

Through the interview with East Shewa Zonal Head of Agricultural Office, FRG activities contributed to the improvement of food security among FRG farmers even in times of moisture stress, especially Boset and Adami Tulu Woreda which were suffering the past much from chronic food shortage.

(3) Prospected Negative impacts

There was no specific negative impact from the Project on the others. However, from the interview with FRG and non-FRG framers, it was observed that there was a gap in understanding between FRG and non-FRG farmers on sharing technologies, input and information exchange.

3-5. Sustainability

The effect of the project will be sustained with some modification and after the termination of the project for the following reasons.

(1) Financial aspects

During the implementation of the Project, JICA has been covering most of the budget for FRG research activities. After the termination of the Project, such kind of budget should be allocated by the Ethiopian Government.

Through RCBP, East Shewe Zone has allocated the budget for FRG activities through FTC since last year.

Adoption of the FRG approach can be effective if the support will receive from the government of FRDE for scaling up/out to the other zones and regions.

The budget for production of extension materials is covered by the Project, therefore linkage and support from extension directorate of MoARD and BoARD

should be highly linked to the extension system

(2) Institutional aspect

Oromia Regions Development Plan 2008/09 mentioned strengthening of FRG approach as the main research and extension services. Also according to the BPR, agricultural research centres are formulating team for the research activities to use FRG approach as one of the research and extension methodology. Therefore FRG approach will be continuously adopted in Oromia Region and others. Moreover, in the short-term the FRG approach will be maintained politically because MoARD/EIAR has been scaling up the FRG approach to the national level with JICA and RCBP funded by the World Bank. The major factors of the FRG approach are research by multi-disciplinary research team and farmers' demand oriented research which are included in the basic principle as the BPR. It is expected that the principle will provide supplemental support to sustain and develop the FRG approach. It is strongly required the institutional initiative will be taken by MoARD in order to support the FRG approach.

(3) Technical and conceptional aspect

Conceptionally, the FRG approach has been clearly understood by stakeholders within the Project implementation area. At the field level, improved technologies introduced by the Project have been transferred, modified and verified among FRG framers.

At the research centres level, researchers who were not directly involved in the Project at start, also recognized and adopted the FRG approach and some of them are practicing by themselves, therefore the concept of FRG approach will be sustained in MARC and ATARC.

At the central level, MoARD/EIAR has been adopting the FRG approach with JICA to the national level through RCBP of the World Bank. There are many requests to introduce the FRG approach as well as request to visit the Project sites from agricultural research centres, RCBP, and the NGOs. According to the visitors, who need more innovative approach for research and extension that are highly demanded. Therefore, FRG approach will be adopted in other regions with some modifications of the FRG guideline depend on the ecological and social conditions of each area.



4. Conclusion

- (1) It is confirmed that the Project is in conformity with the Ethiopian Government Policy and needs of beneficiaries and also the Japanese Aid Policy.
- (2) It is judged that the Project has successfully been implemented without any major problem and will mostly achieved the Outputs of the Project and the Project Purpose by the termination of the Project.
- (3) Thus, it is to be concluded that the Project will be terminated on 17th July, 2009 as planned.
- (4) Summary of findings from the Study as follows:
 - a) FRG approach has strengthen linkage between research, extension, farmers and others.
 - b) Farmers groups has enhanced the adoption of technologies (collective action)
 - c) By working in Teams attitudinal change and net workings enhanced
 - d) Improved social capital and farmer to farmer technology transfer
 - e) Community can participate in the production and distributions of inputs (seeds)



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5. Recommendations

5 -1 Short-term issues (during remaining Period)

(1) Guideline

For the accountability and transparency of the Project, the guideline should include the clearer criteria for selection of FRG farmers. Importance of cost sharing and outputs management (revolving system, output sharing in FRG or sharing with neighbours, etc.) needs to be emphasized in the guideline.

(2) The definition of “well-functioning FRG”

The stakeholders of FRG approach still have different understandings what “well functioning FRG” is. In consideration of the survey by the project to confirm the level of “well-functioning” for each FRGs, common understandings of “well-functioning FRG” should be shared with stakeholders.

(3) Preparation of Profile of each FRGs

The Project has already compile “FRG Research Inventory” and “FRG Research Report”. In addition to these materials, profile of each FRGs which will describe not only the location (mapping) and progress, outputs, but also each steps and “trail-and error” process of FRG activity in details should be prepared for institutional memory. And that kind of material is useful for researchers and extension workers in other areas who have the will to start FRG activities.

(4) Place the signboard at FRG farmers’ sites

In order to transfer information to the neighbours and other stakeholders (DAs, Woreda Office, and other visitors), each FRG should set signboard with information about the FRG Project (e.g. research subject, duration, crops variety, available information and seed etc). It is helps surrounding farmers and other people to know and access the FRG farmers’ activities, even after the Project termination.

(5) Preparation of exit strategy document

EIAR/MARC and OARI/ATARC should prepare the exit strategy document to sustain the outputs of the Project.

(6) Strengthening the monitoring and evaluation

In order to know the progress of the FRG activities monitoring system should be



strengthened by the researchers at field level. The information that is collected from monitoring should be recorded, analyzed, and shared with core stakeholders, and put feedback for the next step of activities.

5 -2 Medium and Long-term issues (after the Project completion)

(1) Assignment of responsible and monitoring person for FRG activities

After JICA experts withdraw from the Project, EIAR/MARC and OARI/ATARC should assign person or teams who have responsibility to monitor FRG activities. Then research subjects and progress of each activity need to be coordinated and give feedback to the next Action Plan to be followed.

(2) Production of extension materials

In order to scale up the outputs of the FRG approach, it is necessary to allocate budget for production and distribution of extension materials by extension directorate in MoARD and BoARD.

(3) Marketing perspective

Fluctuation of price is found to be one of the critical problems for farmers. Therefore, the FRG approaches in the future need to strengthen marketing component. Marketing perspectives should be integrated in each subject.

(4) Budget allocation for the FRG approach from the Ethiopian side

The FRG concept should be internalized by the Federal and Regional research institutes and should be incorporated within the research and extension plan of operation with its entire associated budget for the implementation and should be submitted to the government of FRDE by the research centres.

(5) The naming of the FRG approach

There is a strong idea/initiative that the naming of the approach needs to be modified in order to share the responsibilities between both actors (researcher and extension workers). During the Study, there was a discussion among the Team with regard to the idea of proposing the inclusion of extension as "FREG" (Farmers, Research and Extension Group) in place of FRG. This issue is quite important to sustain the FRG approach and its dissemination; therefore, both the Japanese side and the Ethiopian side continue to discuss how to take care of this matter.



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6. Lessons Learned

(1) It contains important implication to what extent the Project cover the component of “Extension”. The Project which aims to make a bridge to link between agricultural research and extension, have been usually recognized as “project for research” and sometimes as “project for research and extension”.

Considering that the Project is based on the research centres, and that MoARD and Woreda Offices are fundamentally in charge of extension, for smooth implementation of the Project, the project framework which is focus on “research (the appropriate technology development considering the view of “extension”)” should have been discussed.

And it should be considered by stakeholders, including RCBP funded by WB, to clarify the relationship between research and extension, and also the roll of “research” in the FRG Approach for scaling up this approach to other research centres.

(2) There are three Overall goals that intend to cover on wide range of achievement. Though the Overall goals are expected to achieve after 3 to 5 years of the termination of the Project the wide ranged Overall goals have affected the direction of implementation of the Project. Therefore, the Overall goals should be states one or two in order to show the clear and logical direction after the achievement of the Project Purpose.



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ANNEX 1: Revised Project Design Matrix (PDM)

The Project on Strengthening Technology Development, Verification, Transfer and Adoption through Farmers Research Groups (FRGs)

Project Area: Research Areas of MARC and ATARC in the East Shewa Zone and Arsi Zone

Target Groups: Researchers, extension agents and farmers of FRGs in the Project area

Project Period: July 17, 2004 to July 16, 2009 (5 years)

Version: 2

Prepared: January 18, 2007

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal			
<p>1 Livelihood of the target FRG members is improved.</p> <p>2 Production of target commodities in target area is increased.</p> <p>3 FRG approach is adopted and utilized in other research centers</p>	<p>1-1 Availability of grain at the end of the year is increased by 15% at the target farmer</p> <p>1-2 The household incomes of the target farmers are increased by 15%.</p> <p>1-3 The number of improved animals at the target farmer households is increased by 15%.</p> <p>1-4 The number of children going to school is increased by 15% at the target farmers'</p> <p>2 Production of target commodities in the target area is increased by 15%.</p> <p>3-1 The number of research centers which adopt FRG approach.</p> <p>3-2 The number of well-functioning FRGs increase. Well-functioning FRGs are defined as follows, which will be evaluated through rating by researchers.</p> <ul style="list-style-type: none"> - Capable to diagnose and analyze problem - Capable to collect necessary information from outside for solving problem - Capable to help and advice other farmers 	<p>Socioeconomic survey</p> <p>Socioeconomic survey</p> <p>Interview</p> <p>Project database</p>	<p>Authorities concerned will not scale down Project achievements</p>
<p>Project purpose</p> <p>FRG approach is established as one of the core methods of research and extension in the East Shewa Zone</p>	<p>1 Number of well-functioning FRGs increase up to 70% of FRGs</p> <p>2 Production of target commodities is increased by 15% in the FRG farmers.</p> <p>3 Productivity of target commodities is increased by 15% in the FRG farmers.</p> <p>4 The number of the farmers adopting new/improved technologies increase around the target FRG (No.4 would be quantified after the baseline survey).</p>	<p>Socioeconomic Survey</p> <p>Existing statistical data</p> <p>FRG record</p>	<p>1. EIAR and OARI will not discourage to disseminate FRG</p> <p>2. Assistance and budgetary allocations of Ethiopian government for FRG approach will not</p>
Outputs			
<p>1 FRG guideline is developed.</p> <p>2 Appropriate technologies which meet farmer's needs and capacities are developed/improved</p> <p>3 Extension components of FRG approach are improved.</p> <p>4 Linkage among stakeholders is strengthened.</p> <p>5 Document on experiences and lessons from FRG approach published</p>	<p>1 The final version of FRG guideline is completed</p> <p>2-1 80% of technologies developed/improved are adopted by more than 60% of FRG farmers by the 3rd year from starting each FRG activities</p> <p>2-2 More than 50% of Farmers are highly satisfied with technologies.</p> <p>3-1 The number of non-FRG farmers' participation in the extension activities will be 10 times of total FRG farmers</p> <p>3-2 Demonstration, field day and farmers' training by FRG farmers are conducted respectively at least one per year</p> <p>3-3 Type/frequency of DA's service improved.</p> <p>3-4 More than one extension material for each completed subject and/or technology is developed</p> <p>4-1 All concerned stakeholder involved in FRG activities.</p> <p>4-2 Type of joint activities among stakeholders increased.</p> <p>4-3 More than 80% of stakeholders are highly satisfied with work relationship among</p> <p>5-1 One published document at the end of the Project.</p> <p>5-2 Spapers are published</p>	<p>Final FRG guideline</p> <p>Record of Activities</p> <p>Impact survey</p> <p>Record of activities</p> <p>Record of activities</p> <p>Record of activities</p> <p>Published documents</p> <p>Published documents</p>	<p>1 Principle of Research-Extension-Farmers Linkage (REFL) will not be changed</p> <p>2. Staff turnover will not be critical.</p> <p>3. Serious natural disasters will not be happen</p>

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Activities	Inputs		Important Assumptions
<p>0. General Programs</p> <p>0-1 Conduct baseline survey</p> <p>0-2 Formulation of the overall work plan</p> <p>0-3 Establishment of implementation framework</p> <p>0-4 Monitoring and Evaluation</p> <p>1. Development of FRG Guideline</p> <p>1-1 Review of past and ongoing FRG activities.</p> <p>1-2 Improvement of FRG approach</p> <p>1-3 Implementation and review of improved FRG approach.</p> <p>1-4 Preparation of FRG guideline.</p> <p>1-5 Conduct seminars/ workshops</p> <p>2. Development of Appropriate Technology</p> <p>2-1 Preparation of the list of available technologies.</p> <p>2-2 Conduct market survey</p> <p>2-3 Capacity development of researchers.</p> <p>2-4 Capacity development of existing /new FRG.</p> <p>2-5 Development of technology(*)</p> <p>2-6 Conduct seminars/ workshops</p> <p>2-7 Produce research reports</p> <p>3. Improvement of Extension Component of FRG</p> <p>3-1 Preparation of training materials (manual, handouts, etc)</p> <p>3-2 Conduct on-the-job training of DAs/EXPs</p> <p>3-3 Implementation of improved extension method in FRG activities demonstration (farmer field school, field trials, etc)</p> <p>3-4 Conduct seminars/ workshops</p> <p>3-5 Prepare extension materials</p> <p>4. Strengthening of the linkage among stakeholders.</p> <p>4-1 Regular meeting among stakeholders</p> <p>4-2 Clarification of the TORs of stakeholders.</p> <p>5. Publishing of the project document on experiences and lessons from FRG approach.</p>	<p>JICA</p> <p>1. Expertise</p> <p>2. Equipments</p> <p>3. Budgets for training, operational costs, etc.</p> <p>MARC/ATARC</p> <p>1. Expertise</p> <p>2. Facilities</p> <p>3. Budgets for project implementation.</p> <p>Extension agents (Wareda Agri. Offices, Das, etc)</p> <p>1. Expertise</p> <p>2. Facilities</p> <p>Farmers</p> <p>1. Expertise</p> <p>2. Land</p>		
<p>Notes.</p> <p>(*) Development of technology refers to (1) modification (improvement) of existing technology, (2) verification of recommended technology, (3) generating new technology based on experiments done with FRG farmers.</p>			

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ANNEX2: Plan of Operation (Tentative)

Overall Implementation Schedule			2004*	2005	2006	2007	2008	2009
Outputs/Activities	Responsible persons/organization	Activities at						
0. General Program								
0-1. Conduct of baseline survey	MARC, ATARC & DAs	Target areas						
0-2. Formulation of the overall work plan	MARC, ATARC & DAs	MARC & ATARC						
0-3. Establishment of implementation framework	MARC, ATARC & DAs	MARC & ATARC						
0-4. Conduct of seminars/ workshops								
1. Development of FRG Guideline								
1-1. Review of past and ongoing FRG activities	MARC & ATARC	Target areas						
1-2. Improvement of FRG approach	MARC, ATARC & DAs	MARC & ATARC						
1-3. Trial and review of improved FRG approach	MARC, ATARC & DAs	Target areas						
1-4. Preparation of FRG guideline	MARC & ATARC	MARC & ATARC						
1-5. Conduct of seminars/ workshops	MARC & ATARC	MARC & ATARC						
2. Development of Appropriate Technology								
2-1. Preparation of the list of available technologies	MARC, ATARC & DAs	Target areas						
2-2. Conduct of market survey	MARC & ATARC	Target areas						
2-3. Training of researchers	MARC & ATARC	MARC & ATARC						
2-4. Strengthening of existing/ new FRG	MARC, ATARC & DAs	Target areas						
2-5. Verification of technology	MARC, ATARC, DAs & FRG	MARC, ATARC, Target areas						
2-6. Conduct of seminars/ workshops	MARC, ATARC & DAs	MARC & ATARC						
3. Improvement of Extension Component of FRG								
3-1. Preparation of training materials (manual, handout, etc.)	MARC, ATARC & DAs	MARC & ATARC						
3-2. Conduct of on-the-job training of DAs/SMSs	MARC, ATARC & DAs	Target areas						
3-3. Conduct of extension improvement activities through FRG	DAs & FRGs	Target areas						
3-4. Conduct of seminars/ workshops								
4. Strengthening of Linkage among Stakeholders								
4-1. Regular meetings among stakeholders	MARC & ATARC	MARC						
4-2. Clarification of the TORs of stakeholders	EARO & OARI	EARO & OARI						

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5. Documentation


5-1 News letter

5-2 Other documents

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ANNEX3: Progress of Project Activities

