ケニア共和国
小規模園芸農民組織強化計画プロジェクト
（SHEP）
終了時評価調査報告書

平成21年7月
（2009年）

独立行政法人国際協力機構
ケニア事務所

ケニ事
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09-002

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Currency Equivalents

As of July 2009

1 US$ = 77 Kenya Shillings (Ksh)
100 JPY = 82 Ksh

Unless Specifically Noted

	1US$	100JPY
2006 average	72.101	62.022
2007 average	67.318	56.992
April 2007	68.577	57.131
2008 average	69.177	67.251
May 2008	61.899	59.379
Jan.-May 2009	79.386	84.490
May 2009	79.530	80.760

Source: Central Bank of Kenya

序　　文

国際協力機構では、ケニア共和国政府からの技術協力の要請に基づき、2006年11月14日から、ケニア共和国小規模園芸農民組織強化計画プロジェクト（SHEP）を3年間にわたり実施しています。

2009年11月に同プロジェクトが活動を終えるのに先立ち、プロジェクトの成果を確認し、今後のプロジェクトに関する提言と他のプロジェクトへの教訓をまとめるために、2009年6月の上旬から7月9日まで、終了時評価を実施しました。

終了時評価では、ケニア農業省、園芸作物開発公社、国際協力機構ケニア事務所の三者が指名した調査団員からなる合同評価調査団を編成し、ケニア政府と国際協力機構の合同評価として実施しました。調査期間中、ケニア側団員の参加度合いやコミットメントは高まり、調査団員全員が報告書を執筆し、2009年7月9日に開かれたプロジェクト・ステアリング・コミッティにおいて、ケニア側、日本側のそれぞれの団員から調査結果の報告が行われ、真の合同評価といえるものとなりました。

本報告書は、終了時評価の結果を取りまとめたものです。本プロジェクトは対象である農民組織のメンバーの所得が著しく向上するという目覚ましい成果を上げていますが、広くその成果が知られているわけではありません。本評価報告書は、合同評価調査団の献身的な努力により、英文及び和文の報告書ともに、プロジェクトの概要、進捗、成果について、詳細にまとめられ、本報告書でプロジェクト全体が把握できるほどの充実した内容となりました。

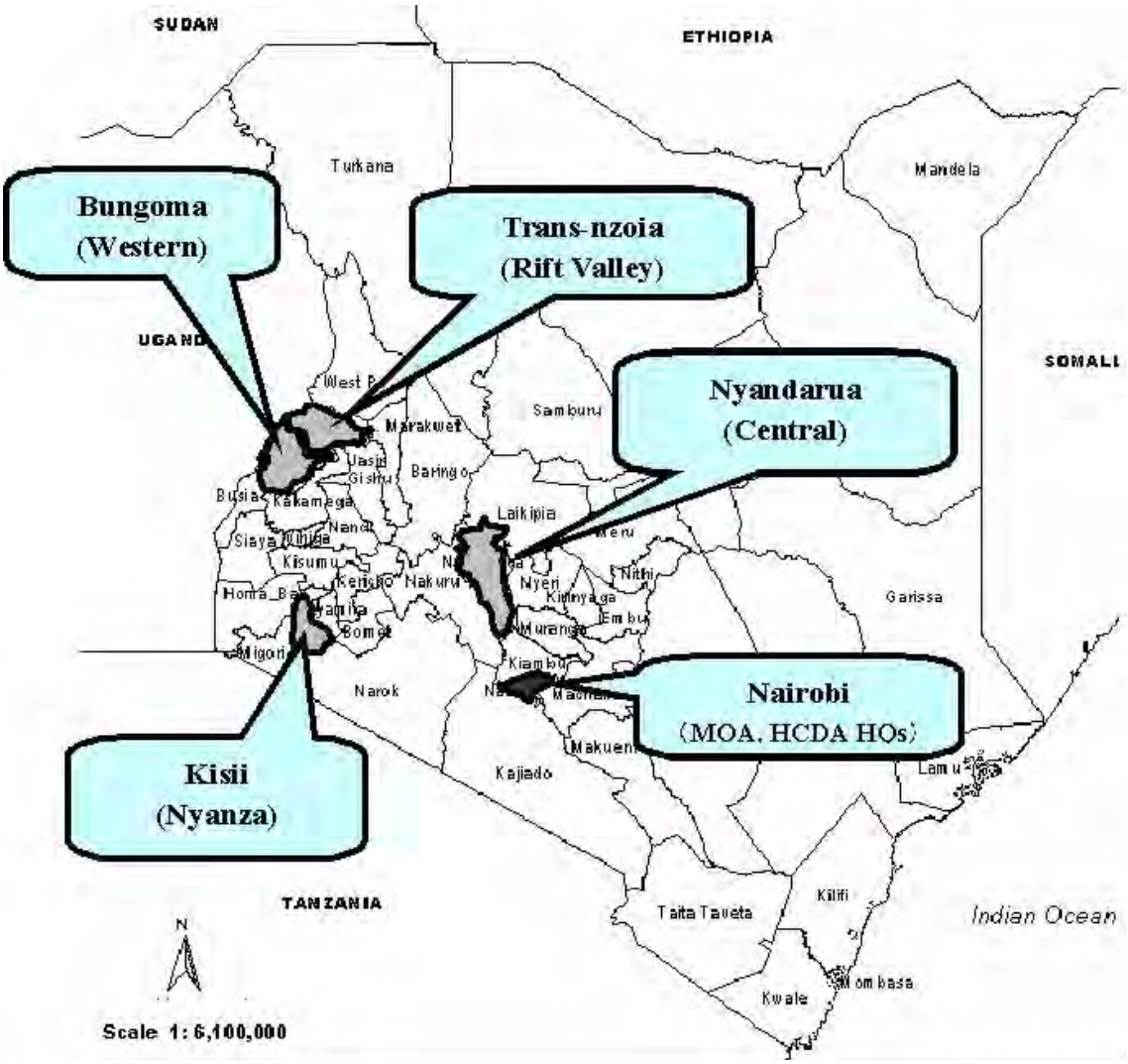
本報告書が今後の技術協力や、経済協力の計画、実施に幅広く活用されることを願うものです。

終わりに、プロジェクトの実施並びに本評価調査の実施にご協力とご支援をいただきました、両国の関係者の皆様に、心から感謝の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21年7月

独立行政法人国際協力機構
ケニア事務所長　高橋　嘉行

プロジェクト位置図


SUDAN
ETHIOPIA
Turkana
Mandela
Bungoma
(Western)
Trans-nzoia
(Rift Valley)
UGAND
SOMALI
Nyandarua
(Central)
Samburu
Marakwet
Baringo
Busia
Kakamega
Laikipia
Meru
Siaya
Kisumu
Nakuru
Nyeri
Nithi
Kirinyaga
Embu
Garissa
Homa Bay
Bomet
Migori
Kiambu
Nairobi
(MOA, HCDA HQs)
Narok
Makueni
Kajiado
Lamu
Kisii
(Nyanza)
TANZANIA
Taita Taveta
Kilifi
Indian Ocean
Kwale
Mombasa
N
Scale 1: 6,100,000

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付属資料

図表リスト

略　語　一　覧

ASDS	Agriculture Sector Development Strategy	農業セクター開発戦略
C/P	Counterpart	カウンターパート
FABLIST	Farm Business Linkage Stakeholder	―
FEW	Frontline Extension Worker	―
FT-FaDDE	Facilitators' Training for Farmers Demand Driven Extension	―
GEI	Group Empowerment Indicators	グループエンパワーメント指標
HCDA	Horticultural Crops Development Authority	園芸作物開発公社
JEF2G	Joint Extension Staff and Farmers Dual Gender Training	―
JICA	Japan International Cooperation Agency	独立行政法人国際協力機構
MoA	Ministry of Agriculture	農業省
PCM	Project Cycle Management	プロジェクト・サイクル・マネジメント
PDM	Project Design Matrix	プロジェクト・デザイン・マトリックス
R/D	Record of Discussions	討議議事録
SHEP	Smallholder Horticulture Empowerment Project	ケニア共和国小規模園芸農民組織強化計画プロジェクト

評価調査結果要約表

<table>
<tr><td colspan="3">１．案件の概要</td></tr>
<tr><td colspan="2">国名：ケニア共和国</td><td>案件名:ケニア共和国小規模園芸農民組織強化計画プロジェクト（SHEP）</td></tr>
<tr><td colspan="2">分野：農業開発／農村開発</td><td>援助形態：技術協力プロジェクト</td></tr>
<tr><td colspan="2">所轄部署：ケニア事務所</td><td>協力金額：3.1億円（日本側）
0.46 億Ksh（ケニア側）
（100 JPY＝82 Ksh as of July 2009）</td></tr>
<tr><td rowspan="3">協力
期間</td><td rowspan="3">3年間：2006年11月14日から2009年11月13日
R/D：2006年8月8日</td><td>先方関係機関：
農業省（Ministry of Agriculture：MoA）
園芸開発公社（Horticultural Crops Development Authority：HCDA）</td></tr>
<tr><td>日本側協力機関：特になし</td></tr>
<tr><td>他の関連協力：特になし</td></tr>
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１－１　協力の背景と概要

ケニア共和国（以下、「ケニア」と記す）の農業セクターは、GDPの27%、雇用の80%、外貨の65%以上を占める（2002年）。農業セクターは1970年代の6%成長から1990年代の1.3%成長に鈍化している。

農業セクターの成長の低迷にもかかわらず、園芸サブセクターは平均15～20%で最も成長している。園芸サブセクターでは小規模農家が主である。小規模農家は生産量の60%、農家数は地域により80～100%を占める。園芸生産物の96%は国内消費用である。収益性の高い輸出市場に従事している農家は2%未満にすぎない。小規模農家がこれらの市場、特に国内市場にアクセスできるためのエンパワーメントの必要がある。小規模園芸農家のエンパワーメントが格差の是正並びに農村貧困削減の鍵となっている。

ケニア政府の要請に対し、JICAは事前調査を2005年7～9月に実施した。事前評価調査団は、弱い販売交渉力、収穫前後のロス、生産性の低迷や低下という課題に対処するものとして小規模園芸農民組織強化計画の実施を提言した。

事前評価調査に基づいた協議の結果、ケニア政府とJICAは小規模園芸農民組織強化計画プロジェクト（Smallholder Horticulture Empowerment Project：SHEP）の実施に合意し、2006年8月8日付の討議議事録（Record of Discussions：R/D）に署名した。

１－２　協力内容

〈プロジェクト概要〉

ケニア4州12県において、小規模園芸農民組織を対象として栽培から組織強化、マーケティングまで市場に対応できるよう、研修を中心とした能力向上支援を行う技術協力。

（１）上位目標

対象県の小規模園芸農家の生計が改善される。

（２）プロジェクト目標

プロジェクト対象の小規模園芸農民組織の運営能力が強化される。

（３）成果

１．対象農民組織が園芸作物を適切に販売することができる（販売交渉力を得る）。

２．対象農民組織の園芸作物の生産量・品質が向上する。
３．対象農民組織の生産基盤・流通インフラの整備実施能力が向上する。

（４）投入（終了時評価時点）
総投入額：3.49億円
１）ケニア側
・プロジェクト実施に必要な建物と施設
・専門家の分野に応じた資格要件と経験を満たすカウンターパート（Counterpart：C/P）の配置　7名
・プロジェクト実施に必要な予算の配分　4,633千Ksh相当
２）日本側
・長期専門家3名、短期専門家
・日本でのC/P研修　9名
・資機材の供与　19,321千円
・ローカルコスト負担　100,713千円

２．評価調査団の概要

調査者	団長・総括　河澄　恭輔	JICA国際協力専門員
	計画管理　増古　恵都子	JICAケニア事務所所員
	評価分析　吉村　浩司	国際開発センター主任研究員
	団員　Mr. Sebastian Odanga	JICAケニア事務所在外専門調査委員
調査期間	2009年6月上旬～7月9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　成果の達成度
（１）成果１
「対象農民組織が園芸作物を適切に販売することができる（販売交渉力を得る)」
〈指標〉
プロジェクト終了時に、プロジェクトの直接支援を受けた農民組織の100%が、間接支援を受けた農民組織の60%以上が、グループエンパワーメント指数（GEI）を、最低1レベル上げる。

成果１の目標は部分的に達成されている。
直接支援農民組織の86%がGEI指数を最低1ランク上げた。間接支援農民組織の多くがGEIを1ランク改善させている。プロジェクト終了までに、成果１の達成が期待される。

（２）成果２
「対象農民組織の園芸作物の生産量・品質が向上する」
〈指標〉
プロジェクトの直接支援を受けた農民組織のメンバーの1エーカー当たり純生産の平均増加率が10～50%、間接支援を受けた農民組織のメンバーの1エーカー当たり純生産の平均増加率が5～30%となる。

成果２の目標は一部を除き達成された。
プロジェクトが実施された4県すべてにおいて、1エーカー当たりの純生産の平均が上昇

した。直接支援農民組織の場合、増加率はニャンダルア県の0.25%からキシイ県の311.5%までである。間接支援農民組織では、ブンゴマ県の9.5%からキシイ県の169%までである。ニャンダルア県以外では、成果２の目標は達成された。ニャンダルア県でも、7～8月の収穫期後、プロジェクトの終了までに増加が期待される。

（３）成果３

「対象農民組織の生産基盤・流通インフラの整備実施能力が向上する」

〈指標〉

3-1. コミュニティ内のインフラの未整備を課題として取り上げた農民組織の80%が導入された技術を用いて整備活動を実施する（直接支援農民組織）。

3-2. 要請書を提出した農民組織の60%が導入された技術を用いて整備活動を実施する（間接支援農民組織）。

成果３の目標は達成された。直接支援農民組織の80.5%、間接支援農民組織の77.8%が、習得技術を用いてインフラ改善を実施した。

３－１－２　プロジェクト目標の達成度

「プロジェクト対象の小規模園芸農民組織の運営能力が強化される」

〈指標〉

プロジェクト終了時に、プロジェクトの支援を受けた小規模園芸農家組織のメンバーの純所得が14.7～20.2%増加する。

プロジェクト目標は、ニャンダルア県以外では達成された。農民の純所得はブンゴマ県では84.1%（目標は20.2%）、キシイ県では90.5%（目標は18%）、トランゾイア県では68%（目標16.2%）増加したが、ニャンダルア県では-38.5%（目標14.7%）であった。ニャンダルア県での所得は、7～8月の収穫後のプロジェクト終了時までには増加することが期待されている。また、ニャンダルア県では商業園芸栽培が進んでいる地域であったため、世界経済不況の影響による農民参加率の低下の影響があった。更には、栽培面積が広くジェンダー配慮の向上が進んでいないので労働分配が進んでおらず、旱魃の際の水供給に対応できなかったという影響もあった。

SHEPはすべての県で単一のパッケージでアプローチしたが、地域や県によって所得増加が異なっており、更なる要因分析が必要である。

<u>示　唆</u>

評価調査団が実施したクエスチョネア調査では、所得や生産量の向上に役立った技術や知識としては、市場調査、クロッピングカレンダー、ジェンダー配慮が最も多く回答された。この結果とフィールド調査の結果と総合すると次のようなことがいえる。プロジェクトの取った市場ありきのアプローチにより、農民の意識と行動が、「作ってから売る」から「売るために作る」というように転換した。農民は、「ファームビジネスユニットとしての農家」であり、「ファームビジネスとしての農業」であることを認識するようになった。クロッピングカレンダーの導入により農家の「ファームビジネス計画能力」を身につけた。ジェンダー配慮により家族内の夫婦関係を、「マネージャーと労働者」から「ファームビジネスのマネジメントパートナー」に転換した。その結果、家庭内の労働力が効率的に活用できるようになった。

農家レベルの便益分析

農民所得は、2007年4月から2009年5月までに平均23%、直接支援農民組織で30%、間接支援農民組織で18%増加した。対象農民組織の農民所得の年間増加率をみると、下表からわかるように国の農業セクターの成長率をはるかに上回っていることがいえる。

項目		年間増加率（%）
対象農民組織の農民所得の年間増加率（%）2007年4月から2009年5月まで	平均	11.0
	直接支援組織	14.2
	間接支援組織	8.7
ケニアの年成長率（%）2008年	GDP	1.7
	農業セクター	-5.1
	作物園芸サブセクター	-7.1

出所：SHEP Team, Central Bank of Kenya

家計レベルの費用便益率は平均425%、直接支農民援組織で290%、間接支援農民組織では584%である（下表）。

	平均	直接支援農民組織	間接支援農民組織
農民一人当たりの研修費用（Ksh）	5,047	8,269	3,355
農民一人当たりの名目所得の増加（Ksh）	21,424	23,960	19,601
費用便益率（%）	425	290	584

出所：SHEP Team

以上のことから、農民への外からの投資としてのプロジェクトの投資が、農民所得を極めて効率的に増加させたといえる。このようなプログラムへの更なる投資が望まれる。

３－１－３　上位目標の達成度

「対象県の小規模園芸農家の生計が改善される」

〈指標〉

対象県の貧困率が低下する。

対象県の貧困率は、キシイとトランゾイア県では低下し、ニャンダルアとブンゴマ県では増加した。プロジェクトは正のインパクトを与えたが、その影響範囲は対象グループ周辺に限られている。対象者の数は、対象県の家計数の0.5%にすぎない。上位目標を達成するには、プロジェクト活動を継続し、かつスケールアップするような活動が必要である。

３－２　評価結果の要約

（１）妥当性

評価調査団は、下記の理由よりプロジェクトの妥当性が高いと結論づける。

１）プロジェクトの市場指向のアプローチは、農業セクターを利益の上がる、商業的な活動にし、かつ自然資源を持続させるとしているケニアの商業指向の農業開発政策である農業セクター開発戦略（Agriculture Sector Development Strategy：ASDS）にまさに合致している。

２）小農における市場指向の農業開発は、JICAの国別事業実施計画に合致しており、重要な開発課題の一つである。

（２）有効性

評価調査団は、下記の理由よりプロジェクトの有効性が高いと結論づける。

１）プロジェクト目標はニャンダルア県を除いて達成された。農民の純所得は、2009年7～8月の収穫期後に増加することが期待される。

２）プロジェクトのアウトプットと目標の指標は、アウトプットとプロジェクト目標の因果関係がつながるように注意深くデザインされた。

（３）効率性

評価調査団は、下記の理由より、プロジェクトがアウトプットの達成とプロジェクト目標の達成を効率的に行っていると結論づける。

１）2007年4月から2009年5月までの間の、対象農民の実質所得の年間増加率は平均で11%、直接支援農家で14.2%、間接支援農家で8.7%である。国の経済成長率は、2008年で農業セクターの成長率は-5.1%、作物園芸サブセクターの成長率は-7.1%であり、対象農民の実質所得の年間増加率は、国の園芸関係セクターの経済成長率より遥かに高いことを示している。

２）簡単な費用便益率の計算によると平均425%、直接支援農民組織で290%、間接支援農民組織で584%を示している。対象農民への外からの投資コストは極めて小さい。平均で、農民一人当たりの外からの投資額5,047Kshで、21,424Kshの所得増加を生み出している。直接支援の農民一人当たり8,269Kshの投資で23,809Kshの所得増加を生み出し、間接支援では3,355Kshの投資が19,601Kshの所得増加を生み出している。

（４）インパクト

評価調査団は、下記の理由よりプロジェクトのインパクトは正であると結論づける。

１）対象農民組織の所得は著しく増加し、周囲への波及効果も広く観察された。その他、若者の雇用創出、学校の支払額の増加、教会へ行く回数の増加、家族関係の改善など、正のインパクトも観察された。

２）対象者は対象県の家族数の0.5%を占めるにすぎない。上記のインパクトは地域に限られているが、著しい所得向上効果と周辺への波及効果が観察された。継続的な努力がこれらの正のインパクトを維持し、スケールアップする努力がインパクトをさらに広いエリアに広げることとなる。

（５）持続性

評価調査団は、下記の理由よりプロジェクトの継続性は高いと結論づける。

１）直接支援農民組織アプローチによって、C/Pのキャパシティが向上した。

２）間接支援農民組織アプローチでは、普及員のキャパシティ向上と支援システムの強化を行った。

３）農業省は、プロジェクトの成果を認識し、このプロジェクトの活動をスケールアップし、成果を広げるための新たなユニットを設立した。農業省は既に事務所スペースと予算を確保しており、SHEPは制度的な持続性があるといえる。

３－３　効果発現に貢献した主な要因

（１）計画内容に関すること

・プロジェクトの枠組みが注意深く設計された。測定可能な指標が設定され、成果とプロジェクト目標の論理的つながりを改善するとともに、モニタリングとマネジメントの改善も図られた。さらに、指標そのものが達成目標となり、農民組織、普及員、C/Pといった関係者の意欲を向上するように設計された。

・市場意識とジェンダー配慮を組み合せたプログラムの順序も、注意深く設計され、農民の意識と行動を「ビジネスとしての農業」というように転換させた。

（２）実施プロセスに関すること

・プロジェクトの取った市場第一のアプローチにより、農民の意識と行動が、「作ってから売る」から「売るために作る」というように転換した。農民は、「ファームビジネスユニットとしての農家」であり、「ファームビジネスとしての農業」であることを認識するようになった。ジェンダー配慮により、家族内の夫婦関係を、「マネージャーと労働者」から「ファームビジネスのマネジメントパートナー」に転換した。その結果、家庭内の労働力が効率的に活用できるようになった。

３－４　問題点と問題を惹起した主な要因

（１）計画内容に関すること

計画内容に関して問題点は特段見られなかった。

（２）実施プロセスに関すること

・選挙後の混乱は、2008年1～3月の間、3カ月間にわたりプロジェクトを中断させた。成果の達成のために、活動の効率化（同じ関心をもつ異なるグループの共同研修など）を余儀なくされた。

・世界経済危機は、輸出作物を生産する農家の多いニャンダルア県の農民所得に影響を与えた。

３－５　結　論

評価調査団は、上述のようにプロジェクトの妥当性が極めて高く、有効性、効率性も高いと結論づけた。また、正のインパクトがあり、継続性も高いと結論づけた。これらの正のインパクトを維持し、より広い地域に広めていくために、継続的なフォローアップとスケールアップの努力が必要である。

３－６　提　言

評価調査団はプロジェクトチームに対して、以下の提言をする。

（１）多くの価値のあるデータが得られたので、これらのデータを用い、成果に貢献する要因の更なる分析を行うこと。この分析は、園芸政策やプログラム、制度の枠組み、日本の援助政策の策定に用いられるべきである。

（２）プロジェクト内部の情報をさらに活用するために情報管理を強化すること。プロジェクトの活動と成果に関する情報の開示に簡単にアクセスできるようにすること。これにより、広報、ステークホルダーや開発パートナーの間の情報共有を進める。

（3）プロジェクト終了までに、既存の普及サービスシステムの枠組みの中で、マネジメント、報告、動機づけなど農業普及員と農民組織を支援する体制を強化すること。

評価調査団はケニア政府に次の提言をする。

（4）プロジェクトに対する適時な予算の割当。

評価調査団はケニア政府とJICAに次の提言をする。

（5）プロジェクトで得られた知識と経験を、農業省、開発パートナー間で共有し、他のプロジェクトやプログラムに適用するためのフォローアップ活動を行うこと。

3－7　教　訓

評価調査団は、他のプログラムやプロジェクトに適用可能な以下の教訓を得られたと判断する。

（1）よくデザインされたモニタリングシステムが効果をもたらしたこと。

（2）成果指標が関係者の動機を高めたこと。

（3）マーケット第一のアプローチが、農民の意識と行動をより市場指向に変えたこと。

（4）ジェンダー配慮を高めたことが農家内の労働力の効率的な活用を可能にしたこと。

Summary of Terminal Evaluation

I. Outline of the Project	
Country: The Republic of Kenya	Project title: Smallholder Horticulture Empowerment Project (SHEP)
Issue/Sector: Agricultural and Rural Development - Agricultural Development	Cooperation Scheme: Technical cooperation project
Division in charge: JICA Kenya Office	Total cost: 314 million JYen by Japan. 4.6 million Ksh. by Kenya (100 JY = 82 Ksh. as of July 2009)
Period of cooperation: Three years from 14 Nov. 2006 to13 Nov. 2009 Record of Discussions signed: 8 August 2006	Implementing Organization: Ministry of Agriculture (MoA), and Horticultural Crops Development Authority (HCDA) Supporting Organization in Japan:

1.1. Background of the Project

Agriculture sector in Kenya contributes to 27% of GDP, employs over 80% of the labor, and generates over 65% of foreign exchange earning (2002). However, the performance of the agriculture sector has been declining from 6% of growth in the 1970s to 1.3% in the 1990s.

Despite the downward trend of the agriculture sector, horticulture is the fastest growing sub-sector with an average growth rate of between 15 to 20% per annum. Smallholders play major roles in the horticulture sub-sector. They produce 60% of total produce and account for 80-100% in number depending on the area. 96% of the horticulture produce is sold and consumed in the domestic market. The involvement of farmers selling to the profitable export market is limited to less than 2%. There is a need for smallholder farmers to strengthen their access to various markets, especially the domestic markets. The empowerment of smallholder horticulture farmers is a key to redress the existing disparity as well as to reduce rural poverty.

In response to the request by the Government of Kenya (GOK), JICA conducted the Ex-ante Evaluation Study in the period between July and September of 2005. The Ex-ante Evaluation team recommended the Smallholder Horticulture Empowerment Project (SHEP) to address the issues identified, such as: i) weak bargaining power, ii) considerable pre/post-harvest loss of the produce, and iii) limited or declining productivity.

Based on the Ex-ante Evaluation study, GOK and JICA agreed on the commencement of SHEP by signing the Record of Discussions on 8th August 2006 as a result of a series of discussions.

1.2. Contents of Cooperation

（1）Target Area

1）Bungoma District, Western Province; currently divided into four as Bungoma East, West, North, South

2）Trans-Nzoia District, Rift Valley Province; currently divided into three: Trans-Nzoia East, West and Kwanza

3）Kisii District, Nyanza Province; currently divided into three: Kisii Central, South and Masaba
4）Nyandarua District, Central Province; currently divided into two: Nyandarua North and South

（2）Target Group
1）Direct Beneficiary: Smallholder horticulture farmer groups and extension staff of MoA and HCDA in the target area.
・Direct supported farmer groups: 10 groups in each district: 42 groups in total (around 1,000 farmers).
・Indirect supported farmer groups: 20 groups in each district: 80 groups in total (around 1,600 farmers).
2）Indirect Beneficiary: Smallholder horticulture farmer groups

（3）Overall Goal
Improved livelihoods of smallholder horticulture farmers in the target districts.

（4）Project Purpose
Developed capacity of the smallholder horticulture farmer groups supported by the project.

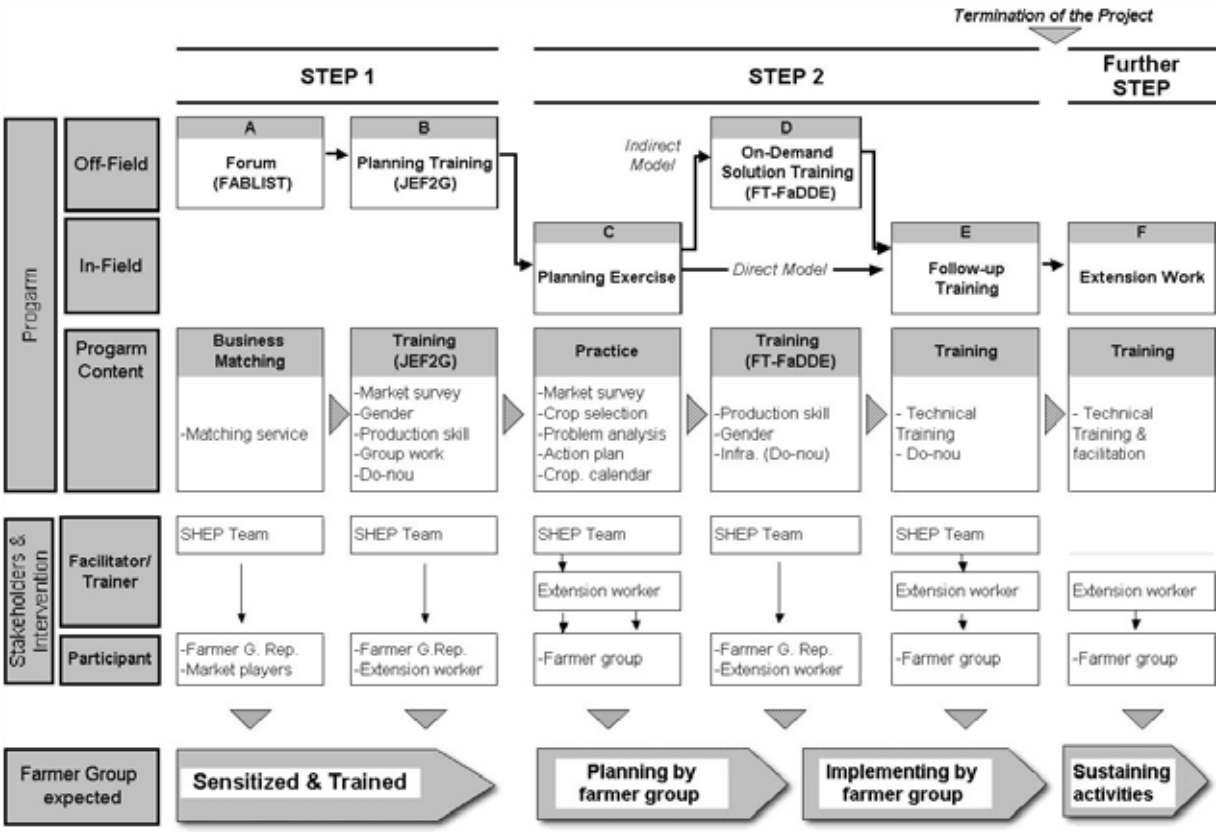
（5）Outputs of The Project:
Output 1: Target groups (smallholder horticulture farmer groups) gain bargaining power in marketing their produce.
Output 2: Target groups increase the production of better quality crops.
Output 3: Target groups develop capacity to improve rural infrastructure for production and transportation.

（6）Activities of The Project
The project is the technical assistance i) to empower smallholder horticulture farmer groups, ii) to develop capacities of extension workers who provide technical support to farmer groups, and iii) to develop capacities of SHEP Kenyan team members as counterpart personnel who provide technical support to extension workers. The Project support includes the aspects of marketing, production and rural infrastructure. The project implementation process is conceptualized as follows:
Stage I: setting-up, detail designing and sensitization:
Sensitization, detail designing and Baseline survey were done.
Stage II: Direct model farmer group approach:
SHEP Team consisting of Japanese experts and Kenyan counterpart personnel, along with extension workers, provided technical support to the target farmer groups to empower them.
Stage III: Indirect model farmer group approach
SHEP Team, mainly Kenyan team members, provided trainings to extension workers. Trained extension workers provided trainings and facilitations to farmer group by their own initiatives.
Indirect model approach was developed based on the experience of direct model approach. Basic concept of both approaches is as follow:
Both approaches have two steps: *STEP 1*: off-field training, and *STEP 2*: in-field practice and training. In the first step, farmer groups are provided necessary knowledge and skills and sensitized. In the second step, farmer groups develop action plans and implement them by themselves. Extension workers and SHEP Team facilitate them to do so and provide trainings as demanded. Through the *learning-by-doing* process, the capacities of the farmer groups are strengthened.

The project has a further step where farmer groups sustain their activities by themselves after the termination of the project. This concept is as shown in the following figure.

Stage IV: Wrapping-up:

Follow-up trainings, farmers exchange visits and development of training manuals are also to be done.



（7）Inputs

1）Inputs by Kenyan side

・Provision of building and facilities necessary for the implementation of the project

・Assignment of qualified and experienced counterpart personnel for each field of experts

・Allocation of counterpart budget necessary for the implementation of the project

2）Inputs by Japanese side

・Three Japanese long-term experts and short-term experts

・Counterpart personnel training in Japan arranged during the cooperation period.

・Provision of machinery and equipment

II. Outline of Evaluation Study Team	
Members of Evaluation Team	Conducted by Join Evaluation Team consisting of Kenyan and Japanese members as follows: <u>Kenyan Side</u> Mr. Nehemiah Chepkwony, Team Leader, Deputy Director, Horticultural Division, Ministry of Agriculture

	Ms. Margaret Masaku, Member, Horticulture Division, Ministry of Agriculture Mr. Moses Mwangi Kamau, Member, Monitoring and Evaluation Division, Ministry of Agriculture Ms. Grace G. Kyallo, Member, General Manager of Crop Production, Horticulture Crops Development Authority <u>Japanese Side</u> Mr. Kyosuke Kawazumi, Team Leader, Senior Representative, JICA Kenya Office Ms. Etsuko Masuko, Member, Representative of Agriculture Sector, JICA Kenya Office Mr. Sebastian Odanga, Member, Agriculture & Rural Development Consultant, JICA Kenya Office Mr. Hiroshi Yoshimura, Member, Senior Researcher, International Development Center of Japan (IDCJ)	
Evaluation study period	From the beginning of June to 9 July 2009	Type of evaluation: Terminal evaluation

III. Outline of Evaluation Result

3.1. Performance Assessment

3.1.1. Process assessment

The project framework was carefully designed and modified during the implementation through revision of indicators. Measurable indicators were set to link logical sequences between outputs and the project purpose as well as to improve monitoring and management. In addition, those indicators themselves became the targets to motivate stakeholder such as farmer group, extension workers and counterpart personnel to achieve. Internal information management and easy accessibility of information from outside are further challenges.

3.1.2. Achievement assessment

（1）Output 1

Target groups gain bargaining power in marketing their product.

<u>Indicators:</u>100% of the direct model farmer groups and 60% of the indirect model farmer groups improve by at least of Group Empowerment Indicators (GEI).

86% of the direct farmer groups have improved by at least one level of GEI. Many of the indirect farmer groups have improved at least one level of GEI. There is a positive indication that Output 1 will be achieved by the end of the project period.

（2）Output 2

Target groups increase the production of better quality crops.

<u>Indicators:</u> Members of the farmer groups increase net-produce per acre increase by 10-50% for the direct model groups and 5-30 % for the indirect model groups.

In all the four districts where the project was implemented, on average there was an increased net production per unit of land (acre). For the direct groups this increase ranged from 0.25% in

Nyandarua to 311.5% in Kisii district. For the indirect groups' category the increased range was between 9.5% for Bungoma and 169% in Kisii. The targets of Output 2 have been achieved expect for Nyandarua district. The increase of produce is expected by the end of project after harvesting in July to August.

(3) Output 3

Target groups develop capacity to improve rural infrastructure for production and transportation.
Indicators: 80% of the direct model farmer groups in problem with rural infrastructure and 60% of the direct model farmer groups

The targets of Output 3 have been achieved. 80.5% of direct farmer groups and 77.8% of indirect farmer group implemented the technology for the infrastructure improvement.

(4) Project Purpose

Developed capacity of the smallholder horticulture farmer groups supported by the project.
Indicator: The net-income benefit for individual member farmer increase by 14.7% - 20.2%.

The Project Purpose is achieved except for Nyandarua district. Individual farmers net-income increased 84.1% (as compared with the target 20.2%) in Bungoma, 90.5% (18% for target) in Kisii, -38.5% (14.7% for target) in Nyandarua and 68% (16.2% fro target) in Trans-Nzoia districts. Income of Nyandarua is expected to increase by the end of the project. It has be noted that in Nyandarua, the nature of their produce sales means that they are more prone to the effect of external factors such as global economic crisis. Further analysis shall be made on the contributing factors to income across the districts.

Implications

According to the questionnaire survey conducted by the Evaluation Team, "market survey", "cropping calendar" and "gender awareness" are the major the skill and knowledge helped the increase of production and income. This result, combined with the results of field survey, implies that a market-first SHEP intervention changed farmer's behavior from "grow and sell" to "grow to sell". Farmer came to have an idea of "*farm household as a farm business unit*" and "*farming as farm business*". Cropping calendar enabled farmers to gain a "*farm business planning capacity*". Gender awareness changed the relationship between men and women in the household from "*manager and labor*" to "*farm business management partner*", which enabled the efficient utilization of labor among household.

Benefit analysis at household level

The household income of the target groups grew 23 % on average, 30% for direct group, and 18% for indirect group for the period from April 2007 to May 2009. Annual growth rates of the household income are far beyond the economic performance of the agricultural sector of the nation as shown in the table below.

Item		Annual growth rate (%)
Annual growth rate (%) of household income of the target groups: April 2007 – May 2009	Average	11.0%
	Direct model	14.2%
	Indirect model	8.7%
Annual growth rate at the nation (%) 2008	GDP	1.7%
	Agriculture	-5.1%
	Crop and horticulture	- 7.1%

Source: SHEP Team, Central Bank of Kenya

A household level cost-benefit analysis shows 425% on average, 290% for direct group and 584% for the indirect group, as shown the table below.

	Average	Direct model group	Indirect model group
Operational cost of training/farmer (Ksh)	5,047	8,269	3,355
Nominal income increased/farmer (Ksh)	21,424	23,960	19,601
Cost-benefit ratio per farmer (%)	425%	290%	584%

Source: SHEP Team

These results imply that SHEP worked to increase income quite efficient with external investment. A further investment in these programs shall be made.