Item	Action Plan		Progress & achievement	Achievement rate	Reason for delay	Plan from now
	Activity	Goal				
General programme	Conduct baseline survey	Baseline survey report	Baseline Survey Report was completed	4		
	Formulate the overall work plan	Work Plan (WP)	WP and APO were formulated	4		
	Establish implementation framework	Implementation structure	Implementation plan was discussed and agreed among the stakeholders. Steering committee meetings were held only 3 times.	4	Focus of the project activity was given to research centres' role for collaborative research rather than linkages collaboration itself. Instead of having steering committee meeting. Joint Coordination Committee meeting has been held every 6 months. Due to reorganisation of government institutions including agricultural research institutions, new organisational structure is yet to be clear.	
	Construct FRG building	Two FRG building	FRG buildings at ATARC and MARC were completed. Additional improvement work was done for MARC building. ATARC building will be rehabilitated soon.	4		
	Conduct monitoring and evaluation	Progress report	Bi-annual progress reports have been produced and submitted. The submission was delayed sometime. Impact survey has not conducted yet.	3		Submission of remaining progress reports to be in time. Impact survey will be conducted in December 2008 and January 2009.
FRG guideline is developed	Review past and ongoing FRG activities	Report	The report was submitted.	4		
	Improve FRG approach	Guideline	Cornerstone of the FRG approach was set.	Continued		See "Prepare FRG guideline"
	Implement and review improved FRG approach	Minutes of regular meetings	Monthly FRG meetings have been organised at each research centre to share experiences and lessons learnt. Each FRG research team meets when it is necessary, once every two months in average.	Continued		Before finalising the FRG guideline, organise stakeholder meetings to discuss the FRG approach.
	Prepare FRG Guideline	Guideline	Version 3 is under full-revision by incorporating experiences and examples.	3		Complete Version 4 by February 2009. Organise a workshop in March 2009.
	Conduct seminars/workshops	Minutes, presented papers	A workshop on FRG approach was organised in 2004.	2		Complete Version 5 as the project's final version by June 2009. Organise a stakeholder workshop in December 2008.
Appropriate technologies which meet farmers' needs and capacities are improved	Prepare the list of available technologies	List of recommended technologies	A list of recommended technologies and a list of farmers technologies are compiled.	4		The list of recommended technologies will be updated.
	Conduct market survey	Market data, monthly report	Since August 2005, market price data have been surveyed at 5 market places in the target area. The data were provided to research teams.	3		Report will be compiled by December 2008. Farmers' market strategy will be worked on using the collected market information between January and March 2009.
	Develop the capacity of researchers	Trainings	Dispatched 22 researchers to various technical training programme in Japan, 25 researchers to third countries (Uganda, Kenya and Thailand). Two researchers participated a IFPRI research management training programme. Ten researchers participated participatory CIAT M&E training programme.	4		
	Develop the capacity of existing/new FRGs	Workshops, trainings	Farmers' capacity development through training, exchange visit, study visit is built-in in FRG activities of each topic.	Continued		It continues until March 2009.
	Develop technologies	Research report, extension materials	Out of 40 registered FRG research topics, 8 were completed and 1 was suspended in 2007. Completed research reports were published as "FRG research reports completed in 2007". Another 14 are completing their research activities by December 2008. Four researches were suspended in 2008. Remaining 14 research topics will be completing their activities by March 2009. There are 40 extension materials developed by researchers. Four topics have been worked on improved extension materials.	3	The suspended topics were listed up by review meetings due to absence of no effective measure to encountered problems.	Extension materials, including existing ones, will be developed/improved further by researchers with support of a short term expert from December 2008.
	Conduct seminars/workshops	One such event for each topic in a season	Ten seminars/workshop were conducted on various topics.	2	Monthly meetings were used as a forum for presenting findings and discussing issues.	

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Extension components of FRG approach are improved	Prepare training materials	Data book for extension agents, list of available technologies, leaflet of each technology	Databook for extension workers and list of available technologies were compiled. Extension materials were used for training of extension workers and farmers. Extension material development committee was formed among research, extension, farmers and NGOs. The committee meeting was held 3 times.	3	Training materials/extension materials were prepared but their quality need further improvement.	Extension materials, including existing ones, will be developed/improved further by researchers with support of a short term expert from December 2008.
	Conduct on-the-job training of DAe/EXPs	Extension agents are effectively involves in FRG	All the FRG research topics involved DAs and Experts in their activities but in various degrees.	Continued		Conduct survey on Das' involvement in each FRG topics. In December 2008.
	Implement improved extension method in FRG activities	Extension components are incorporated in the guideline	Methods of farmer meeting, farmer training, field day and exchange/ study visit were constantly discussed and improved. Guidelines for farmer training, field day, gender sensitization were compiled.	3		Support 4 FTCs in the target with technical materials and training as agreed with RCBP.
	Conduct seminars/workshops	At least one meeting for extension agents per season at each centre	Thirteen seminars/workshops were conducted in relation to extension component of the FRG approach, including DA training jointly conducted with other JICA projects. Understanding among the researchers on "extension component of FRG approach" are (1) set of technologies, (2) economic aspects of improved technologies, (3) presentation of improved technologies and (4) conduct of farmers' events.	3	It was recognised that improvement of the extension component of the FRG research was depending on researchers' behaviour addition to extension workers' capacity. Therefore the project concentrated more on researchers' understanding of extension and their role for it.	Along with the completion of final FRG guideline, there will be series of meetings with researchers and extension workers.
Linkage among stakeholder is strengthened	Hold regular meeting among stakeholders	At least one stakeholder meeting per season at each centre	Wareda offices and NGOs were regular stakeholders contacted. There were also two meetings with the zonal and all the wareda offices. Almost all the workshops invited zonal and wareda agricultural offices and NGOs. Additionally, REAC was a forum for discussing among stakeholders. Since June 2008, regular meetings with RCBP have been held monthly for scale up/out of the FRG approach to other regions. Monthly meeting with wareda experts at the zonal office has started in October 2008.	3		Continue monthly meetings at the zonal office.
	Clarify the TORs of stakeholders	Define TORs of stakeholders for each collaboration	All the FRG research proposals include roles of farmers, DAs and NGOs. Joint action planning has been included in the FRG guideline.	3		
Document on experiences and lessons from FRG approach published	Publish project documents on experiences and lessons from FRG approach	Publish at least one document per year	Baseline survey report (2005), Proceedings of FRG approach workshop (2005), Proceedings of WHT workshop (2006), Proceedings of FRG research reports completed in 2007 (2008), FRG research inventory (2008) have been published. Newsletter "FRG UPDATE" 4 issues were published.	3	Submission of completed research reports delays	Proceedings of farmer seed production workshop will be published by January 2009. Proceedings of FRG research reports completed in 2008 will be published by March 2009. Revised FRG research inventory will be published in March 2009. Newsletter "FRG UPDATE" will be published every one to two months.

* Achievement rate: 4 completed, 3 almost completed, 2 issues remaining, 1 not implemented.

ANNEX4-1: Terminal Evaluation Grid : Project on Strengthening Technology Development, Verification, Transfer and Adoption Through Farmers Research Groups (FRGs): Achievement (as of 10 January, 2009)

Evaluation Items	PDM Indicators	Required Data	Information Source	The results of the study
1. Achievement of Overall Goal				
1. Livelihood of the target FRG members is improved.	1-1 Availability of grain at the end of the year is increased by 15% at the target farmer	Data on Availability of grain of target farmers	Impact study, Statistics of MoARD and other offices	[The results from the Impact study will be analyzed by the beginning of January 2009.]
	1-2 The household incomes of the target farmers are increased by 15%	Data on Household income from target farmers	Impact study, Statistics of MoARD and other offices	[The results from the Impact study will be analyzed by the beginning of January 2009.]
	1-3 The number of improved animals at the target farmer households is increased by 15%	Ratio of improved animals of target farmers	Impact study, Statistics of MoARD and other offices	[The results from the Impact study will be analyzed by the beginning of January 2009.]
	1-4 The number of children going to school is increased by 15% at the target farmers.	School enrollment ratio of target farmers (Data from Masa SU Project?)	Impact study, Statistics of MoARD and other offices	[The results from the Impact study will be analyzed by the beginning of January 2009.]
2. Production of major commodities in target area is increased.	Production of major commodities in the target area is increased by 15%	The production of major commodities in East Shewa Zone	Impact study, Statistics of MoARD and other offices	[The results from the Impact study will be analyzed by the beginning of January 2009.]
3. FRG approach is adopted and utilized in other research centers.	The number of research centers which adopt FRG approach.	The number of research centers which adopt FRG approach guidelines	Interview	*The World Bank has been applying the FRG guideline which were developed by the FRG project for the RCBP in the national level in Ethiopia, and the RCBP has established 500 FRGs. It is expected that the number of members in the research center will increase because of the development of the FRG guideline and the approach which can be applicable nationwide in Ethiopia. *However, there is some concern about the coordination among the research centers.
	3-1 The number of well-functioning FRGs increase (Please refer to the definition which mid-term evaluation mission made).	The ratio of "Well-functioning FRG"	Impact study, Questionnaires for research team	*The quality of the FRG will be improved further by an elaborated plan promote participatory agricultural research through the RCBP by the World Bank and promote the beneficiaries oriented research by the BPR.
2. Achievement of Project purpose				
FRG approach is established as one of the core methods of research and extension in the East Shewa Zone	1. Number of well-functioning FRGs increase up to 70% of FRGs	The number of "Well-functioning FRGs"	Impact study, Questionnaires for research team	*75% of the ratio of Well-functioning FRGs was reached as of December 23, 2008. *Each FRG has active farmers who promote the whole group activities, however there are some concerns about how to sustain a high level of morale by the FRGs.
	2. Production of target commodities is increased by 15% in the FRG farmers.	The production of "Target commodities"	Baseline survey, Impact study, Questionnaires for research team	*To date the exact percent of the production of Target commodities was increased by XX%. But there might be other factors for the increment of production.
	3. Productivity of target commodities is increased by 15% in the FRG farmers.	The productivity of "Target commodities"	Impact study, Questionnaires for research team	*The productivity of Target commodities has been increasing in totally. Please see the attached Technical achievement of FRG's
	4. The number of the farmers adopting new/improved technologies increase by 30% around the target FRGs.	The number of the farmers adopting new/improved technologies	Impact study, Questionnaires for research team	*Out of the 40 subjects in our research: 25 subjects (about 63%) are expected to have positive impact on the farmers 8 subjects have not achieved the outputs yet. 4 subjects are not expected to achieve the outputs. 3 subject out of 4 were discontinued due to stagnant research activities. 3 subjects applied for continuous research, 2 subject out of 3 verified the effectiveness of the FRG approach. *The causes of discontinuation of researchs were as follows: (1) Lack of basic skill of junior researchers. (2) Lack of guidance from senior researchers to junior researchers due to the assignment deal with the BPR. (3) Lack of systematic accumulated experiences (4) Frequent turnover of researchers and so on.
	Others	Effectiveness and relevance of developed FRG approach	Impact study, Questionnaires for research team	* The FRG approach effective from completion of FRG activities that provided practical and positive technical aspects (e.g. improved mold plow, cooperation for till cultivation, marketing research, milk churner, and maize seed production etc.) *MoARD /CIAR have started to promote the AFT approach nationwide through the RCBP of the World Bank, thus the FRG approach is in line with the Ethiopian government's needs and policy. *However, 35% of research subjects are not expected to achieve an output even now, it's become clear that the outputs of the approach are dependent on the abilities and the limits of the capacity attitudes of the target farmers.
		Feedback and evaluation of FRG activities from Non FRG farmers	Impact study, Interview	*XX% of non-FRG farmers know FRG activities, and XX% of them obtained information and technology from FRG farmers, moreover XX% of them appreciated the information and technology. Therefore, it is proven that there was satisfaction to some extent with non-FRG farmers about the FRG approach and the developed technologies by the FRG Project. *However the means of sharing information with non-FRG farmers was different among the researcher groups, it effected the feedback and the evaluation from non-FRG farmers. *Regarding the sharing of information, it is clear that the FRG approach is superior to the conventional current system. However, it is essential and mandatory that the development of extension materials by researchers strengthen the linkage between research and extension.

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Evaluation Items	PDM Indicators	Required Data	Information Source	The results of the study
3. Achievement of Outputs				
1. FRG guideline is developed.	1-1 The final version of FRG guideline is completed.	The anticipated time for accomplishment of the final version of FRG guideline	Plan of operations	<ul style="list-style-type: none"> The version 4 of the guideline will be prepared by February, 2009, and the workshop will be held in March 2009. The final version (ver.5) of guideline will be submitted to EAR by May, 2009. The authorization and preparation of final guideline will be consulted with MoARD and BOARD as much as possible.
		Effectiveness and relevance of developed FRG approach	Interview	<ul style="list-style-type: none"> MoARD / EAR has adopted and distributed the revised version of FRG guideline by the World Bank's the RCBP on the nationwide in Ethiopia, which was developed the FRG Project. It means the guideline is in line with the policy and needs of the Ethiopian government. Therefore, relevance and effectiveness of FRG approach is high.
		Feedback and evaluation of FRG guideline from EAR, OARC, MoARD, BOARD and other donors	Interview	<ul style="list-style-type: none"> The guideline was evaluated by EAR, DARI MARG, ATRC The guideline was evaluated by MoARD, BOARD and Woreda Offices.
2. Appropriate technologies which meet farmer's needs and capacities are developed/improved.	2-1 80% of technologies developed/improved are adopted by more than 60% of FRG farmers by the 3rd year from starting each FRG activity with the project	Ratio of application of technologies	Impact study, Questionnaires for research team	<ul style="list-style-type: none"> About XX% of FRG farmers applied the technologies which was developed by 40 research subjects of the FRG Project. Therefore the ratio of application of FRG technology was high.
	2-2 More than 50% of farmers are highly satisfied with technologies	Ratio of satisfied farmers	Impact study, Interview	<ul style="list-style-type: none"> XX% of target FRG farmer and XX % of non-FRG farmer answered that satisfaction of obtaining the technologies from the FRG Project.
	Others	Feedback and evaluation of stakeholders for extension services (e.g. DAs, Woreda Offices, NGOs, Private sectors, Agricultural cooperatives)	Impact study, Interview, Questionnaires for research team	<ul style="list-style-type: none"> XX out of the 80 FRG's were positively consulted with DAs. It is depend on the FRGs and research subjects how to disseminate the developed technologies to others. But, enough extension system is not established yet.
				<ul style="list-style-type: none"> The number of non-FRG farmers attended the FRG activities were XX, which was XX times of total number of FRG-farmers.
3. Extension components of FRG approach are improved.	3-1 The number of non-FRG farmers' participation in the extension activities will be 10 times of the total FRG farmers.	The number of participants to the extension activities from non-FRG farmers.	Project reports, Questionnaires for research team	<ul style="list-style-type: none"> Regarding research subject such as XXXX, extension activities (e.g. field-day, farmers training, observation) were implemented more than once in a year. Above that reason, the indicator on extension activities for farmers was achieved/ not achieved.
	3-2 Demonstration, field day and farmer training by FRG farmers are conducted respectively at least once per year.	The frequency of demonstration, field day and farmer training	Project reports, Questionnaires for research team	<ul style="list-style-type: none"> Training programs for DAs which was organized by FRG Project five times in five years, the total number of trainees was 324. The joint DA training programs were held twice in collaboration with Project for Irrigation Farming Improvement and Bawata-Gara Participatory Forest Management Project in 2008, and they provided an opportunity to share good practices on extension activities and knowledge. The follow up system for DA training program is not established well, the follow up programs were implemented depend on the subjects. It is necessary to systemize the training program in order to improve extension services in the FRG approach.
	3-3 Type/frequency of DAs' services improved.	The number of trainees of DA and the frequency of training for DAs	Project reports, Impact study, Questionnaires for research team	<ul style="list-style-type: none"> It was observed that some DA' positive activities in collaboration with farmers (e.g. preparation of training materials, implementation of self-experiments) by participating the FRG activities, however that was a part of DAs. TOR of DAs on FRG approach was not yet consolidated nor institutionalized through the discussions with BoARD and Woreda Offices.
		Change of DAs' activities and frequency of participation to FRG activities	Impact study, Interview	<ul style="list-style-type: none"> The extension materials development committee has been established by MARG and ATRC jointly, which consists of farmers, extension workers, NGOs and researchers. It was discussed on improvement for needed extension materials, contents, language selection and format at the committee. The committee's meetings have been held three times so far, and it will be continued. The guideline of extension materials was developed within 2008 by the committee based on the past experiences on extension services of the FRG Project. 10 kinds of extension materials were developed. 4 subjects of these materials were revised (English, Amharic and Oromo language). Those materials include material to share information from DAs to farmers. The materials' reputation is very high from MoARD, EAR, FRG (e.g. advanced farmers organization such as Lumo-Adama Cooperative Union) and other donors (e.g. The World Bank), and there is a possibility to change the extension service system on style and quality of activities by DAs. The remaining 23 subjects of extension materials also will be revised, and it is expected that the revised extension materials will be utilized by DAs as well as MoARD and BoARD. The newsletter "FRG UPDATE" is appreciated by stakeholders for extension services by means of sharing experiences.
		2-4 More than one extension material for each completed subject and/or technology is developed.	The number of Extension materials and list of it	Project reports
		Feedback and evaluation of stakeholders for extension services (e.g. DAs, Woreda Offices, NGOs, Private sectors, Agricultural cooperatives)	Impact study, Interview	

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Evaluation Items	PDM Indicators	Required Data	Information Source	The results of the study
		Feedback and evaluation from researchers	Impact study, Interview, The results of questionnaire from Mr. Nakazato Report	<ul style="list-style-type: none"> *4 subjects extension materials revised in 2008 were highly appreciated. 80% of participants of the workshop for stakeholders, researchers, extension workers and farmers) who admitted the high effectiveness of the contents of workshop, which was organized by a short-term expert on extension materials. It explained about the importance of development of extension materials. *The FRG approach emphasizes on the role of extension workers for extension activities which includes development of extension materials, however there are differences of action among extension workers due to the role of activities on extension service was not written on TOR at present. The BPR which is under preparation that clearly states beneficiaries oriented researchers, therefore the evaluation that researchers for farmers will be included. It promotes the interested in extension materials by researchers. *The major activities of the FRG approach is to develop the extension materials based on the outputs from researchers by the FRG Project, but the aim of the FRG approach is production of extension materials. The extension materials should be produced by agricultural extension department of Et
		Feedback and evaluation from FRG farmers	Impact study, Interview	<ul style="list-style-type: none"> *According to the comments from extension material development committee, the materials include many pictures and illustrations are preferred from farmers. As a portable information material, small size leaflet materials were highly demanded. *4 subjects of the extension materials revised in 2008 were highly evaluated.
4. Linkage among stakeholders is strengthened.	4-1 All concerned stakeholders involved in FRG activities.	The way of involvement of concerned FRG farmers to the Project activities at present?	Impact study, Interview, Questionnaire for research team	<ul style="list-style-type: none"> *Expected stakeholders for collaboration for research were agricultural office, cooperative, NGOs and Private sectors. See attached' Collaboration with stakeholders in FRG research'. *XX% of subjects has access in collaboration with agricultural Offices in Zone and Woreda. The most active in collaboration were field on haricot beans, vegetables, maize, dairy technology tractor etc. The collaboration of planning and monitoring was not enough with Zonal Office. Zonal officers participated workshops and extension material development committee, on the other hand the officers could not attend field level activities due the busyness of political assignments. *21 subjects out of the 40 have been researched in collaboration with stakeholders. *Regarding vegetables (seed production), dairy farm (collective management and market) and forage seeds(market) were collaborated with agricultural cooperatives on markets. *Technical extension, seeds production and distribution) of haricot beans was corroborated with NGOs. *Milk churner, improved mold bread plow and feed chopper were produced and improved in collaboration with private sector. *Milk churner and experiment of improved mold bread plow were collaborated with other research centers. *Technical extension of fattening goats, haricot, bean, vegetables weed control were collaborated with other projects.
		The track records of conference and workshop for linkage of stakeholders	Project reports	<ul style="list-style-type: none"> *9 out of 31 training activities (such as workshop, seminars, training) have been participated by other stakeholders besides researchers, extension workers and farmers so far. *In addition to this, many stakeholders participate daily meetings from each FRG.
	4-2 Five of joint activities among stakeholders increased and role of each stakeholder is clearly specified in action plan of each FRG subject	What type of stakeholders and how did they participate to the activities?	Project reports	<ul style="list-style-type: none"> *The role of stakeholders are written for every FRG research program.
		What type of stakeholders and how will they participate to the activities in the future?	Plan of operations	<ul style="list-style-type: none"> *Distribution of extension materials and Application of FRG approach for FTC by BoARD and Woreda Offices *Distribution of extension materials and seed production by agricultural cooperative. *Extension of improved technologies by NGOs. *Improvement and promotion of agricultural tools by private sector. *Distribution of extension materials and improved seed by other donors.
	4-3 More than 80% of stakeholders are highly satisfied with work relationship among themselves.	Comments from the major stakeholders.		<ul style="list-style-type: none"> *The results from interview, the major stakeholders comments.
		Examples of good practice for linkage with other stakeholders	Project reports, Interview	<ul style="list-style-type: none"> Subjects of good practice implementation in collaboration with other stakeholders were as follows. *Haricot bean in FRG: The extension of mold board plow for in large number of farmers, expansion of market and establishment of distribution system were collaborated with NGOs, Agricultural office, artisans of agricultural tools and blacksmiths. *Variety of haricot bean: Improved seed production is expanding in collaboration with Bean project. *Compactum of Teft: Improvement and development of compacter in collaboration with private ironworks. *Paratybun Hysterophorus t. control measures; in collaboration with IWUP FRG farmers. *Community based seed multiplication of maize, Variety control in collaboration with Oromia seed cooperation. *Sweet potato: selection of seedlings and extension of sweet potato varieties with NGO. *Forage seed: Production and marketing in collaborated with NGO. *Milk churner: Production and improvement in collaborated with ironworks, expansion of experiments with other regions' research centers. *Chopper: Production and improvement collaborated with cowmarks. *Fattening goats: FRG approach was adopted in USAD project in collaboration with NGO.
		What coordination activities have not been made output?	Project reports	<ul style="list-style-type: none"> *The most important thing for the FRG approach is that strengthening the linkage with research and extension, therefore REAC was established in research center, region and national levels and the World Bank has made effort to capacity development through the RCBP. Moreover counterparts of the FRG Project are coordinating at research center level for REAC, which has been advising since the beginning of the FRG Project, however an output is not achieved to strengthen the linkage of research and extension.

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Evaluation Items	PCM Indicators	Required Data	Information Source	The results of the study
5. Document on experience and lessons from FRG approach published.	5-1 One published document at the end of the project.	The list of published document	Project reports	<p>The documents published by the FRG Project are as follows.</p> <p>1. Publications (1)Analysis of Baseline Survey Results on FRG and non-FRG Farmers 2005 (2)FRG Research Inventory 2007 (3)FRG Completed Research Report 2007 (4)Country Gender Profile of Ethiopia, December 2006</p> <p>2. Guidelines (1)Gender Sanitization Session Guideline (2)Make Your Field Day More Productive (3)Make Your Farmer Training More Productive (4)Make Your Action Plan More Effective</p> <p>3. Workshop Proceedings (1)Workshop on the Experience of Water Harvesting Technology in East Shewa on Arsi Zone, 20rd -24th February, 2006 (2)FRG: Concept and Practice, A Proceeding of Workshop, 26th-21st October 2005.</p> <p>4. Extension Materials (1)List of Improved Technology and Useful Farmers' Technology (2)List of Extension Materials</p> <p>5. Scientific papers See 6.2</p>
		The list of expected document	Plan of operations	<ul style="list-style-type: none"> -FRG Guideline Version 5 -FRG Completed Research Report 2008 -FRG Research Inventory (March 2009) -Extension Material Production Guideline -Project Completion Report
	5-2 5 papers are published	The list of published papers	Project reports	<ul style="list-style-type: none"> (1) Tesfaye Kebede (2007), "Study of honey production system in Adama Tu Jiba Konbulche District in mid-hill Valley of Ethiopia", Livestock Research for Rural Development, Vol. 19, No. 11. (2) Deressa M, Shiraton K, Matsumoto I, Jabessa S. B., Sireku S., Koochaym Y., Takahashi S., (2008). "Approaches of Agroforestry Management in the Central Ethiopia", Completed Report in the 9th Conference on Desert Technologies (November 12th to November 16th, 2008, Douz in Tunisia) (3) Dadi H., Nomura N., Amano T. (2007). "Indigenous African cattle breeds: Origins, classification and genetic diversity (Mini review)" The Journal of Animal Genetics, volume 28, 181-188. (4) Dadi H., Tibbo M., Takahashi Y., Nemura K., Hanada H., Amano A. (2008). "Microsatellite analysis reveals high genetic diversity but low genetic structure in Ethiopian indigenous cattle populations" Animal Genetics. (5) 10 thesises which were published in FRG Completed Research Report 2007
		The list of expected publications	Plan of operations	<ul style="list-style-type: none"> (1) Fattening goals (2) Sweet potato
4 Inputs				
1 Inputs from Ethiopian side	1 Allocation of counterparts	Have the CPs been allocated according to the plan?	Project reports	<p>The counterparts were allocated according to the Project Plan. However, the frequency of turnover of researchers is high. The change of number of participated researchers in 2008 are as follows: In MARC : 35 researchers were reduced to 29. The breakdown :Study abroad 3, Charge job 2, Transferred 1 In ATRAC : 33 researchers were reduced to 23. The breakdown :Study abroad 8, Charge job 7, Transferred 5</p>
		The record of CPs' allocation	Project reports	The third person in charge of FRG in MARC, ATRAC and Project Director
	2.Facilities and spaces	Have the facilities and spaces been provided according to the plan?	Project reports	Provided according to the Project plan
		The record of provided facilities and spaces	Project reports	Provided according to the Project plan
	3. Budget allocation	Has the budget been allocated according to the plan?	Project reports	There was no plan
		The record of inputs	Project reports	Provided according to the Project plan(Please see the annex)
2 Inputs from Japanese side				
	1. Long term experts	Have the experts been allocated according to the plan?	Project reports	Allocated according to the Project plan(Please see the annex)
	2. Short term experts	Have the experts been allocated according to the plan?	Project reports	Allocated according to the Project plan(Please see the annex)
	3. Procurement of equipment	Has the equipment been procured according to the plan?	Project reports	Procured according to the Project plan(Please see the annex)
	4.Training in Japan and a third country	Have the trainees been accepted according to the plan?	Project reports	Accepted according to the Project plan(Please see the annex)

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Evaluation Items	PDN Indicators	Required Data	Information Source	The results of the study
5. Important Assumptions				
[Project Purpose] EJAR and OARI will not discourage to disseminate FRG.				The importance of the FRG approach has been recognized by EJAR and OARI. There is no big change of the policy nor bad effect to the Project.
[Project Purpose] 2. Assistance and budgetary allocation of Ethiopian government for FRG approach will not decrease.				The annual budgetary allocation for the Project activities (e.g. expenses for light and fuel) from Federal Government of Ethiopia and Oromia State Government was 20,000ETB when the project was launched. However it did not include the expenses for research activities.
[Outputs] 3. Principle of Research-Extension-Farmers Linkage (REFL) will not be changed.				In order to make linkage with research and extension activities, REAC was established in Federal, Regional and Zonal levels and meetings were held once or twice in a year. The framework of REAC has been maintained, however REAC activity is only holding meetings, therefore REAC does not have concrete effective function. If this function will be strengthened, the FRG Project would impact into more national level.
[Outputs] 4. Staff turnover will not be crucial.				There has been a very serious problem of brain drain of researchers since November 2008 due to the BPR. The Project Director was also left from the FRG Project. It is concerned about sustainability of the FRG Project, and operation of research centers might be hindered due to the high ratio of researchers' turnover.
[Outputs] 5. Serious natural disasters will not be happened.				There has not been serious disaster which affect to the agricultural production and productivity in Target Project Area.

- * New 'well-functioning' FRGs are defined as follows, which will be evaluated through rating by researchers.
- Capable to diagnose and analyze problem
- Capable to collect necessary information from outside for solving problem
- Capable to help and advice other farmers

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ANNEX4-2: Terminal Evaluation Grid: Project on Strengthening Technology Development, verification, Transfer and Adoption Through Farmers Research Groups : Implementation Process (as of 10 January, 2009)

Questions		Required Data/Information Source	Results of evaluation
Progress of activities	Have activities been implemented according to the Plan of operations?	Project reports, Questionnaires	<p>*In general, the Project activities have been implemented according to the Plan of Operations. The linkage with the RCBP by The World Bank has been established through the experiences in the past four and half years, and it is expected that the FRG approach will be expanded on nationwide in Ethiopia.</p> <p>*However, output 3 (extension services) has not been achieved enough as expected. Considering extension of FRG approach after termination of the FRG Project, it is necessary to establish organic linkage with extension, and prepare concrete recommendations on linkage of research and extension plan of FTC as a core.</p> <p>*Development of FRG guideline and extension materials have been delayed due to the time consuming for compiling the data of output on development technologies in each FRG.</p> <p>*Regarding the FRG guideline, it is expected the final version will be developed soon because enough information and experiences have been accumulated for it. It will take time for discussion with stakeholders on the guideline, therefore the development of the FRG guideline is needed to be completed ahead of the schedule.</p> <p>*Development and improvement of extension manuals for all research subjects were completed with in 2008 by the short-term exp</p>
Project administration system	1. Appropriateness of project administration	Interview	<p>*An appropriate operation system has been established by EIAR, OARI, MARC and ATRAC, in order to build up FRG approach by agricultural research centers in both Federal government of Ethiopia and Oromia State Government. (through daily communications and JOC)</p> <p>*However, the Steering Committee has not been functionated, moreover the linkage with ARDO in Zone and Woreda levels has not been well established. The degree of involvement of ARDO is different from each subject activities, therefore it is necessary to establish the system for putting feedback into ARDO and BoARD from the outputs of FRG activities at field level. And the such feedback system should be reflected in the FRG guideline.</p>
	2. Countermeasures against the problems	Interview	<p>*The FRG Project have accepted comments from Ethiopian counterpart organizations, and dealt with the problems through JOC and daily communications, which created a strong relationship of mutual trust. The way of solving problems with counterpart was appropriate.</p>
Monitoring System	Monitoring system and process	Interview	<p>*After the third year of the FRG project the number of FRGs has been increased, which made difficult to maintain the monitoring system of the Project. Even though JICA experts and researchers were informed about the progress of FRG activities, the policy making level of counterparts did not receive enough information about it. It is expected that the way of monitoring on multiple subjects, FRG activities and process, and relationship among the stakeholders, which will be discussed with research centers, then recommendations might be reflect in the FRG guideline and so on.</p>
relationship between JICA experts and Counterparts	1. Situation of Communication	Interview	<p>*The relationship of mutual trust between JICA experts and counterparts is strong enough because of the effective and smooth communications. Compare the coordination in ATRAC with MARC, MARC's coordination is a bit weak due to the big size of the center. The communication between the research centers (ATRAC and MARC) of FRG Project and OARI is better than communication between research centers and EIAR. Therefore it is required that frequent communication with higher level of MoARD in order to share the information from outputs of the Project in a wide range.</p>
	2. The way of jointly solving problems	Interview	<p>*Meetings have been held to deal with daily issues between JICA experts and counterparts.</p>