（5）Overall Goal

Improved livelihoods of the smallholder horticulture farmers

Indicator: Reduced poverty rate in the target districts.

Poverty rates of the target districts reduced in Kisii and Trans-Nzoia and increased in Nyandarua and Bungoma. The project has positive impacts. The number of target group members is only 0.5% of the total household of the target districts. A continuous and scaling-up action will be required to achieve Overall Goal.

3.2. Summary of Evaluation Result

（1）Relevance:

The Team concludes that relevance of the project is very high for the following reasons:

1）Market-oriented approach of the project is highly consistent with the commercially-oriented agricultural development policy in Kenya.

2）Market-oriented agriculture development of smallholder farmers is the one of the important area in the latest JICA's Country Project Implementation Plan.

（2）Effectiveness

The Team concludes that the effectiveness of this project is very high for the following reasons:

1）The project purpose has been achieved except for Nyandarua district. The net-income is expected to grow after the harvesting season in July – August 2009.

2）Indicators of Outputs and Project purpose were carefully designed to link causal relationship between Outputs and Project Purpose.

（3）Efficiency

The Team concludes that the project produced Outputs and achieved the Project Purpose quite efficiently, for the following reasons:

1）Annual growth rate of the income of target farmers are 11% on average, 14.2% for the direct model farmers and 8.7% for the indirect model farmers for the period from April 2007 to May 2009. These annual growth rates are far beyond that of the overall performance of the country. In 2008, the growth rate of agriculture sector is - 5.1 %, and that of the crop and horticulture subsector is -7.1%.

2）A simple calculation of cost-benefit ratio gives 425% on average, 290 % for the direct group farmers, and 584% for the indirect group farmers. Project cost as external investment required to support the target farmers is quite small. 5,047 Ksh of external investment to a farmer generated additional income to the farmer at 21,424 Ksh on average, 8,269 Ksh of investments generated 23,709Ksh for the direct model farmer, and 3,355 Ksh of investment generated 19,601 Ksh for the indirect model farmer.

（4）Impact

The Team concludes that the impact of the project is positive for the following reasons:

1）The income of the target group increased significantly, and spill over effects of the project were widely observed. Other positive impacts were also observed such as job creation for the youth, growing school fee payment, increased frequency of church attendance and better relationship among family members.

2）The target group accounts for only 0.5% of the households of the target districts. These impacts are limited to be local. However, there is a significant income increase effect on the target farmers as well as spillover effects on the surrounding farmers. Continuous effort can maintain these positive impacts and scaling-up efforts can expand the impact to the wider area.

（5）Sustainability

The Team concludes that the sustainability of the project is high, for the following reasons:

1）Direct model approach developed the capacities of counterpart personnel.

2）Indirect model approach developed the capacities of extension workers as well as contributed to strengthen the supporting system to farmers.

3）Ministry of Agriculture has established a new unit to scale up the project activities in order to expand the outcomes of the project, cognizant of the successful performance of the project.

3.3. Contributing factors

（1）The project framework was carefully designed including revision of indicators. Measurable indicators were set to link logical sequences between outputs and the project purpose. In addition, those indicators itself became the targets to motivate stakeholder such as farmer group, extension workers and counterpart personnel to achieve.

（2）Carefully designed sequence of the programs combining market awareness building with gender awareness raising changed the minds and behaviors of farmer to consider *farming as a business*.

3.4. Inhibiting factors

（1）Post-election turmoil brought about the suspension of the project activities for three months from January to March 2008.

（2）Global economic crisis affected the income of Nyandarua districts where many of farmers are involved in growing the export crops.

3.5. Conclusion

The Team concludes that the project is highly relevant, effective and efficient, as mentioned above. The team also concludes that the project has a positive impact and sustainability. For sustaining the positive effects and impacts and expanding into the wider areas, continuous follow-up and scaling-up efforts are recommended.

3.6. Recommendations

The Team recommends to SHEP Team:

（1）To make a further analysis on factors contributing to the outcome based on the valuable raw data obtained, which should be utilized for developing horticulture policy and program, institutional framework and Japanese cooperation policy.

（2）To strengthen internal information management for its further utilization and easy accessibility of the information on the project activities and outcome for public relations, information sharing among stakeholders and development partners.

（3）To strengthen the implementation system to support extension workers and farmer groups, in terms of management, reporting and motivation development within the framework of the current extension service system by the termination of the project.

The Team recommends to the Government of Kenya (GOK):

（4）Timely budgetary allocation to the project.

The Team recommends to GOK and JICA that:

（5）The follow-up activities be made to digest knowledge and experiences to be shared among MOA and development partners applicable to other projects and programs.

3.7. Lessons Learnt

The Team draws lessons replicable to other programs and projects as follows:

（1）Well-designed monitoring system brought about project effects.
（2）Performance indicators boosted stakeholder motivation.
（3）Market-first approach induced farmer minds and behavior to be more market-oriented
（4）Higher gender awareness made efficient utilization of labor in the farmer households.

第１章　終了時評価調査の概要

１－１　終了時評価調査の背景

ケニア共和国小規模園芸農民組織強化計画プロジェクト（Smallholder Horticulture Empowerment Project：SHEP）は、2006年11月に開始し、3年間の協力期間で、小規模園芸農民組織の能力向上をめざしている。プロジェクトは、ケニア共和国（以下、「ケニア」と記す）の農業省（Ministry of Agriculture：MoA）、園芸作物開発公社（Horticultural Crops Development Authority：HCDA）と独立行政法人国際協力機構（Japan International Cooperation Agency：JICA）から派遣された人員からなるプロジェクトチームが三者間の緊密な協働作業のもとで実施にあたっている。

本プロジェクトの終了まで残すところ5カ月となり、終了時評価が実施された。本報告書は、この終了時評価の結果を取りまとめたものである。終了時評価調査は、2006年8月8日に署名された討議議事録（Record of Discussions：R/D）に基づき、農業省、HCDAとJICAのメンバーからなる合同評価調査団により、2009年6月上旬から7月9日の期間に実施された。終了時評価調査のメンバーは以下のとおりである。

（１）終了時評価メンバー

〈ケニア側〉

氏　名	担当分野	所　属
Mr. Nehemiah Chepkwony	団長	農業省作物局園芸部長（Deputy Director, Horticultural Division, Crop Management Department, MoA）
Ms. Margaret Masaku	メンバー	農業省作物局園芸部職員（Horticulture Division, Crop Management Department, MoA）
Mr. Moses Mwangi Kamau	メンバー	農業省モニタリング評価局職員（Monitoring and Evaluation Division, MoA）
Ms. Grace G. Kyallo	メンバー	園芸作物開発公社マネージャー臨時代理（Acting General Manager of Crop Production, HCDA）

〈日本側〉

氏　名	担当分野	所　属
河澄　恭輔	団長/総括	JICAケニア事務所次長
増古　恵都子	計画管理	JICAケニア事務所所員
Mr. Sebastian Odanga	団員	JICAケニア事務所在外専門調整員
吉村　浩司	評価分析	財団法人国際開発センター主任研究員

（２）本評価調査の特徴

本終了時評価はいくつか特筆すべき点がある。

第一に、一般に合同評価という名はついても、実質的にほとんど日本側が実施する場合が多い。本評価は、合同評価の名のとおり、ケニア側の参加度やコミットメントが極めて高く、真の意味で合同評価といえるものである。

第二に、特に英文報告書はケニア側との合同の成果であり、国際的にも通用する水準の高さを求めた。SHEPは著しい成果を上げている。その成果や重要性が関係者の間やドナー社会などで共有でき、援助の調和化にも役立つように、本評価ではSHEPのプロジェクト概要、進捗、成果について、本報告書1冊でわかる程度の充実度とした。

第三に、プロジェクト自身の特徴であるが、SHEPの成果の最大の特徴は、3年間という農業プロジェクトとしては短い期間での対象農民組織の著しい所得向上効果である。この要因は、対象グループの意欲を高め、農民組織のイニシアティブにより計画、実施し、learning-by-doingにより学習効果を高めたことがいえる。このきっかけとして、農民組織自身による市場調査が外部に対する気づきを誘発し、またジェンダー配慮が内部に対する気づきのプロセスを誘発している。この両者を注意深く組み合わせたデザインにした点も特筆すべき点である。

第四に、通常、技術プロジェクトの効率の評価は定性的にならざるを得ないが、本プロジェクトでは所得向上効果について成果指標を定めて測定することにより、定量的に把握できるようにデザインされている。これにより、技術協力プロジェクトでは珍しく、ある程度の経済効果を計算できるほどになっている。本プロジェクトは簡単ではあるが、費用便益分析ができ、これによって効率の定量的な評価を行っている。これは、入手可能な指標を設定し、評価調査が行われる前月にプロジェクトチームによりモニタリングが行われたことに起因している。

第五に、SHEPはプロジェクトのデザインに特徴がある。事前評価の際に設定された指標を全面的に見直し、ロジックを適正化し、測定可能な指標を設定した。これによりプロジェクトの効果を上げ、かつ指標自体が関係者の目標となり、チームのメンバー、普及員や農民組織の意欲が高められるように設計されている。

特に、第一のケニア側のコミットメントについては、以下の点でケニア側の参加度合いやケニア側のオーナーシップは極めて高く、かつ評価調査を実施することを通して評価についての技術移転も十分に行われた。合同評価そのものに技術移転効果もあり、かつオーナーシップを醸成するうえで、有意義であった。

1）ケニア側団員は、2009年6月15日付で農業省からノミネートされ、調査の計画段階から関与した。6月下旬には、日本側の準備した評価デザイン（Evaluation Grid）に対し、評価設問を追加するなど積極的に貢献した。

2）フィールド調査では、準備した半構造化質問票に基づき調査団員全員が分担して、日本側の視点、ケニア人としての視点、それぞれの視点から自主的に農民、普及員、農業オフィサーなど関係者にインタビューを行った。ケニア側のインタビュアーは、時間を大幅に超過してインタビューを行うなど、積極的な姿勢が目立った。

3）プロジェクトの成果ごとに分担して調査を行った。レポートの取りまとめでは、その構成についても合同調査団で協議し、すべての団員が分担してレポートを執筆した。その結果、作成された英文レポートは詳細、かつ分量も50頁近いものであり、わずか2週間ほどの期間で作成されたものとしては、国際的にも遜色のない水準のレポートとなった。

4）評価調査の成果は、2009年7月9日に農業省で開催されたプロジェクト・ステアリング・コミッティにおいて、ケニア側団員、日本側団員の双方から報告された。

１－２　終了時評価調査の目的と方法

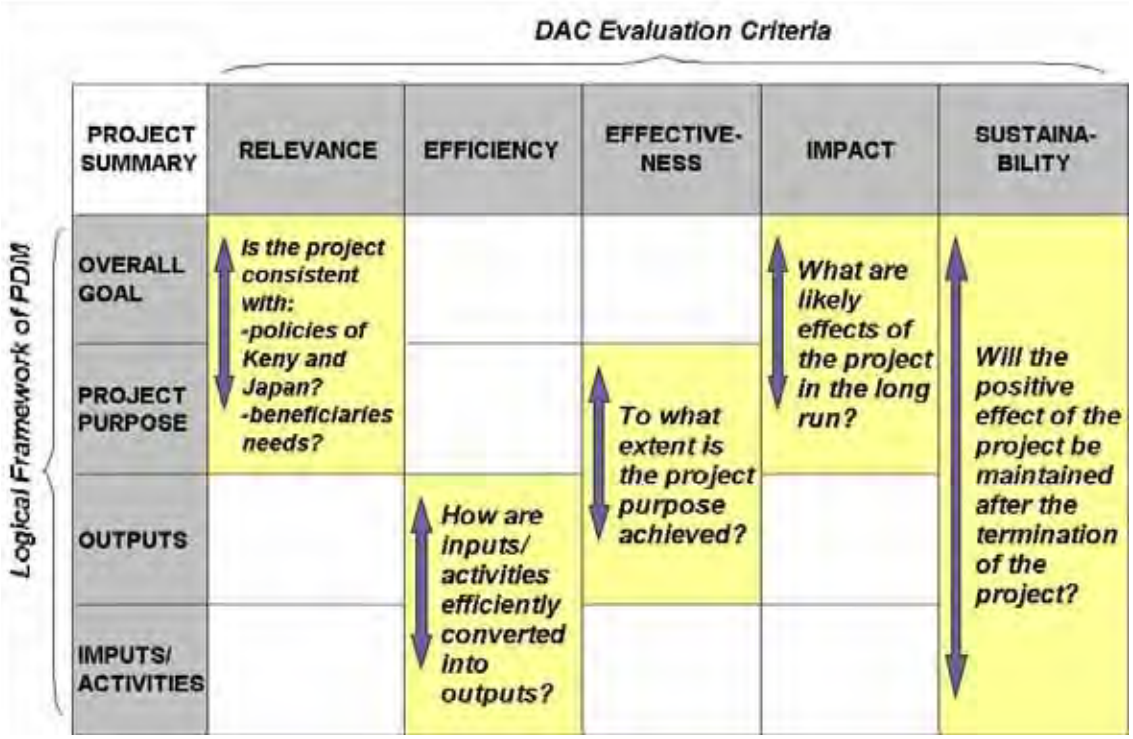
１－２－１　終了時評価調査の目的

終了時評価の目的は以下のとおり。

（１）プロジェクトの実績を、①実施プロセス、②成果の達成度、及び③因果関係の観点から検証する。

（２）プロジェクトを評価5項目の観点から評価する。5項目とは、①妥当性、②有効性、③効率性、④インパクト、並びに⑤持続性である。5項目評価については図1参照。

（３）プロジェクトチーム、ケニアと日本側がプロジェクトの終了までに取るべき措置について勧告を行うとともに、他のプロジェクトに適用可能な教訓について抽出する。



出所：JICA、プロジェクト評価の手引き（2004）をもとに評価調査団作成

図１　評価5項目

１－２－２　評価の方法

（１）評価の方法とデザイン

調査の方法は、“国際協力機構、プロジェクト評価の手引き、2004年2月”に基づく。JICAはプロジェクト管理のツールとしてPCM（Project Cycle Management Method）手法を採用している。プロジェクトデザインの論理の流れは、プロジェクト・デザイン・マトリックス（Project Design Matrix：PDM）に示される。評価はPCM手法に基づいて行われる。評価のステップは次のとおり。

１）第一のステップは、プロジェクトの内容と構造を、2008年9月4日のステアリング・コ

ミッティにて承認された最新バージョンのPDM version 2（PDM2）を理解することである（付属資料１及び３．英文終了時評価報告書のAppendix 3を参照）。

２）第二のステップは、評価設問を立てることにより評価をデザインする。評価設問は、*“評価調査を通じて何を知りたいか”*を要約したものである。評価調査団は、収集すべき情報、情報源、収集方法、評価設問に応えるための判断基準を検討する。評価設問と必要情報は、*評価グリッド*に要約される。評価グリッドは、評価デザインの枠組みを示し、地図とコンパスのように評価調査をガイドするものであり、評価デザインのツールとして、評価調査団内のコミュニーションツールとして使われる。評価設問は付属資料に添付する（付属資料２及び３．英文終了時評価報告書のAppendix 7を参照）。

３）第三に、評価グリッドに示される枠組みとデザインに基づき、評価調査団は必要な情報を収集し、分析し、評価基準の観点から判断を行う。

４）最後に、評価調査団は評価調査の結果を記した評価報告書を取りまとめる。

（２）情報収集方法

評価調査団は、既存資料のレビュー、事前質問票調査、現地調査、インタビュー調査、グループインタビューによって情報収集を行った。調査は次のように行った。

１）日本側の評価調査団（JICA評価調査団）は、普及員と農民組織に対し、事前に質問票調査を実施した。これらの結果に基づき、JICA評価調査団は、ニャンダルアとブンゴマ県で普及員と農民組織に対して、一連のグループインタビュー、個別インタビューを実施した。

２）これに続き、合同評価調査団はキシイとトランゾイア県において、2009年6月30日から7月2日まで、現地調査を実施した。合同評価調査団は、SHEPのプロジェクトチーム、県農業オフィサー（District Agricultural Officers：DAO）、農業普及員、並びに農民組織と一連のインタビュー調査を行った。インタビューは半構造化インタビューによって行われた。

１－３　プロジェクトの当初計画の概要

１－３－１　プロジェクトの背景[1]

ケニアの農業セクターは、GDPの27%、雇用の80%、外貨の65%以上を占める（2002年）。農業セクターは、1970年代の6%成長から1990年代の1.3%成長に鈍化している。

農業セクターの成長の低迷にもかかわらず、作物園芸サブセクターは平均15～20%で最も成長しているサブセクターである。作物園芸サブセクターでは小規模農家が主である。小規模農家は生産量の60%、農家数は地域により80～100%を占める。園芸生産物の96%は国内消費用である。収益性の高い輸出市場に従事している農家は2%未満にすぎない。小規模農家がこれらの市場、特に国内市場にアクセスできるためのエンパワーメントの必要がある。小規模園芸農家のエンパワーメントが格差の是正並びに農村貧困削減の鍵となっている。

[1] これらの情報は、the Ex-ante Evaluation report by JICA in August 2006（in Japanese only）and project document of SHEP by MoA, HCDA and JICA in June 2005による。

ケニア政府の要請に対し、JICAは2005年7～9月に事前評価調査を実施した。事前評価調査団は、弱いバーゲニングパワー、収穫前後のロス、生産性の低迷や低下という課題に対処するものとしてSHEPの実施を提言した。

事前評価調査に基づき、協議の結果、ケニア政府とJICAはSHEPの実施に合意し、2006年8月8日付のR/Dに署名した。

１－３－２　プロジェクトの当初計画の概要

本プロジェクトは下記に示すとおり計画された（付属資料３．英文終了時評価報告書のAppendixを参照）。

（１）プロジェクト名

ケニア共和国小規模園芸農民組織強化計画プロジェクト（SHEP）

（２）協力期間

3年間：2006年10月から2007年9月まで（実際は、2006年11月14日から専門家が派遣され、2009年11月13日までとなった）

（３）実施機関

農業省（Ministry of Agriculture : MoA）、園芸作物開発公社（Horticultural Crops Development Authority：HCDA）

（４）対象地域

対象地域として4県が選定された。対象地域の選定基準は、①園芸生産のポテンシャルが高いこと、②小規模農家が園芸生産をしていること、③貧困率が比較的高いことであった。これらの県は高いポテンシャルがあり、80～100％の農家が園芸生産に携わっている。ここでの農業生産は、平均農地が1エーカー（0.4ha）未満の小規模農家が多い。さらに、これらの県の貧困率は人口の45～62％であり、これらの多くが小規模農民である。

１）ブンゴマ県（Bungoma District）、ウエスタン州（Western Province）：現在は4つに分割。Bungoma East、West、North、South

２）トランゾイア県（Trans-Nzoia District）、リフトバレー州（Rift Valley Province）：現在は3つに分割。Trans-Nzoia East、West、Kwanza

３）キシイ県（Kisii District）、ニャンザ州（Nyanza Province）：現在は3つに分割。Kisii Central、South、Masaba

４）ニャンダルア県（Nyandarua District）、セントラル州（Central Province）：現在は2つに分割。Nyandarua North、South

（５）ターゲットグループ

１）直接裨益対象者：対象地域で園芸作物を生産する小規模農民（262,650人）の約1割、農業省及びHCDAの職員並びに普及員

（これは計画時のもの。プロジェクト開始後、直接支援農民組織約1,000農民と間接支援農民組織約2,600農民に改訂）

２）間接裨益対象者：対象地域で園芸作物を生産する小規模農民（262,650人）

（６）上位目標

「対象県の小規模園芸農家の生計が改善される」

〈指標〉

対象県の貧困率が低下する（率（％）は開始後6カ月以内に決定される）。

（指標はプロジェクト開始後、1年で改訂され、率が削除された）

（７）プロジェクト目標

「プロジェクト対象の小規模園芸農民組織の運営能力が強化される」

〈指標〉

プロジェクト終了時に、プロジェクトの支援を受けた小規模園芸農家組織のメンバーの純所得が増加する。（率（％）は開始後6カ月以内に決定される）

（指標はプロジェクト開始後、2回にわたり改訂された）

（８）成果

１）成果１

対象農民組織が園芸作物を適切に販売することができる。（販売交渉力を得る）

〈指標〉

1-1：プロジェクトで研修を受けた普及員に支援された農民の、1エーカー当たりの純所得の平均増加率。

1-2：プロジェクトに直接支援された農家の、1エーカー当たりの純所得の平均増加率。

（2つの指標はプロジェクト開始後、2回にわたり改訂された）

２）成果２

「対象農民組織の園芸作物の生産量・品質が向上する」

〈指標〉

2-1：プロジェクトで研修を受けた普及員に支援された農民の、純生産の増加率。

2-2：プロジェクトに直接支援された農民の純生産の増加率。

（2つの指標はプロジェクト開始後、2回にわたり改訂された）

３）成果３

「対象農民組織の生産基盤・流通インフラの整備実施能力が向上する」

〈指標〉

3-1：導入された技術を用いて整備活動を実施した農民組織の数。

（2つの指標はプロジェクト開始後、2回にわたり改訂された）

（９）活動

当初計画の活動はPDMバージョン0（付属資料３．英文終了時評価報告書のAppendix 1）参照。アウトプットを算出するために、①ベースライン調査とその分析、②研修のための

マニュアルと教材作成、③研修実施、④モニタリングとフォローアップを行うものとなっている。

実際は、プロジェクト開始後すぐに（2006年11月）作成された活動計画、及び2008年10月に作成された直接支援農民組織と間接支援農民組織ごとの活動計画に基づいて活動した。それぞれの活動計画は、適宜、柔軟にアップデートされてきている（付属資料３．英文終了時評価報告書のAppendix 5、6参照）。

（10）投入（終了時評価時点）

総投入額：3.49億円

１）ケニア側の投入

・プロジェクト実施に必要な建物と施設
・専門家の分野に応じた資格要件と経験を満たすC/Pの配置　7名
・プロジェクト実施に必要な予算の配分　4,633千Ksh相当

２）日本側の投入

・長期専門家3名（チームリーダー/農民組織運営（24カ月）、園芸生産技術普及（24カ月）、業務調整/研修計画（36カ月））。
・短期専門家：農村インフラの適正技術、その他の必要な分野
・日本または第三国でのC/P研修　9名
・資機材の供与：車両3台、視聴覚機材1セット、事務所機器　19,321千円
・ローカルコスト負担　100,713千円

（11）プロジェクト・ステアリング・コミッティ

１）構成

・農業省次官（Permanent Secretary, MoA）
・園芸作物開発公社総裁（Managing Director, HCDA）
・JICAケニア事務所長（Resident Representative, currently, Chief Representative, JICA Kenya Office）
・農業省園芸部長（Director, Horticultural Division, MoA）
・園芸作物開発公社技術支援部長（Director, Technical and Advisory Services Department, HCDA）
・JICAプロジェクトアドバイザー（Project Advisor JICA）
・その他関係者（Cooperative members）

２）機能

・政策指示と指導
・プロジェクト作業計画と予算の承認
・プロジェクト人員の配置と資金のタイムリーな割当
・プロジェクト実施のモニタリング
・年2回のプロジェクト・ステアリング・コミッティの開催

１－３－３　プロジェクトデザインの修正

プロジェクトのデザインは次のように修正されてきた。

・2007年10月22日　PDMを修正しPDMバージョン1とした（2007年10月）

PDM0に基づき、プロジェクトチームはプロジェクト目標と成果の指標を2007年8月に修正し、2007年10月22日のプロジェクト・ステアリング・コミッティでその修正を承認した。

・2008年9月4日　PDMバージョン1を修正しPDMバージョン2とした（2008年9月）

PDM1に基づき、プロジェクトチームはプロジェクト目標と成果の指標を2008年8月に修正し、2008年9月4日のプロジェクト・ステアリング・コミッティでその修正を承認した。プロジェクトの中間評価が2008年8～9月に実施された。

第２章　プロジェクトの実績の検証

２－１　実施プロセスの検証

２－１－１　プロジェクトの実施状況

本プロジェクトは2006年11月14日に、3人の日本人専門家の着任とともに開始された。翌11月15日には、6人のC/Pが配置された。作業計画（Plan of Operation）は2006年11月に作成され、活動をガイドするために随時アップデートされている（付属資料３．英文終了時評価報告書のAppendix 5、6参照）。

プロジェクト活動は、2008年1月から3カ月続いた選挙後の混乱のため遅れたにもかかわらず、計画通り活動が実施されている。

プロジェクト実施のプロセスは、試行錯誤と学習のプロセスであった。活動内容は複雑多岐にわたった。評価調査団は理解促進のため実施プロセスを4つのステージに分けて行った。

・ステージI　：準備と詳細設計と導入（2006年11月から2007年10月まで）
・ステージII　：直接支援農民組織へのアプローチ（2007年10月から終了まで）
・ステージIII：間接支援農民組織へのアプローチ（2008年10月から終了まで）
・ステージIV：取りまとめ（2009年7月から終了まで）

これらのステージは、それぞれオーバーラップしている（図2参照）。

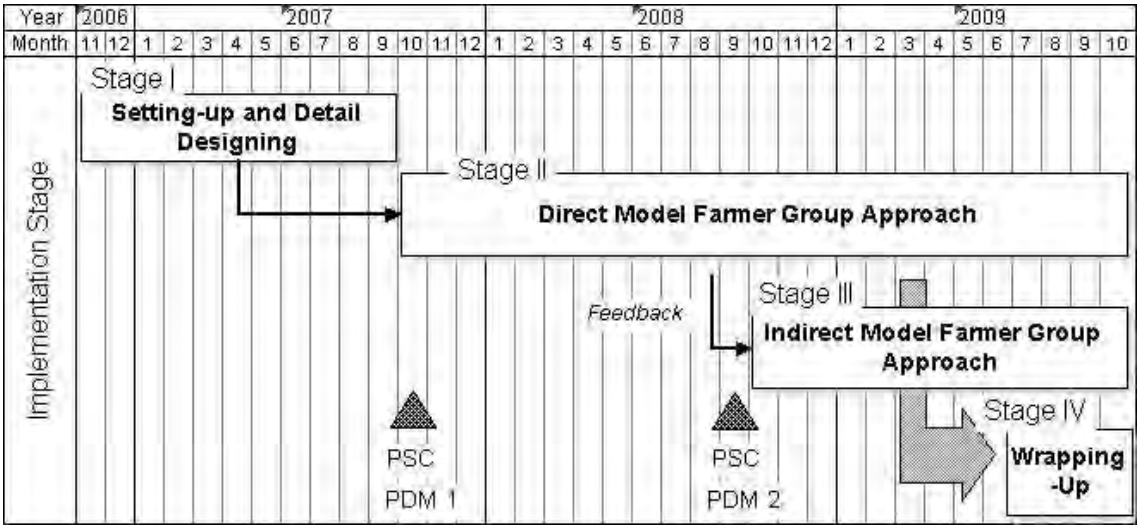


図２　実施のステージ

（１）ターゲットグループ：直接支援農民組織と間接支援農民組織

ターゲットグループは、プロジェクトの裨益者であるプロジェクトの支援を受けるモデル農民組織である。これらには、2つのタイプがある。直接支援農民組織と間接支援農民組織である。直接支援農民組織に対しては、日本専門家とケニアC/Pからなるプロジェクトチームが、普及員とともに支援する。各県から10ずつ合計42の直接支援農民組織が選択された。

間接支援農民組織に対しては、プロジェクトチームが普及員を研修し、研修を受けた普及員が農民組織の訓練を行う。各県から20ずつ合計80の間接支援農民組織が選択された。

これらの技術移転には三段階がある。①日本人専門家からC/P、②C/Pから普及員、③普及員から農民組織である。これらの仕組みを図3に示す。

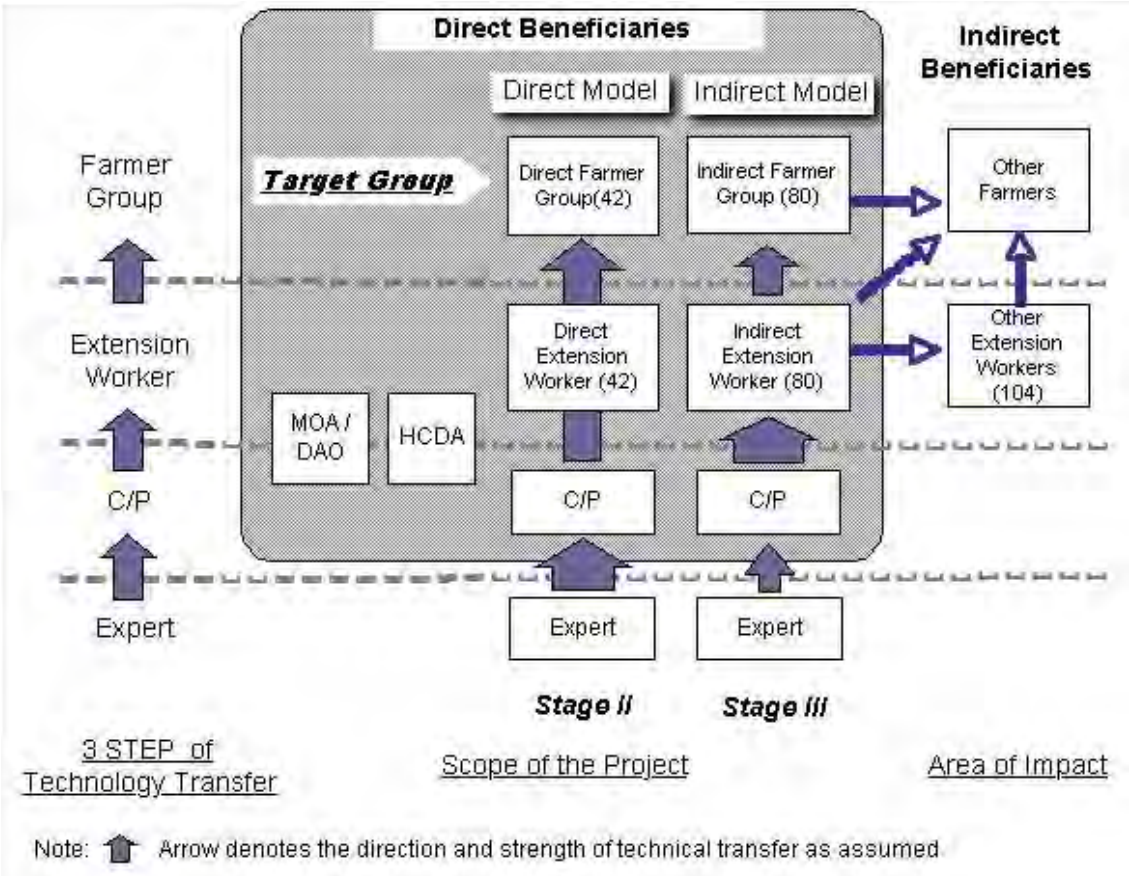


図３　ターゲットグループ：直接支援農民組織と間接支援農民組織

（２）ステージごとの実施プロセスを以下に記す。

１）ステージI：準備と詳細デザイン

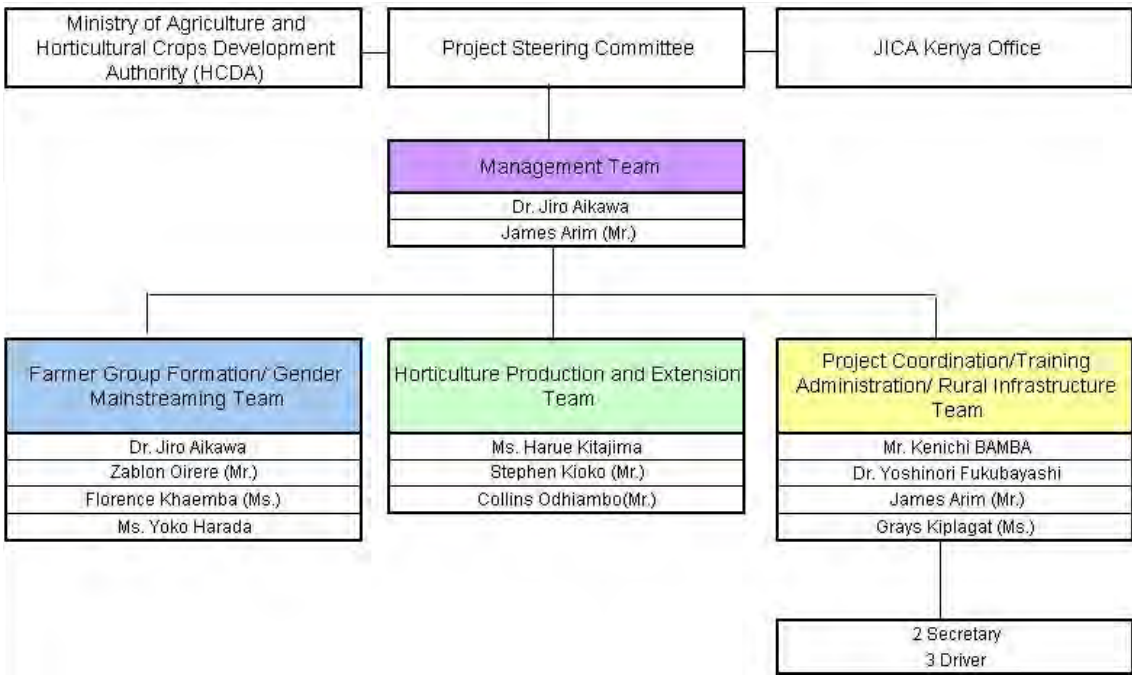
最初の1年は、次のとおり準備と詳細なデザインを行った。

・実施体制のセットアップ
・プロジェクトに対する普及啓発
・プロジェクトの詳細なデザイン

ａ）実施体制のセットアップ

プロジェクトチームは、プロジェクト事務所や資機材の調達などの準備作業を行った。2007年1月23日に、エルドレットにプロジェクト事務所を正式に開設した。

プロジェクトチームは、プロジェクトの実施体制を組織し、チームメンバーの役割と責任を明確にした。またプロジェクトチームは、プロジェクトのコンセプトについての共通理解をチーム内、関係者間で醸成した。SHEPチームの実施体制は図4のとおり。



出所：SHEP資料

図４　SHEPの実施体制

b）関係者に対するプロジェクトの啓発

プロジェクト内部のセットアップ後に、プロジェクトチームは下記のようにプロジェクト関係者の啓発を実施した。

・プロジェクト紹介ワークショップ（Sensitaization Workshop）：2007年3月1日、エルドレット
・プロジェクト開始セレモニー：2007年3月16日、キタレ
・土嚢デモンストレーション

c）プロジェクトの詳細デザイン

プロジェクトのデザインのために、次の活動を実施した。

・作業計画の修正
・ベースライン調査
・ジェンダー調査
・直接モデル農民組織の選定

プロジェクトチームは作業計画の修正を行った。また、農民組織についての必要な情報を収集して、プロジェクトをデザインするために、ベースライン調査を実施した。この調査は最前線の普及員により行われた。SHEPチームは、普及員に対する研修ニーズを把握するために、事前ベースライン調査を、キシイとニャンダルア県で2007年3月7日から10日まで実施した。この結果に基づき、ベースライン調査のための普及員の研修を実施した。県レベルの啓発ワークショップも実施した。研修された普及員がベースライン調査を実施した。ベースライン調査はまた、普及員と農民の訓練の機会ともなった。ワークショップと研修の間にジェンダー調査も実施された。これらのワーク

ショップ、研修の流れを表1に示す。

表１　ワークショップとベースライン調査の研修と実施記録

District		Sensitization Workshop	Training for Baseline Survey	Baseline Survey Conducted
Kisii	Date & Participants	March 26, 2007 43 officers, 34 Ex workers	March 27-30, 2007 34 Ex workers	April 16- 20, 2007 34 groups; 850 farmers
Nyandarua	Date & Participants	April 5, 2007 62 officers, 35 Ex workers	April 2-4, 2007 35 Ex workers	April 16-20, 2007 35 groups; 1,050 farmers
Trans-Nzoia	Date & Participants	May 7, 2007 48 officers, 49 Ex workers	May 8-10, 2007 49 Ex workers	May 21-22, 2007 49 groups; 1,400 farmers
Bungoma	Date & Participants	May 14, 2007 51 officers, 40 Ex workers	May 15-17, 2007 40 Ex workers	June 11-15, 2007 40 groups; 1,200 farmers

注：Ex workers：Extension workers

SHEPチームにより示された選定基準をもとに、農業省県事務所により、直接支援農民組織が選定された。

ベースライン調査のあと、SHEPチームはデータを取りまとめ、データベースを作成した。データベース構築は、2007年6月から7月まで行われた。データベース構築の間に、ケニア側C/Pはコンピューター技術訓練を受けた。

農民組織についての情報に基づき、SHEPチームはPDMを修正した。SHEPチームは成果１の新しい指標として、グループエンパワーメント指標（Group Empowerment Indicators：GEI））開発した。修正されたPDM1は、2007年10月22日に開催されたプロジェクト・ステアリング・コミッティで説明し、承認された。