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Questions		Required Data/Information Source	Results of evaluation
Progress of activities	Have activities been implemented according to the Plan of operations?	Project reports, Questionnaires	<ul style="list-style-type: none"> -In general, the Project activities have been implemented according to the Plan of Operations. The linkage with the RCBP by The World Bank has been established through the experiences in the past four and half years, and it is expected that the FRG approach will be expanded on nationwide in Ethiopia. -However, output 3 (extension services) has not been achieved enough as expected. Considering extension of FRG approach after termination of the FRG Project, it is necessary to establish organic linkage with extension, and prepare concrete recommendations on linkage of research and extension plan of FTC as a core. -Development of FRG guideline and extension materials have been delayed due to the time consuming for compiling the data of output on development technologies in each FRG. -Regarding the FRG guideline, it is expected the final version will be developed soon because enough information and experiences have been accumulated for it. It will take time for discussion with stakeholders on the guideline, therefore the development of the FRG guideline is needed to be completed ahead of the schedule. -Development and improvement of extension manuals for all research subjects were completed with in 2008 by the short-term experts.
	3. The change of counterparts (ownership and positivity)	Impact study, Interview	<ul style="list-style-type: none"> -The positivity of researchers in MARC and ATRAC have been much improved, they obtained the multiple perspectives e.g. economy and gender, that motivated to tackle issues of FRG activities in each research center.
Ownership of Implementing Agency	1. Grade of participation of representative of implementing agencies	Interview	<ul style="list-style-type: none"> -Positive participation was recommended always at the important conferences such as JOC and field days of FRG, and there were certain number of participants for implementing and monitoring of the Project. Especially, it is confirmed that president and vice-president of OARL and head of ATRAC have strong ownership of the Project who came up with many recommendations to the Project. -However, participation of higher level of counterparts was not regularly due to the business of assignment for the BPR.
	2. Budget allocation	Project reports	<ul style="list-style-type: none"> -All the budget for FRG research were provided from JICA. Providing supports to FRG research from IFAD, CIDA and RCBP are promoting expansion of the FRG approach, however it is necessary to discuss on the possibility of budget allocation from the Ethiopian government for FRG research.
	3. Appropriateness of counterparts' allocation	Interview	<ul style="list-style-type: none"> -The quality, quantity and allocation of heads of research centers and researchers for extension were appropriate, even though there was frequent turnover of counterparts. -There has not been assignment of Project Director in EIAR head quarters, since the former Director left in October 2003. -In MARC, about half number of researchers left. XX % of researchers left in 2008, and those included the researchers who were in charge of the FRG activities. Above that reasons, it is concerned about the shortage of researchers affect to implementation of the final stage of researches of the Project.
Relationship with beneficiaries	1. Change of counterparts' awareness and attitude	Impact study, Interview	<ul style="list-style-type: none"> -The understanding of participatory researches and activities at field level, and approach to the subjects along with farmers' needs were made remarkable progress.
	2. Change of farmers' awareness and attitude	Impact study, Interview	<ul style="list-style-type: none"> -It was observed that awareness and big change of attitude of farmers to tackle their problems, but it has been limited in among leaders of farmers in major of FRG. -The number of farmers have been increased who consult with DAs and research centers positively.
	3. Change of DAs' awareness and attitude	Impact study, Interview	<ul style="list-style-type: none"> -Regarding change of attitude, there are differences dependent on DAs, but it is recognized that compare with the beginning of the Project, the positivity of DAs' have been improved generally.
	4. Change of other stakeholders (e.g. agricultural cooperative, NGO, private sector, etc) awaking and attitude	Impact study, Interview	<ul style="list-style-type: none"> -Some stakeholders' awareness of the research centers who joined FRG activities have been improved, and they are demanding positive participation in the Project, however those stakeholders are limited in part.

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Questions		Required Data/Information Source	Results of evaluation
Progress of activities	Have activities been implemented according to the Plan of operations?	Project reports, Questionnaires	<ul style="list-style-type: none"> •In general, the Project activities have been implemented according to the Plan of Operations. The linkage with the RCBP by The World Bank has been established through the experiences in the past four and half years, and it is expected that the FRG approach will be expanded on nationwide in Ethiopia. •However, output 3 (extension services) has not been achieved enough as expected. Considering extension of FRG approach after termination of the FRG Project, it is necessary to establish organic linkage with extension, and prepare concrete recommendations on linkage of research and extension plan of FTC as a core. •Development of FRG guideline and extension materials have been delayed due to the time consuming for compiling the data of output on development technologies in each FRG. •Regarding the FRG guideline, it is expected the final version will be developed soon because enough information and experiences have been accumulated for it. It will take time for discussion with stakeholders on the guideline, therefore the development of the FRG guideline is needed to be completed ahead of the schedule. •Development and improvement of extension manuals for all research subjects were completed with in 2008 by the short-term exp
Others	Other notable things	Impact study, Interview	<ul style="list-style-type: none"> •The FRG Project has been implemented in order to extend the FRG approach and guidelines on the national level in Ethiopia, for instance in collaboration with the World Bank through RCBP has started for it already. •In collaboration with JICA's other projects such as Project for Irrigation Farming Improvement and Bereta-Gera Participatory Forest Management Project, Tokyo University of Agriculture were promoted actively. •In collaboration with private sector has been promoted positively too.

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ANNEX4-3: Terminal Evaluation Grid :Project on Strengthening Technology Development, verification, Transfer and Adoption Through Farmers Research Groups : Five Evaluation Criteria (as of 10 January, 2009)

	Evaluation Questions	Required data information (Indicators)	Information Source	The results of evaluation
Relevance	Is the effect that the project is aiming for in line with Ethiopian development policy?	Terminal Evaluation on Relationship between Overall Goal, Project Purpose, and outputs, and PASDEP, policy of EIAR and other Ethiopian policies.	PASDEP, EIAR and other information	<p>-Ethiopia's economy relies significantly on agriculture. Agriculture contributed 52.3% of the total GDP and 85% of the work force is employed in the agricultural sector, therefore the Agriculture sector is the priority sector for PRSP/ PASDEP. PASDEP places improvement of conventional agricultural technologies and development of new technologies, and improvement of extension services is one of measures to solve the problem of food shortage, which are caused usually by drought affecting reafined agriculture's productivity. The Ethiopian Agricultural Research Organization (present EIAR) adopted the Farmers Research Groups approach is the late 1990s, in order to develop applicable technologies by farmers voluntary participation. Strengthening the linkage between agricultural research and extension services has been the priority issue in Ethiopia for many years, therefore, the Project is in line with the Ethiopian development policy.</p> <p>*It is necessary that the effects of the Project is going to be expanded according to the Ethiopian policy and should follow agricultural policy impleme</p>
	Is the project in line with Japan's foreign aid policy?	Is the project in line with Japanese ODA policy and JICA's plan for assistant program for Ethiopia?	Japanese ODA guideline, JICA Project implementation plan	<p>*Japanese government in terms of Japan's Official Development Assistance (ODA) to Ethiopia, states that 'Improvement of Agricultural Technology in Agriculture and Rural Development Sector for food security' is one of highest priorities of the Japanese aid policy. The Japanese national development plan to Ethiopia emphasizes on improvement in productivity through strengthen linkage with research and extension for improved agricultural technologies, and the Project is placed as one of the concrete approaches for the plan. Japanese government manifested agriculture sector is the priority at G8 summit and TICAD IV. For instance, 'Provide assistance to expand agricultural research, extension and advisory services, and assist smallholders and farmers' organizations to adopt new technologies, etc' is stated on TICAD IV Yokohama Action Plan.</p>
	Are the needs for cooperation from target group high?	Are the needs for cooperation from target group high?	Baseline survey report, Project reports, Impact study, Interview	<p>*Applicable research activities for farmers has been required, the FRG approach provided practical supports to meats such farmers needs. The FRG approach is in line with the farmers' demands, which made it possible to select the subjects that research centers have the ability to support. Thus the Project is relevant in line with the research centers demands.</p> <p>*Others: Development of extension materials for disseminating Outputs of the Project to the target group is in line with demands of the present extension services.</p>
	Are the outputs of the project contributing to the achievement of the project objective?	*Achievement of the Project Purpose *The appropriateness of Outputs to contribute to the achievement of the Project Purposa.	Impact study, interview	<p>*In general the Project Purpose has been almost achieved.</p> <p>*All outputs have been contributing to the achievement of Project Purpose.</p>

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Effectiveness	Are there factors that contributed achievement of the Project Purpose?	Contributing factor	Interview	<ul style="list-style-type: none"> The contributing factor to the improvement and establishment of FRG approach is the lessons from each FRG activities is used to develop the FRG guideline. Moreover each FRG developed highly effective technologies, and it became clear that the effectiveness of FRG approach (participatory technical development and applied researches) for development and extension of appropriate technology.
	Seen from the achieved outputs, were the relation between inputs and outputs appropriate?	<ul style="list-style-type: none"> Achievement of Outputs Progress of activities Important Assumptions 	Impact study, Interview	<ul style="list-style-type: none"> Regarding the Project Purpose of 'establishment of FRG approach', it was required that a more practical and efficient design be necessary in order for it to be achieved. The challenges faced in developing the new technology in collaboration with our counterpart were many variables that needed further research, feedback to MoARD outputs, and a workload that was larger than expected.
Efficiency	Efficiency of outputs			
	Appropriateness for Quality, quantity and timing of inputs			
	JICA Experts	<ul style="list-style-type: none"> The number of Experts Specialty Duration Timing of dispatchment 	Project reports, Interview	<ul style="list-style-type: none"> The appropriate number and specialty of long term and short term experts were dispatched timely. It required highly coordination cooperation with the extension department in MoRAD and BoARD in order to achieve output 3.
	Equipment	<ul style="list-style-type: none"> Type Quantity Timing of procurement 	Project reports, Interview	<ul style="list-style-type: none"> Almost all equipment was procured at the appropriate timing.
	Allocation of Counterparts	<ul style="list-style-type: none"> The number of counterparts Capacity Turnover 	Project reports, Interview	<ul style="list-style-type: none"> Appropriate number of counterparts who have enough ability were allocated. There was a possibility that strengthened the extension services by allocating counterparts to MoARD, BoARD and Wareda Offices.
	Facilities and spaces	<ul style="list-style-type: none"> Quality Size Accessibility 	Project reports, Interview	<ul style="list-style-type: none"> Appropriate size of facility was provided.
	Local cost	<ul style="list-style-type: none"> Amount Usage Timing of disbursement 	Project reports, Interview	<ul style="list-style-type: none"> The local cost from Japanese side was decreased but it did not impede the implementation of activities. Even though the local cost from Ethiopian side was not much, it could not be helped due to the Ethiopia economical condition.

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<p>Training in Japan</p>	<ul style="list-style-type: none"> •Duration of training program •Timing of training program 	<p>Project reports, Interview</p>	<ul style="list-style-type: none"> •The training in Japan has been implemented according to the Project Plan. The contents and duration of the training program were appropriate in general. •Eight after training in Japan, all trainees participated supplemental training in Thailand. The effectiveness of supplemental training program was high because it was made relatively from the Japanese model and Ethiopian lay of the land, and improved research centers' operation and created the positive activities at the field. •But some counterparts were not changed as expected.
<p>The role of JCC</p>	<ul style="list-style-type: none"> •Activities •Members •Agendas •Frequency of the meeting 	<p>Project reports, Interview</p>	<ul style="list-style-type: none"> •Generally JCC has been held twice in a year. But there was no JCC more than half year from third to fourth year of the Project period. •The member of JCC includes not only direct counterpart organizations but also from as many as variety of stakeholders such as MoARD, MoFED, Agricultural Cooperative, farmers and NGOs. •The agendas of the JCC were reporting the progress of major activities, extension materials and so on which were selected properly. It was better that each stakeholder had a chance to decide and a concrete action plan in order to manage the process of the Project efficiently.
<p>Are there prospects that the Overall Goal will be produced as an effect of the project?</p>	<p>Achievement of Overall Goal, and progress of the plan.</p>	<p>Project reports, Impact study, Interview</p>	<ul style="list-style-type: none"> •It is highly possible to achieve the Project Purpose and also it is expected that the Project Purpose contribute to the overall goal. Especially, if the adoption of FRG approach has been started in other research centers, which is highly evaluated.
<p>Impact Other positive impacts</p>	<p>①Influence on policies, ②Influence on laws and systems, ③Influence on gender-human rights, rich and poor, other social and cultural aspects, ④Influence on technical innovation, ⑤economical influence on the target communities, counterpart organization, stakeholders and target group of the Project</p>	<p>Project reports, Interview</p>	<ul style="list-style-type: none"> •There was an impact of FRG approach to the policy to maintain improvement that MoARD/EIAR has been adopting the FRG approach to the national level through RCBP of the World Bank. •The short term experts on gender were dispatched twice in order to get gender perspective for FRG activities. After that the gender awareness was promoted and created household member concept. It made clear manners on gender perspective and ground, work for gender mainstreaming. Previous FRG approach did not include gender perspective, therefore those activities made positive impact to the FRG approach.
<p>Other negative impacts</p>	<p>①Influence on policies, ②Influence on laws and systems, ③Influence on gender-human rights, rich and poor, other social and cultural aspects, ④Influence on technical innovation, ⑤economical influence on the target communities, counterpart organization, stakeholders and target group of the Project</p>	<p>Impact study, Interview</p>	<ul style="list-style-type: none"> •Negative impacts were not found but it is required that the results of the study show to the FRG guideline in order to confirm the equality of opportunity in the community by the deadline of the Project.
<p>Political aspect</p>	<p>Will the FRG approach be sustained and developed in the political aspect?</p>	<p>Project reports, Impact study, Interview</p>	<ul style="list-style-type: none"> •In the short-term the FRG approach will be maintained politically because MoARD/EIAR has been adopting the FRG approach with JICA to the national level through RCBP by the World Bank. However, political input is needed in order to sustain the FRG approach after the termination of RCBP of the World Bank. •The major factors of the FRG approach are research by multidisciplinary research team and farmers' demand oriented research which are included in the basic principle in BPR. It is expected that the principle will provide supplemental support to sustain and develop the FRG approach. •It is required that the political advice includes the evaluation of researchers and the bounty system in order to maintain the participatory research which will play a part of agricultural research steadily.

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Sustainability

Institutional aspect (EIAR, OARI, MARC, ATARC)	Are the roles of stakeholders for sustaining and developing FRG approach clear?	Project reports, Impact study, Interview	<ul style="list-style-type: none"> -EIAR and OARI are expected to play a major role to promote FRG guidelines to the national level. -It is expected that MARC and ATARC will be the strongholds of FRG approach because of their 5 years concrete experiences. We are hoping they will back the Project. However, the discussions on the roles after termination of FRG Project have not been held yet. It is the main issue by the accomplishment of the Project.
	Is the capacity of counterpart organizations for coordination and operation improving?	Project reports, Impact study, Interview	<ul style="list-style-type: none"> -The understanding of the FRG approach has become deeper among related organizations. -However, it is seldom that the FRG approach adopted outside of FRG Project activities, and is not enough coordination is not enough to combine routine work with the FRG approach. -Improvement of researchers capacity (confirming needs, finding subjects, monitoring of activities and collaborating with stakeholders) is essential in order to develop applicable technologies for farmers by the FRG approach. There are some disparities among researchers, which might be hindering factors of sustainability on the FRG Project.
Financial aspect	Budget allocation for FRG activities	Interview	<ul style="list-style-type: none"> -Even now the allocation of local cost is not enough but the FRG approach is applicable under any condition even times of financial difficulties, therefore it has been strongly requested that FRG research be implemented by using the budget offered from the Ethiopian government. Adoption of the AFR approach can be effective if we receive support from other donors.
Technical aspect	Demands of FRG approach in the target area	Project reports, Impact study, Interview	<ul style="list-style-type: none"> -The Project started with 11 subjects, 19 FRG's and 30 researchers in 2005, and now in total it has 40 subjects, 80 FRG's and 1245 farmers (742 households) and 30 researchers are participating in the Project. From the increase of participants, it is clear to see the high demand of the Project. -The demand is high for a collaboration with conventional FRG activities and extension services, and FTC activities from non-FRG farmers also stakeholders for extension services in the target area.
	Demands of FRG approach outside of the target area	Project reports, Impact study, Interview	<ul style="list-style-type: none"> - MoARD/EIAR has been adopting the FRG approach with JICA to the national level through RCBP of the World Bank. There are many request to introduce the FRG approach as well as request to visit the Project sites from agricultural research centers RCBP and the NGOs. According to the interviews from visitors, they need a more innovative approach for research and extension, and the FRG approach can introduce the concrete methodologies which are highly demanded.
	Demands of developed technologies by the Project in the target area	Project reports, Impact study, Interview	<ul style="list-style-type: none"> -The importance of developed and improved technologies by the FRG approach is seen as high because of the technologies concerning the socio-economic background of the target area.
	Demands of developed technologies by the Project outside the target area	Project reports, Impact study, Interview	<ul style="list-style-type: none"> -There is a high possibility that the process will work for the development improvement, and expansion of the FRG approach with the application and extension of technology will develop and improve technologies by the FRG approach other areas too.

	Are the equipment and facility maintained properly?	Observation, Inventory list	<ul style="list-style-type: none"> The procured equipment has been utilized and maintained properly, motorcycles and pH determination meter haven't been used due to some circumstances.
Social, Cultural, Environmental aspect	Is there any possibility that a sustained effect is inhibited through a lack of consideration for gender, the poor and the social vulnerable?	Interview	<ul style="list-style-type: none"> The FRG Project focused on gender perspectives carefully, and it responded to the needs of a wide range of targeted people. The FRG Project contributed to reducing the poverty by increasing of income and risk management as a Project pillar of stability. The Project involved social some vulnerable (widows and PLWHA) and empowerment intensionally.
	Is there any possibility that a sustained effect is impeded through a lack of consideration for environment?	Interview	<ul style="list-style-type: none"> The FRG Project has been implemented based on the ecological agricultural conditions and the effective utilization of that conditions in target areas.

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ANNEX 5: List of Ethiopian Counterpart Personnel

Name, Position	Specialty	Assigned period to the Project	Expert(s) in charge of technical transfer	Working period in the implementation agency.	Remarks
Mr. Fasil Kelemework, Acting Head of Research Extension Farmer Linkage Division, EIAR (Project director)	Extension	Jul, 2004 – Sep, 2006	Mr. Kiyoshi SHIRATORI	Under checking	
Dr. Tekelu Tasfaye, Head of Research Extension Farmer Linkage Division, EIAR (Project director)	Extension	Oct, 2006 up to now	Mr. Kiyoshi SHIRATORI	Under checking	
Dr. Fasil Reda, Center Manager, MARG (Project Manager)	Plant Protection	Jul, 2004 up to now	Mr. Kiyoshi SHIRATORI	Jan, 1979 up to now	
Mr. Ousmael Oumer (Head, Research Extension Division, MARG)	Extension	Jul-Sep, 2004	Mr. Kiyoshi SHIRATORI	Aug, 1981 up to now	
Mr. Chimdo Anchaia (Head, Research Extension Division, MARG)	Extension	Apr, 2005 up to now	Mr. Kiyoshi SHIRATORI	Feb, 2001 to Nov, 2004	
Mr. Bedru Beshir (Researcher, MARG)	Extension	Jul, 2004 up to now	Mr. Iwao MATSUMOTO Ms. Michiko SUZUKI	Jun, 1998 up to now	
Mr. Endeshaw Hobte (Researcher, MARG)	Extension	Jul, 2004 up to now	Mr. Nobuaki OIZUMI Ms. Michiko SUZUKI	Jan, 1997 up to now	
Mr. Mekonen Sime, Researcher, MARG	Extension	Jul, 2004 up to now	Mr. Iwao MATSUMOTO Mr. Nobuaki OIZUMI	Dec, 2001 up to now	MSc study at Haramaya University

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Mr. Hailu Dadi, Center Manager, ATARC (Project manager)	Animal Genetics and Breeding	Jul, 2004-Mar, 2006	Mr. Kiyoshi SHIRATORI Dr. Yusuke TADA Dr. Keiji HASHIMOTO	Apr, 1995 up to now	PhD study at Tokyo Agricultural University (Long term training by JICA)
Mr. Berhanu Shelima, Acting Center Manager, ATARC (Project Manager)	Veterinarian	Jul, 2004 up to now	Mr. Kiyoshi SHIRATORI	Mar, 2002 up to now	
Mr. Ebrahim Jamel (Head, Research Extension Division, ATARC)	Extension	Jul, 2004-	Mr. Kiyoshi SHIRATORI	Sep, 1999 up to now	
Mr. Teha Mume (Head, Research Extension Division, ATARC)	Extension	Jul, 2004-	Mr. Iwao MATSUMOTO Mr. Nobuaki OIZUMI	Mar, 2002 up to now	MSc study at Haramaya University (In-country Training by the Project)
Mr. Wole Kinati (Head, Research Extension Division, ATARC)	Extension	Jan, 2005 up to now	Mr. Kiyoshi SHIRATORI Ms. Michiko SUZUKI	Jan, 2005 up to now	
Others (58 researchers are involved in the Project)	e.g Agronomy, Socio-economics, Natural Resource, Animal health		Mr. Kiyoshi SHIRATORI Mr. Iwao MATSUMOTO Mr. Nobuaki OIZUMI Dr. Yusuke TADA Dr. Keiji HASHIMOTO Ms. Michiko SUZUKI		

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ANNEX 6: List of trainees who were accepted in Japan or the 3rd country.

Training in Japan

Name	Training Period	Field	Training Institute	Position	Current Position
Dr. Aberra Deressa	2005.3.16-2005.3.31	Agricultural Research and Extension	JICA Tsukuba	Deputy Director General, EIAR	State Minister, MoARD
Mr. Aliye Hussien				Director General, OARI	Director General, OARI
Mr. Fasil Reda Tena	2005.7.26-2005.9.1	Agricultural Research Extension System	JICA Tsukuba	Center Manager, MARC	N/C(Not Changed)
Mr. Hailu Dadi Melka				Center Manager, ATARC	JICA's Training Leave at Tokyo University of Agriculture
Mr. Taha Mume Siyyo				Technical Assistant, ATARC	Study leave at Alamaya University MSc, Ethiopia
Mr. Beshir Abdi Bedru				Research-Extension Division, MARC	N/C
Mr. Hailu Dadi Melka	2006.5.10-2006.9.5.9	Animal Genetic and Breeding	Tokyo University of Agriculture	Center Manager, ATARC	On going training program
Mr. Tadesse Assefa Ayane	2006.9.6-2006.12.2	Livestock Production	Tokyo University of Agriculture		N/C
Mr. Chimdo Anchara	2006.8.29-2006.6.11.3	Agricultural Extension Planning and Management	JICA Tsukuba	Head, Agricultural Research and Extension, ATARC	Rural Capacity Building Project, The World Bank Ethiopia
Mr. Budie Jibicho Geleto	2007.1.29-2007.7.11.24	Vegetable Cultivation Technology	JICA Tsukuba	Technical Assistant in Vegetable Research, ATARC	N/C
Mr. Endeshaw Habte Hailemichael	2007. 2. 5-2007. 3. 21	Rural Community Development by Livelihood Improvement Approach	JICA Tsukuba	Researcher, Agricultural Research-Extension, MARC	N/C
Mr. Mulugeta				Researcher, Food	N/C

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Sisay Teamir				Science, MARC	
Mr. Weyo Roba Akako				Staff, East Shewa Zonal Agriculture and Rural Development Office	N/C
Ms. Ayelech Lemma Woldemariam				Staff, SG2000	N/C
Dr. Solomon Assefa	2007. 7. 16-2007. 8. 4	Agricultural Research and Extension	JICA Tsukuba	Deputy Director General, EIAR	Director General, EIAR
Dr. Assefa Taa				Deputy Director General, OARI	N/C
Dr. Tekulu Tesfaye				FRG Project Director. Head, Research-Extension-Farmer Linkages Department, EIAR	N/C
Dr. Lemma Dessalegn				Center Manager, MARC	N/C
Dr. Berhanu Shelima				Center Manager, ATARC	N/C
Mr. Yuya Ebrahim Jemai	2007. 3. 22-2007. 8. 4	Agricultural Extension Planning and Management	JICA Tsukuba	Head, Research-Extension Division, ATARC	N/C
Mr. Belay Tesfaye Kebede	2007. 9. 2 - 2007. 11. 1	Livestock Management	Tokyo University of Agriculture	Assistant Researcher, Livestock Production and Management, ATARC	N/C
Ms. Ehete Gezaw W/Amanuel	2007.10.29 - 2007.11.16	Farmers' Organization	JAICAF	Secretary of the Awash Bishola Cooperative	N/C
Mr. Woday Hawas Turturo				Chirman of the Awash Bishola Cooperative	N/C
Mr. Kassu Bogale Ayano				Chirman of the Dodota Cooperative	N/C

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Mr. Lemma Demme Adjeba				Irrigation Engineer Working in the Catholic Relief Secretariat (CRS)	N/C
Mr. Tsige Dessalegn Badebo				Technical Assistance Working at MARC	N/C
Mr. Geda Mieso Guru	2007.10.14-2007.12.22	Rural Development through Promoting Small Herbivorous Animal Husbandry	JICA Tsukuba	Associate Researcher II, ATARC	N/C
Mr. Haile Fayisa Assefa	2008.1.14-2008.3.1	Rural Community Development by Livelihood Improvement Approach	JICA Tsukuba	Adami tul District	N/C
Mr. Shuku Teshite Guye				Branch Office Program Coordinator, Zeway Branch Office, Adami Tul District Selam Environmental Development Association	N/C
Mr. Sakketa Tekalign Gutu				Junior Researcher, ATARC	N/C
Mr. Amenti Chali	2008.2.11-2008.11.22	Vegetable Production	JICA Tsukuba	Researcher, Horticulture, ATARC	N/C

3rd Country Training

Name	Training Period	Field	Training Institute	Position	Current Position
Mr. Adam Bekele	2005.9.26-2005.10.6	Market Information Systems	Food Net, Kenya Agricultural Commodity Exchange (KACE) etc	Head, Socio-economic Division, MARC	Project's training program leave at Alamaya University PhD, Ethiopia
Mr. Mengist				Head, Socio-economic	Turnover (March)

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Negele				Division, ATARC	2006) to VOCA (NGO)
Mr. Fasil Reda Tena	2005.9.1-2005.9.6	Agricultural Research Extension System	JICA Thailand	Center Manager, MARC	N/C
Mr. Hailu Dadi Melka				Center Manager, ATARC	JICA' s Training Leave at Tokyo University of Agriculture
Mr. Taha Mume Siyyo				Technical Assistant, ATARC	Study leave at Alamaya University MSc. Ethiopia
Mr. Beshir Abdi Bedru				Research-Extension Division, MARC	N/C
Mr. Gula Mesku Deressa	2006.9.25-2006.10.27	Social Forestry	Kenya Forestry Research Centre (KEFRI)	Researcher, ATARC	N/C
Mr. Shimeles Aklilu Alemu	2006.10.22-2006.10.29	Seed Production	Horticulture Department, Faculty of Agriculture, Khon Kaen University, Thailand		N/C
Mr. Endeshaw Habte Hailemichael			Horticulture Department, Faculty of Agriculture, Khon Kaen University, Thailand		N/C
Mr. Amenti Chali Nemera			Horticulture Department, Faculty of Agriculture, Khon Kaen University,		N/C

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			Thaikand		
Mr. Wola Kinati Wakjira			Horticulture Department, Faculty of Agriculture, Khon Kaen University, Thaikand		N/C
Mr. Tadesse Assefa Ayane	2006.12.2-200 6.12.7	Livestock Research	Kaihatsu Management Consulting (Thailand) Ltd		N/C
Mr. Chimdo Anchara	2006.11.3-200 6.11.8	Agricultural Extension Research	Kaihatsu Management Consulting (Thailand) Ltd	Head, Agricultural Research and Extension, ATARC	Rural Capacity Building Project, The World Bank Ethiopia
Mr. Gula Mesku Deressa	2007. 9.16-	Enhancing Adoption of Social Forestry	Kenya Forestry Research Centre (KEFRI)	Researcher, ATARC	N/C
Mr. Budie Jibicho Geleto	2007. 11.24-2007. 11. 24	Vegetable Cultivation Technology	Thailand International Cooperation Agency	Technical Assistant in Vegetable Research, ATARC	N/C
Mr. Endeshaw Habte Hailemichael	2007. 3. 21-2007.3.288	Rural Community Development by Livelihood Improvement Approach	JICA Thailand	Researcher, Agricultural Research-Extension, MARC	N/C
Mr. Mulugeta Sisay Teamir				Researcher, Food Science, MARC	N/C
Mr. Weyo Roba Akako				Staff, East Shewa Zonal Agriculture and Rural Development Office	N/C
Ms. Ayelech Lemma Woldemariam				Staff, SG2000	N/C

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Dr. Solomon Assefa	2007. 4-2007. 8.11	8. Management of Agricultural Research and Linkage Between Farmers and Agricultural Extension, and Agricultural Extension Planning and Management	Kaihatsu Management Consulting (Thailand) Ltd	Deputy Director General, EIAR	Director General, EIAR
Dr. Assefa Taa	2007. 4-2007.8.11	8. Management of Agricultural Research and Linkage Between Farmers and Agricultural Extension	Kaihatsu Management Consulting (Thailand) Ltd	Deputy Director General, OARI	N/C
Dr. Tekulu Tesfaye				FRG Project Director, Head, Research-Extension-Farmer Linkages Department, EIAR	N/C
Dr. Lemma Dessalegn				Center Manager, MARC	N/C
Dr. Berhanu Shelima				Center Manager, ATARC	N/C
Mr. Yuya Ebrahim Jemal				Head, Research-Extension Division, ATARC	N/C
Mr. Belay Tesfaye Kebede	2007. 11. 1 - 2007. 11. 8	Livestock Management	Kaihatsu Management Consulting (Thailand) Ltd	Assistant Researcher, Livestock Production and Management, ATARC	N/C
Mr. Tadele Aytenfsu Zerfu	2007.9.15-2007.10.19	Enhancing Adoption of Social Forestry	Kenya Forestry Research Centre (KEFRI)	Senior Technical Assistant, MARC	N/C
Mr. Geda Mieso Guru	2007.12.22-2007.12.29	Animal Husbandry	Kaihatsu Management Consulting (Thailand) Ltd	Associate Researcher II, ATARC	N/C

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Mr. Haile Feyisa Assefa	2007.11.4-2007.11.18	Rural Community Development by Livelihood Improvement Approach	JICA Kenya	Staff, Adami-tul District	N/C
Mr. Shuku Teshite Guye				Branch Office Program Coordinator, Zeway Branch Office, Adami Tul District Selam Environmental Development Association	N/C
Mr. Sakketa Tekalign Gutu				Junior Researcher, ATARC	N/C
Mr. Haile Feyisa Assefa	2008.3.1-2008.3.7	Rural Community Development by Livelihood Improvement Approach	Kaihatsu Management Consulting (Thailand) Ltd	Staff, Adami-tul District	N/C
Mr. Shuku Teshite Guye				Branch Office Program Coordinator, Zeway Branch Office, Adami Tul District Selam Environmental Development Association	N/C
Mr. Sakketa Tekalign Gutu				Junior Researcher, ATARC	N/C

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ANNEX 7: List of Japanese Experts assigned to FRG Project

Long-term Experts

Name	Field	Dispatched Period	Occupation when dispatched
Mr. Kiyoshi Shiratori	Chief Advisor	15 July 2004 to 14 July 2009	Consultant, Kaihatsu Management Consulting
Mr. Iwao Matsumoto	Agricultural Extension/Appropriate Technology	15 July 2004 to 14 July 2009	Consultant, Kaigaikamotsukensa kabushikigaisya
Mr. Nobuaki Oizumi	Coordinator/Agronomy /Capacity Building	15 July 2004 to 14 July 2007	Junior Expert, JICA HQ
Ms. Maki Nioka	Project Coordinator/Capacity Building	10 August 2007 to 9 August 2009	Officer, Department of JOCV, JICA HQ