２）ステージII：直接支援農民組織へのアプローチ

直接支援農民組織への支援プログラムは次のようなセッションからなっている。

ａ）ステークホルダー・フォーラム：1日

ｂ）JEF2G研修（Joint Extension Staff and Farmers Dual Gender Training）：1週間

ｃ）農民組織による実習：市場調査、日間活動カレンダー作成

ｄ）現地研修

第1回現地研修：作物選択、問題分析、行動計画作成、ジェンダー配慮

第2回現地研修：技術研修

第3回現地研修：補足研修

第4回現地研修：フォローアップ

ｅ）土嚢実地研修

〈ステークホルダー・フォーラム〉

これは農民組織にバイヤーなどのファームビジネスとマッチする機会を提供するものである。農民組織の代表、農業ビジネス関係者などがフォーラムに参加した。このフォーラムは後にファブリストフォーラム（Farm Business Linkage Stakeholder：FABLIST）と命名された。各農民組織からは、2人の男性と2人の女性メンバーが担当の普及員とともに参加した。

〈JEF2G研修〉

これは市場調査、ジェンダー配慮、園芸の基礎的な知識と技術、グループワーク、土嚢研修からなる研修パッケージである。各農民組織からは、男性1名と女性1名ずつが民主的に選ばれて参加した。彼らの役割と責任は明確にされており、農民組織に戻って、知識と技術を伝えることが期待された。これらのプログラムの実施状況は表2のとおりである。

表２　直接支援農民組織への研修実施状況

District		Stakeholder Forum	JEF2G
Kisii	Date & Participants	Sept. 25, 2007 40 farmers; 19 officers; 15 companies	Dec. 3-8, 2007 12 Ex workers 14 male, 10 female
Nyandarua	Date & Participants	Sept. 28, 2007 50 farmers; 20 officers; 16 companies	Nov. 5-10, 2007 11 Ex workers 14 male, 8 female
Trans-Nzoia	Date & Participants	Sept. 26, 2007 40 farmers; 25 officers; 14 companies	Nov. 11-24, 2007 12 Ex workers 13 male, 11 female
Bungoma	Date & Participants	Oct. 9, 2007 40 farmers; 20 officers, 35 companies	Oct. 22-27, 2007 10 Ex workers 13 male, 7 female

参加した農民は、それぞれのコミュニティに戻ったあとに、SHEPチームと普及員の支援のもとで、市場調査を実施した。一連の現地研修が実施された。実際にSHEPがどのように直接支援農民組織をサポートしているか、Box1に直接支援農民組織の事例を示した。

Box１　直接支援農民組織の事例：ニャンダルア南県 ムウェンディ・クリマ・グループ（Mwendi-Kurima, Nyandarua South）

ムウェンディ・クリマ・グループは、60名のメンバーからなり、うち39名が男性、21名が女性である。ムタマヨ（Mutamayo）村に属し、その村には約1,500世帯が居住している。ムタマヨ村は、1964年にできたトゥルガ（Tulga）スキームに位置している。

このグループの主な収入源は、60％が酪農で、30％が園芸、10％がメイズ生産からである。主な作物は、ガーデンピー（換金作物）、スノーピー（換金作物）、ジャガイモ（主食の一つ）、キャベツ（食料と換金用）、ニンジン（家畜飼料）、メイズ（主食）、プラム、洋ナ

写真１　会計帳簿類

シ、ダイコン（家畜飼料）である。

ムウェンディ・クリマ・グループは、2003年に10名の男性と3名の女性によって設立された。彼らは、VegPro（野菜輸出会社の一つ）と契約栽培を始めた。メンバー数が450名までに増え、グループは2つに分かれた。2006年に、グループは30名のメンバーで（うち女性8名）SHEPに参加した。2007年には、契約栽培の相手をHomegrown（ケニア最大の野菜輸出会社の一つ）に切り替えた。その理由は、VegProの購入拒否率が50％となったからである。契約栽培のもとで、VegProは農薬使用の教育、保証付きの種子、EurepGAP*の研修を提供し、Homegrownは種子と研修を提供している。

*：EurepGAP：欧州小売業組合（Euro-Retailer Produce Working Group）の定める適正農業行動規範（Good Agricultural Practice）。現在はGLOBAL GAPとなっている。欧州への農産物の輸出には、この認証を取得することが必要なケースが多い。

SHEPの活動

2007年11月　ステークホルダー・フォーラム
2007年11月　JEF2G 研修
2008年5月　市場調査（Engineer市場、Donion gel市場）、作物の選択（ガーデンピー（エンドウ）、スノーピー（サヤエンドウ））
2008年6月　活動計画作成
2008年7月　クロッピングカレンダー
2009年3月　土嚢技術、記帳会計、ウォーターハーベスティング

SHEPの活動に参加して良かったこと

このグループはSHEPの活動に参加して良いことがいくつかあった。なかでも、彼らはより多くの作物をより高く売ることによって所得が向上していることを喜んでいる。ガーデンピーとスノーピーの生産は倍増した。このグループは契約栽培先にグループで販売し、販売量に応じた金額がグループの銀行口座に振り込まれる。振り込まれた金額を、グループ内の生産量に応じて配分している。下記はグループへの振込金額の増加の様子を示す。

・7th week 2007：3,620 Ksh as a group
・19th wk 2007　：30, 027 Ksh
・32nd wk 2007　：44,276 Ksh
・47th wk 2007　：170,204 Ksh

しかし、ガーデンピー（エンドウ）とスノーピー（サヤエンドウ）は輸出作物であり、世界経済不況の影響を受けている。2008年には、価格は1月に契約した固定価格であるので変化しないが、6月から9月の間は拒否率が50％にまで上昇した。欧州の需要が縮小している影響もあると思われる。

	2004	2005	2006	2007	2008	2009
Snow pea price	55 Ksh/kg	55	55	55	80	80
Garden pea price	37	37	37	37	40	40
Rejection			50％	30-40％	50％ for June-Sept.	

プロジェクトで選択した対象作物以外にも、このグループではマーケティングや生産のノウハウを個別に他の作物に適用し、より多く生産しより高く販売している。ジャガイモの場合では、ある農家は2008年までブローカーに350Ksh/bag（110kg）で販売していたのに比べ、2009年

はトレーダーに直接800Ksh/bagと倍以上の価格で販売した。

表３　2008年と比較した作物の販売：ムウェンディ・クリマ・グループ

Crop	Farmer	After SHEP				Before SHEP	
		Price	Quantity	Selling time	Place	Price	Time
Potato	A	800 Ksh/bag	5 bags（110kg）	April 09	At the market	350 Ksh/bag	Aug. 08
	B	700 Ksh/bag	8 bags	April 09		400 Ksh	June 08
Cabbage	C	10 Ksh/head	500 head（2.5 kg）	June 09		5 Ksh/head	Aug. 08
Kale	D	300 Ksh/bag	10 bags（80-90kg）	May 09		50 Ksh/bag	May 08

彼らによると所得が向上した要因は次のとおり。第一に、市場調査によって自分たちがマーケットのことがわかり、作物の価格ピークシーズンなどもわかったことである。このときにトレーダーのコンタクト先も入手した。農民は、ピークシーズンを狙って生産準備を始めた。第二に、JEF2G研修によって生産技術とともに、ジェンダー配慮も向上した。ジェンダー配慮の向上によって、家族内で一緒に働けるようになった。第三に、収穫時期に農民はトレーダーに直接コンタクトして販売している。トレーダーも、より高い価格で買いにくることを喜んでいる。なぜなら、トレーダーもまず村に行って作物ができているかどうか探しまわる必要がなくなったからである。

さらに、グループにSHEPで導入された技術のうち役立つものや良いことは、除草具、クロッピングカレンダー（既に畜産カレンダーにも応用し、近隣の農家にも広まっている）、土嚢による道路補修、ジェンダー配慮による多くのインパクト（より多くの所得のために一緒に働くようになった。女性も銀行口座を持てるようになった。男性も搾乳や園芸の作業をするようになった）、グループのマネジメントが良くなり誤解が減った、お金の管理が良くなった、などである。

個別農家の事例：農民A

農民Aは、7人家族で2エーカーの土地を持っている。彼は0.5エーカーをスノーピーとガーデンピーに、0.5haをジャガイモ栽培に使っている。彼の生産量は増加した。これは、種子選定、適時除草、肥料選定、病害虫管理をしたためとしている。

- Garden pea：200 kg×3 seasons = 600 kg（before only 100 kg）
- Snow pea：300 kg×3 seasons = 900 kg（before only 150 kg）
- Potatoes：10 bags×3 seasons（before only 4 bags）
- Cabbage：300 heads×3 seasons（before only 100 heads）

その他の社会へのインパクト

その他の社会的なインパクトとしては、学校への支払いが増えた、家族間の理解が良くなった、より教会へ行くようになった、7名の若いメンバーが加入した（うち女性2名）、子供のための食事が買えるようになった、家族が幸せになった、などである。また、このグループでは、マイクロファイナンスから20万Kshを借り、コミュニティセンターを建設した。共同販売の際、グループがkg当たり2Kshを徴収している。さらに、このグループでは2名と専従の人を雇ってグループの管理の仕事をしている。2名の若者の雇用ができたといえる。

出所：評価調査団のフィールド調査による。

直接支援農民組織での結果と経験に基づき、SHEPチームはPDMを改訂した。改訂されたPDM2は、2007年9月4日に開催されたプロジェクト・ステアリング・コミッティにて説明され、承認された。

同時期の2008年8～9月に、ケニア政府とJICAによる合同中間評価調査が実施された。中間評価調査団は、以下の提言をした。

・県レベルの農業省オフィサーとのコミュニケーションの強化と彼らの参加促進
・肥料等の投入コストの値上がりに対する追加的な緩和措置

3）ステージIII：間接支援農民組織へのアプローチ

間接支援農民組織への支援プログラムは次のようなセッションからなっている。

a）プロジェクト紹介ワークショップ（Sensitaization Workshop）：1日
b）FABLIST（ステークホルダー）フォーラム：1日
c）JEF2G研修：1週間
d）農民組織による実習：市場調査、作物選択、問題分析、行動計画作成
e）FT-FaDDE研修（Facilitator's Training for Farmers Demand Driven Extension）：1週間
f）現地研修：普及員による
g）土嚢実地研修
h）フォローアップ

SHEPチームは、直接支援農民組織に対するプログラムの実施の結果と経験から多くを学んだ。これらの教訓を考慮して、間接支援農民組織へのプログラムを開発した。FABLISTフォーラムとJEF2G研修の後、農民達はグループに戻って、市場調査、作物選択、問題分析並びに行動計画の策定を行った。

FT-FaDDE研修は、農民組織の作成した行動計画のためのニーズに基づいた研修のパッケージである。この研修は、直接支援農民組織の経験を活かして開発された。プログラムには、対象作物の生産技術、ジェンダー研修、土嚢研修からなっている。

これらのプログラムの実施状況は表4のとおりである。

表４　間接支援農民組織への研修の実施状況

District	Sensitization Workshop	FABLIST Forum	JEF2G	FT-FaDDE
Kisii	Oct. 2008	Nov. 2008	Dec. 2008	Mar. 2009
Nyandarua	Oct. 2008	Nov. 2008	Nov. 2008	Feb. 2009
Trans-Nzoia	Oct. 2008	Nov. 2008	Dec. 2008	Feb. 2009
Bungoma	Oct. 2008	Nov. 2008	Dec. 2008	Feb. 2009

実際にSHEPがどのように間接支援農民組織をサポートしているか、Box2に間接支援農民組織の事例を示した。

Box２　間接支援農民組織の事例：ニャンダルア北県、マケレカ・グループ（Makereka Nyandarua North）

マケレカ自助グループは、2002年に設立された。現在、メンバーは15名、うち男性9名、女性6名である。このグループは、ニャンダルア北県、ンダラグワ（Ndaragwa）郡、カンヤギア（Kanyagia）ロケーション、ムルアイ（Muruai）サブロケーションのマケレカ村（世帯数1,000）に位置している。

グループの主な経済活動は、園芸（所得の60%、1戸当たり1エーカー）と酪農（所得の40%、1戸当たり0.5エーカー）である。主な作物は、①ジャガイモ、②キャベツ、③タマネギ、④ニンジン、⑤メイズ、⑥豆類、そして⑦プラムである。

写真２　マケレカ・グループでの調査

SHEPの活動

2008年10月	プロジェクト紹介ワークショップ
2008年11月	FABLIST（ステークホルダー）フォーラム
2008年12月	JEF2G研修
2008年12月8日	市場調査
2009年1月	作物選定：タマネギ、ジャガイモ
2009年1月	行動計画作成
2009年2月	FT-FaDDE研修
2009年3月	クロップカレンダー（普及員による現地研修）
2009年3月初め	苗床のデモ（普及員による現地研修）
2009年3月終わり	除草指導：普及員による（普及員による現地研修）
2009年4月中旬	病害虫防除（普及員による現地研修）
2009年4月15日	タマネギの移植（普及員による現地研修）
2009年6月24日	燃料効率の良いストーブの導入（普及員による現地研修）

SHEPによる良いこと

メンバーによると、市場調査によって彼らの意識と行動が「作ってから売る」のではなく「売るために作る」というように変わったとのことである。グループのメンバーは、トレーダーを呼び、より高い価格で作物を販売した。ある農家によると、2008年はブローカーに7Ksh/個で売っていたのを、2009年は15Ksh/個で販売したとのことである。トレーダーにとっても、作物を探しまわらなくてよいので、良いことである。このメンバーの選定した作物はジャガイモであり、2009年の10月にグループで販売する予定である。

表５　2008年と比較した作物の販売：マケレカ・グループ

Crop	Farmer	Price	Quantity	Time	Before：Price 2008
Cabbage	A	15 Ksh/head	2,500 heads（2-2.5 kg/hd）		7 Ksh/head
	B	10 Ksh/head	850 heads		
	C	20 Ksh/head	1,000 heads		
Onion	D	35 Ksh/kg	2,000 kg		15 Ksh/kg
	E	37 ksh/kg	800 kg		
	F	35 Ksh/kg	1,500 kg		
	G	37 Ksh/kg	1,000 kg		
Carrot	H	5,000 Ksh/bag	5 bags（100kg）	June 09	2,000 Ksh/bag
	I	3,000 Ksh/bag	8 bags（100kg）	June 09	
	J	3,000 Ksh/bag	3 bags（100kg）	May 09	
	K	4,500 Ksh/bag	3 bags（100kg）	June 09	
	L	3,000 Ksh/bag	5 bags（100kg）	May 09	

このグループは、以下のようにグループでの種子や肥料の共同購入も行っている。

Inputs	Individual	Group purchase
Onion seed	1,000 Ksh/500g	800 Ksh/500g
DAP	3,000 Ksh/50kg	2,700 Ksh/50kg

その他のグループへのインパクトは次のとおりである。

・ジェンダー配慮向上により、協働で働くようになった。
・有機肥料の導入により、化学肥料（DAP）の使用量が減少した。以前は、エーカー当たり80kg投入していたが、今は40kgとなった。DAPの50％を有機肥料で代替した。
・多くのお客さんがくるようになった。時々、テレビにも映り満足している。
・また、多くの外からの農民が習いにきている。
・若者の仕事も作っている。

出所：評価調査団による現地調査による。

４）ステージIV：取りまとめ

プロジェクトの終了までの間にいくつかやるべきことが残されている。これらの活動は次のとおり。

・フォローアップ
・農民交換訪問
・普及員のための研修マニュアル作成（最終成果品）

２－１－２　実施プロセスの分析

（１）プロジェクトのデザイン

プロジェクトの上位目標、プロジェクト目標、成果に変化はない。他方、プロジェクトの実施過程において、プロジェクト目標と成果の指標は2回にわたり改訂された。この詳細は表6に示される。

表６　PDMの指標の改訂

	PDM version 0 (as of May 2006)	**PDM version 1 (as of Oct. 2007)**	**PDM version 2 (as of Sept. 2008)**
Project Purpose *Developed capacity of the smallholder horticulture farmer groups supported by the project.*	Increased net-benefit of the smallholder horticulture groups supported by the project (% to be determined in 6 months after launching).	By the end of the project net-income benefit of the members (men and women) of the smallholder horticulture groups supported by the project increased by ***12.5 – 28.3 %.***	By the end of the project net-income benefit of individual members (men and women) of the smallholder horticulture groups and the groups supported by the project increased by ***14.7 – 20.2 %.***
OUTPUT 1 *Target groups (smallholder horticulture farmer groups) gain bargaining power in marketing their produce.*	1-1. Average growth rate of net income per acre of the farmer groups supported by the extension staff who were trained by the Project.	1-1. One year after the Training for Trainers (ToT) for extension staff, more than 60% of the farmer groups supported by the extension staff trained by the Project improve by at least one level of the Group Empowerment Indicators.	1-1. By the end of the project, 100 % of farmer groups supported directly by the Project improve by at least one level of the Group Empowerment Indicators.
	1-2. Average growth rate of net income per acre of the farmer groups supported ***directly*** by the Project.	1-2. One year after the first in-field training, 100 % of farmer groups supported directly by the Project improve by at least one level of the Group Empowerment Indicators.	1-2. By the end of the project, more than 60% of the farmer groups supported indirectly by the Project improve by at least one level of the Group Empowerment Indicators.
OUTPUT 2 *Target groups increase the production of better quality crops.*	2-1. Average growth rate of net produce (i.e. deducting the rejected amount) of the farmer groups supported by the extension staff who were trained by the Project.	2-1. Average growth rate of net produce per an acre (i.e. total yield minus the quantity of rejected produce) of the members (men and women) of farmer groups supported by the extension staff who were trained by the Project increased by 5 %.	2-1. Average growth rate of net produce per acre (i.e. total yield minus the quantity of rejected produce) of the members (men and women) of farmer groups supported directly by the Project increased by 10 – 50%.
	2-2. Average growth rate of net produce (i.e. deducting the rejected amount) of the farmer groups supported directly by the Project.	2-2. Average growth rate of net produce per an acre (i.e. total yield minus the quantity of rejected produce) of the members (men and women) of farmer groups supported directly by the Project increased by 10 – 30%.	2-2. Average growth rate of net produce per acre (i.e. total yield minus the quantity of rejected produce) of the members (men and women) of farmer groups supported indirectly by the Project increased by 5 - 30%.

OUTPUT 3 *Target groups develop capacity to improve rural infrastructure for production and transportation.*	3-1. Number of farmer groups who put the introduced technology into the practice of rural infrastructure development.	3-1. 80% of farmer groups, which indicated in the problem analysis the problem of the rural infrastructure in the community, puts the introduced technology into the practice	3-1. 80% of farmer groups, which indicated in the problem analysis the problem of the rural infrastructure in the community, puts the introduced technology into the practice (For directly supported groups). 3-2. 60 % of farmers groups, which submitted requirement form (Annex 4) filled correctly, puts the introduced technology into the practice. (For Indirectly supported groups)

1）指標の論理の流れ

当初の指標は2006年の事前評価の際に設定された。プロジェクト開始後、SHEPチームは、目標や成果に該当する指標を注意深く検討した。表6の指標は複雑であり、理解のために指標を**“誰が/の”“何が”“どのように”**、期待する変化が起きるかに分解した（表7参照）。

表７　“誰が/の”“何が”“どのように”に分解した指標

			PDM 0	PDM 1	PDM 2
Purpose		Whose	Group	Members（men, women）	Members（men, women）
		What	Net-benefit	Net-income	Net-income
		How	Increase	Increase 12.5-28.3%	Increase 14.7-20.2%
Output 1	1-1	Whose	Indirect Group	Indirect Group 60%	Direct Group 100%
		What	Net-income / acre	GEI	GEI
		How	Grow	Rank up 1 level	Rank up 1 level
	1-2	Whose	Direct Group	Direct Group 100%	Indirect Group 60%
		What	Net-income / acre	GEI	GEI
		How	Grow	Rank up 1 level	Rank up 1 level
Output 2	2-1	Whose	Indirect Group	Members（men, women）, Indirect Group	Members （men, women）, Direct Group
		What	Net-produce	Net-produce/ acre	Net-produce/ acre
		How	Grow	Grow 5% on average	Grow 10-50% on average
	2-2	Whose	Direct Group	Members（men, women）, Indirect Group	Members （men, women）, Direct Group
		What	Net-produce	Net-produce/ acre	Net-produce/ acre
		How	Grow	Grow 10-30% on average	Grow 5-30% on average

Output 3	3-1	Who	Number of group	80 % of Groups with infra. problem	80 % of Groups with infra. problem：Direct Group
		How	Practice	Practice	Practice
	3-1	Who			60 % of Group submetted request：Indrect Group
		How			Practice

出所：PDMをもとに調査団作成

PDM0では、成果１に対する指標として「1エーカー当たりのグループの純所得」を、成果２に対する指標として「グループの純生産量」を採用している。また、目的の指標は「グループの純便益」としている。これらPDM0の指標の取り方には、次のように運用上の困難と論理の流れの無理があった。

第一に、プロジェクト目標として設定した「便益」には、所得及びその他の（社会的な）便益を含むので、プロジェクト目標の指標を、定量的に測定することは極めて困難である。

第二に、成果１の指標自体に所得が含まれている。成果１とプロジェクト目標の双方に所得が含まれていることになり、重複がみられる。成果１で単位面積当たりの所得を出しているので、全体として所得を上げるには成果２で面積を拡大れば、単位当たり収益と面積拡大効果で所得が向上するといえる（[単位面積当たりの利益]×[栽培面積]）。しかし、成果２では生産量を上げている。[単位面積当たりの所得] ×[生産量] では、目標であるグループ全体の便益となり得ない。したがって、当初の指標には、論理の流れに無理があるといえる。

２）指標へのインセンティブ・メカニズムの導入

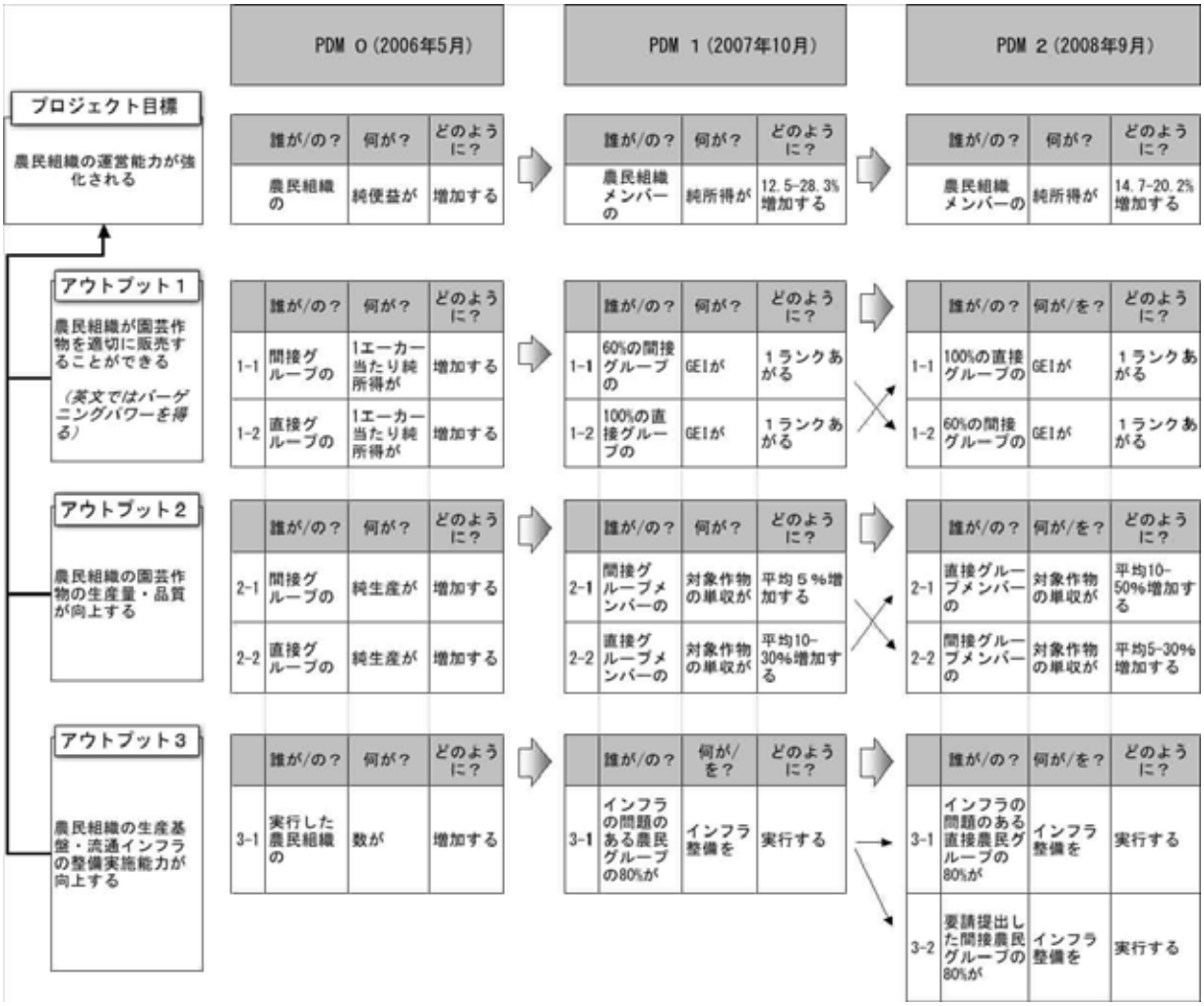
上述のとおり、当初の指標を使用するには運用上の問題があり、SHEPチームは次のように実態に見合った指標に改訂した。

第一に、プロジェクト目標には「グループの純便益の増加」に代えて「農民組織メンバー（個人レベル）の純所得の増加」を採用した。“農民組織の運営能力の強化”の成果指標として、定性的な指標でなく、定量的な指標を採用した。しかも、運営能力が強化された結果、所得が向上するはずだという仮説に基づき「所得」という指標を、最終目標であるプロジェクト目標の指標として採用した。この所得の向上をするために、成果１の販売と成果２の生産、成果３のインフラの部分に分解することとなる。

第二に、SHEPチームは成果２の“生産量増大”の指標として、「グループの純生産量の増大」に代えて「メンバーの単位面積当たり収量（単収)」を採用した。生産量増大の指標として適切な指標といえる。

第三に、成果１の“バーゲニングパワーを得る”ことの指標を設定するという大きな課題があった。なぜなら、“バーゲニングパワー”の定義は容易でないからである。成果２に単収を用いたので、理屈上または通常の場合は、バーゲニングパワーの指標として軒先販売価格が用いられる。しかし、ほとんどの場合、価格は小規模農家にとって与えられるものである。価格は市場によって決定される。ターゲットグループ、普及員とSHEPのC/Pは市場価格をコントロールできない。このことは、指標として販売価格を設定した場合、彼らにはこの指標を達成するインセンティブが全くないということである。

これらの理由もあり、SHEPチームは成果１の指標として、GEIを開発した（この詳細は３．英文終了時評価報告書のAppendix 2のPDM1を参照）。このGEIはバーゲニングパワーを直接表す指標ではない。農民達の市場へのかかわり合いを、リーダーシップ、協力関係、ジェンダーといったグループのエンパワーメントの質で検証するものである[2]。



出所：SHEP資料をもとに調査団作成

図５　PDM指標の改訂

このように指標を設定した結果、次の点で効果があった。

第一に、プロジェクトのデザインと論理を整理し明確にしたことで、プロジェクトがマネージメントできるものとなった。

第二に、測定可能な指標としたことでモニタリングや評価が容易になった。

[2] この議論は次のように数式で表現される。

Output 1	Output 2		Output 3		Purpose	
PDM 0	$\Sigma \pi/H$	×	ΣQ	×	Infra.	→ $\Sigma (\pi+\alpha)$
PDM 1 & 2	GEI（10%）	×	Q/H	×	Infra.（10%）	→ π

Where π denotes profit; Q denotes quantity; H denotes land area; Σ denotes summing up; and α denotes other social benefit.
$\pi = P \times Q - \Sigma wL$, where w denotes factor（input）price; L denotes factor unit.

第三に、これが特筆すべきことであるが、ターゲットグループなど関係者が、GEIを改善しようという動機づけが得られたことである。この指標は理解しやすく、彼らに手が届きやすいものであった。特に、図4で示したSHEPチームの組織は、これらの成果ごとのチーム編成としており、各チームがそれぞれ担当する成果の達成に責任を持つよう組織されている。農民組織強化/ジェンダー主流化チームが成果１に、園芸生産普及チームが成果2に、プロジェクト運営/研修/農村インフラチームが成果３の成果に対して、責任を負っている。成果と組織体制を直結させるようにプロジェクトのデザインを変更している。この新たな指標の導入により、モニタリングの指標の測定の容易さに加え、動機づけやインセンティブの仕組みをプロジェクトに組み込んだといえる。

３）指標の設定とモニタリング

成果１と３の指標は比較的シンプルなので理解しやすい。成果２とプロジェクト目標の指標は、やや複雑なため説明が必要である。

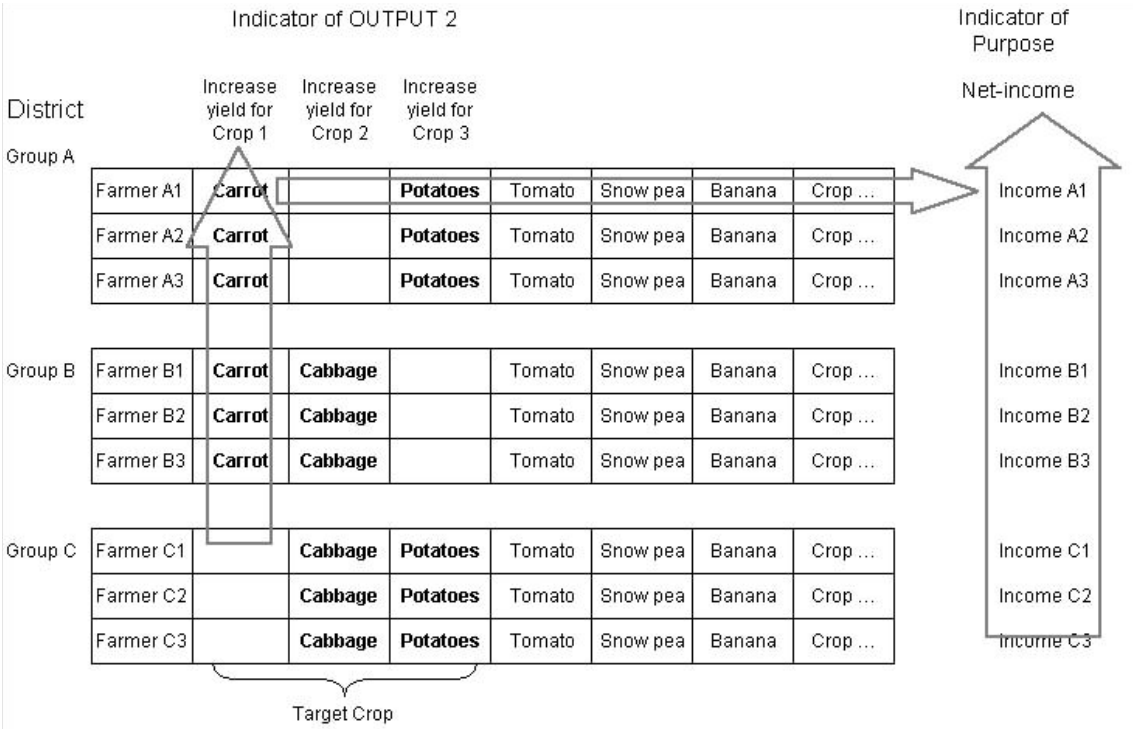
・成果２“良い品質の作物の生産量が増加する”についての指標

前述のとおり成果の指標は、“単位当たりの収量”である。プロジェクトでは、各農民組織は2種類の対象作物を選定した。各県には、10から11の直接支援農民組織と、20の間接支援の農民組織が選定された。同じ県内では同じような作物が選定されやすい。県によって合計6から10の対象作物がある。ブンゴマ県の場合7つの対象作物がある。したがって、ブンゴマ県では、これらの7つの対象作物の収量のみを指標としてモニターすることとなる。

・プロジェクト目標“農民組織の運営能力が強化される”についての指標

プロジェクト目標の指標は、“農民組織のメンバーの純収入が向上する”である。この指標の計算には、対象農民の栽培するすべての園芸作物による収益が合計される。この指標の仕組みは図6のように表される。

このシステムに基づき、モニタリングに必要なデータが2008年5月と2009年5月に収集された。



出所：SHEP資料をもとに調査団作成

図６　成果１とプロジェクト目標の指標

（２）アプローチ

本プロジェクトはアプローチにも特筆すべきものがある。直接支援アプローチと間接支援アプローチがあるが、間接支援アプローチは直接支援アプローチの経験をベースに設計された。これにより、現状の普及システムにより合致した型となった。双方のアプローチとも2つのステップからなり、双方の基本的なコンセプトは以下のとおり。

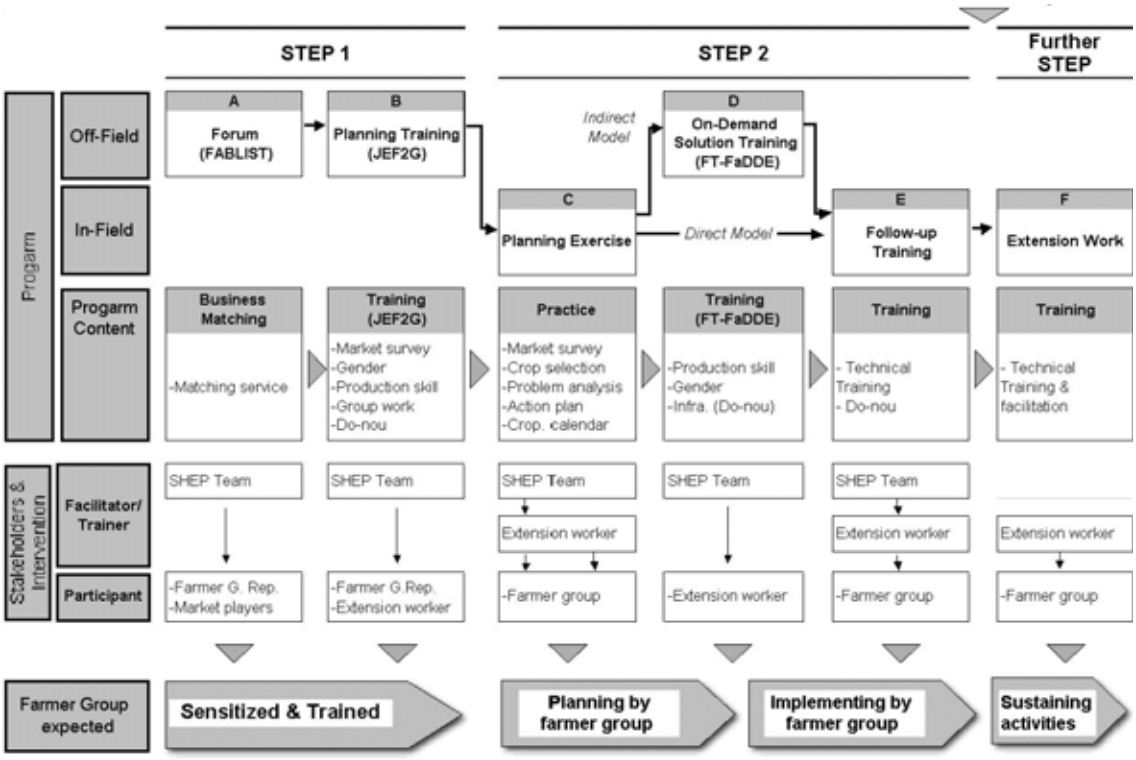
１）ステップ1：フィールド外研修

ステップ1では、農民組織は必要な知識と技術を身につけ、啓発を受ける。ステップ1では、農民の“*気づきのきっかけ*”を提供している。農民組織自身による市場調査が外部に対する気づきを誘発し、またジェンダー配慮が内部に対する気づきのプロセスを誘発している。この両者を注意深く組み合せたデザインにした点に特筆すべき点がある。

２）ステップ2：フィールド内実践と研修

ステップ2では、農民組織が、自ら開発計画を策定しその計画を実施する。普及員とプロジェクトチームがその実施に対するファシリテーションを行い、必要に応じた研修も行う。これらの実地訓練（learning-by-doing）方式のプロセスを通して、農民組織のキャパシティが強化される。learning-by-doingにより対象グループの意欲を高め、農民組織のイニシアティブにより計画、実施を行い、学習効果を高めることを狙っている。

プロジェクト実施後は、農民組織が彼らの活動を継続するという更なるステップがある。以上のコンセプトは図7に示される。



出所：評価調査団作成

図７　直接支援と間接支援アプローチのフロー

このようなアプローチは、本SHEPプロジェクト独特のものである。FAOのFarmer Field School（FFS）やGIZのValue Chain Approachなどのように、JICA-SHEP方式として、よりなじみやすいネーミングなどによる一般化、ブランド化を図っていくなど、さらに広めるための工夫をすることが望ましい。