Short-term Experts

Name	Field	Dispatched Period	Occupation when dispatched
Mr. Keishiro Itagaki	Agricultural Economics	23 December 2005 to 8 January 2006	Professor, Tokyo University of Agriculture
Dr. Yusuke TADA	Livestock	12 August 2005 to 8 January 2006	Senior-advisor on Livestock, JICA
Mr. Keiji Hashimoto	Livestock Production	11 March 2006 to 7 June 2006	Senior-advisor on Livestock Management, JICA
	Gender in Participatory Agricultural Research	12 September 2006 to 27 December 2006	Associate Expert, JICA
Mr. Takashi Amano	Livestock Production	26 December 2006 to 8 January 2007	Professor, Tokyo University of Agriculture
Mr. Keiji Hashimoto	Livestock	25 February 2007 to 25 April 2007	Senior-advisor on Livestock Management, JICA
Dr. Hiroshi Saito	Livestock Production	2 September 2007, 30 September 2007	Senior-advisor on Livestock Development, JICA
Dr. Hiroshi Saito	Livestock Production	20 January 2008, 19 March 2008	Senior-advisor on Livestock Development, JICA
Dr. Hiroshi Saito	Livestock Management	4 August 2008, 3 September 2008	Senior-advisor on Livestock Development, JICA

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Ms. Yuko Harada	Gender in Participatory Agricultural Research and Extension	2 October 2007 to 15 November 2007	Consultant, Global Link Management
Dr. Thaworn Kowithayakorn	Vegetable Seed Production	28 February 2007 to 28 March 2007	President, TK R&D Co. Ltd.
Dr. Thaworn Kowithayakorn	Vegetable Seed Production	12 August 2007 to 9 September 2007	President, TK R&D Co. Ltd.
Dr. Thaworn Kowithayakorn	Vegetable Seed Production	25 December 2007 to 22 January 2008	President, TK R&D Co. Ltd.
Ms. Aya Nakazato	Extension Material Development	6 July 2008 to 2 August 2008	Consultant, CDC International

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ANNEX 8: Allocated Budget by the Government of Japan for Local Cost Expenditure (FY2004-2008)

Items	Expenditure																Subtotal	Total
	FY2004/2005			FY2005/2006				FY2005/2007				FY2007/2008						
	2nd (Jul-Sep)	3rd (Oct-Dec)	4th (Jan-Mar)	1st (Apr-Jun)	2nd (Jul-Sep)	3rd (Oct-Dec)	4th (Jan-Mar)	1st (Apr-Jun)	2nd (Jul-Sep)	3rd (Oct-Dec)	4th (Jan-Mar)	1st (Apr-Jun)	2nd (Jul-Sep)	3rd (Oct-Dec)	4th (Jan-Mar)			
Recruitment cost	44,556.86	322,188.04	557,632.22	122,144.31	114,279.49	66,527.12	548,646.76	187,826.57	124,884.56	222,854.26	232,898.52	221,044.57	230,272.89	217,064.35	597,154.49	2,217,978.51	10,290,024.31	
Transportable	11,524.21	15,568.53	22,911.34	4,292.81	14,715.23	17,821.41	71,142.09	48,411.23	25,418.17	49,888.52	106,826.32	55,466.50	77,587.29	54,631.88	127,545.45	320,697.67		
Printing	174.00	1,028.12	16,860.00	0.00	0.00	0.00	24,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24,224.12		
Subst	183.00	6,484.00	12,315.90	52,267.54	31,711.00	15,881.00	36,118.00	39,316.81	22,004.50	78,349.70	55,500.23	33,222.90	20,510.57	31,766.55	16,321.47	388,148.29		
Rent	0.00	24,000.00	27,183.00	3,400.00	6.00	331.94	0.00	0.00	1,000.00	406.00	800.00	0.00	0.00	0.00	0.00	1,000.00		
Transportation	549.50	2,121.47	59,210.14	3,152.23	24,428.09	17,476.46	41,255.31	37,192.22	26,282.48	66,212.39	17,861.05	52,248.31	8,626.40	67,607.97	230,242.70	676,492.69		
Communication	399.29	16,494.89	2,244.95	4,245.44	3,321.04	3,922.04	2,512.42	17,758.22	2,708.08	3,281.02	4,021.91	15,982.97	4,973.82	4,004.03	14,989.37	105,292.62		
Small Equipment/Materials	20,861.21	11,219.98	206,332.07	78,876.29	21,522.72	6,724.26	289,332.02	24,520.50	12,097.12	15,812.06	28,022.74	20,528.85	39,552.00	51,194.50	15,246.75	904,222.62		
Miscellaneous	1,028.43	62.30	3,255.22	1,268.50	2,579.80	4,272.84	29,602.47	9,118.89	2,024.57	22,741.32	83,222.50	73,227.65	5,026.69	6,022.25	165,208.21	325,250.62		
For Disp.	5,010.00	24,256.50	50,011.62	4,022.08	113,244.62	29,022.65	31,562.84	79,229.24	38,828.15	123,642.22	15,895.73	82,445.81	62,225.41	124,154.20	19,981.27	826,452.20		
Local Consultant Fee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Domestic Bus	0.00	0.00	0.00	0.00	3,085.00	3,440.00	8,075.00	2,520.00	5,489.00	6,550.00	1,126.20	3,654.00	19,595.00	11,226.00	16,212.02	83,782.41		
Construction Cost	47.00	11,202.92	5,842.07	14.25	0.00	21,020.00	49,262.54	1,500.00	0.00	0.00	23,390.69	0.00	0.00	0.00	25,924.00	109,626.28		
Capacity Development	0.00	0.00	0.00	0.00	33,250.88	14,585.00	7,500.00	8,200.00	16,200.00	8,550.00	8,400.00	7,100.00	2,780.00	4,400.00	3,900.00	121,727.88		
Equipment	112,281.17	114,680.00	495,344.22	0.00	0.00	0.00	128,288.22	0.00	0.00	24,782.85	220,529.22	0.00	0.00	0.00	144,140.52	6,281,088.40		
General Equipment for Experts	30,245.60	0.00	0.00	0.00	0.00	0.00	38,003.39	0.00	0.00	19,190.00	220,529.22	0.00	0.00	0.00	6.00	425,124.40		
Office Equipment (PC, Printer, Fax, etc.)	86,928.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5,022.85	0.00	0.00	0.00	0.00	242,125.52	189,206.67		
Shipping Cost of Equipment for Experts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	600.00		
Grant Equipment	0.00	114,680.00	695,348.22	0.00	0.00	0.00	128,288.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	923,242.58		
Shipping Cost of Grant Equipment	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,000.00		
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Shipping Cost of Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Purchased directory by JICA Ethiopia office	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
FIG Unit Construction cost																2,204,240.50		
Vehicle (Station wagon x 5, Pick-up x 2, Motorcycle x 4)																2,124,987.76		
Portable air-conditioner and microscope																45,041.00		
RF determination meter																310,924.55		

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ANNEX 9: List of Equipments Provided by the Government of Japan

Total cost: Approx. 3,934,198ETB (Exchange rate: 1 ETB = 9.10 Japanese Yen = 0.06739 British Pound. 1USD = 10.41ETB)

No	Arrival time	Item	Model	Maker	Price	Division Utilizing	Place Provided	Procurement Place	Purpose to use	Condition & Utilization
1	Mar.2005	Station Wagon	Land Cruiser	Toyota	JPY 3,512,000.00		MARC	Local	For strengthening the linkage between two research centers and supporting their activities. The vehicle are also utilized to visit Woreda offices, NGOs and other research centers to share information and conduct collaboration activities with them.	Utilizing at all time with good condition
2	Mar.2005	Station Wagon	Land Cruiser	Toyota	JPY 3,512,000.00		MARC	Local	For supporting existing/new FRG activities and conducting monitoring/evaluation on FRGs with mainly research extension, socio-economics and natural resource divisions.	Utilizing at all time with good condition
3	Mar.2005	Pickup Track	Hi-lux	Toyota	JPY 3,512,000.00		MARC	Local	For research/extension activities, data collection of socio-economics and extension	Utilizing at all time with good condition



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									activities with audio visual materials.	
4	Mar.2005	Station Wagon	Land Cruiser	Toyota	JPY 2,360,000.00		ATARC	Local	For monitoring/evaluation of FRG activities by mainly research extension, animal health, animal breeding & genetics.	Utilizing at all time with good condition
5	Mar.2005	Motorcycle	DT175	Yamaha	ETB 27,616.10		MARC	Local	For extension/research activities, data collection from FRGs around research center	Frequency of usage is little because disposition of the item has not been finalized.
6	Mar.2005	Motorcycle	DT175	Yamaha	ETB 27,616.10		MARC	Local		
7	Mar.2005	Motorcycle	DT175	Yamaha	ETB 27,616.10		ATARC	Local		
8	Mar.2005	Motorcycle	DT175	Yamaha	ETB 27,616.10		ATARC	Local		
9	27th Jan, 2005	Desktop Computer	Optiplex Gx280	Dell	ETB 18,655.00	Research Extension	MARC	Local	For making reports, extension materials and analysing data	Utilizing at all time with good condition
10	27th Jan,	Desktop	Optiplex	Dell	ETB	Research	MARC	Local	from on-farm experiments and	condition

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	2005	Computer	Gx280		18,655.00	Extension			so on.	
11	27th Jan, 2005	Desktop Computer	Optiplex Gx280	Dell	ETB 18,655.00	Research Extension	MARC	Local		Monitor is broken down
12	27th Jan, 2005	Desktop Computer	Optiplex Gx280	Dell	ETB 18,655.00	Research Extension	ATARC	Local		Utilizing at all time with good condition
13	27th Jan, 2005	Desktop Computer	Optiplex Gx280	Dell	ETB 18,655.00	Research Extension	ATARC	Local		
14	15th Dec, 2004	Laptop Computer	Satellite A70-S249	Toshiba	ETB 19,580.00	Research Extension	MARC	Local	For making reports, extension materials and presentation with powerpoint at seminars/workshops which are held inside/outside of research centers.	Utilizing at all time with good condition
15	15th Dec, 2004	Laptop Computer	Satellite A70-S249	Toshiba	ETB 19,580.00	Socio-economics	ATARC	Local	For making reports and analysing data of market survey.	Utilizing at all time with good condition
16	15th Dec, 2004	Printer	HP Lesarjet 4 200	HP	ETB 10,100.00	Research Extension	MARC	Local	For printing extension materials and reports.	Utilizing at all time with good condition
17	15th Dec, 2004	Printer	HP Lesarjet 4 200	HP	ETB 10,100.00	Research Extension	MARC	Local		
18	15th Dec, 2004	Printer	HP Lesarjet 4 200	HP	ETB 10,100.00	Research Extension	ATARC	Local		
19	15th Dec,	Printer		HP	ETB	JICA	MARC	Local		

HP Lesarjet

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	2004		color 3500		11,500.00	Expert Office				
20	15th Dec. 2004	Printer	HP Lesarjet color 3500	HP	ETB 11,500.00	Research Extension	ATARC	Local		
21	15th Dec. 2004	UPS	Smart UPS 1000	APC	ETB 2,800.00	Research Extension	MARC	Local	To protect computers from unstable vltage.	Utilizing at all time with good condition
22	15th Dec. 2004	UPS	Smart UPS 1000	APC	ETB 2,800.00	Research Extension	MARC	Local		
23	15th Dec. 2004	UPS	Smart UPS 1000	APC	ETB 2,800.00	Research Extension	MARC	Local		
24	15th Dec. 2004	UPS	Smart UPS 1000	APC	ETB 2,800.00	Research Extension	MARC	Local		
25	15th Dec. 2004	UPS	Smart UPS 1000	APC	ETB 2,800.00	Socio-economic	MARC	Local		
26	15th Dec. 2004	UPS	Smart UPS 1000	APC	ETB 2,800.00	Research Extension	ATARC	Local		
27	15th Dec. 2004	UPS	Smart UPS 1000	APC	ETB 2,800.00	Research Extension	ATARC	Local		
28	15th Dec. 2004	UPS	Smart UPS 1000	APC	ETB 2,800.00	Center Manager Office	ATARC	Local		
29	27th Jan. 2005	Photocopier	Aficio 2035e	Ricoh	ETB 104,438.55	JICA	MARC	Local		

Expert

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						Office				condition
30	27th Jan, 2005	Photocopier	Aficio 2035e	Ricoh	ETB 104,439.55	Research Extension	MARC	Local	and so on.	
31	21th Feb, 2005	Photocopier	IR5000	Canon	ETB 175,999.45	Administration Office	MARC	Local	For preparing documents, extension materials for famers and so on. This photocopier are utilized by many divisions.	Utilizing at all time with good condition
32	9th Mar, 2005	Scanner	Scanjet 2400	HP	ETB 1,000.00	JICA Expert Office	MARC	Local	For computerizing maps, pictures and so on to utilize for making reports and extension materials.	Utilizing at all time with good condition
33	9th Mar, 2005	Scanner	Scanjet 2400	HP	ETB 1,000.00	Center Manager Office	MARC	Local		
34	9th Mar, 2005	Scanner	Scanjet 2400	HP	ETB 1,000.00	Research Extension	ATARC	Local		
35	27th Jan, 2005	Digital Camera	HP Photosmart R707	HP	ETB 18,655.00	Research Extension	MARC	Local	To record daily activities, cultivation methods, pest and disease for making reports, extension materials and public information.	Broaken down
36	27th Jan, 2005	Digital Camera	HP Photosmart R707	HP	ETB 18,655.00	Research Extension	MARC	Local		Utilizing at all time with good condition
37	27th Jan,	Digital Camera	HP	Sony	ETB	Research	ATARC	Local		

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	2005		Photosmart R707		18,655.00	Extension				
38	4th Mar. 2005	Video Camera	DGR-TRV26 5E	Sony	ETB 6,850.00	Research Extension	MARC	Local	To record various agronomical practices for making extension materials and utilize video for seminar/workshop.	Utilizing at all time with good condition
39	4th Mar. 2005	Video Camera	DGR-TRV26 5E	Sony	ETB 6,850.00	Research Extension	ATARC	Local		
40	27th Jan. 2005	Projector	VPL-CS7	Sony	ETB 21,900.00	Research Extension	MARC	Local	To show videos that were made by project as extension material in various seminar/workshop	Utilizing at all time with good condition
41	27th Jan. 2005	Projector	VPL-CS7	Sony	ETB 21,900.00	Research Extension	ATARC	Local		
42	22nd Mar. 2005	OHP	EC Potable	Geha	ETB 8,625.00	Research Extension	MARC	Local	To be utilized for presentation in various seminar/workshop	Utilizing at all time with good condition
43	15th Dec. 2004	GPS	eTrex Vista AP 版	GARMIN	JPY 59,800.00	Research Extension	MARC	Japan	For mapping of FRG location, some important facilities.	Utilizing at all time with good condition
44	15th Dec. 2004	GPS	eTrex Vista AP 版	GARMIN	JPY 59,800.00	Research Extension	MARC	Japan		
45	15th Dec. 2004	GPS	eTrex Vista AP 版	GARMIN	JPY 59,800.00	Research Extension	MARC	Japan		
46	15th Dec. 2004	GPS	eTrex Vista AP 版	GARMIN	JPY 59,800.00	Research Extension	ATARC	Japan		
47	14th Jan. 2005	Generator	LB1/5RD	CLARKE	ETB 24,024.00	FRG Unit	MARC	Local	To provide electricity in the occasion of electrical power	Utilizing at all time with good