（３）プロジェクトのマネジメント

プロジェクトのマネジメントは良好であった。前述のように、成果の指標に動機づけがされる仕組みが組み込まれていた。

また、2008年1月から3月まで選挙後の混乱により、プロジェクトの活動進捗が遅れたが、SHEPチームはその遅れを取り戻した。

中間評価の提言に応えて、間接支援農民組織への研修についての各県とのコミュニケーションや協働作業は改善された。

SHEPでは多くの情報を生産した。プロジェクトの活動を終えるごとに、SHEPチームはその活動と成果を今後の参考用として、報告書に取りまとめた。このような価値のある情報が多く生産されたにもかかわらず、情報の管理が十分ではなかった。貴重な情報の有効活用のためにも、更なる情報管理が必要である。

容易にアクセスできる情報提供を提言することにより、SHEPの成果や重要性に対する関係者やケニアの人々の理解を深めることとなる。これら公開すべき情報としては、整理さ

れた英文でのプロジェクト情報や進捗報告などである。このような広い理解が得られれば、本件への更なる投資が可能となる。

写真３　プロジェクトで作成された資料

（４）プロジェクトへの投入

ケニアと日本の投入実績は、付属資料３．英文終了時評価報告書のAppendix4に示す。これらの投入はほぼタイムリーに行われた。唯一、ケニア側の予算が遅れることがあり、2008/09年度[3]の最後の送金は実施されなかった。このことはプロジェクトの進捗に影響を及ぼしたため今後改善が必要である。

２－２　プロジェクトの成果の検証

２－２－１　成果の達成度

（１）成果１

〈成果１の達成状況〉

指標1-1：プロジェクト終了までに、プロジェクトの直接支援を受けた農民組織の100％が、GEIを、最低1レベル上げる。

直接支援農民組織42グループのうち、36グループが最低1ランクGEIを向上させた。平均では1以上ランクを上げており、ブンゴマ県では1から2.6に、キシイ県では1から2に、ニャンダルア県では1から2.5に、そしてトランゾイア県では1から3.1にランクを上げた（表8参照）。

[3] ケニアの予算年度は、7月1日から翌年の6月30日まで。

表８　直接支援支援農民組織のGEI

Bungoma

Group Names	Level of Empowerment							
	Leadership		Cooperation		Gender		Overall	
	05/2008	05/2009	05/2008	05/2009	05/2008	05/2009	05/2008	05/2009
Banduba	4	2	2	1	1	4	1	1
Bukunjagabo	3	4	2	3	1	4	1	3
Good Neighbors	2	4	2	4	1	4	1	4
Namilama	3	3	2	4	1	2	1	2
Namubila	4	4	3	3	1	4	1	3
Namwanda	3	3	2	3	1	3	1	3
Sasuri	3	3	3	2	1	2	1	2
Sikulu	3	3	2	2	1	2	1	2
Sitabicha	2	3	2	1	1	2	1	1
Tabuti	3	3	3	3	1	4	1	3
Average	2.9	3.3	2.3	2.8	1	3.1	1	2.6

Kisii

Group Names	Level of Empowerment							
	Leadership		Cooperation		Gender		Overall	
	05/2008	05/2009	05/2008	05/2009	05/2008	05/2009	05/2008	05/2009
Bidii	1	3	2	4	1	3	1	3
Bomobea	2	2	2	3	1	3	1	2
Ebate	3	3	3	3	1	4	1	3
Kiareni	2	4	3	2	1	4	1	2
Matieko	2	4	2	3	1	5	1	3
Mwangaza Boyeki	1		2		1		1	
Mwanga Hope	3	2	2	2	1	2	1	2
Mwanyabomo	1	2	1	3	1	1	1	1
Nyakeburo	1	1	3	2	1	2	1	1
Nyandiba	2	5	2	2	1	4	1	2
Tumaini	2	1	3	3	1	3	1	1
Average	1.8	2.7	2.3	2.7	1	3.1	1	2

Nyandarua

Group Names	Level of Empowerment							
	Leadership		Cooperation		Gender		Overall	
	05/2008	05/2009	05/2008	05/2009	05/2008	05/2009	05/2008	05/2009
Bahati	3	5	3	2	5	4	1	2
Karandi	2	4	2	3	1	5	1	4
Kariiko	2	2	1	4	3	4	1	2
Kitogo	4	5	3	3	1	2	1	2
Maproma	2	4	2	3	1	4	1	3
Manyatta	4	2	2	2	1	3	1	2
Muga	1	2	2	2	1	1	1	1
Mwendi	4	4	3	3	1	3	1	3
Mwiteithia	4	3	2	3	1	3	1	3
Wihoki	4	3	3	3	1	4	1	3
Yanga	4	2	2	2	1	2	1	2
Average	3.1	3.3	2.3	2.7	1.5	3.2	1	2.5

Trans Nzoia

Group Names	Level of Empowerment							
	Leadership		Cooperation		Gender		Overall	
	05/2008	05/2009	05/2008	05/2009	05/2008	05/2009	05/2008	05/2009
Kabolet	2	3	2	4	1	3	1	3
Kananachi	2	4	2	4	1	4	1	4
Kapsiwet	2	3	2	3	1	3	1	3
Kilimo Msingi	2	5	2	2	1	3	1	2
Kiungani	2	3	2	3	1	3	1	3
Matisi	2	2	2	2	1	2	1	2
Perkera	2	4	2	4	1	4	1	4
Rurie Inuka	2	4	2	3	1	4	1	4
Salama Umbrella	3	4	2	4	1	5	1	4
Siuna	2	2	2	2	1	2	1	2
Average	2.1	3.4	2	3	1	3.3	1	3.1

出所：SHEP資料

指標1-2：プロジェクト終了までに、プロジェクトの間接支援を受けた農民組織の60％以上が、GEIを、最低1レベル上げる。

間接支援農民組織への支援は、2009年3月より普及員を通して始まった。まだ十分な時間が経過していないことから、間接支援農民組織のGEIの変化は十分に検証できない。しかし、間接支援農民組織と普及員へのインタビューでは、投入材の共同購入、グループでの苗床、共同販売の計画がなされていることがわかった。プロジェクトの終了までに、これらの指標の改善が期待される。

市場指向の農業

SHEPのインパクトで最も顕著なものは、農民への市場指向型農業の導入である。事前質問票調査によると、276の農民のうち、56%、40名の普及員の70%が生産や所得を上げるために重要であった技術として市場調査をあげた（図8参照）。農民、普及員、県のオフィサーへのインタビューからも、市場調査とFABLISTフォーラムでの他の（市場）関係者と知り合ったことが成功要因としてあげられた。市場指向型農業の農民への導入が所得向上をもたらしたといえる。

ジェンダー配慮

直接支援農民組織では、リーダーシップ、協力、ジェンダーのうち、特に、ジェンダーエンパワーメントのレベルが顕著に変化した。上述の事前質問票調査では、276の農民のうちの40%がジェンダー配慮を、最も生産と所得向上に貢献した要因の一つとしてあげた。また、15の要因のうちの3番目の要因としてあげている（図8参照）。この理由は、ジェンダー配慮が各家庭内での労働の公平化をもたらし、農業の効率的なマネジメントに貢献したといえる。この事実は、ジェンダー主流化短期専門家のモニタリング報告書でも報告されている。

順序だったアプローチ

SHEPの強みのもう一つは、活動のアプローチの順序立てである。FABLISTフォーラムから始まり、JEF2G研修、FT-FaDDE研修、現地研修という流れによって、農民組織は徐々に強化されていった。例えば、JEF2G研修のあと農民の代表がグループに戻り、実地研修の前に彼ら自身で市場調査をしなければならないようになっている。直接、間接支援グループともに、市場調査はグループの行動計画を作成するという次のステップへの必須事項であった。このような順序立ったアプローチが農民組織のキャパシティを継続的に向上させた。

きめ細かいフォローアップ

SHEPはきめ細かいフォローアップをしてきている。これにより、農民組織は活動を計画通り実行することができ、メンバーの農民はキャパシティを向上することができた。

農民組織の協働での行動計画の策定

行動計画は、活動、タイミング、必要とされる資源、責任を明記した詳細な計画である。農民自身によって行動計画が策定されたことにより、自分たちの行うべきことを理解する

ことができた。その結果、農民達は計画を実行することに最善を尽くした。このプロセスにより農民達のキャパシティが次第に向上していった。

C/P、普及員、農民組織のキャパシティの向上

SHEPのケニア側のチームメンバー（C/P）は、コンピューター技術、ぼかし肥料づくりのような、彼らにとって新しい技術、時間管理などを習得し、彼らの技術レベルをさらに向上させた。直接支援、間接支援の双方の農民組織は、園芸作物生産、病害虫の同定と管理、市場調査、クロッピングカレンダーなど多くを習得した。さらに、農民組織はFABLISTフォーラムを通して、相応の関係者を見つけた。これらのことを通し、農民のキャパシティが向上した。成果１の持続性も確保されるであろう。

意思決定とマネジメント

農民組織は、自分たちの活動を計画して初めて、SHEPが農民組織のキャパシティを向上させるということを理解していった。この結果、農民組織は集団で投入材を購入し生産物を販売し、規模の経済で利益を上げようとより組織化するようになった。

直面する課題

・雨水に極度に依存している。そのため降雨量が十分でないときは期待通りに生産できず、結果としてどんなに市場価格が高騰しても販売することもできない。
・ジェンダー問題改善など、農民側が知識や技術を導入する意思があるかどうかによって効果が左右されることがある。

（２）成果２

SHEPのPDMでは、成果２を“対象農民の土地生産性の向上”としている。この成果指標は次のとおりである。

〈指標〉

2-1 : プロジェクトの直接支援を受けた農民組織のメンバーの1エーカー当たり純生産の平均増加率が10～50％となる。

2-2 : プロジェクトの間接支援を受けた農民組織のメンバーの1エーカー当たり純生産の平均増加率が5～30％となる。

〈成果２の達成状況〉

成果２の指標は2009年5月にモニタリングされた。その結果を表9にまとめる。

表９　生産性の変化

District	Crop	Baseline Production Tons per Acre	Target growth rate		Actual Growth Rate	
			Direct Group	Indirect Group	Direct Groups May 2009	Indirect Groups May 2009
Bungoma District	Tomato	4.7	20%	5%	40%	26%
	Kale	3.5	30%	5%	166%	6%
	Cabbage	13.6	30%	5%	49%	(14%)
	Banana	8.44	10%	5%	105%	20%
	Mean				90%	9.5%
Kisii District	Banana	11.14	10%	5%	136%	3%
	Passion Fruit	1.37	30%	5%	53%	579%
	Pine Apple	1.88	30%	5%	1,086%	Not available
	Kale	7.2	10%	5%	(29%)	(75%)
	Mean				311.5%	169%
Nyandarua District	Cabbage	15.7	10%	5%	26%	93%
	Snow Peas	2.4	10%	5%	(25%)	(50%)
	Garden Peas	2.34	10%	5%	(15%)	(23%)
	Carrots	9.3	10%	5%	15%	(3%)
	Mean				0.25%	17%
Trans-Nzoia district	Cabbage	16.4	20%	5%	33%	120%
	Tomato	7.9	10%	5%	(16%)	15%)
	Capsicums	6.1	10%	5%	(16%)	(77%)
	Onion	3.27	30%	5%	47%	28%
	Mean				48%	86%

出所：SHEP資料から調査団作成

上記の表から次のことがいえる。

1）4県すべてにおいて、平均で土地生産性の向上がみられた。生産性の増加の幅は、ニャンダルア県の0.25%からキシイ県の311%まである。間接支援農民組織では、ブンゴマ県の9.5%からキシイ県の169%まである。

2）成果２の評価でプロジェクトの妥当性が明らかになった。なぜなら、土地生産性は直接、収入の向上につながり、農村社会の生計向上につながっているからである。

3）生産プロセスは効率的といえる。キシイのある農家の費用便益率は1から3という聞き取り結果があった。1シリングの費用により3シリングが生まれている。

4）生産性の成果はプロジェクトの終了後も持続的といえる。それは自分で活動することによって農民達がエンパワーされているからである。農民たちはプロジェクトで習得したことを通して、経済的にも社会的にも便益を受けている。プロジェクトはその活動を通常の農業省や園芸作物開発公社の普及に統合することにより持続できるであろう。

5）直接、間接支援農民組織とも、生産性を向上した要因は需要に応じて実施した利用者に適した技術研修である。これらには、以下の内容があげられる。

・SHEPの研修により紹介されたより良い作物管理
・SHEPにより導入された道具を用いた容易な雑草管理
・より良い種子などの投入材選定

・投入材の共同購入によるコストの削減
・より良い病害虫管理

SHEPによる便益

・C/P、普及員、農民の向上したキャパシティ
・サービスプロバイダーとのネットワーク（FABLISTフォーラムなどを通じて）
・普及員と農民との関係が強化されたこと
・品質の高い市場指向型の作物の生産
・共同購入によるコスト削減

残された課題

・雨水に依存した農業生産
・生産量が小さいこと
・灌漑やウォーターハーベスティング技術がないこと
・新たな県が生まれ、プロジェクトと県との間のマネジメントが煩雑になること
・フォローアップ活動中にのみ行われているモニタリング体制の改善

成果２からの提言

・農民たちは簡単な灌漑やウォーターハーベスティングの訓練を受けるべきである。これによって、価格の高いときの生産が確保できる。
・プロジェクトのモニタリングプログラムがさらにあるべきである。
・共同販売でより利益を得ることができるように、生産量増大も奨励されるべきである。

（３）成果３

〈指標〉

3-1：コミュニティ内のインフラの未整備を課題として取り上げた農民組織の80％が導入された技術を用いて整備活動を実施する。（直接支援農民組織）

3-2：要請書を提出した農民組織の60％が導入された技術を用いて整備活動を実施する。（間接支援農民組織）

〈成果３の達成状況〉

プロジェクトを通して、成果３はほとんど達成された。採用された土嚢技術が成果の達成に貢献した。なぜならこの技術はコストのわりに効果があり、容易に習得と活用ができるからである。

１）ほとんどの農民組織が問題分析で道路と灌漑用水の制約要因をあげている。
２）農民組織により合計1,007mの農村道路が改修された。
３）直接支援農民組織の80.5％（41グループ中の33グループ）が習得した技術を用いて農村インフラ整備を実施した。
４）間接支援農民組織の77.8％（9グループ中の7グループ）が習得した技術を用いて農村インフラ整備を実施した。

５）120名の技術スタッフが農村インフラ整備の研修を受けた。
６）対象農民組織は、農産物の生産と輸送のための農村インフラの改善のキャパシティを向上した。このうちのほとんど（79%の農民組織）が土嚢技術を用いて道路を維持できる。

写真４　土嚢技術の研修の様子

活動の実施

成果を達成するために、いくつもの活動が計画通り実行された。これらには、ベースライン調査による対象県の現状把握、新たな技術の農民組織へのデモンストレーションなどがある。これらにより、対象地域での問題として農村道路インフラが問題であることが指摘された。新たな技術を間接支援農民組織に伝えるべき普及員もデモンストレーションによって恩恵を受けた。

①生産、貯蔵、輸送にフォーカスした農村インフラに関連した適正技術の情報収集と調査
②問題分析により、主な制約要因は道路ネットワークが発達していないことや劣悪な道路条件が、収穫後のロスを招くことがわかった。これらは市場から離れた農村で輸送コストも高い。
③プロジェクトでは現在、農村インフラ技術のマニュアルや教材を開発している最中である。
④インフラ技術の情報のパンフレットが入手できる。
⑤モニタリング、フォローアップ、フィードバックが実施された。

キャパシティの向上

評価調査団の実施したグループインタビューの結果、農民組織は習得した技術を他のグループに移転できることがわかった。輸送やインフラの支援は、農民組織のエンパワーメントにより彼らが生産物を市場に輸送できる能力を身につけることにより達成された。対象組織は生産や輸送のために農村インフラを改善できるキャパシティを身につけた。

インパクト

土嚢技術は、橋や貯水池に適用されて、土壌保全などの付加価値を生み出していることが確認されている。ある農民組織は、農村道路のリハビリにCDF（Constituency Development Fund）資金を活用し、また、別の農民組織は、他の農民組織の指導者となり技術を移転している。

示唆と課題

①農村インフラ開発のための土嚢技術をスケールアップし、その他の地域やプロジェクトに広めるために啓発ワークショップを開催する。
②ウォーターハーベスティングのための土嚢研修を行う必要がある。この技術をスケールアップすることができる。
③この技術のマニュアルを完成させて配布する。
④間接支援農民組織のための土嚢技術研修をさらに加速させて、現在の9組織からより多くのグループに行う。

２－２－２　プロジェクト目標の達成度

〈プロジェクト目標〉

プロジェクト対象の小規模園芸農民組織の運営能力が強化される。

〈指標〉

プロジェクト終了時に、プロジェクトの支援を受けた小規模園芸農家組織のメンバーの純所得が14.7～20.2%増加する。

表10にモニタリング調査の結果を示した。これによるとニャンダルア県以外で、目標値を超える農民の純収益の向上が男性、女性にともみられた。ニャンダルア県では収穫を7～8月に控えている。プロジェクト終了時までには、ニャンダルア県でも収入の向上が期待できる。プロジェクト目標の達成度は相当に高いといえる。

表10　プロジェクト目標の指標

District	Target Increase rate	Unit	Average net-income benefit（Ksh）			Range of Change：April 07-May 09
			Baseline（April 2007）	Monitoring（May 2009）		
				Current price	Real price*	
Bungoma	20.20%	Group	343,636	876,101	556,694	62.0%
		Per farmer	14,924	43,229	27,469	84.1%
		Per man	19,494	47,897	30,435	56.1%
		Per woman	9,815	38,651	24,560	150.2%
Kisii	18.00%	Group	177,747	408,260	259,418	45.9%
		Per farmer	7,637	22,893	14,547	90.5%
		Per man	10,812	29,748	18,903	74.8%
		Per woman	4,965	16,970	10,783	117.2%

Nyandarua	14.70%	Group	983,919	513,079	326,022	-66.9%
		Per farmer	38,674	37,441	23,791	-38.5%
		Per man	41,244	38,931	24,738	-40.0%
		Per woman	35,087	34,589	21,979	-37.4%
Trans-Nzoia	16.20%	Group	622,141	1,437,673	913,530	46.8%
		Per farmer	27,347	72,301	45,942	68.0%
		Per man	29,236	88,991	56,547	93.4%
		Per woman	24,947	54,198	34,439	38.0%

* adjusted by Consumer Price Index（CPI）

（1）地域による成果の差の分析

ニャンダルア県の成果達成状況が良くなかった理由として、“収穫前であったこと”以外には、以下のことがあげられる。

第一の理由として、農民組織と農民数の減少があげられる。農民と農民組織のサンプル数は次表のとおりである。2007年4月のベースライン調査はサンプル調査であり、2009年5月のモニタリング調査は全数調査である。この2時点で農民数と農民組織数に差がみられる。農民組織の農民数を比較すると、ニャンダルア県では、農民数が50%以上減少している。ニャンダルア県では参加率が低下しているといえる。SHEPへのコミットメントの低さがうかがえる。ニャンダルア県は、商業的な園芸が進んでおり、このことがSHEPの支援への反応の差となって現れていると想定される。ニャンダルア県での結束の弱さがニャンダルア県での所得向上に結びつかなかった理由の一つもといえる[4]。

表11　農民組織数と農民数の変化

District	Unit	Number		Rage of change
		Apr.2007	May.2009	
Bungoma	Group	39	30	-23%
	Farmer	898	608	-32%
	Male	474	301	-36%
	Female	424	307	-28%
	Farmer/ Group	23	20	-12%
Kisii	Group	33	30	-9%
	Farmer	768	535	-30%
	Male	351	248	-29%
	Female	417	287	-31%
	Farmer/ Group	23	18	-23%
Nyandarua	Group	34	27	-21%
	Farmer	865	370	-57%
	Male	504	243	-52%
	Female	361	127	-65%
	Farmer/ Group	25	14	-46%

[4] Harada, Yoko, Gender Monitoring Study for Smallholder Horticulture Empowerment Project, June 2009：pp31-33.

Trans-Nzoia	Group	48	26	-46%
	Farmer	1,092	517	-53%
	Male	611	269	-56%
	Female	481	248	-48%
	Farmer/ Group	23	20	-13%
TOTAL	Group	154	113	-27%
	Farmer	3,623	2,030	-44%
	Male	1,940	1,061	-45%
	Female	1,683	969	-42%
	Farmer/ Group	24	18	-24%

第二の理由としては、外部要因の影響である。この県では多くの農家が輸出作物を生産している。彼らは世界的な不況による輸出市場の縮小の影響を受けたともいえる。

第三の理由として、旱魃の影響が大きかった。ただ、他の県も旱魃があったので、ニャンダルア県での影響が特に大きかった理由としては、次のことが考えられる。

・ニャンダルア県では、他県に比べて園芸の商業生産が進んでいる。ベースライン調査時点では、ニャンダルア県の平均園芸栽培面積は0.9haと他の県の2～3倍の面積である（表12参照）。園芸栽培面積が広いので旱魃の際は、水やりの面積も広く手が回らないため影響を受けやすい。

・ニャンダルア県では、園芸は収益が出るので男の仕事になっている。農民数や栽培面積における女性の占める割合は、ベースライン調査時で最も低い。2009年5月のモニタリング調査時では他の県が女性の割合が増加しているか一定であるが、ニャンダルア県では減少している（表12参照）。また、ニャンダルア県では、フィールド研修への女性の参加率は30%未満とさらに低く、実態は報告されているよりも女性の参加が進んでいない（原田専門家報告）[5]。このようにニャンダルア県では、ジェンダー配慮も弱く、労働分担の進展も弱く、旱魃のように水やりに人手がかかる場合は、さらに影響を受けやすいことが推測される。

表12　ベースライン時、モニタリング時の県別の平均園芸栽培面積、女性の割合

	ベースライン調査時（2007年4月）			モニタリング調査時（2009年5月）		
	平均園芸栽培面積(エーカー/農民)	農民数における女性の割合（%）	栽培面積における女性の割合（%）	平均園芸栽培面積(エーカー/農民)	農民数における女性の割合（%）	栽培面積における女性の割合（%）
Bungoma	0.40	47.2	30.5	0.27	47.2	43.7
Kisii	0.30	54.3	38.0	0.28	53.6	47.4
Nyandarua	0.90	41.7	35.9	0.55	34.3	26.9
Trans-Nzoia	0.54	44.0	41.3	0.58	48.0	40.1
TOTAL	0.54	46.5	36.8	0.44	47.7	39.4

出所：SHEP資料をもとに調査団作成

[5] Harada, Yoko, Gender Monitoring Study for Smallholder Horticulture Empowerment Project, June 2009：p11, pp31-33.

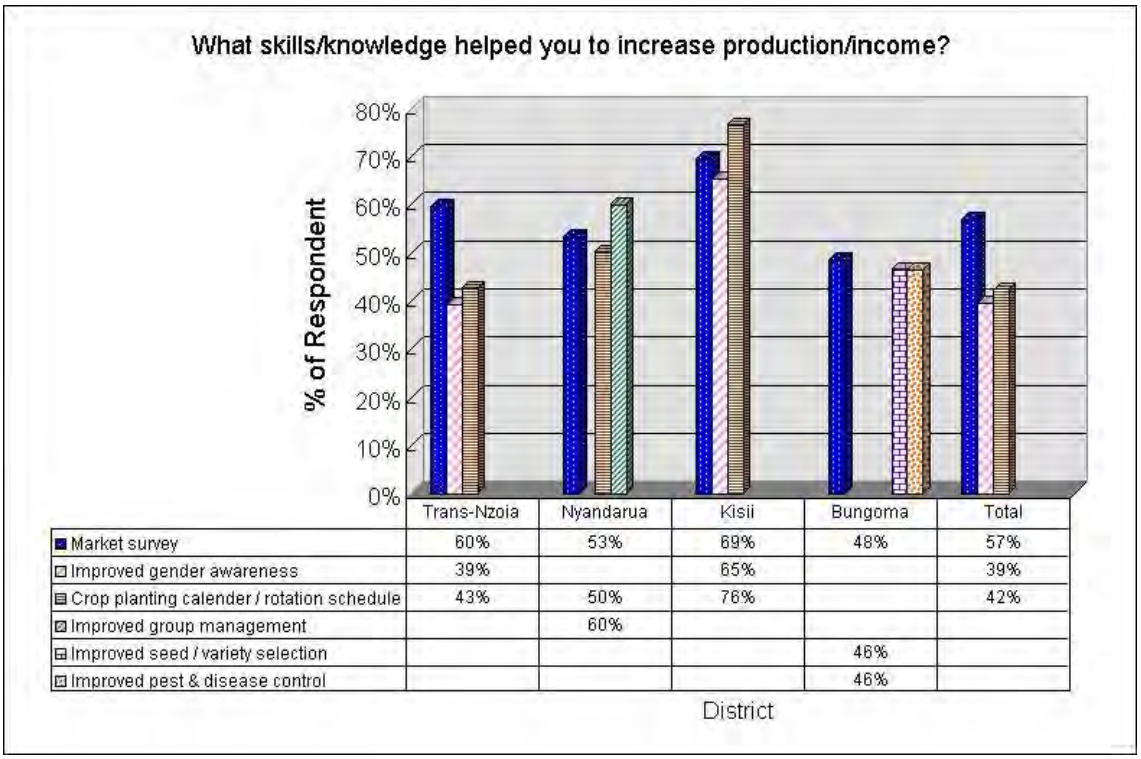
・他方、他の県では、園芸は女性の仕事であり、男性はメイズやサトウキビ生産が主な仕事であった。園芸は女性の仕事であり、園芸栽培面積は小さかった。SHEPにより儲かることがわかり、男も園芸生産をはじめ、面積も拡大していった。面積が小さいので、旱魃のときは水やりをすればしのげる程度の面積であった。しかももともと女性の仕事であり、水やりも分担しているので、旱魃のリスクにも強かった。

〈地域や作物による成果についての詳細な要因分析の必要性〉

SHEPのアプローチは、4県とも同じパッケージでの研修やファシリテーションを実施した。その結果、地域や作物による成果に差が生じた。これらの要因は、プロジェクト終了までにさらに詳細に分析される必要がある。これらのデータは貴重なものであり、詳細に分析されて将来の政策やプロジェクトに活用されるべきである。

（2）所得向上の貢献要因の分析（事前質問票調査に基づく）

評価調査団は終了時評価のプレサーベイとして、事前質問票調査を行った。276名の農民に対して、生産や所得の向上に貢献した要因について質問した。その結果57%が、市場調査が所得向上に貢献していると答え、続いてクロッピングカレンダー（42%）、ジェンダー配慮（39%）の順となっている。これらの3つが生産や所得に貢献した主な要因といえる（下図参照）。この結果は、フィールド調査によって確かめられた。インタビュー調査を通して、多くの農民がどのように市場調査、クロッピングカレンダー、またジェンダー配慮が役立ったかを説明した。



	Trans-Nzoia	Nyandarua	Kisii	Bungoma	Total
Market survey	60%	53%	69%	48%	57%
Improved gender awareness	39%		65%		39%
Crop planting calender / rotation schedule	43%	50%	76%		42%
Improved group management		60%			
Improved seed / variety selection				46%	
Improved pest & disease control				46%	

出所：評価調査団の実施したプレサーベイによる。

図８　生産と収入向上に貢献した要因

この結果の解釈は以下のとおり。

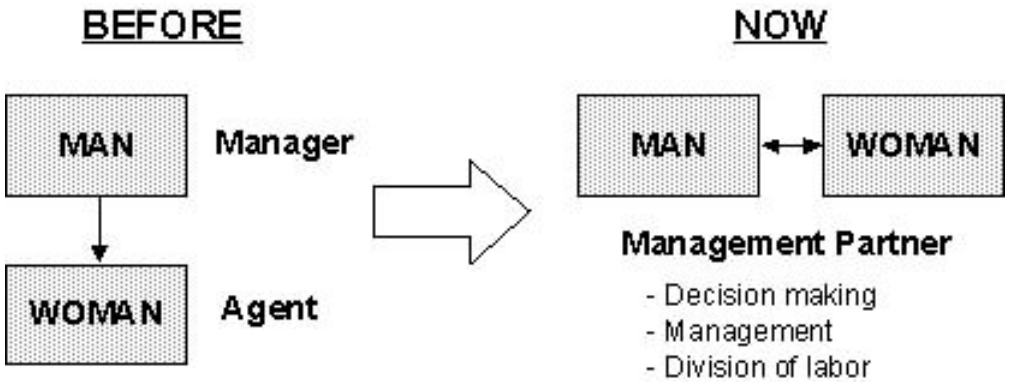
1）農民達は習慣的に、最初に作物を育て、できてから仲介業者に販売していた。何を生産するかは伝統的な知恵や政府の指導に従っていた。

2）SHEPの活動により、農民達の行動が**“育てて売る”**から**“売るために育てる”**に劇的に変化した。

3）SHEPはプロジェクトの第一のステップとして、ステークホルダー・フォーラムを開催した。ここでは、農民達はバイヤー達と知り合うことができた。次に農民の代表に市場調査の研修を行った。研修を受けた農民はグループに帰ってSHEPや普及員の支援を受けながら、自ら市場調査を実施した。この最初のステップで農民達は市場が何か、どのようなものか、バイヤーは誰でどこにいるか、どのように価格が決まって、ピークシーズンはいつかなどの考えを得ることができた。つまり、農民の**マーケット配慮**が身についた。一旦、マーケット配慮が身につくと、農民達は“農業は生活の一部ではなく、ファームビジネスである”ことに気がついた。農民達は、ファームビジネスのオーナーであり、マネージャーである。つまり**“ファームビジネスユニットとしての家計”**である。

4）第二のステップとして、農民達は、ビジネスプランニングが必要となってきた。SHEPによって導入されたクロッピングカレンダーは、ファームビジネスプランニングの有効なツールである。これにより、彼らは利益を上げるために、いつ、何をどのようにするかを戦略的に計画できるようになった。クロッピングカレンダーにより農民達は、**“ファームビジネスプランニングのキャパシティ”**を身につけることができた。レコードキーピングや会計などのビジネススキルの研修があとに続いた。

5）農民は何を、いつ、どのようにファームビジネスを行うかがわかった。ここで、準備に非常に多くのことをしなければならないことに気がついた。伝統的なケニアの農村家計では、一人のマネージャー（男性）と一人の労働者（女性）しかいない。そこで第三のステップとして、**ジェンダー配慮**研修を導入した。ジェンダー配慮を向上することにより、農民達は、ビジネスユニットとしての家計にビジネスマネージャーはたった一人ではなく、二人のマネージャーがいることに気がついた。彼らは家庭内で経営業務を分担し、労働も分担した。つまり、ジェンダー配慮が家庭内の男女関係を、**“マネージャーと労働者”**から**“ファーム・ビジネスマネジメント・パートナー”**に転換した（下図）。



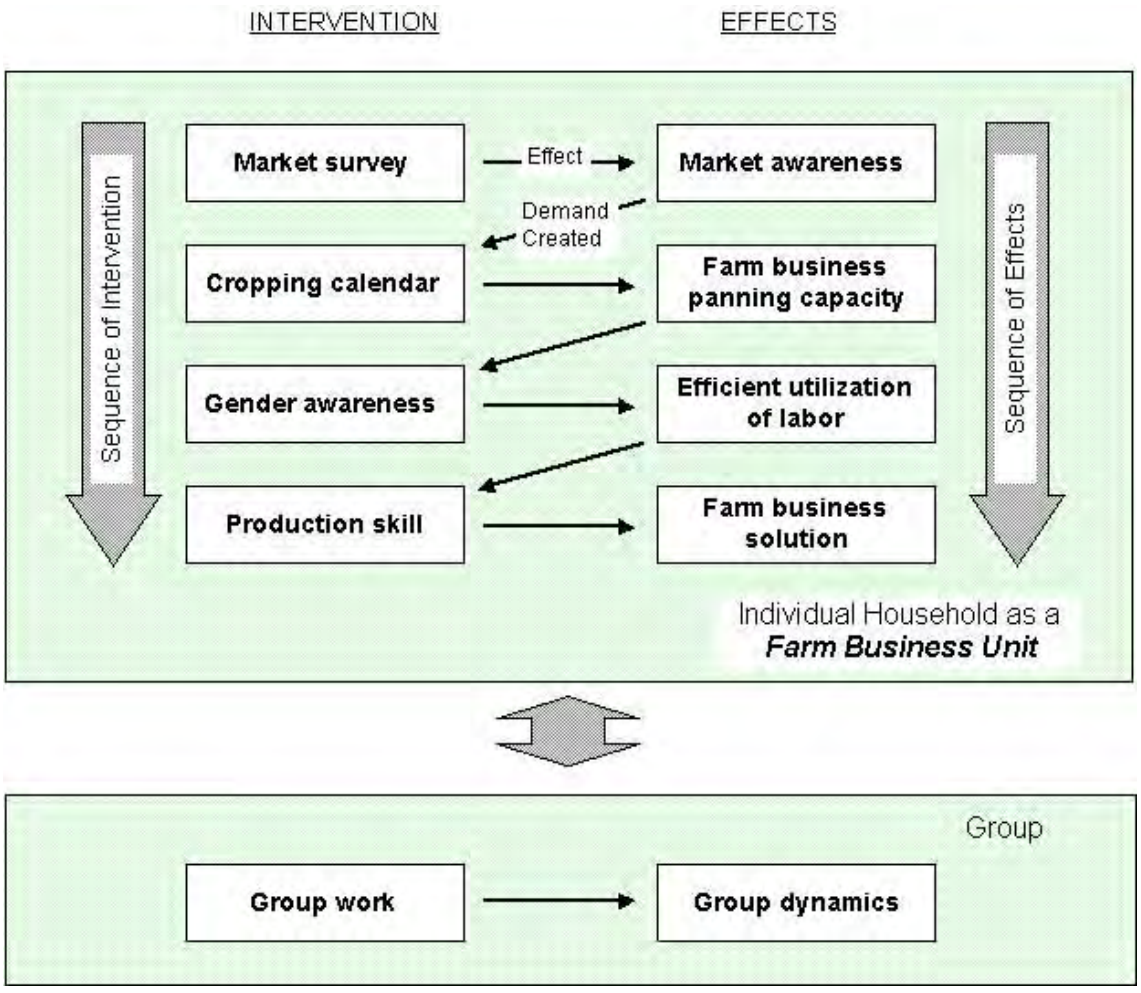
出所：評価調査団作成

図９　ジェンダー配慮と家庭内（男女）の関係の変化

6）ファームビジネスユニットは、いまや市場の要求する品質や数量の作物を育てるには、非常に多くの問題があり解決しなければならないことがわかった。そこでSHEPは第四のステップとして“需要に応じた生産技術研修”導入した。この研修は農民達に、かれらのファームビジネスの**“問題解決（Solution）”**を提供した。

7）最後に、個別のビジネスユニットとしての家計では解決できない多くのことがあることがわかってきた。農民達は、ファームビジネス協会が集団的なアクションを取るために必要であることがわかった。SHEPはグループとしてのキャパシティ開発を導入した。グループでの土嚢技術を用いた道路修繕や、リーダーシップ、動機づけや協働作業等のグループワークである。これにより農民たちは、お互いに助け合うことができる。

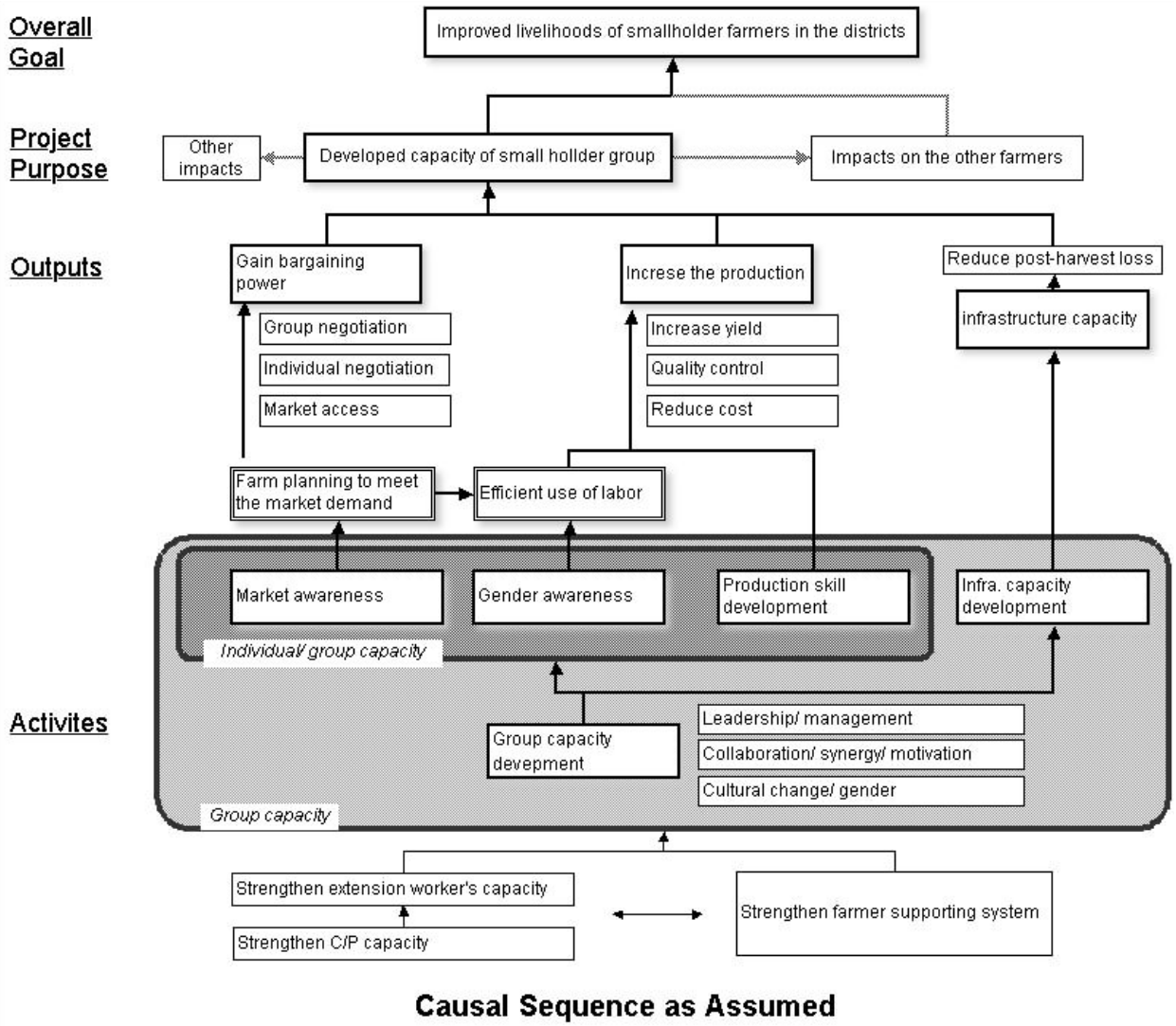
この解釈は下図のように概念化される。



出所：評価調査団作成

図10　SHEPの活動とその効果の解釈

このような解釈にそって、SHEPの枠組みの中での、目標、成果、活動の因果関係を図11に示す。



出所：評価調査団作成

図11　SHEPのプロジェクトの枠組みと因果関係

（３）家計レベルの便益分析

SHEPには有効なモニタリングシステムがある。ベースライン調査で、SHEPは試行錯誤を経験した。この経験を通して、SHEPのケニア側チームメンバーと普及員はどのように調査を行うかを習得した。2009年5月には、SHEPはすべての対象農民に対して、モニタリング調査を実施した。SHEPは直接及び間接支援農民組織のすべての情報を収集した。

このデータベースを活用して、家計レベルの便益分析を行った。家計レベルの便益は、2007年4月の所得に対する所得増加額から計算した。その結果は表13にまとめられる。

表13　家計収入の比較

Household income		Baseline survey April 2007	Monitoring at May 2009		
			Average	Direct	Indirect
Income/ HH（Ksh）	Current price（nominal）	22,794	44,218	46,754	42,396
	CPI adjusted（actual）		28,097	29,709	26,939
Income/HH increased（Ksh）	Current price（nominal）		21,424	23,960	19,601
	CPI adjusted（actual）		5,303	6,914	4,145
Income growth（2009/2007）	Nominal growth ％		194％	205％	186％
	Real growth ％		123％	130％	118％
Income growth rate per annum（％）	Nominal annual growth rate		39.3％	43.2％	36.4％
	Real annual growth rate		*11.0％*	*14.2％*	*8.7％*

出所：SHEPチームデータより評価調査団作成

名目所得は倍増した。物価上昇率を考慮した実質所得は、平均で23%、直接支援農民が30%、間接支援農民で23%増加した。これらのデータから年間所得の増加率を出すと、平均11%、直接支援農民が14.2%、間接支援農民で8.7%である。

この年間成長率がどの程度かを示すために、国の園芸関連の年間成長率と比較すると表14のようになる[6]。モデルグループの農民の所得向上率は平均11%であり、国の農業セクター（2008年で-5.1%）、作物園芸サブセクター（2008年で-7.6%）のパフォーマンスを遥かに上回っていることがわかる。なお、この対象農民の所得成長率は、2007年4月時点から2009年5月時点の増加率から、年当たりの成長率に換算したものである。また、SHEPの介入があったため、急激に所得が向上したものと考えられ、この後同様の成長率で所得が上昇していくという意味ではない。SHEPの介入によるインパクトは2〜3年で落ち着くものと考えられる。ただし、SHEPでは市場指向型アプローチを取ることにより、市場リスクを農民が直接かぶらないようなキャパシティを向上しているため、より安定的に成長できると思われる。

表14　モデル農家の所得向上とケニアの園芸関係のパフォーマンスの比較

Performance of Kenya		2007	2008	2009（Jan-Apr）
Annual growth rate（%）	GDP growth	7.1 ％	1.7%	
	Agriculture sector	2.0%	-5.1%	
	Crop and horticulture sub-sector	2.7%	-7.6%	
	Output growth of horticulture	17.7%	0.5%	-11.1%
Model Farmers		Annual income growth rate（%） April 2007 – May 2009		
Annual income increase rate（%）	Average	11.0%		
	Direct group	14.2%		
	Indirect group	8.7%		

出所：Central Bank of Kenya、SHEPチームのデータに基づき調査団で作成

[6] 比較するには、厳密には技術的精査が必要である。

さらに、SHEPチームは農民一人当たりの研修実施コストについて、直接支援農民、間接支援農民に対して試算した（表15）。SHEPの研修実施コストは個別の農民にとっての外部からの投入である。この数字を使い、費用便益率を出すと平均で425%、直接支援農民で290%、間接支援農民で584%となった。この単純な計算からSHEPの効率の高さがわかる。5,000シリングの投資で20,000シリングの所得向上効果を生み出している。また、これらの研修コスト及び便益を2007年の価値に換算して、費用便益率を求めると平均で206%、直接支援農民で145%、間接支援農民で325%となった。便益は直接支援農民のほうが高いが、効率は間接支援農民のほうが高い。このような投資効率の高いプログラムには更なる投資が望まれる。

表15　家計レベルの費用便益分析

	Average	Direct	Indirect
Operational cost of training/ farmer（Ksh）	5,047	8,269	3,355
Income/ HH increased（Ksh）	21,424	23,960	19,601
Nominal income increased/operational cost（%）	425%	290%	584%
Real income increased/operational cost（%）	206%	145%	325%

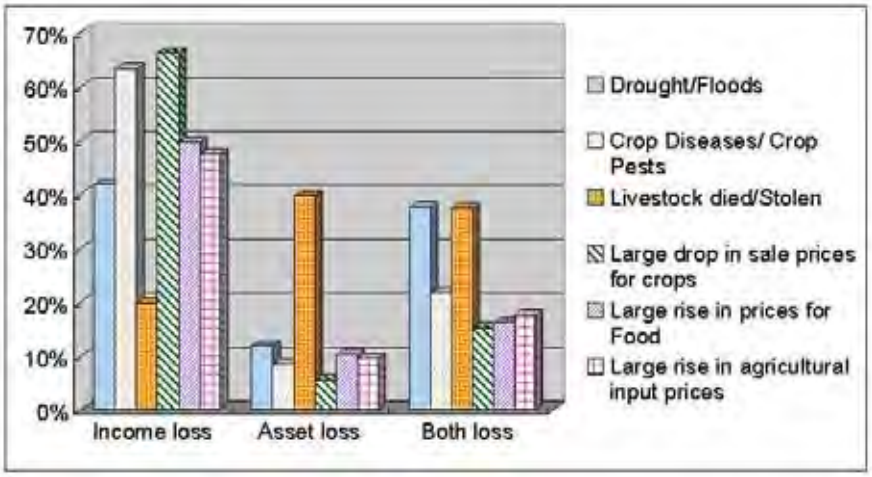
出所：SHEP資料より調査団試算

（4）リスク・マネジメント

2008年は肥料価格の高騰があり、中間評価時にこの対応策についての提言がなされた。2008年には、また世界経済不況があり、輸出需要が縮小するということがあった。2009年には旱魃があり、作物生産に大きな悪影響を与えた。

SHEPでは、農民による市場調査を行うことにより、これらのリスクのうち、作物価格リスクへの対応能力をある程度向上させた。これにより、価格リスクを市場のことを知らない生産者である農民がかぶるのではなく、より市場のことを知っているトレーダーとリスクをある程度分け合うことができた。

今後、このような様々なリスクが起こりうる。図12は、ケニアの農民がどのようなリスクが所得や資産に悪影響があるかについて応えているものである。これらのリスクへの対応能力の向上が望まれる。



出所：Ministry for Planning and National Development, Kenya Integrated Household boudget Survey（KIHBS）2005/06.

図12　様々なリスクによる所得と資産への影響

２－２－３　上位目標の達成度

〈上位目標〉

対象県の小規模園芸農家の生計が改善される。

〈指標〉

対象県の貧困率が低下する。

対象県の貧困率を表16に示す。貧困率はブンゴマ県とニャンダルア県では増加した。対象農家の所得が増加しても、3年間の技術協力で、全県の貧困率を低下させるのは現実的ではない（表16参照）。対象者は約2,600戸の農民である。これらは小規模園芸農家の1%、対象県の家族数の0.5%にすぎない。3年間の農業プロジェクトの全県に対するインパクトは小さい。

表16　対象県の貧困率

District		Financial year	
Poverty Rate（%）	2006/07	2007/08	2008/09
Bungoma	56	51	53
Trans-Nzoia	47	51	50
Nyandarua	52	46	56
Kisii	75	71	60

出所：District Agricultural Officers.

表17　対象県の社会経済指標

	Province	District 2008	Land Area（km^2）	Agricultural land（'000 ha）1995 *1	Pop *2	HH *2	Density *2	Pop *3	% of poverty pop *3	HH *3	% of poverty HH *3
Bungoma	Western	4	2,069	308	876,491	174,838	424	1,188,441	47%	185,939	41%
Trans-nzoia	Rift valley	3	2,487	247	575,662	116,122	231	880,327	47%	133,524	40%
Nyandarua	Central	2	3,304	353	479,902	194,401	145	541,614	42%	114,535	32%
Kisii	Nyanza	3	649	220	491,786	100,315	758	534,568	52%	102,557	47%
TOTAL		12	8,509	1,128	2,423,841	585,676	285	3,144,950		536,555	
Kenya			581,677		28,686,607	6,371,370	49	35,514,542	47%	6,961,873	39%

出所：*1.Kenya National Bureau of Statistics, Statistical Abstract 2008

*2. Population census 1999.

*3.Ministry for Planning and National Development, Kenya Integrated Household budget Survey（KIHBS）2005/06

ニャンダルア県の対象農民の所得は2年間で40%低下した。対象県の貧困率の表16から、ニャンダルア県全体の貧困率が増加しており、県全体の経済パフォーマンスに影響を受けているといえる。ニャンダルア県では多くの農民が輸出用作物を生産しており、世界的な経済不況の影響を受けたともいえる。

マクロレベルではプロジェクトのインパクトは大きくないが、ミクロレベルでは対象農民以外へも多くの波及効果が観察された。さらに、有機肥料の使用による環境効果、若者の雇用創出効果、学校への支払いの増加、教会への出席頻度の増加、家庭内の良好な夫婦関係などその他のインパクトも観察された。

このようなインパクトはミクロレベルにとどまるが、このような正の影響が維持され、県全体、更には国全体に広めるためにも、継続的で、スケールアップする行動が提言される。

第３章　評価結果

３－１　妥当性

評価調査団は、下記の理由により妥当性が高いと結論づける。

（１）ケニアの開発計画との高い整合性

現在の農業省の戦略計画（2008-2012）は、ケニア政府の国家開発計画であるビジョン2030や農業セクター開発戦略（Agriculture Sector Development Strategy：ASDS）と整合性が取れており、SHEPはこれらの戦略や計画の方針に沿っている。これらの計画では農業セクターを利益の上がる商業的な活動にし、かつ自然資源を持続させるとしている。

農民に市場調査から始めさせて、消費者が何を求めているかを決めて、園芸作物の生産に入るという農民をエンパワーメントするアプローチは、農業戦略に沿っている。SHEPはまた、国家農業セクター普及政策（National Agriculture Sector Extension Policy：NASEP）にも沿っている。この政策では既存の農業普及システムを農民のニーズに対応させるとしている。

さらに、本評価の結果を農業次官に報告した際に、次官より“farming as a business”に転換させる方針に合致しているとのコメントがあった。

（２）日本の協力政策との高い整合性

「農業開発」は日本の対ケニアODA政策における最も重要な協力分野の一つである。さらに、JICAの国別事業実施計画では小農の市場指向の農業開発を重要な開発課題としている。この開発課題に対応して、小規模農民収入向上プログラムが形成され、SHEPはこのプログラムの中核的なプロジェクトの一つである。

３－２　有効性

評価調査団は、下記の理由よりプロジェクトの有効性が極めて高いと結論づける。

第一に、プロジェクト目標はニャンダルア県を除いて達成された。同県の対象農民の純所得は、2009年7～8月の収穫期後に増加することが期待される。ニャンダルア県では外部条件の影響が大きかった。同県では多くの農民が輸出作物の生産に携わっており、世界的な不況の影響を受けている。同県の貧困率はここ1年悪化している。

第二に、プロジェクトの成果と目標の指標は、プロジェクトの最初に、成果とプロジェクト目標の因果関係がつながるように注意深くデザインされた。

３－３　効率性

評価調査団は、下記の理由より、プロジェクトが成果の生産とプロジェクト目標の達成を極めて効率的に行っていると結論づける。

第一に、2007年4月から2009年5月までの間の、対象農民の実質所得の年間増加率は、平均で11%、直接支援農民組織で14.2%、間接支援農民組織で8.7%である。国の経済成長率は、2008年で農業セクターの成長率は-5.1%、作物園芸サブセクターの成長率は-7.1%であり、対象農民の実質所得

の年間増加率は、国の園芸関係セクターの経済成長率より遥かに高いことを示している。

第二に、対象農民への外からの投資コストは極めて小さい。平均で、農民一人当たりの外からの投資額5,047Kshで、21,424Kshの所得増加を生み出している。直接支援の農民一人当たり8,269Kshの投資で、23,809Kshの所得増加を生み出し、間接支援では3,355Kshの投資が、19,601Kshの所得増加を生み出している。簡単な費用便益率の計算によると平均425%、直接支援農民組織で290%、間接支援農民組織で584%を示している。極めて高い投資効率であることがわかる。直接支援農民組織と間接支援農民組織を比較すると、直接支援農民組織のほうが便益は大きいが、間接支援農民組織のほうが費用便益率が高く、投資効率が高い。評価調査団はこのプロジェクトの効率性を確認し、このような投資効率の良いプロジェクトへの更なる投資を提言する。

３－４　インパクト

評価調査団は、下記の理由よりプロジェクトのインパクトは正であると結論づける。

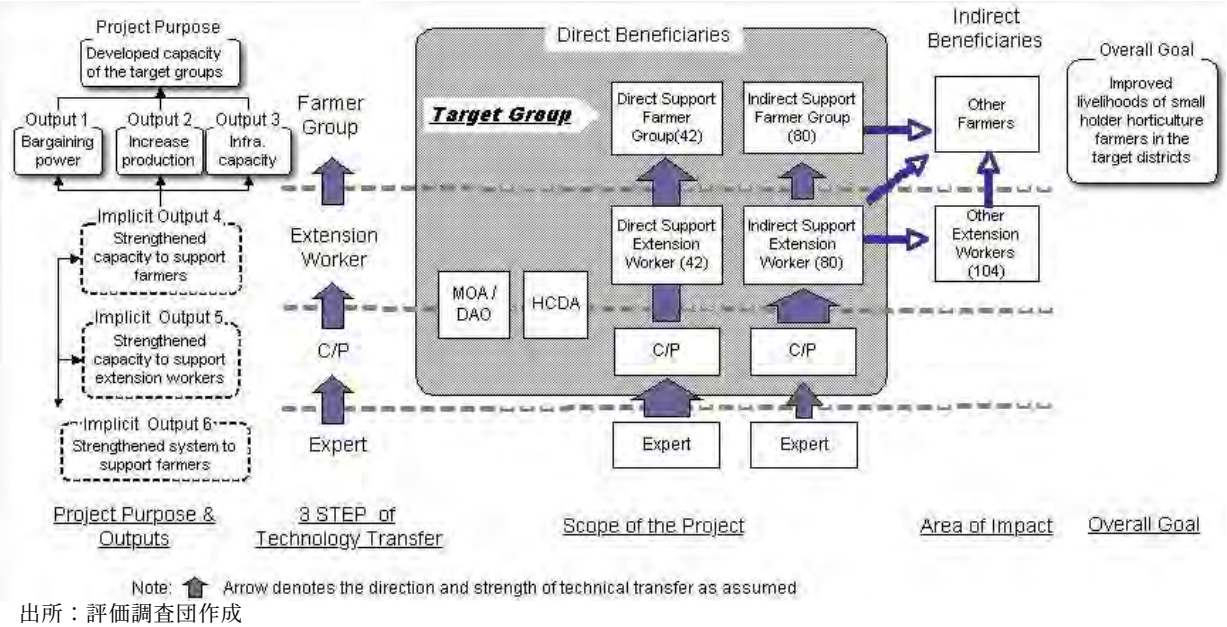
上位目標が対象県すべての貧困率の減少とされている。プロジェクトのインパクトは地域に限られている。対象者は対象県の家族数の0.5%を占めるにすぎない。

上記のインパクトは地域に限られているが、対象農民組織の所得は著しく増加し、周囲への波及効果も広く観察された。対象グループ外から農民が学習にきている。さらに、有機肥料の使用による環境効果、若者の雇用創出、学校の支払額の増加、教会へ行く回数の増加、家族関係の改善など、正のインパクトも観察された。これらのインパクトはミクロなレベルに限られているが、波及効果もある。これらの正のインパクトを維持し、インパクトをさらに広いエリアに広げるために、継続的で、スケールアップするための更なる努力が提言される。

３－５　持続性

評価調査団は、下記の理由よりプロジェクトの持続性は高いと結論づける。

プロジェクト目標や成果で明記されているのは、すべてターゲットグループである農民に関することである。プロジェクトデザインは、暗示的な成果も含んでいる。これらは、SHEPチームのケニア側メンバー（C/P）や普及員のキャパシティであり、また農民を支援する体制の構築でもある（図13参照）。



出所：評価調査団作成

図13　プロジェクトデザインと暗示的なアウトプット

SHEPチームはこのことを認識し、最初に、直接モデルアプローチを取った。このアプローチでは、C/Pのキャパシティを向上した。

次に、間接支援アプローチを取り、普及員のキャパシティ向上にフォーカスした。普及員は自らのイニシアティブで、農民の訓練やファシリテーションをしなければならない。このlearning-by-doingにより、普及員のキャパシティは向上した。

第三に、SHEPチームは間接支援アプローチにより、農民を支援するシステムの強化を行った。これによりSHEPチームは教訓を得た。農民を支援する効果は、普及員個人の動機づけと能力に依存するものであった。さらに効果的なシステムを検討し、強化する必要がある。

さらに、農業省はプロジェクトの成果を認識し、このプロジェクトの活動をスケールアップし、成果を広げるための新たなユニットを設立した。これは園芸情報管理・利用ユニット（National Horticulture Information Management and Utilization Unit：NAHIMU）であり、首都のナイロビに設置し、農業省は既に事務所スペースと予算を確保した。したがって、SHEPは制度的な持続性があるといえる。

３－６　結　論

評価調査団は、SHEPは妥当性、有効性、効率性が高いと結論づけた。市場指向型のSHEPのアプローチは、ケニア政府の開発政策や日本の援助政策に合致している。プロジェクトは、選挙後の混乱による3カ月の遅れにもかかわらず、プロジェクト目標を達成した。ターゲットグループの所得向上効果は、2年間という短期間にもかかわらず顕著であり、有効性は高い。また、著しく高い投資効率から効率性も高いと結論づけた。

また、正のインパクトがあり、持続性も高いと結論づけた。これらの正のインパクトを維持し、より広い地域に広めていくために、継続的なフォローアップとスケールアップの努力が必要である。

（１）効果発現に貢献した要因

プロジェクトの枠組みが注意深く設計された。測定可能な指標が設定され、成果とプロジェクト目標の論理的つながりを改善するとともに、モニタリングとマネジメントの改善も図られた。さらに、指標そのものが達成目標となり、農民組織、普及員、C/Pといった関係者の意欲を向上するように設計された。

市場配慮とジェンダー配慮を組み合わせたプログラムの順序も注意深く設計され、農民の意識と行動を「ビジネスとしての農業」というように転換させた。

（２）阻害要因

選挙後の混乱は、2008年1～3月の間、3カ月間にわたりプロジェクトを中断させた。また世界経済危機は、輸出作物を生産する農家の多いニャンダルア県の農民所得に影響を与えた。

第４章　提言と教訓

４－１　提　言

〈プロジェクトチームに対する提言〉

（１）成果の貢献要因の更なる分析

SHEPのモニタリング結果は、生産や所得の増加のレベルは地域やグループにより多様であることを示している。プロジェクトを通して、園芸開発についての多くの価値のあるデータが得られた。これらのデータを用い、成果に貢献する要因の更なる分析を行うべきである。この分析は、園芸政策やプログラム、制度の枠組み、日本の援助政策の策定に用いられるべきである。またこの分析結果は、地域の条件にあった地域ごとのアプローチの開発にも用いられる。

（２）情報共有と広報のための文書化と情報管理

SHEPチームは様々な教材やレポートを内部で作成し、外向けにパンフレットを作成した。しかし、内部の情報管理は改善の余地がある。さらに、外部に対する情報公開は限られている。外部者からSHEPの活動を容易に理解することはできない。

作成された価値のある情報の活用のために、更なる情報管理が必要である。終了時評価調査団は、SHEPチームが広報や開発パートナーの間での情報共有を強化し、より良い文書化による情報公開を強化することを提言する。これらの情報には、プロジェクトの活動や成果を記述するレポートなどが含まれる。

（３）農民組織を支援するシステムの強化

農民組織を支援する効果は個人の動機づけと能力に依存している。プロジェクトの活動を継続するために、評価調査団はSHEPチームがプロジェクト終了までに、既存の普及サービスシステムの枠組みの中で、マネジメント、報告、動機づけなど農業普及員と農民組織を支援する体制を強化することを提言する。

〈ケニア政府への提言〉

（４）プロジェクトに対するタイムリーな予算措置

ケニア政府の予算の流れは予測できないことがある。2008/09年度の最後の予算は配分されなかった。このことは計画的な活動に支障を来すため改善を提言する。

プロジェクトで得られた知識と経験を、農業省、開発パートナー間で共有し、他のプロジェクトやプログラムに適用するための、フォローアップ活動を行うこと。

〈ケニア政府とJICAに対する提言〉

（５）フォローアップ活動

SHEPチームは、3カ月の中断にもかかわらず、プロジェクト活動を軌道に乗せ、チームは価値のある知識や経験を得た。SHEPチームは、上述の（１）から（３）で述べたようなデータ

の分析、モデルの構築、情報管理、適用可能なシステム開発など、これらの知識や経験を整理してまとめあげる時間が必要である。

評価調査団は、これらの知識や経験を整理し、他のプロジェクトやプログラムに適用できるよう農業省や開発パートナーの間でシェアすることを提言する。このことにより知識や経験が他の地域で活かされることとなる。

さらに、フォローアップ活動によって、予定されている後継プロジェクト（園芸情報管理利用ユニット）に対する適切なインプットが期待できる。SHEPは農民の需要に応じたアプローチを取っているため、プロジェクトの効果やインパクトは地域に限定されている。得られた結果をもとに、効果やインパクトがメゾレベル、さらにマクロレベルまで拡大するように、スケールアップする活動が検討されるべきである。これらには次の活動がある。

・制度構築の強化や政策策定への貢献
・セクター調査と市場調査の統合
・作物価格リスク、投入材価格リスク、天候リスク、病害虫リスクなどのリスクマネジメント

４－２　教　訓

評価調査団は、他のプログラムやプロジェクトに適用可能な以下の教訓を得られたと判断する。

（１）よくデザインされたモニタリングシステム

SHEPの採用した内部モニタリングシステムは推薦できる。実施の進捗に応じた定期的なデータ収集により終了時評価を行うのに大いに役に立った。このシステムは他のプロジェクトも見習うべきである。

（２）関係者の動機づけを誘引する指標の使用

上述のモニタリングシステムに関し、SHEPの指標はモニタリング目的にもプロジェクトの内部への動機づけにも役立った。SHEPでは関係者に理解できる指標をデザインし、SHEPのケニア側チームメンバー、普及員、農民組織が、この指標に沿ってより良い成果を出そうと動機づけられた。この仕組みは他のプロジェクトにも適用可能である。

（３）マーケット指向型アプローチによる農民の意識と行動の市場指向への転換

農民のイニシアティブによる市場調査が、彼らの生産方式を“作ってから売る”から“売るために作る”と転換させたことがわかった。農民組織への最初のアプローチでは、農民と市場関係者が参加して知り合うことができるステークホルダー・フォーラムを開催し、次に市場調査を行った。SHEPでは農民に市場調査の方法を研修した。このことによって、農民が受動的な姿勢から、積極的に市場へアプローチする姿勢に変化することとなった。市場調査により、農民は何を作り、いつ売れば良いかを決めることができるようになった。農民は、農業が**ファームビジネス**であることを認識した。市場調査に続くクロッピングカレンダーの導入が農民のファームビジネスプランニングの能力を強化した。この**“マーケット指向型ア**

プローチ”は推薦できるものであり、既存のプロジェクトや将来のプロジェクトへの適用が奨励される。

（4）ジェンダー配慮による家庭内労働力の効率的利用

市場の配慮が身についたあとに、ジェンダー配慮を育てることがファームビジネスのマネジメントに有効であり、農民は、**“ファームビジネスユニットとしての家庭”**を認識するようになる。ジェンダー配慮により、ビジネスユニットとしての家庭での人間関係が変化する。夫婦関係がケニアの農村の伝統的な**“マネージャーと労働者”の関係から“ファームビジネスマネジメントのパートナー”**に転換する。彼らはビジネスの目的のために協働して意思決定し、マネジメントを行い、効率的な作業分担をする。このファームビジネスに対するジェンダー配慮のアプローチは、他のプロジェクトへの適用が奨励できる。

付　属　資　料

１．PDM2

２．評価グリッド

３．英文終了時評価報告書

1．PDM2

協力期間：2006年11月14日～ 2009年11月13日
相手国機関名：農業省及び園芸作物開発公社(HCDA)
対象地域：ブンゴマ東県、ブンゴマ西県、ブンゴマ北県（ウェスタン州）、
トランゾイア東県、トランゾイア西県、クワンザ県（リフトバレー州）、
キシイ中央県、キシイ南県、マサバ県（ニャンザ州）、
ニャンダルア北県、ニャンダルア南県（セントラル州）
裨益対象者（事前調査時）：
直接裨益対象者：対象地域で園芸作物を生産する小規模農民、農業省及びHCDAの職員並びに普及員
間接裨益対象者：対象地域で園芸作物を生産する小規模農民
対象県の小規模園芸農民組織：直接支援農民組織(各県10グループ)、間接支援農民組織(各県20グループ)

PDM Version 2 / Sep 2008

プロジェクトの要約	指標	入手手段	外部条件
上位目標 対象県の小規模園芸農家の生計が改善される	対象県の貧困率が低下する。	県開発プロファイル	・旱魃がない
プロジェクト目標 プロジェクト対象の小規模園芸農民組織の運営能力が強化される	プロジェクト終了時に、プロジェクトの支援を受けた小規模園芸農家組織のメンバーの純所得が14.7-20.2%増加する。	ベースライン調査報告、プロジェクト評価報告	・園芸作物と産物の市場需要が縮小しない。 ・園芸作物の市場価格が低迷しない。
アウトプット: 成果1：対象農民組織が園芸作物を適切に販売することができる（販売交渉力を得る） 成果2：対象農民組織の園芸作物の生産量・品質が向上する 成果3：対象農民組織の生産基盤・流通インフラの整備実施能力が向上する	1-1.プロジェクト終了までに、プロジェクトの直接支援を受けた農民組織の100%が、グループエンパワーメント指数を、最低1レベル上げる。 1-2.プロジェクト終了までに、プロジェクトの間接支援を受けた農民組織の60%以上が、グループエンパワーメント指数を、最低1レベル上げる。 2-1. プロジェクトの直接支援を受けた農民組織のメンバーの1エーカーあたり純生産の平均増加率が10-50%となる。 2-2. プロジェクトの間接支援を受けた農民組織のメンバーの1エーカーあたり純生産の平均増加率が5-30%となる。 3-1. コミュニティ内のインフラの未整備を課題として取り上げた農民組織の80%が導入された技術を用いて整備活動を実施する（直接支援農民組織）。 3-2. 要請書を提出した農民組織の60%が導入された技術を用いて整備活動を実施する（間接支援農民組織）。	ベースライン調査報告、プロジェクト評価報告	・園芸作物と産物の市場需要が縮小しない。 ・園芸作物の市場価格が低迷しない。 ・深刻な干ばつや病害虫が発生しない。 ・道路維持管理やネットワーク開発のための支援政策が継続する。

活動
1. 事務所設置準備等
2. C/PのTORとプロジェクト構成図作成
3. 各ステークホルダーの役割定義
4. ラウンチング・ワークショップ開催
5. 研修対象者（普及員及び農民組織）の選定
6. ベースライン調査
7. プロジェクトの指標設定
8. ステアリング・コミティー
9. 巡回式フォーラム（ステークホルダー間の意見交換会）
10. 研修
10.1 研修教材作成
10.2 農業普及員向け研修
10.2 農民組織向け研修
11. 巡回、フォローアップ支援
12. 研修マニュアル
13. 短期専門家の投入
14. C/P研修

投入

ケニア側
- 農業省とHCDAからのC/P配置（プロジェクトダイレクター、プロジェクトマネジャー、プロジェクトコーディネーター、専門家）
- 必要な機材と事務所
- カウンターパート予算

日本側
- 3人の長期専門家（リーダー／農民組織運営、園芸生産普及、業務調整／研修管理）
- 短気専門家（農村インフラの適正技術）
- ローカルコンサルタント（農村インフラ適正技術）
- 車両3台、コピー機1台、視聴覚機器、事務機器）
- 建設費、運営費

前提条件
園芸セクターへの支援政策が低下しない。

2．評価グリッド

2009年6月19日

評価/確認項目	評価設問		情報/源	備考
	大項目	小項目		
実績の確認/検証	日本側の投入は計画通りか？	・ 専門家の数、時期、期間、分野 ・ ローカルコンサルタント等の投入 ・ 設備・機材の種類、質・量、時期、費用 ・ 建設費、運営費	実績/プロジェクト	
	ケニア側の投入は計画通りか？	・ C/P の配置（人数、時期、分野） ・ 施設・機材の供給 ・ 運営費（金額、時期）	実績/プロジェクト	
	アウトプットは算出されたか？	・ アウトプット 1-3 の達成度 1. 対象農民組織が園芸作物を適切に販売することができる（販売交渉力を得る） 2. 対象農民組織の園芸作物の生産量・品質が向上する 3. 対象農民組織の生産基盤・流通インフラの整備実施能力が向上する	実績と関係者意見/プロジェクト,農民組織、流通・市場関係者//関係者の意見	
	プロジェクト目標は達成される(た)か？	プロジェクト対象の小規模園芸農民組織の運営能力が強化される	実績と関係者意見/プロジェクト,農民組織,流通・市場関係者, 農業省,HCDA、県	
	上位目標達成の見込みは？	対象県の小規模園芸農家の生計が改善される	実績と関係者意見/プロジェクト,農業省,HCDA,県政府	
実施プロセスの確認/検証	活動は計画通り実施されたか？	活動実績（質、量、時期、期間）	関係者意見/プロジェクト	
	技術移転の方法は妥当だったか？	良い点、問題点	関係者意見/プロジェクト	
	プロジェクトマネジメント体制は妥当だったか？	・ モニタリングの適切さ ・ 意思決定メカニズム/運営管理体制 ・ コミュニケーション ・ オーナーシップ/イニシアティブは高いか？ ・ その他プロセスでの問題	関係者意見/プロジェクト, 農業省, HCDA, JICA	
	他のプロジェクトとの連携は適切であったか？		関係者意見/プロジェクト、農業省/HCDA, JICA	
	実施プロセスにおける問題は？		関係者意見/プロジェクト	
妥当性	政策（優先度）との整合性はとれていたか？	・ 上位目標とプロジェクト目標はケニア国家政策に合致しているか？ ・ 上位目標とプロジェクト目標は日本の援助政策に合致しているか？	・ 政策文書/農業省 ・ 国別援助・事業実施計画/ JICA	
	プロジェクトの必要性は適切だったか？	・ 上位目標とプロジェクト目標はターゲットグループのニーズと合致しているか？	関係者の意見/ 農業省,HCDA、農民	
	手段は適切だったか？	・ 日本の技術の優位性はあったか？ ・ アプローチは適切であったか？ターゲットグループの絞り込みは適切であったか？対象地域の選択は適正であったか？	関係者の意見/プロジェクト、農業省、HCDA、JICA	
	プロジェクトを取り巻く環境の重要な変化はあったか？	・ 重要な政策、経済状況、社会状況の変化はあったか？ ・	関係者の意見/プロジェクト,農業省, HCDA, 農民組織, 市場関係者	
有効性	プロジェクト目標は達成される(た)か？	（実績参照）		
	アウトプットはプロジェクト目標の達成に貢献したか？（アウトプット−プロジェクト目標のロジック／因果関係）	・ アウトプットは、プロジェクト目標達成に十分であったか？ ・ 園芸生産物市場の需要は縮小していないか？ ・ 園芸生産物の価格動向は？ ・ その他重要な外部条件はなかったか？	関係者の意見/プロジェクト,農業省,HCDA	
	プロジェクト目標達成を阻害／貢献した要因は何か？		関係者意見/プロジェクト,農業省, HCDA,農民組織	
効率性	アウトプットは算出されたか？	（実施プロセス参照）		
	投入は効率的に活用されたか？	質、量、方法、タイミング、利活用状況	関係者意見/プロジェクト,農業省,HCDA	
	活動/投入−アウトプットのロジックは適切か？（因果関係）	・ 活動は成果を生み出すのに貢献したか？ ・ 重要な外部条件はなかったか？	関係者意見/プロジェクト,農業省,HCDA	
	効率性を阻害/貢献する要因は？		関係者意見/プロジェクト,農業省,HCDA	
インパクト	上位目標達成の見込みは？	（実績参照）		
	上位目標達成の促進/阻害要因は？		関係者意見/プロジェクト,農業省,HCDA	
	プロジェクト目標−上位目標のロジックは適切か？（因果関係）	・ 上位目標とプロジェクト目標は乖離していないか？ ・ 外部条件は正しいか？	関係者意見/プロジェクト,農業省, HCDA, 県	
	上位目標以外のインパクトは？	・ 上位目標以外の政策・制度、社会、経済、環境などへの正/負のインパクトは？	関係者意見/プロジェクト,農業省, HCDA, 県	
自立発展性	プロジェクト目標、上位目標など効果は持続するか？	・ 政策・制度面 ・ 技術的側面 ・ 組織・財政面	関係者意見/プロジェクト,農業省, HCDA, 県	
	自立発展性の促進/阻害要因は？	・ 自立発展性を発現／阻害する要因は何か？	関係者意見/プロジェクト,農業省,HCDA, 県	

AIDE-MÉMOIRE ON THE PROJECT STEERING COMMITTEE MEETING ON THE TERMINAL EVALUATION FOR SMALLHOLDER HORTICULTURE EMPOWERMENT PROJECT (SHEP) IN THE REPUBLIC OF KENYA

The Japanese Terminal Evaluation Team (hereinafter referred to as "the Japanese Team"), organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA"), headed by Mr. Kyosuke Kawazumi, and the Kenyan Terminal Evaluation Team (hereinafter referred to as "the Kenyan Team") headed by Mr. Nehemiah Chepkwony formed the Joint Evaluation Team (hereinafter referred to as "the Evaluation Team") to conduct a Terminal Evaluation of the Smallholder Horticulture Empowerment Project (SHEP) from 29th June to 8th July, 2009.

The Evaluation Team evaluated performance and achievements of the Project through field visits, interviews and had a series of discussions with Project personnel and other relevant parties on the successful implementation of the Japanese Technical Cooperation for the Project.

The Joint Terminal Evaluation Report on SHEP was reported by the Evaluation Team, and agreed upon, in the Project Steering Committee.

Nairobi, July 9th, 2009.