5KVA

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			Lambardini							
48	14th Jan, 2005	Generator	LB1/5RD 5KVA Lambardini	CLARKE	ETB 24,024.00	FRG Unit	ATARC	Local	failure of FRG Unit in research centers	condition
49	4th Mar, 2005	Bicycle	DK-172662		ETB 750.00	Research Extension	ATARC	Local	To conduct various survey and extension activities by lending them to extension worker (DA)	Utilizing at all time with good condition
50	4th Mar, 2005	Bicycle	DK-176815		ETB 749.80	Research Extension	ATARC	Local		
51	4th Mar, 2005	Bicycle	DK-176049		ETB 749.80	Research Extension	ATARC	Local		
52	4th Mar, 2005	Bicycle	CL-053361		ETB 749.80	Research Extension	ATARC	Local		
53	4th Mar, 2005	Bicycle	CL-053416		ETB 749.80	Research Extension	ATARC	Local		
54	4th Mar, 2005	VCR	SLV-ED939	Sony	ETB 2,930.00	Conference Hall, FRG Unit	ATARC	Local	For training, seminar and workshop using visual extension material, etc	Utilizing at all time with good condition
55	4th Mar, 2005	TV	FD Trinitron color TV 29inch	Sony	ETB 7,985.00	Conference Hall, FRG Unit	ATARC	Local		
56	4th Mar, 2005	Tape Recorder	TCM HoodV	Sony	ETB 595.00	Research Extension	ATARC	Local	To record farmers' comment etc in survey	Utilizing at all time with good

65



67

										condition
57	27th Jan, 2005	Pump	Lambardine Dissel Engine Model:PA10	Lambardi ni	ETB 37,053.00	Farm Managemet	ATARC	Local	To irrigate crops and fodder crops in exprimental plots of ATARC	Utilizing at all time with good condition
58	27th Jan, 2005	White Board	150x90 (cm)		ETB 1,265.00	Research Extension	ATARC	Local	For daily activities, seminar and workshop in ATARC	Utilizing at all time with good condition
59	27th Jan, 2005	White Board	150x90 (cm)		ETB 1,265.00	Research Extension	ATARC	Local		
60	27th Jan, 2005	White Board	150x90 (cm)		ETB 1,265.00	Research Extension	ATARC	Local		
61	27th Jan, 2005	White Board	150x90 (cm)		ETB 1,265.00	Center Manager Offic	ATARC	Local		
62	Mar, 2006	Station Wagon	Land Cruiser Hard Top	Toyota	USD 28,650.50		MARC	Local	To transfer farmers and Das for various trainigs and workshops, coodination activities and information collection. And the vihecle supports FRG activities with the others which were procured previsouly.	Utilizing at all time with good condition

63

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63	Mar, 2006	Station Wagon	Land Cruiser Hard Top	Toyota	USD 28,650.50		ATARC	Local	To exchange technology and information with MARC for promotion of stock-holding agriculture. And the vehicle supports FRG activities with the others which were procured previously.
64	Mar, 2006	Pickup Track	Hilux	Toyota	USD 21,870.50		MARC	Local	To conduct procurement and delivery of the equipment, consumable to FRG sites, survey to collect data for FRG, extension activities using visual extension materials.
65	Mar, 2006	Pickup Track	Hilux	Toyota	USD 21,870.50		ATARC	Local	To conduct procurement and delivery of the equipment, consumable to FRG sites, market survey to collect data for FRG, extension and public relation activities using visual extension materials, etc.
66	1st Feb, 2006	Desktop Computer	Optiplex Gx620	Dell	ETB 11,899.05	Horticulture	ATARC	Local	For making reports, extension materials and analysing data

67



HA

						Research				
67	1st Feb, 2006	Desktop Computer	Optiplex Gx620	Dell	ETB 11,899.05	Natural Resource Research	ATARC	Local	from on-farm experiments and so on.	Utilizing at all time with good condition
68	1st Feb, 2006	Desktop Computer	Optiplex Gx620	Dell	ETB 11,899.05	Animal Health Research	ATARC	Local		
69	1st Feb, 2006	Desktop Computer	Optiplex Gx620	Dell	ETB 11,899.05	Animal Breeding and Genetics Research	ATARC	Local		
70	1st Feb, 2006	Desktop Computer	Optiplex Gx620	Dell	ETB 11,899.05	Livestock Production and Management Research	ATARC	Local		
71	27th Jan, 2006	Laptop Computer	Satellite	Toshiba	ETB 18,500.00	Center Manager Office	ATARC	Local	For making reports, extension materials and analysing data from on-farm experiments and	Utilizing at all time with good condition

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72	27th Jan, 2006	Laptop Computer	Satellite	Toshiba	ETB 18,500.00	Center Manager Office	ATARC	Local	presentation at workshop/seminar. These computers are shared by all divisions.	
73	1st Feb, 2006	Printer	HP Leserjet 2550	HP	ETB 7,200.00	Research Extension	ATARC	Local	For printing extension materials and reports.	Utilizing at all time with good condition
74	27th Jan, 2006	UPS	Smart UPS 1500	APC	ETB 4,200.00	Horticulture Research	ATARC	Local	To protect computers from unstable vltage.	Utilizing at all time with good condition
75	27th Jan, 2006	UPS	Smart UPS 1500	APC	ETB 4,200.00	Natural Resource Research	ATARC	Local		
76	27th Jan, 2006	UPS	Smart UPS 1500	APC	ETB 4,200.00	Animal Health Research	ATARC	Local		
77	27th Jan, 2006	UPS	Smart UPS 1500	APC	ETB 4,200.00	Animal Breeding and Genetics Research	ATARC	Local		

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78	27th Jan, 2006	UPS	Smart UPS 1500	APC	ETB 4,200.00	Livestock Production and Management Research	ATARC	Local		
79	Mar. 2006	pF determination Meter		Eijkelkamp	£17,437.00	Lab of Agronomy	MARC	Local	To measure soil moisture for determine appropriate irrigation methods for various crops.	Utilizing at all time with good condition
80	Mar. 2006	Digital Weight Scale	MT1500		£884.21	Animal Breeding and Genetics Research	ATARC	Local	To collect data of weight of cattle in on-farm conditions.	Utilizing at all time with good condition
81	Mar. 2006	Microscope	Model 2870	Meiji	£2,357.89	Animal Health Research	ATARC	Local	For pathological check of cattle and semen analysis	Utilizing at all time with good condition
82	Mar. 2007	Heated Stage			£710.53	Animal Health Research	ATARC	Local		
83	Mar. 2008	Slide Warmer				Animal Health	ATARC	Local		

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						Research				
84	Mar, 2008	GPS	Garmin		ETB 6,900.00	Research Extension	ATARC	Local	To conduct geographical survey	Utilizing at all time with good condition
85	Mar, 2008	Digital camera		Sony	ETB 4,260.86	Natural resource	ATARC	Local	For keep visual record of activities, seminar and workshop	Utilizing at all time with good condition
86	Mar, 2008	Digital camera		Sony	ETB 4,260.86	Socio Economic s	ATARC	Local	For keep visual record of activities, seminar and workshop	Utilizing at all time with good condition
87	Mar, 2008	Digital camera		Sony	ETB 2,086.00	Research Extension	MARC	Local		Utilizing at all time with good condition
88	Mar, 2008	Digital camera		Sony	ETB 2,086.00	Natural resource	MARC	Local		Utilizing at all time with good condition
89	Mar, 2008	Digital camera		Sony	ETB 2,173.92	Research extension	MARC	Local		Utilizing at all time with good condition
90	Mar, 2008	Laptop computer		Toshiba	ETB 12,900.00	Research Extension	MARC	Local		Utilizing at all time with good condition

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91	Mar, 2008	Desktop computer		Dell	ETB 22,434.78		MARC	Local		Utilizing at all time with good condition
92	Mar, 2008	External hard disk			ETB 1,500.00		MARC	Local		Utilizing at all time with good condition
93	Mar, 2008	Laser printer		HP	ETB 2,800.00		MARC	Local		Utilizing at all time with good condition
94	Mar, 2008	Laser printer		HP	ETB 2,804.34	Finance	ATARC	Local		Utilizing at all time with good condition
95	Mar, 2008	Laser printer		HP	ETB 2,804.34	CM Office	ATARC	Local		Utilizing at all time with good condition

ANNEX 10: Allocated Budget by the Government of Ethiopia for Local Cost Expenditure

Financial Contribution of MARC to FRG Project

(Unit/ETB)

No	Description	2004/05	2005/06	2006/07	2007/08	2008 to date	Total (Birr)
1	Telephone	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	6,000.00
2	Water	4,800.00	4,800.00	4,800.00	4,800.00	4,800.00	24,000.00
3	Electricity	19,463.00	25,002.00	8,600.76	53,044.32	53,044.32	114,732.68
4	Guard	24,624.00	24,624.00	24,624.00	26,424.00	26,424.00	123,120.00
Total		50,087.00	55,626.00	39,224.76	83,668.32	39,246.60	267,752.68

Financial Contribution of ATARC to FRG Project

(Unit/ETB)

No	Description	Share of the FRG-JICA project (estimation, ¼ of the total cost)		Overall Cost Paid by the Center	
		Monthly Cost	Annual Cost	Monthly Cost	Annual Cost
1	Electric Consumption	1200.00	14,400.00	4,800.00	57,600.00
2	Water Consumption	700.00	8,400.00	2,800.00	33,600.00
3	Vehicle Service (Driver)	1250.00	15,000.00	5,000.00	60,000.00
4	Residence	1050.00	12,600.00	4,200.00	50,400.00
5	Internet Service	850.00	10,200.00	3,400.00	40,800.00
6	Telephone Service	375.00	4,500.00	1,500.00	18,000.00
7	Guard for JICA building	300.00	3,600.00	-	-
8	Laboratory service	500.00	1,500.00(3months)	-	-
Total		6,225.00	70,200.00	21,700.00	260,400.00

Total Financial Contribution by the Government of Ethiopia: 528,152ETB

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Terminal Evaluation of the Project on Strengthening Technology Development, Verification, Transfer and Adoption through Farmers Research Groups (FRGs)

Achievement Workshop
January 20th 2009

Berhanu Shelima (DVM)
Lemma Desalegn (PhD)
EIAR, Addis Ababa

1. Overall Implementation process

- 1.1. The project was launched in July 2004
 - Project office secured and JCA team stationed at MARC and visit regularly to ATARC two days/week
 - Steering committee established (OARI, ATARC, MARC)
- 1.2. Planning of the Project started
 - Plan of operation (PO) was modified
 - Annual plan of operation (APO) prepared

1. Overall Implementation process cont'd

- 1.3 FRG unit buildings at ATARC and MARC
- Planning and designing of the building was conducted by EIAR in 2004
- Construction work started in April 2005, completed and utilization started in April 2006
- It is well furnished
- It provides services as office for research divisions, store, information center, meeting room etc

1. Overall Implementation process cont'd

- 1.4. Baseline survey
 - Baseline survey was planned in 2004
 - The survey was conducted between January and March 2005
 - Data was compiled, workshop conducted and published in December 2005
 - Served as a base for comparison of the improvement brought by the project

1. Overall Implementation process cont'd

- 1.5. Implementation according to the PO
 - It is implemented according to its PO
 - FRG guide line will be completed soon
 - Stakeholders workshops and trainings were conducted according to the PO
 - 40 types of appropriate technologies were developed so far
 - Linkage with RLRP has been established to use FRG approach nationwide

1. Overall Implementation process cont'd

- 1.5. Implementation according to the PO cont'd
 - Further strengthening of linkage with extension is needed for the scale up/out of appropriate technologies developed
 - Evaluation/comparison of FRG approach is required
 - Documentation the experience and lessons from FRG approach to be published
 - Inputs from the FRG approach to national extension should be properly allocated or incorporated into line

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1. Overall Implementation process cont'd

1.6 Project administration system

- Appropriate administration system of the project was developed among EIAB, OARI, AFARC and MARC
- Linkage with agricultural and rural development for project administration at all levels is not well established
- Appropriate problem solving system was developed through daily communication and JCC meeting, creating strong relationship of the counterparts for mutual trust

1. Overall Implementation process cont'd

1.7 Monitoring system

- Increased number of FRGs has made continuous monitoring difficult as it has resource implication
- Way of monitoring on the multiple subjects, FRG activities and process, relationship among stakeholders, etc has to be discussed and the recommendation included in the guideline

1.8 Relationship between JICA experts and Counterparts

- Smooth and effective communication has resulted in development of strong relationship for mutual trust.
- Culture of joint problems solving was developed

1. Overall Implementation process cont'd

1.9 Ownership of the Implementing agency

- Participation of representative of implementing agencies at different level was positively improved
- All the budget for FRG research were provided from JICA. There is a need for the Ethiopian government to allocated budget for FRG research.
- However, promoting and institutionalizing the FRG approach needs additional source of budget
- Allocation of Ethiopian counterparts like researchers, project management and coordination was appropriate

1. Overall Implementation process cont'd

1.10 Relationship with beneficiaries

- Change of counterparts' awareness and attitude: the understanding of participatory researches and activities at field level, and approach to the subjects along with farmers' needs were made remarkable progress
- Change of farmers' awareness and attitude: It was observed that awareness and big change of attitude of farmers to tackle their problems

1. Overall Implementation process cont'd

1.10 Relationship with beneficiaries cont'd

- Change of DAs' awareness and attitude: the positivity and participation of DAs' has been improved
- Change of other stakeholders' (e.g. agricultural cooperatives, NGO, private sector, etc) awareness and attitude

2. Evaluation based on 5 indicators

2.1 Relevance

- PASDEP (Federal), Development Corridor (Oromia) and Agricultural lead industrialization policies
 - Improvement of conventional agricultural technologies and development of new technologies and improvement of extension services to address the problem of food short age, which is exacerbated usually by drought affecting rural agricultural productivity
 - Strengthening the linkage between agricultural research, farmer and extension services has been the priority in Ethiopia
 - Therefore, the Project is in line with the national development policy

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2. Evaluation based on 5 indicators cont'd

2.1 Relevance cont'd

- Needs for cooperation from target group is high
 - Farmers demand different options of technologies to select from
 - Research demands the improvement and adoption of appropriate new technologies
 - Extension service demand FRG because of good quality extension material development on new technologies

2. Evaluation based on 5 indicators cont'd

2.2 Effectiveness

- In general the Project Purpose has been almost achieved
- All outputs have been contributing to the achievement of Project Purpose
- Contributing factors to FRG approach
 - lessons from each FRG activities is used to develop the FRG guideline
 - participatory technology development and applied researches contributed for development and extension of appropriate technologies

2. Evaluation based on 5 indicators cont'd

2.2 Effectiveness cont'd

- As much as possible the input and output relation was kept appropriate. It was designed to develop the least cost technology
- The challenges faced in developing the new technology in collaboration with other counterpart were variable that needed further research, feedback to MoARD outputs, and a workload that was larger than expected.

2. Evaluation based on 5 indicators cont'd

2.3 Efficiency

- The appropriate number and speciality of long term and short term experts were dispatched timely
- It required highly coordination cooperation with the extension department in MoRAD and BoARD in order to achieve output 3.
- Almost all equipment was procured at the appropriate timing

2. Evaluation based on 5 indicators cont'd

2.3 Efficiency cont'd

- Appropriate numbers of counterparts who have enough ability were allocated
- Appropriate size of facility was provided
- The local cost from Japanese side was decreased but it did not impede the implementation of activities.
- Even though the local cost from Ethiopian side was not much, it could not be helped due to the Ethiopia's financial condition

2. Evaluation based on 5 indicators cont'd

2.3 Efficiency cont'd

- The contents and duration of training in Japan and supplemental training in Thailand were appropriate and effective in general
- But the performance of few counterparts did not change as expected
- Selection of the candidate was not favouring the junior researchers who actually work on the subject because every chance of training is open for every body to compete
- The number of the trainee was minimal when seen from cost/benefit aspect as the number of trainees is high in the research system

2. Evaluation based on 5 indicators cont'd

2.3 Efficiency cont'd

- The role of JCC is appropriate in terms of activities, members, agendas and frequency of the meeting
- Each stakeholders had a chance to decide on some issues and on concrete action plan in order to manage the process of the project efficiency

2. Evaluation based on 5 indicators cont'd

2.1 Impact

- It is highly possible to achieve the Project Purpose and also it is expected that the Project Purpose contribute to the overall goal because the adoption of FRG approach has been started in other research centers
- There was an impact of FRG approach to the policy to maintain improvement. MoARD/EIAR/OARI has been adopting the FRG approach to the national level through RCBP of the World Bank.