Mr. Yoshiyuki Takahashi,
Chief Representative,
Japan International Cooperation Agency,
Kenya Office.
Japan

Romano Kiome, (PhD),CBS
Permanent Secretary
Ministry of Agriculture,
The Republic of Kenya

TERMINAL EVALUATION REPORT ON SMALLHOLDER HORTICULTURE EMPOWERMENT PROJECT (SHEP)

JICA Technical Cooperation

Nairobi, 9th July 2009

GOK - JICA Joint Evaluation Team

Ministry of Agriculture (MoA), the Government of the Republic of Kenya
Horticultural Crops Development Authority (HCDA)
Japan International Cooperation Agency (JICA)

Currency Equivalents

As of July 2009

1 US$ = 77 Kenya Shillings (Ksh)
100 JPY = 82 Ksh.

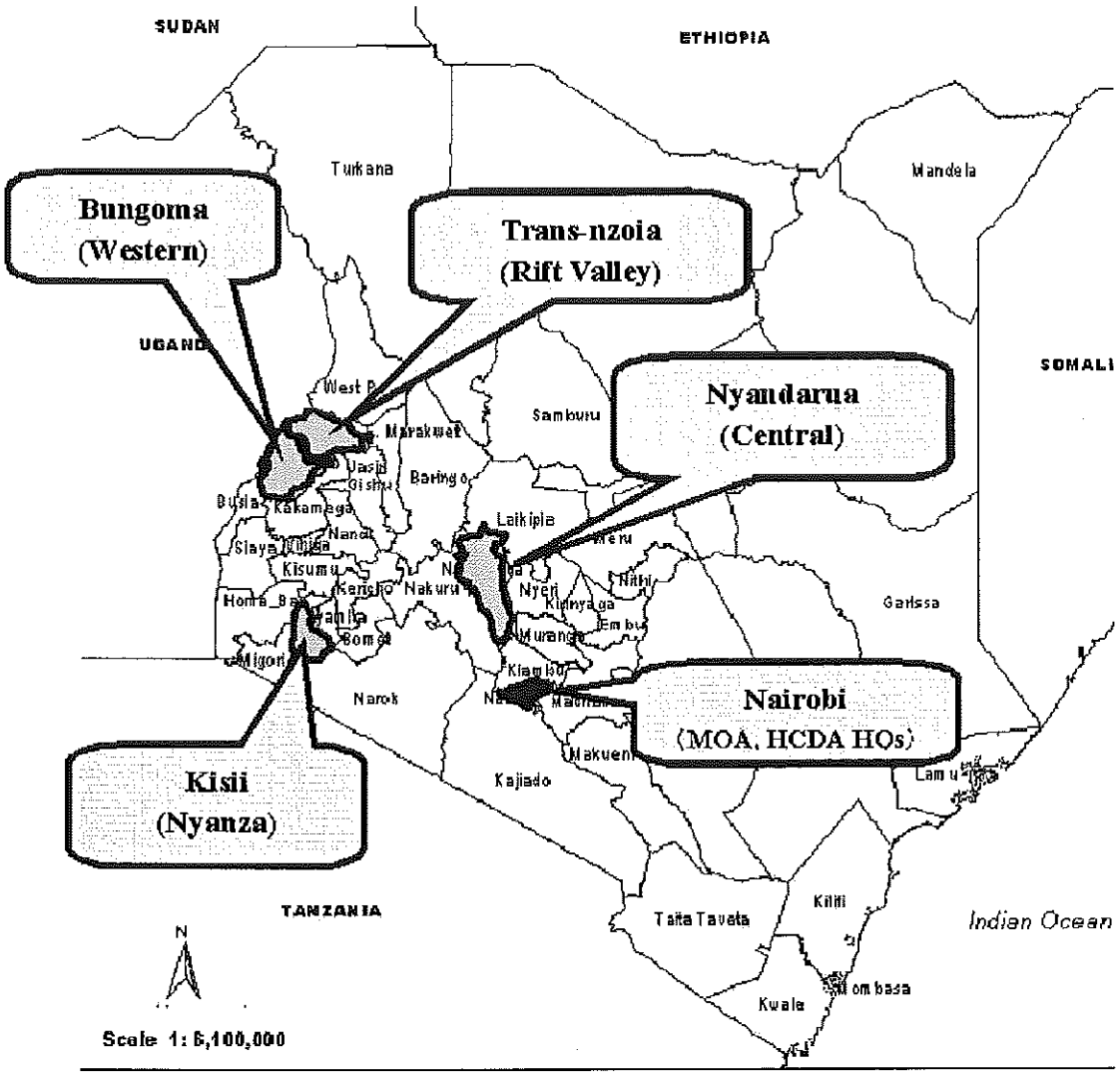
Unless Specifically Noted

In accordance with Record of Discussions on the Smallholder Horticulture Empowerment Project (SHEP), we conducted a Joint Terminal Evaluation whose members are appointed by the Government of Republic of Kenya and JICA. Members of Joint Evaluation Team designed and undertake the evaluation with close collaboration among members. The members had a series of discussion on the designing, findings, and reporting everyday in the study period. This report, a result of our devoted work, contains findings, evaluation, recommendations and lesson learnt.

9th July 2009

Mr. Kyosuke Kawazumi
Leader
Japanese Terminal Evaluation Team
Senior Representative
Japan International Cooperation Agency Kenya Office

Mr. Nehemiah Chepkwony
Leader
Kenyan Terminal Evaluation Team
Deputy Director of Agriculture
Horticulture Division
Ministry of Agriculture
The Republic of Kenya



Location Map

TERMINAL EVALUATION REPORT ON SMALLHOLDER HORTICULTURE EMPOWERMENT PROJECT (SHEP)

Summary

The terminal evaluation study was undertaken by the Join Evaluation Team consisting of members appointed by the Ministry of Agriculture (MoA), the Horticulture Crops Development Authority (HCDA) and Japan International Cooperation Agency (JICA) during the period from the beginning of June 2009 to 9th July 2009. Findings, evaluation, recommendations and lesson learn are as follows:

1. The Project

The Smallholder Horticulture Empowerment Project (SHEP) started in November 2006 for three-year cooperation period under the technical cooperation program between the Government of the Republic of Kenya (GOK) and JICA. The project aims at the empowerment of the smallholder horticulture farmer groups to access the markets. It has been implemented by the SHEP Project Team consisting of the members assigned by MoA, HCDA, and JICA with close collaboration among them. The project outline is described as follows:

(1) Project Name

Smallholder Horticulture Empowerment Project (SHEP)

(2) Term of Cooperation

Three (3) years: from 14th November 2006 to 13th November 2009

(3) Implementing Organization

MoA and HCDA with cooperation by JICA

(4) Target Area

1) Bungoma District, Western Province; currently divided into four as Bungoma East, West, North, South
2) Trans-Nzoia District, Rift Valley Province; currently divided into three: Trans-Nzoia East, West and Kwanza
3) Kisii District, Nyanza Province; currently divided into three: Kisii Central, South and Masaba
4) Nyandarua District, Central Province; currently divided into two: Nyandarua North and South

(5) Target Group

1) Direct Beneficiary: Smallholder horticulture farmer groups and extension staff of MoA and HCDA in the target area.

- Direct supported farmer groups: 10 groups in each district: 42 groups in total (around 1,000 farmers).
- Indirect supported farmer groups: 20 groups in each district: 80 groups in total (around 1,600 farmers).

2) Indirect Beneficiary: Smallholder horticulture farmer groups

(6) Overall Goal

Improved livelihoods of smallholder horticulture farmers in the target districts.

(7) Project Purpose

Developed capacity of the smallholder horticulture farmer groups supported by the project.

(8) Outputs of The Project:

Output 1: Target groups (smallholder horticulture farmer groups) gain bargaining power in marketing their produce.

Output 2: Target groups increase the production of better quality crops.

Output 3: Target groups develop capacity to improve rural infrastructure for production and transportation.

(9) Activities of The Project

The project is the technical assistance i) to empower smallholder horticulture farmer groups, ii) to develop capacities of extension workers who provide technical support to farmer groups, and iii) to develop capacities of SHEP Kenyan team members as counterpart personnel who provide technical support to extension workers. The Project support includes the aspects of marketing, production and rural infrastructure. The project implementation process is conceptualized as follow:

Stage I: setting-up, detail designing and sensitization:

Sensitization, detail designing and Baseline survey were done.

Stage II: Direct model farmer group approach:

SHEP Team consisting of Japanese experts and Kenyan counterpart personnel, along with extension workers, provided technical support to the target farmer groups to empower them.

Stage III: Indirect model farmer group approach

SHEP Team, mainly Kenyan team members, provided trainings to extension workers. Trained extension workers provided trainings and facilitations to farmer group by their own initiatives.

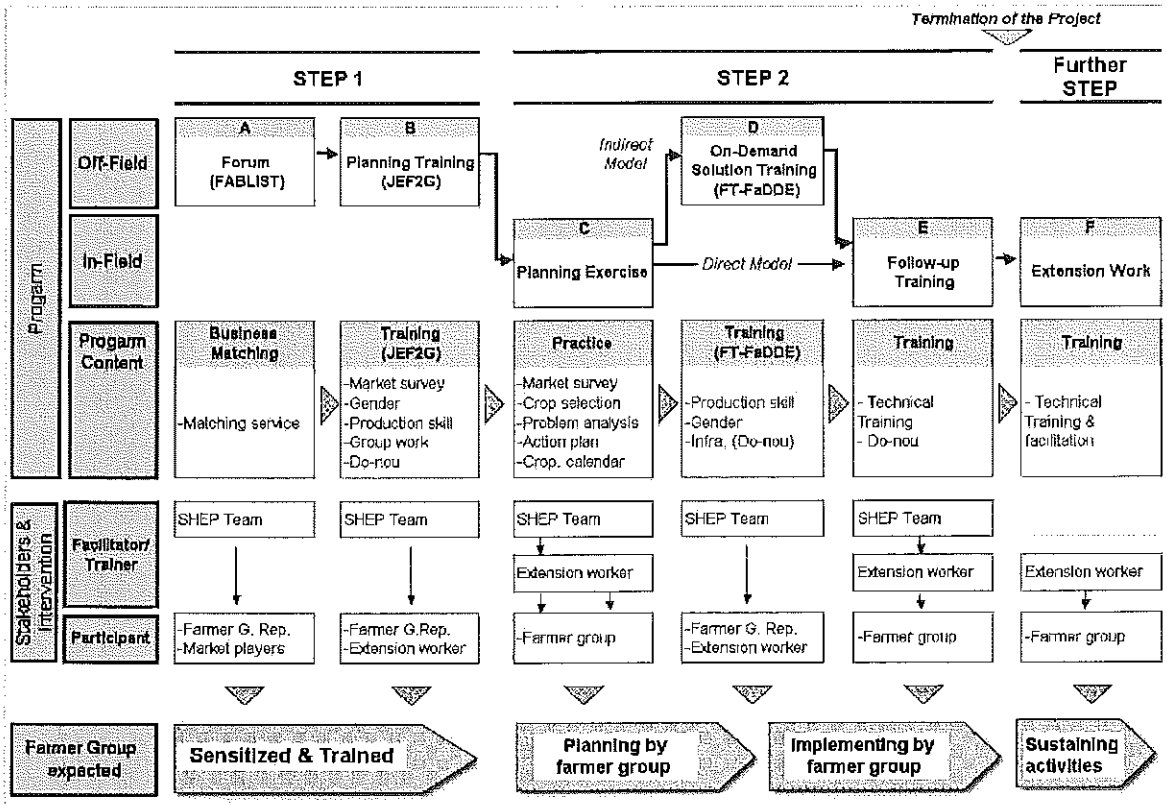
Indirect model approach was developed based on the experience of direct model approach. Basic concept of both approaches is as follows:

Both approaches have two steps: ***STEP 1***: off-field training, and ***STEP 2***: in-field practice and training. In the first step, farmer groups are provided necessary knowledge and skills and sensitized. In the second step, farmer groups develop action plans and implement them by themselves. Extension workers and SHEP Team facilitate them to do so and provide trainings as demanded. Through the *learning-by-doing* process, the capacities of the farmer groups are strengthened.

The project has a further step where farmer groups sustain their activities by themselves after the termination of the project. This concept is as shown in the following figure.

Stage IV: Wrapping-up:

Follow-up trainings, farmers exchange visits and development of training manuals are also to be done.



(10) Inputs

1) Inputs by Kenyan side

- Provision of building and facilities necessary for the implementation of the project
- Assignment of qualified and experienced counterpart personnel for each field of experts
- Allocation of counterpart budget necessary for the implementation of the project

2) Inputs by Japanese side

- Three Japanese long-term experts and short-term experts
- Counterpart personnel training in Japan arranged during the cooperation period.
- Provision of machinery and equipment

2. Project Performance

2.1 Process assessment

The SHEP Team carefully designed and modified the detail of the project during the implementation. Especially, the Team revised performance indicators measurable for getting logical sequence right, for better monitoring and management of the project as well as for giving motivation to stakeholders. Internal information management and easy accessibility of the information from outside are further challenges.

2.2 Achievement assessment

(1) Output 1

Target groups gain bargaining power in marketing their product.

Indicators: 100% of the direct model farmer groups and 60% of the indirect model farmer groups improve by at least of Group Empowerment Indicators (GEI).

86% of the direct farmer groups have improved by at least one level of GEI. Many of the indirect farmer groups have improved at least one level of GEI. There is a positive indication that Output 1 will be achieved by the end of the project period.

(2) Output 2

Target groups increase the production of better quality crops.

Indicators: Members of the farmer groups increase net-produce per acre increase by 10-50% for the direct model groups and 5-30 % for the indirect model groups.

In all the four districts where the project was implemented, on average there was an increased net production per unit of land (acre). For the direct groups this increase ranged from 0.25% in Nyandarua to 311.5% in Kisii district. For the indirect groups' category the increased range was beween was 9.5% for Bungoma to a high of 169% in Kisii. The targets of Output 2 have been achieved expect for Nyandarua district. The increase of produce is expected by the end of project after harvesting in July to August.

(3) Output 3

Target groups develop capacity to improve rural infrastructure for production and transportation.

Indicators: 80% of the direct model farmer groups in problem with rural infrastructure and 60% of the direct model farmer groups

The targets of Output 3 have been achieved. 80.5% of direct farmer groups and 77.8% of indirect farmer group implemented the technology for the infrastructure improvement.

(4) Project Purpose

Developed capacity of the smallholder horticulture farmer groups supported by the project.

Indicator: The net-income benefit for individual member farmer increase by 14.7% - 20.2%.

The Project Purpose is achieved except for Nyandarua district. Individual farmers net-income increased 84.1% (as compared with the target 20.2%) in Bungoma, 90.5% (18% for target) in Kisii, -38.5% (14.7% for target) in Nyandarua and 68% (16.2% fro target) in Trans-Nzoia districts. Income of Nyandarua is expected to increase by the end of the project. It has be noted that in Nyandarua, the nature of their produce sales means that they are more prone to external fators such as global economic crisis. Further analysis shall be made on the contributing factors to income across the districts.

Implications

According to the questionnaire survey conducted by the Evaluation Team, "market survey", "cropping calendar" and "gender awareness" are the major the skill and knowledge helped the increase of production and income. This result, combined with the results of field survey, implies that a market-first SHEP intervention changed farmer's behavior from "grow and sell" to "grow to sell". Farmer came to have an idea of ***"farm household as a farm business unit"*** and ***"farming as farm business"***. Cropping calendar enabled farmers to gain a ***"farm business planning capacity"***. Gender awareness changed the relationship between men and women in the household from ***"manager and labor"*** to ***"farm business management partner"***, which enabled the efficient utilization of labor among household.

Benefit analysis at household level

The household income of the target groups grew 23 % on average, 30% for direct group, and 18% for indirect group for the period from April 2007 to May 2009. Annual growth rates of the household income are far beyond the economic performance of the agricultural sector of the nation as shown in the table below.

Item		Annual growth rate (%)
Annual growth rate (%) of household income of the target groups: April 2007 – May 2009	Average	11.0%
	Direct model	14.2%
	Indirect model	8.7%
Annual growth rate at the nation (%) 2008	GDP	1.7%
	Agriculture	-5.1%
	Crop and horticulture	- 7.6%

Source: SHEP Team, Central Bank of Kenya

The household level cost-benefit ratio is 425% on average, 290% for direct group and 584% for the indirect group, as shown the table below. .

	Average	Direct model group	Indirect model group
Operational cost of training/farmer (Ksh)	5,047	8,269	3,355
Nominal income increased/farmer (Ksh)	21,424	23,960	19,601
Cost-benefit ratio per farmer (%)	425%	290%	584%

Source: SHEP Team

These results imply that SHEP worked to increase income quite efficient with external investment. A further investment in these programs shall be made.

(5) Overall Goal

Improved livelihoods of the smallholder horticulture farmers

Indicator: Reduced poverty rate in the target districts.

Poverty rates of the target districts reduced in Kisii and Trans-Nzoia and increased in Nyandarua and Bungoma. The project has positive impacts but limited to the local. The number of target group members is only 0.5% of the total household of the target districts. A continuous and scaling-up action will be required to achieve Overall Goal.

3. Evaluation

3.1 Relevance:

The Team concludes that relevance of the project is very high for the following reasons:

1) Market-oriented approach of the project is highly consistent with the commercially -oriented agricultural development policy in Kenya.

2) Market-oriented agriculture development of smallholder farmers is the one of the important area in the latest JICA's Country Project Implementation Plan.

3.2 Effectiveness

The Team concludes that the effectiveness of this project is very high for the following reasons:

1) The project purpose has been achieved except for Nyandarua district. The net-income is expected to grow after the harvesting season in July – August 2009.

2) Indicators of Outputs and Project purpose were carefully designed to link causal relationship between Outputs and Project Purpose.

3.3 Efficiency

The Team concludes that the project produced Outputs and achieved the Project Purpose quite efficiently, for the following reasons:

1) Annual growth rate of the income of target farmers are 11% on average, 14.2% for the direct model farmers and 8.7% for the indirect model farmers for the period from April 2007 to May 2009. These annual growth rates are far beyond that of the overall performance of the country. In 2008, the growth rate of the agriculture sector is - 5.1 %, and that of the crop and horticulture subsector is -7.1%.

2) A simple calculation of cost-benefit ratio gives 425% on average, 290 % for the direct group farmers, and 584% for the indirect group farmers. Project cost as external investment required to support the target farmers is quite small. 5,047 Ksh of external investment to a farmer generated additional income to the farmer at 21,424 Ksh on average, 8,269 Ksh of investments generated 23,709Ksh for the direct model farmer, and 3,355 Ksh of investment generated 19,601 Ksh for the indirect model farmer.

3.4 Impact

The Team concludes that the impact of the project is positive for the following reasons:

1) The income of the target group increased significantly, and spill over effects of the project were widely observed. Other positive impacts were also observed such as job creation for the youth, growing school fee payment, increased frequency of church attendence and better relationship among family members.

2) The target group accounts for only 0.5% of the households of the target districts. These impacts are limited to be local. However, there is a significant income increase effect on the target farmers as well as spillover effects on the surrounding farmers. Continuous effort can maintain these positive impacts and scaling-up efforts can expand the impact to the wider area.

3.5 Sustainability

The Team concludes that the sustainability of the project is high, for the following reasons:

1) Direct model approach developed the capacities of counterpart personnel.

2) Indirect model approach developed the capacities of extension workers as well as contributed to strengthen the supporting system to farmers.

3) Ministry of Agriculture has established a new unit to scale up the project activities in order to expand the outcomes of the project, cognizant of the successful performance of the project.

3.6 Conclusion

The Team concludes that the project is highly relevant, effective and efficient, as mentioned above. The team also concludes that the project has a positive impact and sustainability. For sustaining the positive effects and impacts and expanding into the wider areas, continuous follow-up and scaling-up efforts are recommended.

(1) Contributing factors

1) The project framework was carefully designed including revision of indicators. Measurable indicators were set to link logical sequences between outputs and the project purpose. In addition, those indicators itself became the targets to motivate stakeholder such as farmer group, extension workers and counterpart personnel to achieve.

2) Carefully designed sequence of the programs combining market awareness building with gender awareness raising changed the minds and behaviors of farmer to consider *farming as a business*.

(2) Inhibiting factors

1) Post-election turmoil brought about the suspension of the project activities for three months from January to Mareh 2008.

2) Global economic crisis affected the income of Nyandarua districts where many of farmers are involved in growing the export crops.

4. Recommendations and Lesson Learnt

4.1 Recommendations

The Team recommends to SHEP Team:

1) To make a further analysis on factors contributing to the outcome based on the valuable raw data obtained, which should be utilized for developing horticulture policy and program, institutional framework and Japanese cooperation policy.

2) To strengthen internal information management for its further utilization and easy accessibility of the information on the project activities and outcome for public relations, information sharing among stakeholders and development partners.

3) To strengthen the implementation system to support extension workers and farmer groups, in terms of management, reporting and motivation development within the framework of the current extension service system by the termination of the project.

The Team recommends to the Government of Kenya (GOK):

4) Timely budgetary allocation to the project.

The Team recommends to GOK and JICA that:

5) The follow-up activities be made to digest knowledge and experiences to be shared among MOA and development partners applicable to other projects and programs.

4.2 Lessons Learnt

The Team draws lessons replicable to other programs and projects as follows:

1) Well-designed monitoring system brought about project effects.

2) Performance indicators boosted stakeholder motivation.

3) Market-first approach induced farmer minds and behavior to be more into market-oriented

4) Higher gender awareness made efficient utilization of labor in the farmer households.

Terminal Evaluation Report on

Smallholder Horticulture Empowerment Project

Table of Contents

Figure and Table

Abbreviations

FABLIST FORUM:	Farm Business Linkage Stakeholder Forum
FEW:	Frontline Extension Worker
FT-FaDDE:	Facilitators' Training for Farmers Demand Driven Extension
HCDA:	Horticulture Crops Development Authority
JEF2G:	Joint Extension Staff and Farmers Dual Gender Training
JICA:	Japan International Cooperation Agency
MoA:	Ministry of Agriculture, The Republic of Kenya
SHEP:	Smallholder Horticulture Empowerment Project

Introduction

The Smallholder Horticulture Empowerment Project (SHEP) started in November 2006 for three-year cooperation period under the technical cooperation program between the Government of the Republic of Kenya (GOK) and Japan International Cooperation Agency (JICA). The project aims at developing capacity of the smallholder horticulture farmer groups. It has been implemented by the SHEP Project Team consisting of the members appointed by Ministry of Agriculture (MoA), the Horticulture Crops Development Authority (HCDA) and Japan International Cooperation Agency (JICA) with close collaboration among them.

This report compiles the results of the terminal evaluation. The terminal evaluation study was undertaken by the Join Evaluation Team consisting of members from MoA, HCDA and JICA, as stipulated in the Record of Discussions signed on 8th of August 2006. The study was conducted during the period from the beginning of June 2009 to 9th July 2009. The members of the Terminal Evaluation Team are as follows:

Kenyan Side

Mr. Nehemiah Chepkwony,	Team Leader,	Deputy Director, Horticultural Division, Ministry of Agriculture
Ms. Margaret Masaku,	Member,	Horticulture Division, Ministry of Agriculture
Mr. Moses Mwangi Kamau,	Member,	Monitoring and Evaluation Division, Ministry of Agriculture
Ms. Grace G. Kyallo,	Member,	General Manager of Crop Production, Horticulture Crops Development Authority

Japanese Side

Mr. Kyosuke Kawazumi,	Team Leader,	Senior Representative, JICA Kenya Office
Ms. Etsuko Masuko,	Member,	Representative of Agriculture Sector, JICA Kenya Office
Mr. Sebastian Odanga,	Member,	Agriculture & Rural Development Consultant, JICA Kenya Office
Mr. Hiroshi Yoshimura,	Member,	Senior Researcher, International Development Center of Japan (IDCJ)

1. Objectives and Method of Evaluation

1.1 Objectives of the Terminal Evaluation

The objectives of the terminal evaluation are:

1) To examine the performance of the project from the view points of i) implementation process, ii) results achieved, and iii) causal relationships;
2) To assess the performance of the project in terms of the five evaluation criteria, i.e., i) relevance, ii) effectiveness, iii) efficiency, iv) impact and v) sustainability; and
3) To make recommendations regarding the measures to be taken by both SHEP team as well as Kenyan and Japanese sides toward the end of the project and to draw lessons learnt applicable to the other projects.

1.2 Method of the Evaluation

(1) Evaluation Methods and Design

The method of evaluation is based on the *"JICA Guideline for Project Evaluation, September 2004"*. JICA employs the Logical framework (Project Cycle Management Method: PCM) as a project management tool. The logical sequence of the project design is clarified in Project Design Matrix (PDM). The evaluation is based on the PCM method. The steps of the evaluation are as follow:

1) The first step is to understand the projeet contents and its structure by ***PDM version 2 (PDM2)*** agreed by the Project Steering Committee on 4th of September 2009. PDM2 is shown in ANNEX I.

2) The second step is to design the evaluation by setting ***Evaluation Questions***. Evaluation Questions summarize *"what we want to know through evaluation survey"*. Then, the team examined information to be collected, information sources, collection methods and judgment criteria to answer the Evaluation Questions. The Evaluation Questions and necessary information are summarized in an ***Evaluation Grid***. The Evaluation Grid that shows the framework of the evaluation design guides the evaluation study such as a "map and compass in evaluation study" and is also utilized as a tool of evaluation design as well as a communication tool among evaluation team. Evaluation Grid is shown in ANNEX 2.

3) Thirdly, based on the framework and evaluation design shown in the Evaluation Grid, the evaluation team collected necessary information, analyzed the collected data, and made a judgment from viewpoints of evaluation criteria.

4) Finally, the evaluation team compiled the evaluation report describing the results of the evaluation study.

(2) Information and Data Collection Methods

The team collected information through the existing literature review, questionnaire survey, interview survey and focus group discussion. The survey is conducted in the following steps:

1) The Japanese side of the evaluation team (JICA evaluation team) undertook a pre-survey. JICA evaluation team, first, made a questionnaire survey to extension workers and farmer groups as beneficiaries of the project. Based on these results, JICA evaluation team had a series of focus group interview and individual interviews with extension workers and farmer groups in Bungoma and Nyandarua districts.

2) The Joint Evaluation Team undertook a field survey in Kisii and Trans-nzoia districts from June 30 to July 2, 2009. The team had a series of group discussions and interviews with SHEP Project Team, District Agricultural Officers (DAO), extension workers and farmer groups. Interviews were made by semi-structured interview in which main questions were prepared to guide interview and other questions arisen were asked during the interview process.

2. Outline of the Project

2.1 Background[1]

Agriculture sector in Kenya contributes to 27% of GDP, employs over 80% of the labor, and generates over 65% of foreign exchange earning (2002). However, the performance of the agriculture sector has been declining from 6% of growth in the 1970s to 1.3% in the 1990s.

Despite the downward trend of the agriculture sector, horticulture is the fastest growing sub-sector with an average growth rate of between 15 to 20% per annum. Smallholders play major roles in the horticulture sub-sector. They produce 60% of total produce and account for 80-100% in number depending on the area. 96% of the horticulture produce is sold and consumed in the domestic market. The involvement of farmers selling to the profitable export market is limited to less than 2%. There is a need for smallholder to empower their access to various markets, especially the domestic markets. The empowerment of smallholder horticulture farmers is a key to redress the existing disparity as well as to reduce rural poverty.

In response to the request by the Government of Kenya (GOK), JICA conducted the Ex-ante Evaluation Study in the period between July and September of 2005. The Ex-ante Evaluation team recommended the Smallholder Horticulture Empowerment Project (SHEP) to address the issues identified, such as: i) weak bargaining power, ii) considerable pre/post-harvest loss of the produce, and iii) limited or declining productivity.

Based on the Ex-ante Evaluation study, GOK and JICA agreed on the commencement of SHEP by signing the Record of Discussions on 8th August 2006 as a result of a series of discussions.

2.2 Project Description as Initially Designed

The project was designed as follows (please see the PDM version 0 in the appendix):

(1) Project Name: Smallholder Horticulture Empowerment Project (SHEP)
(2) Term Of Cooperation: Three (3) years (October 2006 – September 2009)
(3) Implementing Organization: MoA and HCDA with cooperation by JICA
(4) Target Area:

Four (4) districts were selected as target area. These target districts were selected on the three major criteria: i) area with high potential in horticulture production, ii) local horticulture production by smallholders, and iii) area with a relatively high poverty rate. These districts located in the medium-high potential areas for the production where 80-100% of farm households are involved in horticulture. The agricultural production been predominantly by smallholders with average land size to horticulture is less than 1 acre (0.4ha). In addition, poverty rate of these districts are 45-62% of the population; most of them are smallholders.

1) Bungoma District, Western Province
(In 2008, divided into four: Bungoma East, West, North, South districts)

[1] This information is based on the Ex-ante Evaluation report by JICA in August 2006 (in Japanese only) and project document of SHEP by MoA, HCDA and JICA in June 2005.

2) Trans-Nzoia District, Rift Valley Province

(In 2008, divided into three: Trans-Nzoia East, West and Kwanza districts)

3) Kisii District, Nyanza Province

(In 2008, divided into three: Kisii Central, South and Masaba districts)

4) Nyandarua District, Central Province

(In 2008, divided into two: Nyandarua North and South districts)

(5) Target Group:

1) Direct Beneficiary: Smallholder horticulture farmer groups (Approx. 10% of the total 262,650 farmers) and extension staff of MoA and HCDA in the target area.

2) Indirect Beneficiary: Smallholder horticulture farmer groups

(6) Overall Goal:

Improved livelihoods of smallholder horticulture farmers in the target districts.

Indicator: Reduced poverty rate in the target districts (% to be determined in 6 months after launching).

(7) Project Purpose:

Developed capacity of the smallholder horticulture farmer groups supported by the project.

Indicator: Increased net-benefit of the smallholder horticulture groups supported by the project (% to be determined in 6 months after launching).

(8) Outputs Of The Project:

OUTPUT 1. Target groups (smallholder horticulture farmer groups) gain bargaining power in marketing their produce.

Indicator 1-1: Average growth rate of net income per acre of the farmer groups supported by the extension staff who were trained by the Project.

Indicator 1-2: Average growth rate of net income per acre of the farmer groups supported directly by the Project.

OUTPUT 2. Target groups increase the production of better quality crops.

Indicator 2-1: Average growth rate of net produce (i.e. deducting the rejected amount) of the farmer groups supported by the extension staff who were trained by the Project.

Indicator 2-2: Average growth rate of net produce (i.e. deducting the rejected amount) of the farmer groups supported directly by the Project.

OUTPUT 3. Target groups develop capacity to improve rural infrastructure for production and transportation.

Indicator 3-1: Number of farmer groups who put the introduced technology into the practice of rural infrastructure development.

(9) Activities Of The Project (please see the PDM version 0 in appendix)

Activities for Output 1: 1) Baseline survey and analysis, 2) Manual and other material for training, 3) Training, 4) Monitoring and follow-up support

Activities for Output 2: 1) Baseline survey and analysis, 2) Manual and other material for training, 3) Training, 4) Monitoring and follow-up support

Activities for Output 3: 1) Planning, 2) Sensitization, 3) Support for trials, 4) Feedback of result

(10) Inputs

Inputs from Kenyan Side

Provision of building and facilities necessary for the implementation of the Project
Assignment of qualified and experienced counterpart personnel for each field of experts
Allocation of counterpart budget necessary for the implementation of the project

Inputs from Japanese Side

- 3 Japanese long-term experts
  Team Leader/ Farmer Group Formation and Management (24 man months); Horticulture Production and Extension (24 man months); and Project Coordinator/ Training Administration (36 man months)
- Japanese short-term experts
  Appropriate Technology on Rural Infrastructure
  Other short-term experts may be dispatched when necessity arises.
- Local consultant in specified areas: Appropriate Technology on Rural Infrastructure
- Counterpart Training in Japan:
  Counterpart personnel training in Japan and the third countries shall be arranged during the cooperation period.
- Provision of Machinery and Equipment
  Three (3) utility vehicles; one (1) photocopier; one (1) set of audio-visual devices (necessary to produce training materials); office equipment. Other machinery, equipment and materials necessary for the implementation of the Project would be provided within the budgetary allocation.

(11) Project Steering Committee

Composition

- Permanent Secretary, Ministry of Agriculture;
- Managing Director, Horticulture Development Authority;
- JICA Resident Representative (currently, Chief Representative);
- Director, Horticultural Division, Ministry of Agriculture;
- Director, Technical and Advisory Services Department, Horticultural Crops Development Authority;
- Project Advisor JICA;
- Cooperative members.

Functions

- Policy direction and guidance;
- Approval of project work plans and budgets;
- Provision of project personnel and funds on time;
- Monitor project implementation;
- Hold PSC meetings twice per year.

2.3 Revision of Project Design

The following revisions of the project design were made.

October 22nd 2007 PDM revised to PDM version 1 (Oct. 2007)

Based on the PDM version 0, SHEP Project Team revised indicators for Project Purpose and Outputs in August 2007. On October 22nd, 2007, the Project Steering Committee approved the revision of PDM into PDM version 1 (as of Oct. 2007).

September 4th 2008 PDM version 1 revised to PDM version 2 (Sep. 2008)

Based on the PDM version 1, SHEP Project Team revised indicators for Project Purpose and Outputs in August 2008. Project Steering Committee approved the revision of PDM version 1 into PDM version 2 (as of Sept. 2008). Mid-Term Evaluation was also conducted in September 2008.

3. Project Performance

3.1 Implementation

3.1.1 Project Implementation Records

The project started on 14th of November 2006 when three long-term Japanese experts were assigned to the Project. Six counterpart personnel were also assigned on 15th of November 2006. The Plan of Operation was prepared in November 2006 (Appendix). SHEP Team kept updating the Plan of Operation to guide their activities.

Project activities have been implemented as planned despite of the delay for three month due to the post-election turmoil from January to March 2008.

The project implementation process has been a process of trial, error and learning. For ease of our understanding, the Evaluation Team divided the implementation process into four (4) stages, as a matter of convenience, namely:

Stage I: Setting-up and Detail Designing of the Project (from Nov. 2006 to Oct. 2007),
Stage II: Direct Model Group Training (from Oct. 2007 to the end),
Stage III: Indirect Model Group Training (from Oct. 2008 to the end), and
Stage IV: Wrapping-up the Project.

Those stages are overlapping in time each other as shown the figure below.

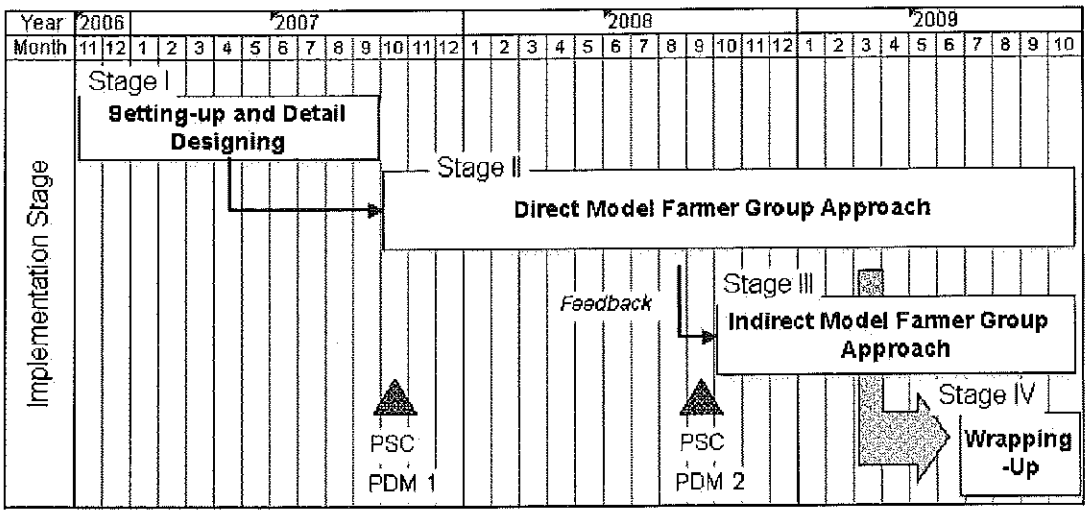


Figure 1: Implementation Stages

Target Group: Direct Model Farmer Group & Indirect Model Farmer Group

Target groups as beneficiaries of the project are model farmer groups supported by SHEP. There are two types of target group: ***direct model farmer group*** and ***indirect model farmer group***. To the direct model farmer group, SHEP Team consisting of Japanese experts and Kenyan counterpart personnel directly supports the groups along with extension workers. Ten (10) direct model farmer groups were selected from each district. To the indirect model farmer group, SHEP Team gives training to

extension workers; trained extension worker to train the farmer groups. Twenty (20) model farmer groups are selected from each district. There are three steps of technical transfer: Japanese experts to counterpart personnel; counterpart personnel to extension workers; and extension worker to farmer group. This mechanism is shown in the figure below.

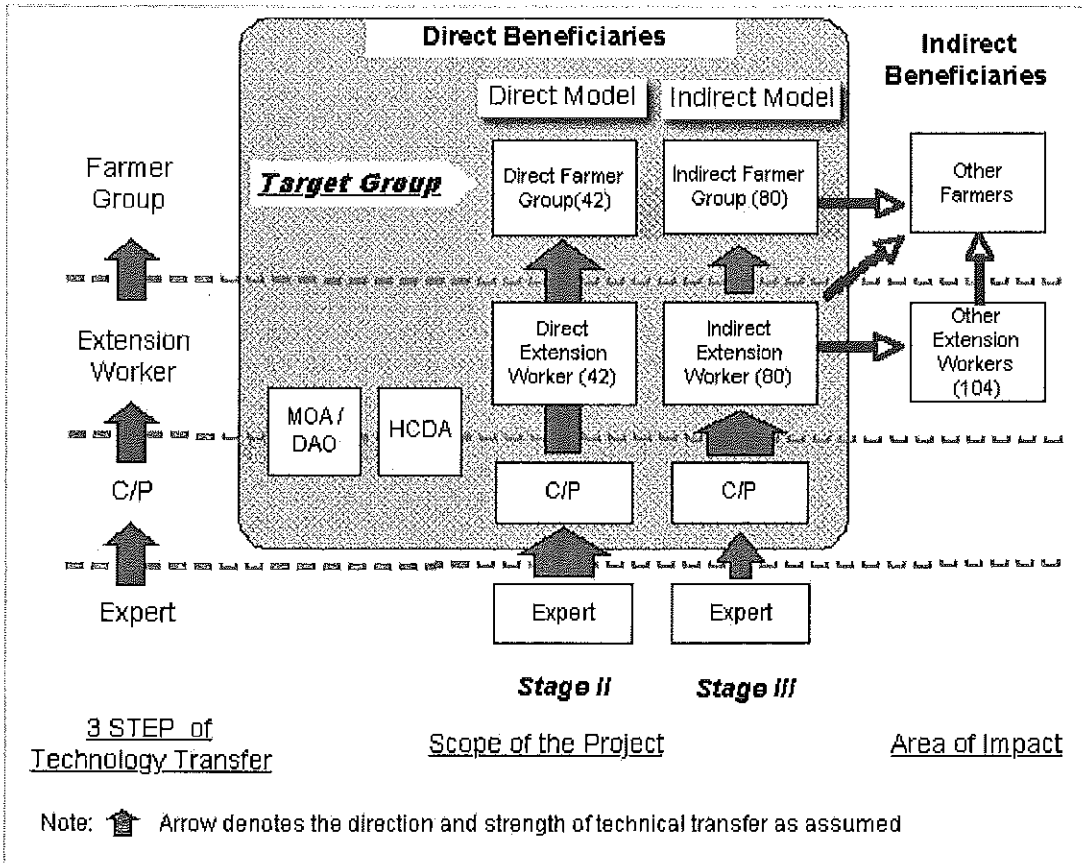


Figure 2: Target Group: Direct Farmer Group and Indirect Farmer Group

The implementation process is described stage by stage below.

(1) STAGE I: Setting-Up and Detail Designing the Project

The first year was spent for setting-up and detail designing of the project as follows:

- Setting-up implementation structure
- Mobilizing stakeholders into the project
- Detail-designing the project

1) Setting-up implementation structure

SHEP Team undertook preparatory works such as setting-up the project office and procurement of the equipment. The project office opened officially on 23rd of January 2007 in Eldret.

SHEP Team organized an implementation set-up of the project within the team and identified the roles and responsibilities of the SHEP Team members. SHEP Team tried to create a common

understanding of the project concept within the SHEP Team and among the stakeholders. SHEP organization is shown below.

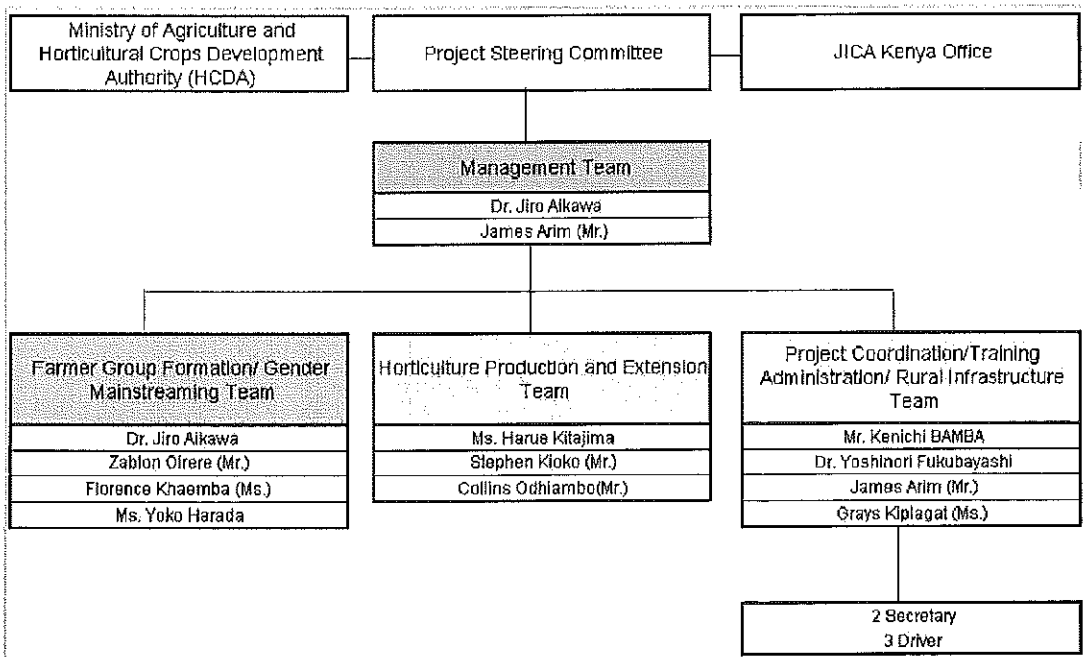


Figure 3: SHEP Organizational Structure

2) Sensitizing stakeholders about the project

After internal setting up, SHEP Team started to sensitize stakeholders about the project. These activities include:

- Project Sensitization Workshop on 1st of March 2007 at Eldret
- Project Launching Ceremony on 16th of March 2007 in Kitale.
- Do-nou demonstration

3) Detail-designing the project

For designing the project, the following activities were implemented.

- Revising a Plan of Operation
- Baseline survey
- Gender survey
- Selection of direct model farmer group

SHEP prepared a revised Plan of Operations. SHEP Team conducted a baseline survey to collect necessary information on the farmer groups for designing the project. The survey was to be conducted by frontline extension workers. SHEP conducted a pre-baseline survey to understand the training needs for the extension workers during the period between 7th and 10th of March 2007 in Kisii and Nyandarua districts. Based on the results, training for extension workers on the baseline survey was made. District level sensitization workshops were also held. Trained extension workers conducted the baseline survey. The baseline survey also served as training for extension workers and farmers. During the workshop and training, gender survey was also done. The sequence of these

workshops, trainings and surveys are shown in the table below.

Table 1: Records of Workshop and Baseline Survey Training and its Practice

District		Sensitization Workshop	Training for Baseline Survey	Baseline Survey Conducted
Kisii	Date & Participants	March 26, 2007 43 officers, 34 Ex workers	March 27-30, 2007 34 Ex workers	April 16- 20, 2007 34 groups; 850 farmers
Nyandarua	Date & Participants	April 5, 2007 62 officers, 35 Ex workers	April 2-4, 2007 35 Ex workers	April 16-20, 2007 35 groups; 1,050 farmers
Trans-Nzoia	Date & Participants	May 7, 2007 48 officers, 49 Ex workers	May 8-10, 2007 49 Ex workers	May 21-22, 2007 49 groups; 1,400 farmers
Bungoma	Date & Participants	May 14, 2007 51 officers, 40 Ex workers	May 15-17, 2007 40 Ex workers	June 11-15, 2007 40 groups; 1,200 farmers

Note: Ex workers: Extension workers

Direct model farmer groups were selected by district offices, based on the criteria proposed by the SHEP.

After the baseline survey, SHEP compiled data collected to develop a database. Database development took from June to August of 2007. During the database development, SHEP Kenyan team members received computer skill training.

Based on the information on the farmer groups, SHEP prepared revised indicators of PDM. SHEP Team developed Group Empowerment Index as a new indicator for OUTPUT 1. The revised PDM as PDM version 1 ***(PDM1)*** are explained and approved by the Project Steering Committee held on 22nd October 2007.

(2) STAGE II: *Direct Model Farmer Group* Approach

A program to support direct model farmer group includes the following sessions.

1) **Stakeholder forum:** 1 day
2) **JEF2G training** (Joint Extension Staff and Farmers Dual Gender Training): 1 week
3) **Farmer group exercise**: market survey and daily activity calendar development
4) **In-field trainings:**
    1. 1st in-field training: crop selection, problem analysis, action plan development and gender awareness
    2. 2nd in-field training: technical training
    3. 3rd in-field training: supplementary training
    4. 4th in-field training: follow-up training
5) **Do-nou in-field training**

Stakeholder forum provides a chance to match farm groups with farm businesses such as buyers. Farmer representatives , farm businesses, and officers participated in the forum. The forum was named, later on, FABLIST (Farm Business Linkage Stakeholder) forum. Two male and two female farmers along with their extension worker were invited from each group.

JEF2G training is a package of training consisting of market survey, gender awareness, group dynamics, basic knowledge and skill for horticulture production, and Do-nou training. One male and one female farmer along with their extension worker were invited from each group. These farmers are selected democratically in their groups. Their role and responsibilities are specified. They are expected to feed back their knowledge and skill learnt to the groups.

These programs were implemented as shown in the table below.

Table 2: Training Implemented for ***Direct*** Model Farmer Group

District		Stakeholder Forum	JEF2G
Kisii	Date & Participants	Sept. 25, 2007 40 farmers; 19 officers; 15 companies	Dec. 3-8, 2007 12 Ex workers 14 male, 10 female
Nyandarua	Date & Participants	Sept. 28, 2007 50 farmers; 20 officers; 16 companies	Nov. 5-10, 2007 11 Ex workers 14 male, 8 female
Trans-Nzoia	Date & Participants	Sept. 26, 2007 40 farmers; 25 officers; 14 companies	Nov. 11-24, 2007 12 Ex workers 13 male, 11 female
Bungoma	Date & Participants	Oct. 9, 2007 40 farmers; 20 officers, 35 companies	Oct. 22-27, 2007 10 Ex workers 13 male, 7 female

After their going back to the communities, farmers practiced the market survey with support of SHEP Team and extension workers. A series of in-field trainings were conducted. The case of *direct model farmer group* can give a picture how SHEP worked for the direct group, as shown in the Box 1.

BOX 1: Case of Direct Model Farmer Group
Mwendi-Kurima, Nyandarua South

Mwendi-Kurima group has 60 members with 39 men and 21 women located in Mutamayo village with 1,500 households. Their major income sources are 60% from dairy farm, 30% from horticulture, and 10 % from maize production. Major horticulture crops are garden pea (cash crop), snow pea (cash crop), potatoes (staple food), cabbage (foods/ cash), carrot (animal feeds), maize (staple food), plum, pear, and radish (animal feeds).

Mutamayo village is located in Tulaga Scheme established in 1964. Mwendi-Krima group was established in 2003 with 10 men and 3 women. They began contract farming with VegPro. As the number of member grows to 450 members the group was divided in to 2 groups. In 2006, the group joined SHEP with 30 members (8 women). In 2007, the group switched contract to Homegrown because VegPro reject 50% of products. Under the contract farming, VegPro provided education on chemical use, certified seed, and EurepGAP training. Homegrown provided seeds and training.

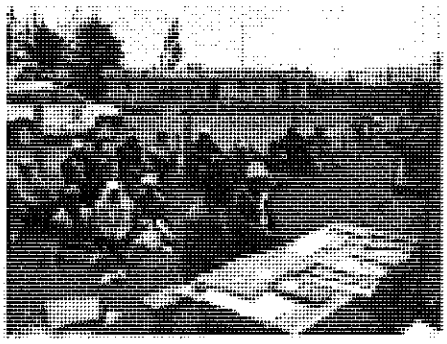


Photo 1: Good Record Keeping

SHEP Activities:

Nov. 2007 Stakeholder Forum
Nov. 2007 JEF2G training
May 2008 Market Survey (Engineer market, Donion gel market),
Crop Selection (***garden pea, snow pea***)
June 2008 Action Plan development

July 2008 Cropping calendar
March 2009 Do-nou technology, Record keeping, Water harvesting

SHEP benefit:

There are several positive impacts on the group. Among them, they enjoyed income increase by selling at better prices and selling more products. Garden pea and snow pea doubled in production. They introduced group selling to contractors. According to the sales, the contractor transfers the money to their group bank account. The followings show the sales increase.

- 7th week 2007: 3,620 Ksh as a group
- 19th wk 2007: 30, 027 Ksh
- 32nd wk 2007: 44,276 Ksh
- 47th wk 2007: 170,204 Ksh

However, garden and snow peas as export crops was influenced by global economic crisis. In 2008, the prices were fixed by the contract in January, however, the rejection rate of the products increased to 50% during the period between June and September. These might be because of the demand slump.

	2004	2005	2006	2007	2008	2009
Snow pea price	55 Ksh/kg	55	55	55	80	80
Garden pea price	37	37	37	37	40	40
Rejection			50%	30-40%	50% for June-Sept.	

Apart from their selected target crops, they apply their marketing and production know-how to other crops individually. They could produce larger volume and sell at higher prices. In the case of Irish potatoes, some farmers sold their products to a trader at 800 Ksh./bag (110kg) as compared to 350 Ksh./bag they used to sell to brokers as shown the table below.

Table 3: Crops Sold as Compared with Last Year: Mwendi-Kurima

Crop	Farmer	After SHEP				Before SHEP	
		Price	Quantity	Selling time	Place	Price	Time
Potato	A	800 Ksh/bag	5 bags (110kg)	April 09	At the market	350 Ksh/bag	Aug. 08
	B	700 Ksh/bag	8 bags	April 09		400 Ksh	June 08
Cabbage	C	10 Ksh/head	500 head (2.5 kg)	June 09		5 Ksh/head	Aug. 08
Kale	D	300 Ksh/bag	10 bags (80-90kg)	May 09		50 Ksh/bag	May 08

They explained the reasons of income increases. First, the market survey made them understand markets such as price peak season of the products. They also obtained contacts of traders. Farmers prepared farming targeting the peak season. Second, JEF2G training provided production skill according to the demand as well as gender awareness. Gender awareness made it possible for them to think and work together. Third, at harvesting time, farmers contacted traders acquainted. Trader also willingly came to the community to purchase the crops at higher prices, because they do not have to wander around village looking for the crops.

They also mentioned the useful tool and skill SHEP introduced, these are:

- Weeding tools;
- Cropping calendar applying to livestock calendar (Visitors learnt from them);
- Road repairing by Do-nou;
- Gender awareness had many impacts: made them working together for higher income increase; women can have bank account, and milking/ horticulture work shared between women to men.
- Good management of group reduced misunderstanding and strengthening money management.

Individual farmer case: Farmer A

Farmer A has 7 family members and 2 acre of land. He allocated 0.5 acre for snow and garden peas and 0.5 acre for Irish potatoes and cabbage. His production increased, as below, because of seed selection,

timely weeding, fertilizer selection, and disease control.

- Garden pea: 200 kg x 3 seasons = 600 kg (before only 100 kg)
- Snow pea: 300 kg x 3 seasons = 900 kg (before only 150 kg)
- Potatoes: 10 bags x 3 seasons (before only 4 bags)
- Cabbage: 300 heads x 3 seasons (before only 100 heads)

Other Social impact

Farmers mentioned other positive social impacts such as:

- Can spend more money for schooling
- Better understanding between wife and husband
- Going to church more
- Seven (7) young member (2 female) joined the group
- Buying food for baby
- Making family happy
- The group built community center, borrowing 200,000 Ksh. from a microfinance. The group collect 2Ksh for each kilogram of group sales. The group employed two (2) permanent staff working there. Employment for 2 young people was created.

Source: based on the field survey.

Based on the results and experience of direct model farmer group training, SHEP Team revised indicators of PDM. The revised PDM as PDM version 2 ***(PDM2)*** are explained and approved in the Project Steering Committee held on 4th September 2007.

At the same time, the Mid-Term Evaluation was conducted by GOK- JICA Joint Evaluation Team in September 2008. The Mid-Term Evaluation recommended:

- Enhanced communication and involvement of the district level officers, and
- Additional emphasis on mitigation of impacts of high input cost such as fertilizers.

(3) STAGE III: *Indirect Model Farmer Group* Approach

A program to support indirect model farmer group includes:

1) **Sensitization workshop**: 1 day
2) **FABLIST** (Stakeholder) forum: 1 day
3) **JEF2G training** (Joint Extension Staff and Farmers Dual Gender Training): 1 week
4) **Farmer group exercise**: market survey, crop selection, action plan development, and problem analysis
5) **FT-FaDDE** (Facilitator Training – Farmers Demand Driven Extension): 1 week
6) **In-field trainings** by extension workers
7) **Do-nou in-field training**
8) **Follow-up**

SHEP Team had learnt a lot from the results and experiences of program implemented for the direct model farmer groups. SHEP team developed a program for *indirect model farmer group* taking the lessons into account for the improvement of programs. After FABLIST and JEF2G training, farmers went back to their communities to practice market survey as well as crop selection, problem analysis and action plan development.

FT-FaDDE training is a package of training meeting the farmer's demand based on action plans. This training was developed based on their experience of the training of direct farmer group. The program includes production techniques of selected crops, gender training and Do-nou training.

These programs were implemented as shown in the table below.

Table 4: Training Implemented for ***Indirect*** Model Farmer Group

District	Sensitization Workshop	FABLIST Forum	JEF2G	FT-FaDDE
Kisii	Oct. 2008	Nov. 2008	Dec. 2008	Mar. 2009
Nyandarua	Oct. 2008	Nov. 2008	Nov. 2008	Feb. 2009
Trans-Nzoia	Oct. 2008	Nov. 2008	Dec. 2008	Feb. 2009
Bungoma	Oct. 2008	Nov. 2008	Dec. 2008	Feb. 2009

The case of *indirect model farmer group* can give a picture how SHEP worked for the Indirect group, as shown in the Box 2.

Box 2: Case of *Indirect Model Farmer Group*
Makereka Nyandarua North

Makereka Self Help Group was established in 2002. Currently, it has 15 members with 9 male and 6 female. The group is located in Makereka village with 1,000 households, Muruai sub-location, Kanyagia Location, Ndaragwa Division of Nyandarua North District. Their major economic activities are horticulture (60% of income, 1 acre/HH) and dairy farm (40% of income, 0.5 acre/HH). Major crops are: 1) Potatoes, 2) Cabbages, 3) Onion, 4) Carrot, 5) Maize, 6) Beans, and 7) Plum.

Photo 1: Survey at Makereka

SHEP activities

Oct. 2008	Sensitization Workshop
Nov. 2008	FABLIST Forum
Dec. 2008	JEF2G Training
Dec. 8, 2008	Market Survey
Jan. 2009	Crop Selection: ***Onion & Potato***
Jan. 2009	Action Plan Development
Feb. 2009	FT-FaDDE Training
Mar. 2009	Crop Calendar (In-field training)
Beg. Mar. 2009	Nursery Demonstration by Extension Worker (In-field training)
End. Mar. 2009	Weeding by Extension Worker (In-field training)
Mid April 2009	Pest and disease control (In-field training)
15th April 2009	Transplant onion (In-field training)
24th June 2009	Introducing efficient oven (In-field training)

SHEP Impacts:

According to the group members, market survey changed their mind from ***"grow and sell"*** to ***"grow to sell"***. They sold crops at higher prices by calling trader to sell. Some farmers sold cabbage 15 Ksh/head as compared to 7 Ksh/head they used to sell to brokers. Traders are also happy because they do not have to wander searching for the products. What they need is to pick up products. Potatoes which is their target crop will be sold in Oct. 2009 as a group.

Table 5: Crops Sold as Compared with Last Year: Makereka

Crop	Farmer	Price	Quantity	Time	Before: Price 2008
Cabbage	A	15 Ksh/head	2,500 heads (2-2.5 kg/hd)		7 Ksh/head
	B	10 Ksh/head	850 heads		
	C	20 Ksh/head	1,000 heads		
Onion	D	35 Ksh/kg	2,000 kg		15 Ksh/kg
	E	37 ksh/kg	800 kg		
	F	35 Ksh/kg	1,500 kg		
	G	37 Ksh/kg	1,000 kg		
Carrot	H	5,000 Ksh/bag	5 bags (100kg)	June 09	2,000 Ksh/bag
	I	3,000 Ksh/bag	8 bags (100kg)	June 09	
	J	3,000 Ksh/bag	3 bags (100kg)	May 09	
	K	4,500 Ksh/bag	3 bags (100kg)	June 09	
	L	3,000 Ksh/bag	5 bags (100kg)	May 09	

The group practices group purchasing of seed and fertilizer as shown in the table below.

Inputs	Individual	Group purchase
Onion seed	1,000 Ksh/500g	800 Ksh/500g
DAP	3,000 Ksh/50kg	2,700 Ksh/50kg

Other benefit or impacts on tho groups are as follows.

- Gender made them work together.
- Introducing organic fertilizer reduced DAP application. DAP was applied 80 kg/acre before, while 40 kg/acre now. 50% of DAP was replaced by organic fertilizer.
- Many visitors came to the communities. They are sometimes shown on TV.
- Many visitors outside members coming to learn.
- Creating farm job for youth.

Source: field survey.

(4) STAGE IV: Wrapping-Up

Several activities are left to be done before the termination of the project. These activities include:

- Follow-up training
- Farmers exchange visit
- Development of training manual for extension workers

3.1.2 Analysis of Implementation Process

(1) Project Designing

The overall goal, project purpose, and outputs have not been changed. However, during the implementation process, indicators of the project purpose outputs have been revised twice, as shown in the table below.

Table 6: Indicators of PDM Revised

	PDM version 0 (as of May 2006)	PDM version 1 (as of Oct. 2007)	PDM version 2 (as of Sept. 2008)
Project Purpose *Developed capacity of the smallholder horticulture farmer groups supported by the project.*	Increased net-benefit of the smallholder horticulture groups supported by the project (% to be determined in 6 months after launching).	By the end of the project net-income benefit of the members (men and women) of the smallholder horticulture gronps supported by the project increased by ***12.5 – 28.3 %***	By the end of the project net-income benefit of individual members (men and women) of the smallholder horticulture groups and the groups supported by the project increased by ***14.7 – 20.2 %***
OUTPUT 1 *Target groups (smallholder horticulture farmer groups) gain bargaining power in marketing their produce.*	1-1. Average growth rate of net income per acre of the farmer groups supported by the extension staff who were trained by the Project. 1-2. Average growth rate of net income per acre of the farmer groups supported ***directly*** by the Project.	1-1. One year after the Training for Trainers (ToT) for extension staff, more than 60% of the farmer groups supported by the extension staff trained by the Project improve by at least one level of the Group Empowerment Indicators. 1-2. One year after the first in-field training, 100 % of farmer groups supported directly by the Project improve by at least one level of the Group Empowerment Indicators.	1-1. By the end of the project, 100 % of farmer groups supported directly by the Project improve by at least one level of the Group Empowerment Indicators. 1-2. By the end of the project, more than 60% of the farmer groups supported indirectly by the Project improve by at least one level of the Group Empowerment Indicators.
OUTPUT 2 *Target groups increase the production of better quality crops.*	2-1. Average growth rate of net produce (i.e. deducting the rejected amount) of the farmer groups supported by the extension staff who were trained by the Project. 2-2. Average growth rate of net produce (i.e. deducting the rejected amount) of the farmer groups supported directly by the Project.	2-1. Average growth rate of net produce per an acre (i.e. total yield minus the quantity of rejected produce) of the members (men and women) of farmer groups supported by the extension staff who were trained by the Project increased by 5 %. 2-2. Average growth rate of net produce per an acre (i.e. total yield minus the quantity of rejected produce) of the members (men and women) of farmer groups supported directly by the Project increased by 10 – 30%.	2-1. Average growth rate of net produce per acre (i.e. total yield minus the quantity of rejected produce) of the members (men and women) of farmer groups supported directly by the Project increased by 10 – 50%. 2-2. Average growth rate of net produce per acre (i.e. total yield minus the quantity of rejected produce) of the members (men and women) of farmer groups supported indirectly by the Project increased by 5 - 30%.
OUTPUT 3 *Target groups develop capacity to improve rural infrastructure for production and transportation.*	3-1. Number of farmer groups who put the introduced technology into the practice of rural infrastructure development.	3-1. 80% of farmer groups, which indicated in the problem analysis the problem of the rural infrastructure in the community, puts the introduced technology into the practice	3-1. 80% of farmer groups, which indicated in the problem analysis the problem of the rural infrastructure in the community, puts the introduced technology into the practice (For directly supported groups). 3-2. 60 % of farmers groups, which submitted requirement form (Annex 4) filled correctly, puts the introduced technology into the practice. (For Indirectly supported groups)

Logical Sequence of Indicators

The original indicators were determined by the Ex-Ante evaluation team in May 2006. After launching the project, SHEP Team carefully examined the indicators corresponding to narrative summaries. For ease of our understanding, indicators are decomposed into *who/se, what, and how* expected change occurs (see the table below).

Table 7: Indicators decomposed into *Who/se, What and How*

			PDM 0	PDM 1	PDM 2
Purpose		Whose	Group	Members (men, women)	Members (men, women)
		What	Net-benefit	Net-***income***	Net-income
		How	Increase	Increase 12.5-28.3%	Increase 14.7-20.2%
Output 1	1-1	Whose	Indirect Group	Indirect Group 60%	***Direct*** Group 100%
		What	Net-income / acre	GEI	GEI
		How	Grow	Rank up 1 level	Rank up 1 level
	1-2	Whose	Direct Group	Direct Group 100%	***Indirect*** Group 60%
		What	Net-income / acre	GEI	GEI
		How	Grow	Rank up 1 level	Rank up 1 level
Output 2	2-1	Whose	Indirect Group	Members (men, women), Indirect Group	Members (men, women), ***Direct*** Group
		What	Net-produce	***Net-produce/ acre***	Net-produce/ acre
		How	Grow	Grow 5% on average	Grow ***10-50%*** on average
	2-2	Whose	Direct Group	Members (men, women), Indirect Group	Members (men, women), ***Direct*** Group
		What	Net-produce	***Net-produce/ acre***	Net-produce/ acre
		How	Grow	Grow 10-30% on average	Grow ***5-30%*** on average
Output 3	3-1	Who	Number of group	80% of Groups with infra. problem	80% of Groups with infra. problem: Direct Group
		How	Practice	Practice	Practice
	3-1	Who			60% of Group submetted request: Indrect Group
		How			Practice

In the PDM 0, the indicator for Output 1 denotes profit per acre as a group; that for Output 2 denotes quantity as a group; and that for "Purpose" denotes profit plus other social benefit as a group. It was quite difficult to measure the achievement of the purpose, as the word "benefit" included various benefit. In addition, indicator for Output 1 also includes profit. This means there is duplication between indicators of Output 1 and Project Purpose. There exists a failure of logical sequence in the original indicators.

Incentive Mechanism into Indicators

Accordingly, SHEP Team was supposed to revise the indicators to be applicable to the actual conditions. SHEP team employed yield as an indicator for Output 2 corresponding to the narrative summary of the Output 2 "increase the production". A bigger challenge still was to determine an indicator for Output 1 "gaining bargaining power" as bargaining power is difficult to define. Usually, farm gate prices are employed as a proxy of bargaining power, however, prices are given for the smallholder for the most of the case. Prices are determined by the markets. Target group, extension workers and SHEP counterpart personnel (C/P) cannot control the market prices. This means that there is no incentive to achieve Output 1 for target group, extension workers and SHEP counterpart personnel.

Therefore, SHEP Team developed Group Empowerment Indicator as an indicator of Output 1. Group Empowerment Indicator is not exactly the direct indicator of the bargaining power. However, the group empowerment qualities examined through the use of GEI such as leadership and cooperation would at least indicate farmers active involvement in market activities. Also, it was notable that by setting indicator, target group, extension workers and SHEP counterpart personnel were motivated to raise their Group Empowerment level.

The new indicators are well designed for monitoring purpose as well as incorporating motivation and incentive mechanism within the project[2].

(2) Setting Indicators and Monitoring

Indicators for Output 1 and 3 are rather simple. However, indicator for Output 2 and the Project Purpose needs explanation. Each group selected only two target crops. Each district has 10-11 direct groups and 20 indirect groups. Within district many groups select the same crops. Therefore, each district has 6 to 10 target crops. Bungoma has 7 target crops. For the indicator for Output 2, only these 7 crops yield are indicators in Bungoma district. For the calculation of indicator for the Purpose, all profit from horticulture crops are counted to sum. This indicator calculation mechanism is shown in the following figure. According to this system, necessary date for monitoring is collected in May 2008 and May 2009.

[2] This discussion above is explained mathematically, such as:

	Output 1		Output 2		Output 3	Purpose
PDM 0	$\Sigma \pi/H$	x	ΣQ	x	Infra.	$\rightarrow \Sigma(\pi+\alpha)$
PDM 1 & 2	GEI (10%)	x	Q/H	x	Infra. (10%)	$\rightarrow \pi$

Where π denotes profit; Q denotes quantity; H denotes land area; Σ denotes summing up; and α denotes other social benefit[2].
$\pi = P \times Q - \Sigma wL$, where w denotes factor (input) price; L denotes factor unit.

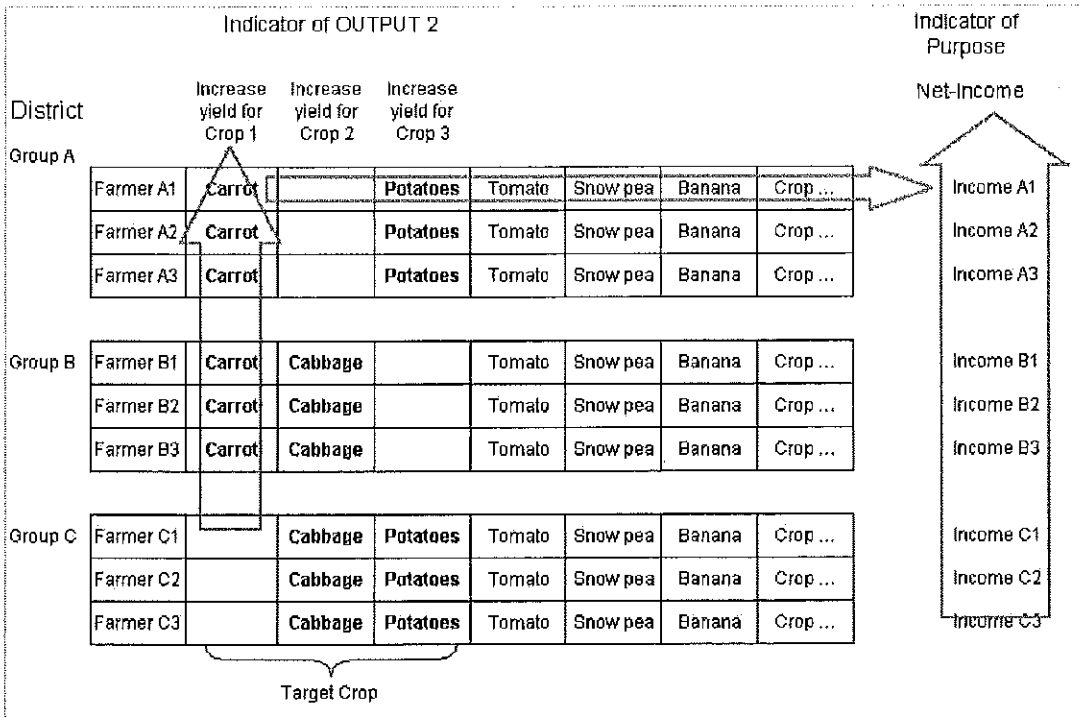


Figure 4: Indicators of Output 2 and Project Purpose

(3) Management

The project has been well managed. As mentioned before, a motivation mechanism is incorporated in the project in relation to the performance indicators.

In spite of the delay of the project activities caused by post-election turmoil from January to March 2008, SHEP Team managed to catch up on the activities well.

In response to the recommendation by the Mid-Term evaluation, communication and collaboration work for training indirect model farmer group was improved.

Photo 2: Material Produced

There is a lot of information produced by SHEP. Whenever activities conclude, SHEP Team compiles the materials used for further reference. However, the management of the information is not organized. For the utilization of the valuable information produced, further management of information is necessary.

In addition, it is recommended that providing easily accessible information may facilitate the understanding of SHEP for its performance and importance to the stakeholders and the public. The information includes organized project document and progress report for referring. It makes possible to facilitate further investment in the project.

(4) Inputs

Inputs by Kenyan and Japanese side are as shown in the appendix 4. Most of those inputs are mobilized to the project in a timely manner. However, the flow of funds from the government of Kenya to the project was not predictable. The last tranche for 2008/2009 financial year was not disbursed. This makes planning and implementation difficult and therefore requires to be improved.

3.2 Achievement

3.1.1 OUTPUT Achievement

(1) Output 1

Achievement and findings of Output 1

Indicator 1-1: Direct group: "By the end of the project, 100% of farmer groups supported directly by the Project improve by at least one level of the Group Empowerment Indicators"

36 out of 42 direct groups have improved by at least one level of the 'Group empowerment indicators'. Average increase of the indicators of all 4 larger districts has improved more than 1 level, i.e. 1 to 2.6 in Bungoma, 1 to 2 in Kisii, 1 to 2.5 in Nyandarua and 1 to 3.1 in Trans-Nzoia as shown in the table 8.

Indicator 1-2: In-direct group: "By the end of the project, more than 60% of the farmers groups supported indirectly by the Project improve by at least one level of the Group Empowerment indicators"

Support to the indirect group through in-field training by extension workers started in March. The change of the 'Group empowerment indicators' of the indirect groups has not been examined enough at the moment. However, from the interview with the indirect group farmers and extension workers in charge of the indirect group, such change as group purchasing of farm input, making group nursery and planning of group marketing have been reported. Achievement of this indicator by the end of project period is expected positively.

Market-oriented agriculture

Most remarkable impact of SHEP is introduction of market-oriented farming to farmers. 57% of 276 farmers and 70% of 40 extension workers selected 'Market survey' as an important skill to increase production/income as shown in the figure 5. From interview with farmers, extension workers and division and district officers, success of market survey and meeting with other stakeholders through FABLIST forum have been pointed out very often. It can be said that introduction of market-oriented farming enabled farmers to increase income.

Table 8: Group Empowerment Indicators (Direct Group)

Bungoma

Group Names	Level of Empowerment							
	Leadership		Cooperation		Gender		Overall	
	05/2008	05/2009	05/2008	05/2009	05/2008	05/2009	05/2008	05/2009
Banduba	4	2	2	1	1	4	1	1
Bukunjagabo	3	4	2	3	1	4	1	3
Good Neighbors	2	4	2	4	1	4	1	4
Namilama	3	3	2	4	1	2	1	2
Namubila	4	4	3	3	1	4	1	3
Namwanda	3	3	2	3	1	3	1	3
Sasuri	3	3	3	2	1	2	1	2
Sikulu	3	3	2	2	1	2	1	2
Sitabicha	2	3	2	1	1	2	1	1
Tabuti	3	3	3	3	1	4	1	3
Average	2.9	3.3	2.3	2.8	1	3.1	1	2.6

Kisii

Group Names	Level of Empowerment							
	Leadership		Cooperation		Gender		Overall	
	05/2008	05/2009	05/2008	05/2009	05/2008	05/2009	05/2008	05/2009
Bidii	1	3	2	4	1	3	1	3
Bombbea	2	2	2	3	1	3	1	2
Ebate	3	3	3	3	1	4	1	3
Kiareni	2	4	3	2	1	4	1	2
Matieko	2	4	2	3	1	5	1	3
Mwangaza Boyeki	1		2		1		1	
Mwanga Hope	3	2	2	2	1	2	1	2
Mwanyabomo	1	2	1	3	1	1	1	1
Nyakeburo	1	1	3	2	1	2	1	1
Nyandiba	2	5	2	2	1	4	1	2
Tumaini	2	1	3	3	1	3	1	1
Average	1.8	2.7	2.3	2.7	1	3.1	1	2

Nyandarua

Group Names	Level of Empowerment							
	Leadership		Cooperation		Gender		Overall	
	05/2008	05/2009	05/2008	05/2009	05/2008	05/2009	05/2008	05/2009
Bahati	3	5	3	2	5	4	1	2
Karandi	2	4	2	3	1	5	1	4
Kariiko	2	2	1	4	3	4	1	2
Kitogo	4	5	3	3	1	2	1	2
Maproma	2	4	2	3	1	4	1	3
Manyatta	4	2	2	2	1	3	1	2
Muga	1	2	2	2	1	1	1	1
Mwendi	4	4	3	3	1	3	1	3
Mwiteithia	4	3	2	3	1	3	1	3
Wihoki	4	3	3	3	1	4	1	3
Yanga	4	2	2	2	1	2	1	2
Average	3.1	3.3	2.3	2.7	1.5	3.2	1	2.5

Trans Nzoia

Group Names	Level of Empowerment							
	Leadership		Cooperation		Gender		Overall	
	05/2008	05/2009	05/2008	05/2009	05/2008	05/2009	05/2008	05/2009
Kabolet	2	3	2	4	1	3	1	3
Kananachi	2	4	2	4	1	4	1	4
Kapsiwet	2	3	2	3	1	3	1	3
Kilimo Msingi	2	5	2	2	1	3	1	2
Klungani	2	3	2	3	1	3	1	3
Matisi	2	2	2	2	1	2	1	2
Perkera	2	4	2	4	1	4	1	4
Rurie Inuka	2	4	2	3	1	4	1	4
Salama Umbrella	3	4	2	4	1	5	1	4
Siuna	2	2	2	2	1	2	1	2
Average	2.1	3.4	2	3	1	3.3	1	3.1

Gender awareness

In particular, change of gender empowerment level of direct groups drastically changed among three areas; Leadership, Cooperation and Gender. The figure is a result of questionnaire to 276 farmers.