2. Evaluation based on 5 indicators cont'd

2.4 Impact cont'd

- The gender perspective and ground work for gender mainstreaming was included in FRG approach
- Negative impacts were not found

2. Evaluation based on 5 indicators cont'd

2.5 Sustainability

- Political aspect
 - MoARD/EIAR/OARI has been adopting the FRG approach to the regional and national level through RCBP
 - FRG approach is included in the research system by BPR.
 - MoARD, EIAR and OARI are expected to play a major role to promote FRG guidelines to the national level having MARC and ATARC as the stronghold of FRG approach because of their 5 years concrete experiences – we recommend phase II of FRG

2. Evaluation based on 5 indicators cont'd

2.4 Sustainability cont'd

- Institutional aspect
 - The understanding of the FRG approach has become deeper among related organizations
 - However, for better adoption of FRG approach outside of FRG Project activities, there should be strong coordination at regional and national levels
 - Improvement of researchers' capacity is essential in order to develop applicable technologies for farmers by the FRG approach

2. Evaluation based on 5 indicators cont'd

2.4 Sustainability cont'd

- Financial aspect
 - FRG approach is applicable under any condition. It can be implemented by the Government budget
 - However, adoption of the FRG approach can be effective if we receive support from other donors
- Technical aspect
 - Demands of FRG approach in the target area is high

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2. Evaluation based on 5 indicators cont'd

2.4 Sustainability cont'd

- Technical aspect
 - From 11 subjects in 205 to 50 subjects at present
 - From 19 FRG's to 80 FRG's
 - From 10 researchers to 30 researchers
 - From 349 farmers to 1245 farmers (712 households)
- Demands of FRG approach outside of the target area : different regions visited ATARC and MARC to share experience about FRG approach

2. Evaluation based on 5 indicators cont'd

2.4 Sustainability cont'd

- Technical aspect
- Demands of developed technologies by the Project in the target area is high because it considered the socio economic background of the target area
- The demands of developed technologies by the Project outside the target area will possibly increase with the expansion of FRG approach
- The procured equipment has been utilized and maintained properly, motor cycles and pF determination meter (MARC) haven't been used due to some circumstances.

2. Evaluation based on 5 indicators cont'd

2.4 Sustainability cont'd

- Social, Cultural, Environmental aspect
 - The FRG Project focused on gender perspectives carefully, contributed to reducing the poverty by increasing of income and risk management as a Project pillar of stability and involved some socially vulnerable (widows and PLWHIA) and empowerment intentionally.
 - The FRG Project has been implemented based on the ecological agricultural conditions and the effective utilization of that conditions in target areas.



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GA

*Achievement is of project on
strengthening technology
development, verification, transfer
and adoption through Farmers
Research Group (FRG)*

Jan. 20/2009
Addis Ababa

Outputs of the project

- FRG project is planned to achieve following outputs
 - FRG guideline is developed
 - Appropriate technologies which meet farmers' need, and capacity are developed/improved
 - Extension components of FRG approach are improved
 - Linkage among stakeholders is strengthened

These are presented as follow:

1. FRG Guideline development

1.1. Final version of FRG guideline is completed

- FRG Guideline for agricultural researchers based on the experience of FRG researchers
- Since 2005, the guideline has been revised several times
- Guideline development meetings by research teams since the mid of 2008
- Review by researchers from other institutions in January 2009
- Version 4 will be ready in February 2009
- Workshop for the guideline in March 2009
- The final version will be ready in may 2009

**2. Appropriate technologies
which meet farmers need and
capacity is developed/improved**

**2.1. 80% of the technologies developed/improved are
adopted by more than 60% of FRG farmers**

- 85% of FRG farmers apply technology developed/improved by FRG research
- 98% of FRG farmers satisfy with FRG activities
- 61% of non-FRG farmers have learnt technologies from FRG (FRG farmers or FRG related events)

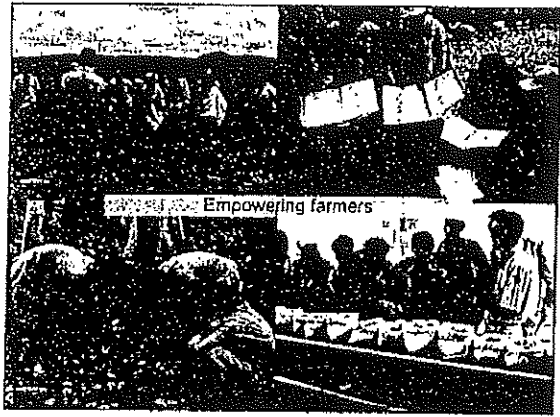
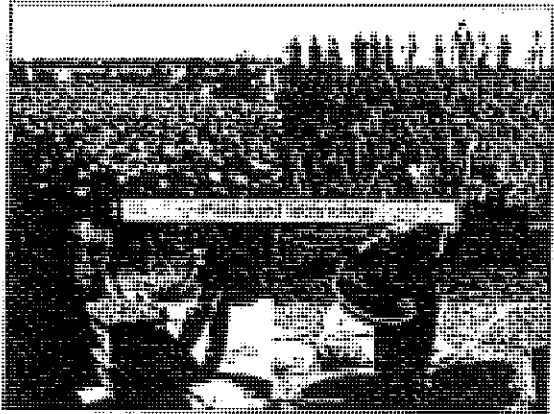
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2.2. More than 50% of farmers are highly satisfied with technologies

- 98% of FRG farmers satisfy with FRG activities
- 61% of non-FRG farmers have learnt technologies from FRG (FRG farmers or FRG related events)



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3. Extension components of FRG approach are improved

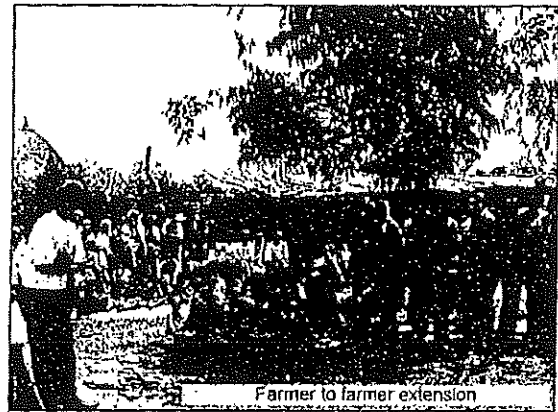
3.1 The number of non-FRG farmers' participation in the extension activity will be 10 times of the total FRG

- The above information not obtained yet
- 74% of non-FRG farmers have received technical information from FRG farmers

3.2 Demonstration, field day and farmer training by FRG farmers are conducted at least once per year

- In the last four and half years;

	2005	2006	2007	2008	Ave.
No of farmers, DAs and Experts trained	162	362	904	265	423
Number of field days	5	8	10	10	8
Number of exchange visits	5	6	6	3	5



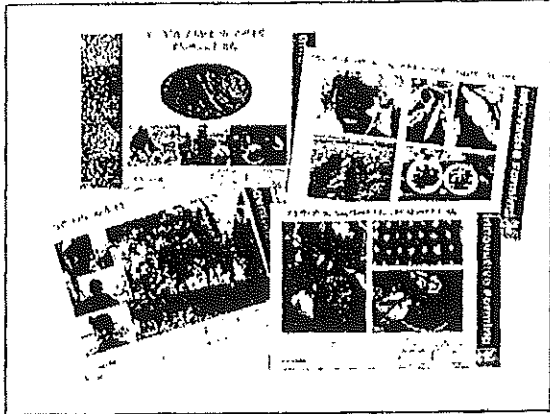
3.3 Type/frequency of DAs service improved

- 324 DAs trained in 5 training program during the project period
- Including 2 joint DA training with IFI and WaBubu Projects
 - These are DAs who implemented FFS with their own initiative
- No systematic monitoring of DA activity by the project
 - Frequent turnover of DAs
 - Joint activity of FFS with RFBP is just started

3.4 More than one extension material for each completed subject and/or technology is developed

- Extension material development committee established and 2 meetings held
- 40 extension materials developed
- Out of 40 materials, 4 have been improved as clip chart and being tested with some DAs
- 33 materials are under improvement into posters, leaflets, manuals and clip charts
- Newsletter "FRG UPDATE"

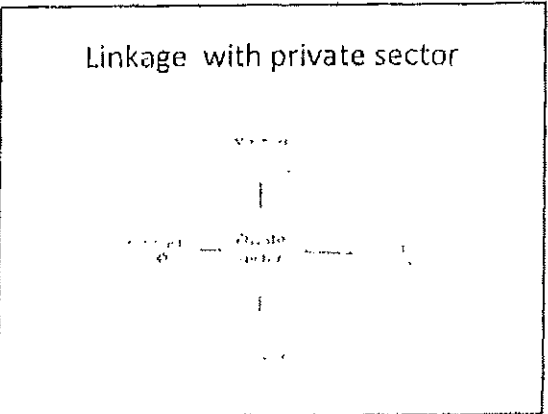
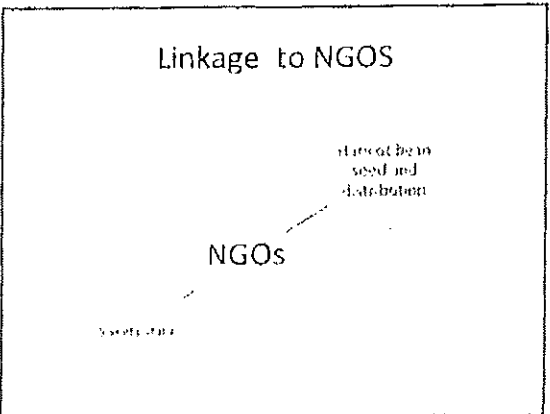
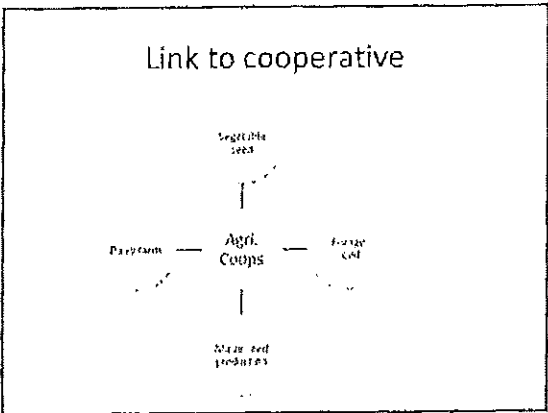
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4. Linkage among stakeholders is strengthened

4-1 Concerned stakeholder involved in FRG activities

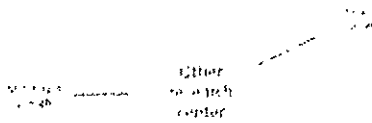
- 20 out of 40 FRG researches have functional linkage with District Agricultural and Rural Development Offices (DARDO).
 - DARDOs have been involved in technical support of almost all the FRG activity at the field level through OAs
- 21 out of 40 FRG researchers have active linkage with stakeholders
 - Seed production, milk churner, mouldboard plough



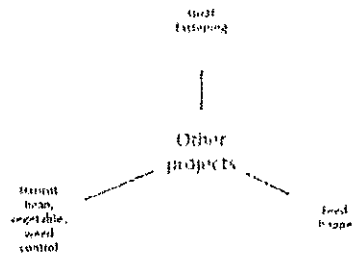
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Linkage with other research centers



Linkage with other projects



- One-third (9/31) of trainings were participated by other stakeholder in addition to farmer, extension workers and researchers
- Many of them participated regular FRG meetings
- Experience sharing visits from different regional states on FRG activity coordinated by RCBP
 - Benishengul-Gumuz,
 - Gambella,
 - Somali,
 - Afar,
 - Tigray
 - Amhara

4-2 Type of joint activities among stakeholders increased and role of each stakeholder is clearly specified in action plan of each FRG project

- The role of stakeholder are prepared for every FRG research team
- Example:
 - Distribution of extension material
 - Application of FRG approach by region II and district AWDCs
 - Distribution of extension materials and seed production by agricultural cooperatives
 - Extension of improved technologies by NGOs
 - Improvement and promotion of agricultural tools by private sector
 - Distribution of extension materials and improved seed by donors

4.3 More than 80% of stakeholders are highly satisfied with work relationship among themselves

- Information not obtained yet

5. Document on experience and lessons from FRG approach published

1. Publications

- (1) Analysis of baseline survey results on FRG and Non-FRG farmers (2005)
- (2) Country gender profile Ethiopia (2006)
- (3) FRG research inventory (2008)
- (4) FRG completed research Report 2007 (2008)

2. Guideline

- (1) Make your your field day more productive
- (2) Gender sensitization workshop
- (3) Make your field day more productive
- (4) Make your action plan more effective

3. Workshop proceedings

- (1) Workshop on the water harvesting technology in East Shewa And Arsi Zone, 23rd -24th February, 2006
- (2) FRG: concept and practice, proceeding of workshop 20th -21st oct, 2005
- (3) Farmer produced seed workshop(Sep. 18th -19th 2008) up coming proceeding

4. Extension materials

- 1) List of improved technology and useful farmers practice
- 2) List of Extension materials

5. Scientific papers

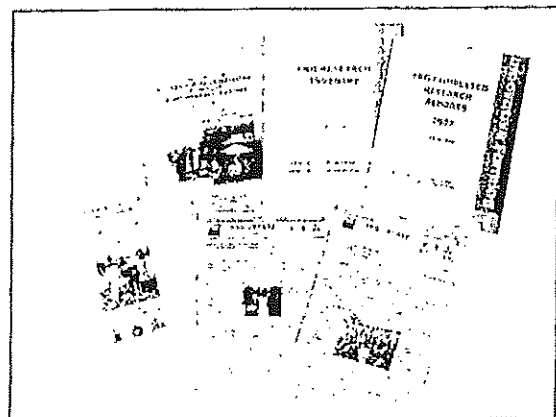
- Four research papers
10 thesis published in 'FRG completed research Report 2007'

6. Expected list of documents by FRG

FRG guideline version 5
FRG completed research report 2008
FRG research inventory March 2009
Extension material production guideline
Project completion report

7. Expected list of publiced documents

- (1) Goat fattening
- (2) Sweet potato variety relations



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A handwritten signature in black ink, appearing to be 'J.P.P.' or similar.

Handwritten initials or a mark, possibly 'AA'.

ANNEX 12: Participants List on Achievement Workshop

Date: 20 January, 2009

No.	Name	Position	Institute
1	Fasil Reda	Coordinator, PADDR	EIAR
2	Chimedo Anchale	REFH sp	RCBP
3	Taha Mune	Researcher	ATARC
4	Wole Kinati	Researcher	ATARC
5	Sherif Aluy	IEIRA, D/Z Res. Ce	EIAR
6	Sisay Kefni	FRG Group	ATARC
7	Chalaw Iurce	FRG Group	ATARC
8	Ibrahim Mohammed	Dev. Part. Inka coord.	MOARD
9	Deriba Mekonnen	Plan & Project Officer	LAFUCU
10	Mitsuaki Ono	Representative	JICA Ethiopia
11	Dejene Aredo	SG 2000 representative	SG 2000
12	Felekech Zemecha	Oromia Agri Re.	OARI
13	Asefa Taa	DDG	OARI
14	K. Shiratori	Expert	FRG Project
15	I. Matsumoto	Expert	FRG Project
16	M. Niioka	Expert	FRG Project
17	Endeshaw Habtu	MARC	EIAR
18	Berhane Shelimo	CENTER	OARI/ATARC
19	Addis Mitiku	DA	Adama WARDO
20	Abera Bekele	DA	Adama WARDO
21	Ehite Gzaw	Farm	MARC/Dodota
22	Bedada Sida	Farm	MARC/Dodota
23	Bedru Beshir	Researcher	MARC
24	H. Hoshi	Team Leader	Japanese Evaluation Team, JICA
25	J. Kakinuma	Team Member	Japanese Evaluation Team, JICA
26	S. Asano	Team Member	Japanese Evaluation Team, JICA



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