40% of farmers selected 'Gender awareness' as one of the contributing factors to increase their production/income and 'Gender awareness' as the third best areas among 15 areas, as shown in the figure 5. This is because gender awareness causes equal distribution of labor in each family and that contributes to efficient management of their farming. This fact was supported by the monitoring report by short-term expert of Gender mainstreaming.

Sequence approach

Another strong point of SHEP is sequence approach of activities. This starting from FABLIST forum (Information exchange between stakeholder in their area and SHEP assisted groups), JEF2G training (for Man and Woman farmer representative and extension workers), FT-FaDDE (Demand driven training for extension workers for the indireet groups) and in-field training (Training for each group) caused farmers group to step one by one in terms of group empowerment. For example, after JEF2G training, farmer representatives should go back to group and let group do market survey by themselves before in-field training starts. For both group, market survey was a requirement to step to next stage of making action plan of the group. Such sequence approach caused group to develop their capacity continuously.

Follow-ups/Close Supervision

SHEP has been having close supervision/follow-ups and this has encouraged the farmer groups to accomplish their activities as scheduled. This has enabled the members to develop their capacity

Action Plan developed in collaboration with the farmers groups

Action Plan is a detailed schedule of the activities to be undertaken indicating the time, the resources required and whose responsibility it will be. Since this Action Plan is developed by the farmers themselves, they get to understand and own the process and as a result they try their best to make sure that the plan succeeds and in the process, their capacity is continually developed.

Capacity development of C/P team, extension workers and farmer groups

The SHEP Kenyan team member (counterpart personnel: C/P) have learned computer skills, new technologies like Bokashi making, management of time and that their technical skills were refreshed. The farmer groups, both direct and the indirect have learned a lot on; horticultural crops production, identification of pests and diseases and their control, doing market surveys, development of cropping calendars. In addition, the farmer groups identified the relevant stakeholders through FABLIST Forum. This has continually developed the capacity of the farmer groups. This will also ensure sustainability of achievement of output 1.

Decision making and management

The farmer groups have been made to understand that JICA only builds the capacity of those concerned (farmers) after which the farmers should organize their own activities. As a result the farmer groups have organized to purchase their own farm inputs collectively and also sell their produces as a group in order to benefit from the economies of scale.

Challenge faced

1) High dependence on rainfall, such that when the rains fail or are in-adequate, the farmers cannot produce as expected, neither can they target the market when the prices of the produce are at their best.
2) Dependence on the farmers willingness to adopt the teachings, for instance gender issues, increasing the number of ladies in the committee

(2) Output 2

The Project Design Matrix (PDM) of SHEP describes the result of Output 2 as increase in Productivity of land under use by the beneficiary farmers. Productivity of land can be broadly defined as the increase in production per unit of land leading to an increase in the net income from the unit of land. The performance indicators for this output on the PDM have been given as the following.

Indicator 2-1. Average growth rate of the net produce per acre of the members of farmer groups supported directly by the project increased by 10 to 50% during the project period.

Indicator 2-2. Average growth rate of net produce per acre of the members of the farmer groups supported indirectly by the project increase by 5 to 30% during the project period.

Achievement

The indicators were monitored and summarized in the table below.

Table 9: Productivity Change Summary Matrix

District	Crop	Baseline Production Tons per Acre	Target growth rate		Actual Growth Rate	
			Direct Group	Indirect Group	Direct Groups May 2009	Indirect Groups May 2009
Bungoma District	Tomato	4.7	20%	5%	40%	26%
	Kale	3.5	30%	5%	166%	6%
	Cabbage	13.6	30%	5%	49%	(14%)
	Banana	8.44	10%	5%	105%	20%
	Mean				90%	9.5%
Kisii District	Banana	11.14	10%	5%	136%	3%
	Passion Fruit	1.37	30%	5%	53%	579%
	Pine Apple	1.88	30%	5%	1,086%	Not available
	Kale	7.2	10%	5%	(29%)	(75%)
	Mean				311.5%	169%
Nyandarua District	Cabbage	15.7	10%	5%	26%	93%
	Snow Peas	2.4	10%	5%	(25%)	(50%)
	Garden Peas	2.34	10%	5%	(15%)	(23%)
	Carrots	9.3	10%	5%	15%	(3%)
	Mean				0.25%	17%
Trans-Nzoia district	Cabbage	16.4	20%	5%	33%	120%
	Tomato	7.9	10%	5%	(16%)	15%)
	Capsicums	6.1	10%	5%	(16%)	(77%)
	Onion	3.27	30%	5%	47%	28%
	Mean				48%	86%

From the above matrix of analyses the following conclusions can be made:

1) In all the four districts where the project was implemented, on average there was an increased net production per unit of land (acre). For the Direct groups this increase ranged from a low of 0.25% in Nyandarua to a high of 311.5% in Kisii district. For the Indirect groups' category the range was 9.5% for Bungoma to a high of 169% in Kisii.

2) Clear *relevance* of the project was shown in the evaluation through output 2 (increased productivity). This is because increased productivity from the land was directly translated to an increase in the net financial income to the farmers therefore leading to improved livelihoods in the farming community.

3) The production processes were empirically shown to be *efficient*. An example is dairy farming in Kisii district where the cost to benefit ratio was shown to be 1 to 3. A shilling used is translated to three shillings in income.

4) Productivity output is *sustainable* after the project exits from the districts of implementation. This is because farmers have been empowered to own the activities. Farmers now know that they stand to benefit financially and socially by implementing what they have learnt from the project. Project is likely to be sustained through integration of activities into normal extension of MOA and HCDA officers

5) Factors that led to increased productivity in both the direct and indirect SHEP supported farmer groups is demand-driven and user-friendly skill training including:

- Training by SHEP experts on better crop husbandry.
- Better weed control in the fields by use of tools introduced by SHEP.
- Better selection of production inputs like seeds after training.
- Reduced cost of inputs through group purchasing was an incentive that led to intensified production.
- Better pest and disease management in the crop fields.

Benefits Derived from SHEP Project

- Strengthened capacity of the counterparts, extension officers (HCDA & MOA) and farmers
- Networking and linkage to service providers in the industry (i.e. through FABLIST)
- Strengthened relationship between extension workers and farmers.
- Production of high quality market oriented produce
- Group activities have benefited farmers through bulk purchase of inputs resulting to savings.

Challenges Faced

- Reliance on rain-fed production
- Low volumes of production
- Lack of irrigation/water harvesting technologies
- Creation of new districts affected the project as there were more districts involved as opposed to the original 4 districts
- Monitoring was constrained as this was done only during follow-up activities

Recommendations from Output 2

- Farmers should be trained on simple irrigation/water harvesting techniques to ensure production during dry seasons when prices are high.
- There should be a well programmed monitoring of the project
- Farmers should be encouraged to increase production volumes. This is more beneficial for group marketing.

(3) Output 3

Indicators for Output 3 are:

Indicator 3-1. 80% of farmer groups, which indicated in the problem analysis the problem of the rural infrastructure in the community, puts the introduced technology into the practice (For directly supported groups).

Indicator 3-2. 60 % of farmers groups, which submitted requirement form filled correctly, puts the introduced technology into the practice. (For Indirectly supported groups)

Achievement

Within the scope of this project, this output, has, to a large extent been achieved. The technology employed, Do-nou, has significantly contributed to the achievement of the output. This is because the technology is cost-effective, easy to learn and to apply.

1) Majority of farmer groups in their problem analysis identified their constraints as roads and water for irrigation.

2) A total of ***1,007m*** of rural roads had been repaired by farmer groups within the project districts. This is an indication of acceptance by the farmer groups in adopting the technology at a cost of KSH 765 per meter, excluding the administrative cost (the first activity involving the public in actual road maintenance).

Photo 3: Problem Analysis Chart and Desired Goal of Farmer Group

3) ***80.5%*** (33 groups out of 41) of direct farmer groups implemented the technology for rural infrastructure improvement.

4) *77.8%* (7 out 9 indirect farmer groups) implemented the technology for rural infrastructure

improvement.

5) *120* technical staff trained on rural infrastructure improvement.

6) Target groups developed capacity to improve rural infrastructure for production and transportation with the majority (average of 79% of farmer groups) ready to maintain the roads using Do-nou technology.

Implementation of Activities

To achieve the above output, a number of activities were implemented within the planned timeframe. They included baseline survey of the existing practices in the target districts, and demonstrations of the new technology to farmers groups that had indicated rural road infrastructure as a problem in their area. The frontline extension workders who would later transfer the new technology to the indirect groups, also participated and benefited from the demonstrations.

1) Data collection and study on appropriate technologies related to rural infrastructure focusing on production, storage, and transportation.

2) Problem analysis indicated that the major constraint/challenges were undeveloped road networks or bad road conditions with considerable loss of post-harvest produce due to isolation of remote villages, and hence high transport costs.

3) The project is in the process of developing manuals or information on technologies related to rural infrastructure

4) Brochure available for information on the technologies for infrastructure.

5) Monitoring, follow up; feedback on the component was accomplished.

Capacity Developed

A number of groups interviewed during the evaluation exercise confirmed that they have been able to pass on the technology to other non-targeted groups in their locality. Support for transportation and infrastructure was achieved through empowerment of farmer groups on infrastructure and thus ability to transport their produce- market access. Target groups develop capacity to improve rural infrastructure for production and transportation

Impacts

Other benefits from the application of the Do-nou technology have been its use in construction of road bridges and dykes which come with the added advantage of conserving the soil. Some of the farmer groups have attracted CDF activities for rural roads rehabilitation in their locality, while others, trained in the technology have become trainers to other groups.

Implications and challenges

1) Sensitization workshops for up-scaling the technology for rural infrastructure development in the country and implementation by other programmes.

2) Do-nou training for Water harvesting need to be implemented or used. Explore means of up scaling the technology.

3) Complete and distribute the manual on the technology.

4) Do-nou training for indirect groups need to be further accelerated from the present 9 groups reached to more groups within the project districts.

3.2.2 Project Purpose

Project Purpose: Developed capacity of the smallholder horticulture farmer groups supported by the project.

Indicator: By the end of the project net-income benefit of individual members (men and women) of the smallholder horticulture groups and the groups supported by the project increased by 14.7 – 20.2 %.

According to the results of monitoring survey as shown in table below, there is an increased net-income benefit of individual farmer for both men and women beyond the target, except for Nyandarua district. However, in Nyandarua district, they expect harvesting in July – August. Income of Nyandarua are expected to increase by the end of the project. It can be said that the achievement of the project purpose is moderately high.

Table 10: Indicators of Project Purpose as Compared

District	Target Increase rate	Unit	Average net-income benefit (Ksh)			Range of Change: April 07-May 09
			Baseline (April 2007)	Monitoring (May 2009)		
				Current price	Real price*1	
Bungoma	20.20%	Group	343,636	876,101	556,694	62.0%
		Per farmer	14,924	43,229	27,469	84.1%
		Per man	19,494	47,897	30,435	56.1%
		Per woman	9,815	38,651	24,560	150.2%
Kisii	18.00%	Group	177,747	408,260	259,418	45.9%
		Per farmer	7,637	22,893	14,547	90.5%
		Per man	10,812	29,748	18,903	74.8%
		Per woman	4,965	16,970	10,783	117.2%
Nyandarua	14.70%	Group	983,919	513,079	326,022	-66.9%
		Per farmer	38,674	37,441	23,791	-38.5%
		Per man	41,244	38,931	24,738	-40.0%
		Per woman	35,087	34,589	21,979	-37.4%
Trans-Nzoia	16.20%	Group	622,141	1,437,673	913,530	46.8%
		Per farmer	27,347	72,301	45,942	68.0%
		Per man	29,236	88,991	56,547	93.4%
		Per woman	24,947	54,198	34,439	38.0%

Note: *1 adjusted by Consumer Price Index (CPI)

One of the reasons of the performance of Nyandarua may be related to the decrease in number of groups as well as farmer. The number of groups and farmers sampled are decreased in the table below.

The data collected in baseline survey in April 2007 is sampled data, while the data in May 2009 is collected from all population of the model group farmers. Then, there is a difference in the number of groups and farmers between two points of time. The number of farmers per group is to be compared. The number of farmers per group in Nyandarua has decreased by 50% and more. It can be said that the participation rate has decreased in Nyandarua district.

Table 11: Change in Number for Group and Farmer

District	Unit	Number		Rage of change
		Apr.07	May.09	
Bungoma	Group	39	30	-23%
	Farmer	898	608	-32%
	Male	474	301	-36%
	Female	424	307	-28%
	Farmer/Group	***23***	***20***	***-12%***
Kisii	Group	33	30	-9%
	Farmer	768	535	-30%
	Male	351	248	-29%
	Female	417	287	-31%
	Farmer/Group	***23***	***18***	***-23%***
Nyandarua	Group	34	27	-21%
	Farmer	865	370	-57%
	Male	504	243	-52%
	Female	361	127	-65%
	Farmer/Group	***25***	***14***	***-46%***
Trans-Nzoia	Group	48	26	-46%
	Farmer	1,092	517	-53%
	Male	611	269	-56%
	Female	481	248	-48%
	Farmer/Group	***23***	***20***	***-13%***
TOTAL	Group	154	113	-27%
	Farmer	3,623	2,030	-44%
	Male	1,940	1,061	-45%
	Female	1,683	969	-42%
	Farmer/Group	***24***	***18***	***-24%***

Another possible reason of the performance of the Nyandarua district is affected by the external factors. Many of them are involved in growing export crops; they have been influenced by the demand shrink of the external market caused by global economic crisis.

The other factors contributing to this result shall be analyzed in detail by the end of the project. This data is valuable information for the development of future policy and projects, if further analysis of the contributing factors is made.

(1) Analysis on Contributing Factors to Income Increase (based on questionnaire pre-survey)

The Evaluation Team conducted a questionnaire survey to farmers as a pre-survey. Factors contributing to the production and income increase are answered by 276 farmers. According to the results, 57 % of respondents answered "market survey" contributes to production and income increase,

followed by cropping calendar (42%) and gender awareness (39%). These are three major factors to increase production and income, as shown in the figure below. This result is corresponding to our findings in the field survey. Many of them explained us how market survey, cropping calendar and gender awareness were useful to increase their income and production, during interview survey.

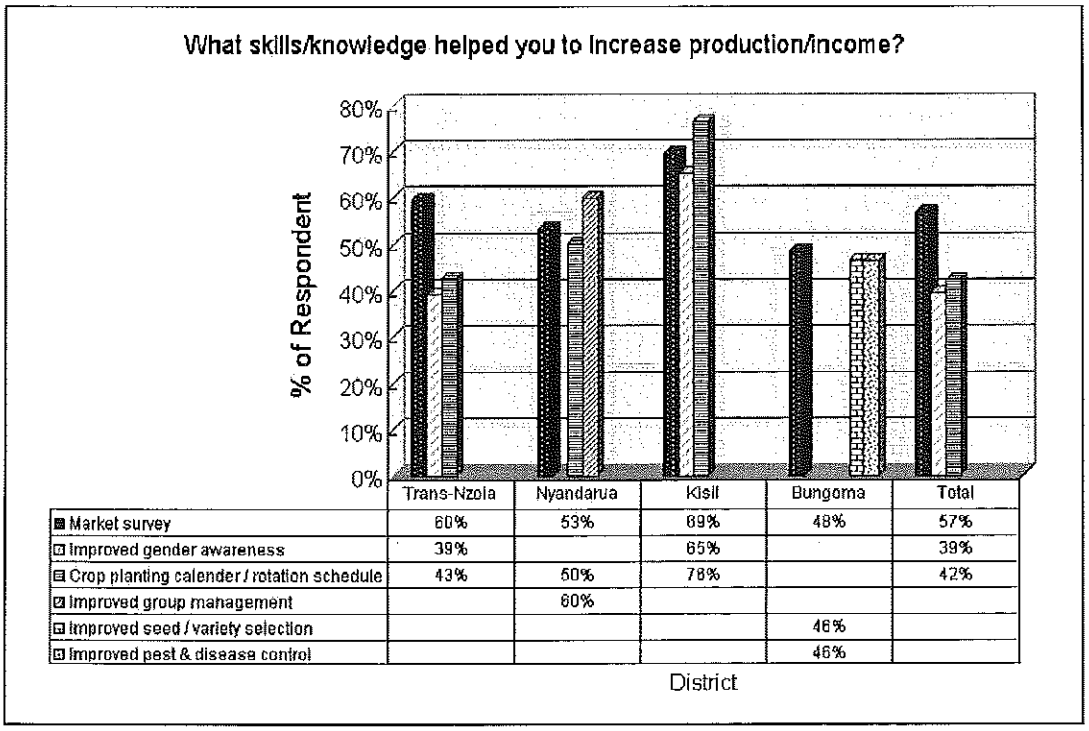


Figure 5: Factors Contribute to Production and Income (Result of Pre-Survey)

An interpretation of this result is as follows:

1) Farmers used to grow first, then sell to middlemen. What they produce was decided by traditional knowledge and guidance by the government.

2) By SHEP intervention, farmer's behavior has been drastically changed from *"grow and sell"* to *"grow to sell"*.

3) As a first step of intervention, SHEP hold a stakeholder forum where farmers can meet buyers, and it followed by the market survey training. Upon their going back to the communities, farmers conducted a field survey by themselves with support of SHEP Team and extension workers. With this first step of intervention, farmers had an idea what market is, how the market works, who and where buyers are, how prices determined and when the price peak season is. This means that farmers built their ***market awareness***. Once market awareness was built, farmers noticed that farming is not only way of life but also ***farm business***. Farmers realized that they are the owner and manager of farm business, that is, ***"Household as a Farm Business Unit"***.

4) As a second step they need farm business planning. ***Cropping calendar***, introduced by SHEP, is a useful farm business-planning tool. They can plan when, what and how they have to do to gain a profit strategically. With cropping calendar, farmers ***gain a capacity of farm business planning***.

Farm business skill development such as record keeping and accounting were followed cropping calendar.

5) Now farmers know what, when, and how to do farm business. They noticed that so many things to do for preparation. However, at a traditional Kenyan rural household, there is only one farm business manager (man) and one labor (woman). Then, as a third step, SHEP introduced ***gender awareness*** training. By raising gender awareness, farmers noticed that there was not only one farm business manager but also two managers in the household business unit. They can share managerial works among them and divide the labor works among them. In sum, gender awareness changed the relationship between men and women in farmers household from ***"manager and labor"*** to ***"farm business management partner"***.

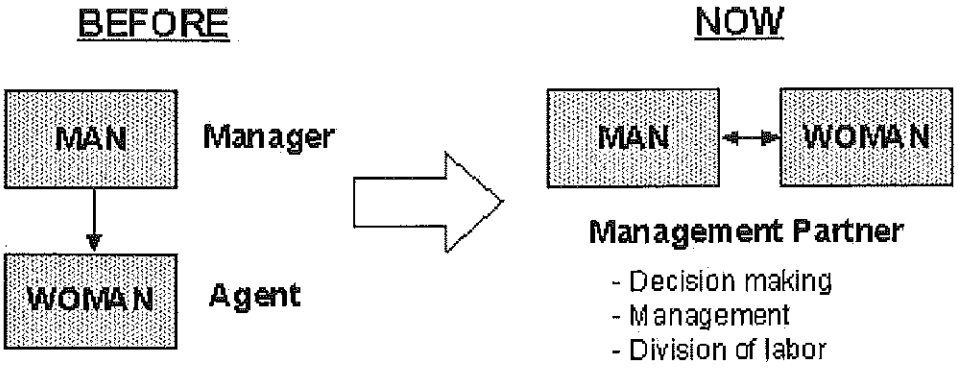


Figure 6: Gender Awareness and Change Relationship

6) Farm business unit, now, notice that there are so many problems to solve to grow specific crops with market-demanded quality and quantity. SHEP introduced ***production skill training on demand***. This training provided them a ***solution*** to their farm business.

7) There are many things which cannot be solved by a household as a single farm unit. They need ***farm business association*** for collective action. SHEP introduced group capacity development such as Do-nou technology to improve road by groups, group dynamics such as leadership, motivation development and collaborative work. Then, they can help each other.

The interpretation above is summarized in the following figure.

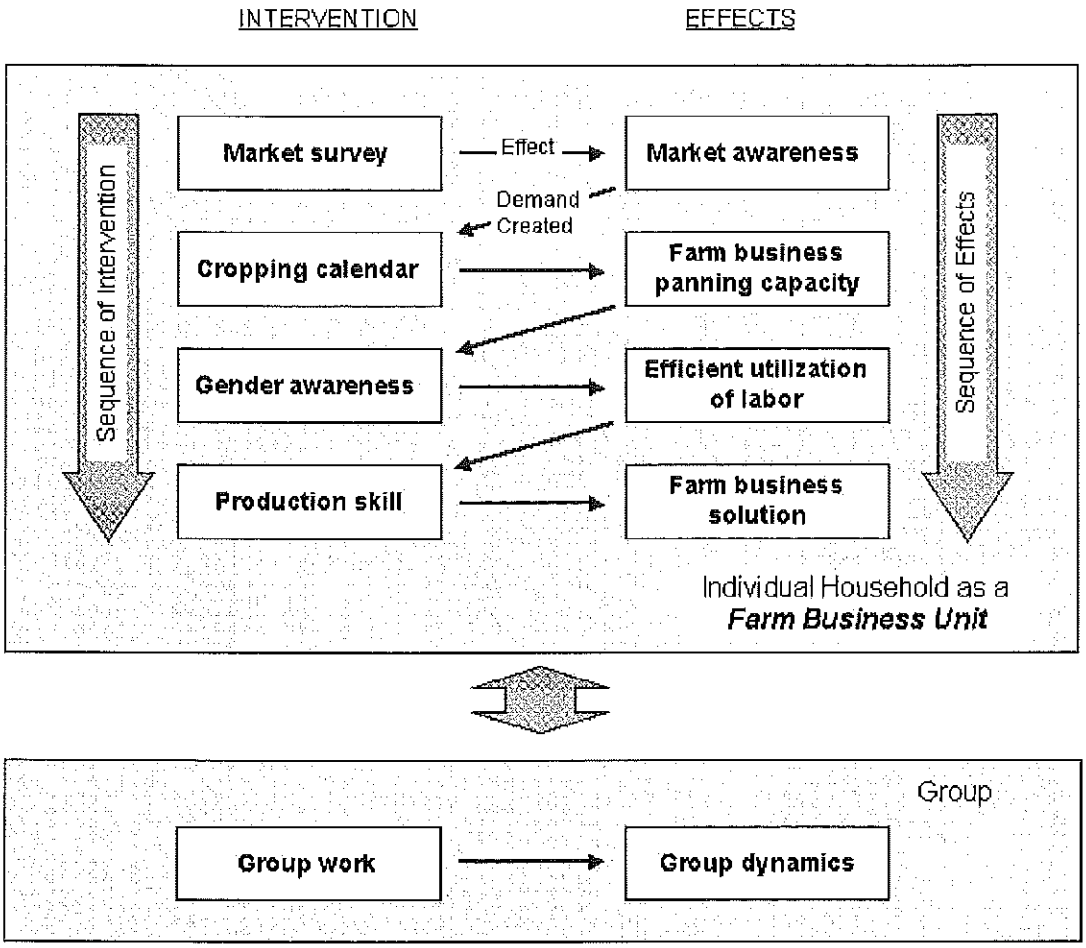


Figure 7: Interpretation of SHEP Intervention to Effect

Based on the interpretation above, the SHEP project framework and causal sequence are as summarize in the following figure.

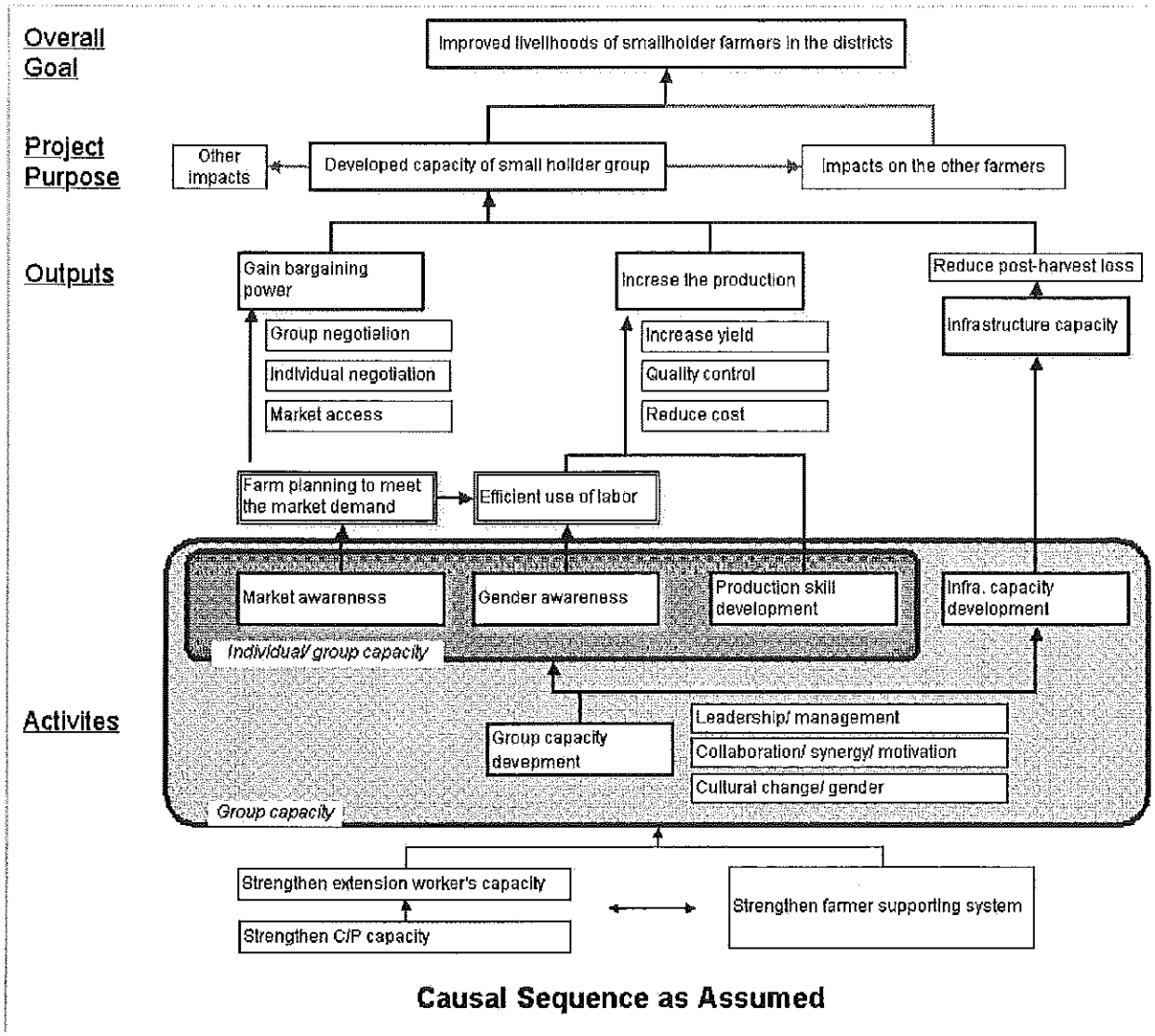


Figure 8: SHEP framework and Causal Sequence

(2) Benefit Analysis at Household level

SHEP has an excellent monitoring system. At the baseline survey, SHEP experienced trials and error to conduct the survey. Through this experience, SHEP Kenyan team members and extension workers learnt how to conduct a survey. In May 2009, SHEP conducted monitoring survey to all model farmers groups. SHEP collected information from all farmers of the direct and indirect model farmer groups.

Utilizing this database, a benefit analysis at household level is made. A benefit at household is calculated as income increased compared with the initial income in April 2007. The result is shown in the table below.

Table 12: Comparison of HH Income

Household income		Baseline survey April 2007	Monitoring at May 2009		
			Average	Direct	Indirect
Income/ HH (Ksh)	Current price (nominal)	22,794	44,218	46,754	42,396
	CPI adjusted (actual)		28,097	29,709	26,939
Income/ HH increased (Ksh)	Current price (nominal)		21,424	23,960	19,601
	CPI adjusted (actual)		5,303	6,914	4,145
Income growth (2009/2007)	Nominal growth %		194%	205%	186%
	Real growth %		123%	130%	118%
Income growth rate per annum (%)	Nominal annual growth rate		39.3%	43.2%	36.4%
	Real annual growth rate		*11.0%*	*14.2%*	*8.7%*

In total, nominal household income is doubled. Real income increased 23% for the all model group household on average, 30% for household (HH) of the direct group, and 18% for the indirect group, taking account of inflation. Real annual growth rates are 11% for an average, 14.2% for HH in the direct group, and 8.7% for HH of the indirect group.

This growth rate can be compared with the growth rate of activities related to horticulture of the country. These indicators are as shown table below. Although comparison is subject to examination of technical specification, obviously growth rate of household income is far beyond the performance of the agricultural sector of the country.

Table 13: Major Economic Indicator related to Horticulture

	2007	2008	2009 (Jan-Apr)
GDP growth	7.1 %	1.7%	
Agriculture	2.0%	-5.1%	
Crop and horticulture	2.7%	-7.6%	
Output growth of horticulture	17.7%	0.5%	-11.1%

Source: Central Bank of Kenya

In addition, SHEP Team calculated the operational cost per farmer on average, by direct group and indirect group as shown in the table below. These are external inputs to individual farmers. Taking this figure, calculation of cost-benefit ratio gives 425% on average, 290% for direct group, and 584% for indirect group. This simple calculation shows the efficiency of the SHEP. The benefit is larger for direct model group farmers, while investment efficiency is high for the indirect model group farmers. The Team confirmed the efficiency of SHEP, and a further investment in these programs is recommendable.

Table 14: Calculation of Cost-Benefit

	Average	Direct	Indirect
Operational cost of training/ farmer (Ksh)	5,047	8,269	3,355
Nominal income increased/operational cost (%)	425%	290%	584%

Note: This operational cost is available only nominal term; then simple calculation is made.

3.2.3 Overall Goal

Overall Goal: Improved livelihoods of smallholder horticulture farmers in the target districts.

Indicator: Reduced poverty rate in the target districts

Poverty rate in the target districts are shown in the table below. Poverty rates in Bungoma and Nyandarua increased in 2008/09. Although the income of the target groups increases, it is not realistic that a three-year technical cooperation project reduces the poverty rate in the whole district (see the whole population of the district in the table 16). The target groups are around 2,500 farmers. They account for 1 % of smallholder horticulture farmers and 0.6 % of whole households in the target provinces[3]. Three years agricultural project have a small impact on the whole districts.

Table 15: Poverty Rate of District

District	Financial year		
Poverty Rate (%)	2006/07	2007/08	2008/09
Bungoma	56	51	53
Trans-Nzoia	47	51	50
Nyandarua	52	46	56
Kisii	75	71	60

Source: District Agricultural Officers.

Table 16: Socio-economic Indicators

	Privince	District 2008	Land Area (km2)	Agricultural land ('000 ha) 1995 *1	Pop *2	HH *2	Density *2	Pop *3	% of poverty pop *3	HH *3	% of poverty HH *3
Bungoma	Western	4	2,069	308	876,491	174,838	424	1,188,441	47%	185,939	41%
Trans-nzoia	Rift valley	3	2,487	247	575,662	116,122	231	880,327	47%	133,524	40%
Nyandarua	Central	2	3,304	353	479,902	194,401	145	541,614	42%	114,535	32%
Kisii	Nyanza	3	649	220	491,786	100,315	758	534,568	52%	102,557	47%
TOTAL		12	8,509	1,128	2,423,841	585,676	285	3,144,950		536,555	
Kenya			581,677		28,686,607	6,371,370	49	35,514,542	47%	6,961,873	39%

Source:
*1.Kenya National Bureau of Statistics, Statistical Abstract 2008
*2. Population census 1999.
*3.Ministry for Planning and National Development, Kenya Integrated Household budget Survey (KIHBS) 2005/06

However, it can be said that the income of the target group in Nyandarua decrease at 40% in two years. This is affected by the performance of the economy of whole district of Nyandarua. Many farmers in Nyandarua are involved in growing export crop. They are affected by the global financial crisis.

At the macro level, it cannot be said that the project has a big impact. However, at the micro level, a lot of spill over effect on outside target group are observed. In addition, the Team observed additional positive impacts such as positive environment impact utilizing organic fertilizer, job creation for the youth, growing school fee payment, more frequency to go to church, and better relationship among family member.

Although these impacts are limited to a micro level, it can be said that these positive impacts can be maintained and expanded to the whole district, then to the whole country, continuous and scaling-up efforts are recommendable.

[3] There are 260,000 smallholder horticulture farmers according to the Ex-Ante Evaluation report.

4. Evaluation Results

4.1 Relevance

The Evaluation Team concludes the relevance of the project is very high for the following reason.

(1) High Relevancy and Consistency with Development Policy of the Republic of Kenya

The current Ministry of Agriculture Strategic Plan (2008-2012) which is in line with the higher blue print for National Development i.e. VISION 2030 and the Agricultural Sector Development Strategy (ASDS) seeks to transform the sector into a profitable, commercially oriented activity that also sustains use of natural resources.

Through the approach of empowering farmers to start by undertaking market surveys to determine what the consumer needs before getting into horticulture production, SHEP is in line with the above blue print for agriculture development. SHEP is also relevant in light of National Agriculture Sector Extension Policy (NASEP) to support the existing national extension system to be responsive to the needs of the farming community.

(2) High Relevance and Consistency with the cooperation policy of Japan

The promotion of agriculture development is one of the most important areas of cooperation in Japan's ODA policy. Moreover, the latest JICA's Country Project Implementation Plan recognizes the importance of market-oriented agriculture development of smallholder farmers. To achieve this, 'Smallholder empowerment programme for income generation' was formulated. SHEP is one of the main project under this program.

4.2 Effectiveness

The Evaluation Team concludes the effectiveness of the project is very high.

First, the project purpose has been achieved except for Nyandarua district. For Nyandarua district, external factor has largely affected their performance. Income increase is expected in harvesting season of July and August. They have been suffering from the effects of global economic crisis since many of them are involved in growing export crops. The poverty rate in Nyandarua district has deteriorated in a year.

Second, indicators of Outputs and the Project purpose were carefully designed at the beginning of the project to link causal relationship between Outputs and the Project Purpose.

4.3 Efficiency

The Evaluation Team concludes that the project produced Outputs and Purpose quite efficiently.

First, the income of target group farmers grow at 11% on average, 14.2% for the direct supported farmers, and 8.7% for the indirect supported farmers for the period from April 2007 to May 2009. This growth rate is far beyond the country average performance of the agriculture sector whose growth

rate is minus 5.1% in 2008 and the crop and horticulture sector whose rate is minus 7.6%.

Second, considering the nature of technical cooperation project, the external investment cost to the target farmers is quite small: 5,047 Ksh/farmer on average, 8,269 Ksh/farmer to the direct model group farmers, and 3,355 Ksh/farmer to the indirect model group farmers. A simple calculation of cost-benefit ratio gives 425% on average, 290% for the direct group, and 584% for the indirect group. This simple calculation shows the high level of investment efficiency of the project. The benefit is larger for direct model group farmers, while a cost-benefit ratio is larger for the indirect group farmers. Investment in indirect model farmers is more efficient. The Team confirmed the efficiency of the project, and a further investment in these programs is recommendable.

4.4 Impact

The Evaluation Team concludes that the impact of the project is positive.

First, the impact of the project on the Overall Goal is limited, since indicator of Overall Goal is reduction of poverty in the whole target provinces. The number of target groups account for only 0.4 % of the whole household in the target districts.

However the Team observed the fact that the income of the target group increased significantly. Also, spill over effects of the project are widely observed. Farmers outside target group have learnt from the target group farmers. The Team also observed the other positive impacts such as positive environment impact utilizing organic fertilizer, job creation for youth, growing school fee payment, more frequency to go to church, and better relationship among family members.

These impacts are limited to the micro level, however, the Team observed a significant income increase effects of the project as well as spillover effects on surrounding farmers. Continuous effort can maintain these positive impacts and expanding to the whole district, and whole country. Continuous and scaling-up efforts are recommendable.

4.5 Sustainability

The Evaluation Team concludes that the sustainability of the project is high.

All the explicit purpose and outputs of the project are corresponding to farmers as the target group. However, the project design contains implicit outputs such as developed capacities of SHEP Kenyan Team members and extension workers, and system to support farmers, as shown in the following figure.

Cognizant of that, SHEP Team firstly took direct model approach. This approach aimed at strengthening the capacities of SHEP Kenyan team member (counterpart personnel).

Secondly, SHEP Team took indirect model approach. This approach focused on capacity development of extension workers. Extension workers have to train and facilitate farmer groups by themselves. This learning by doing approach strengthens the capacities of extension workers.

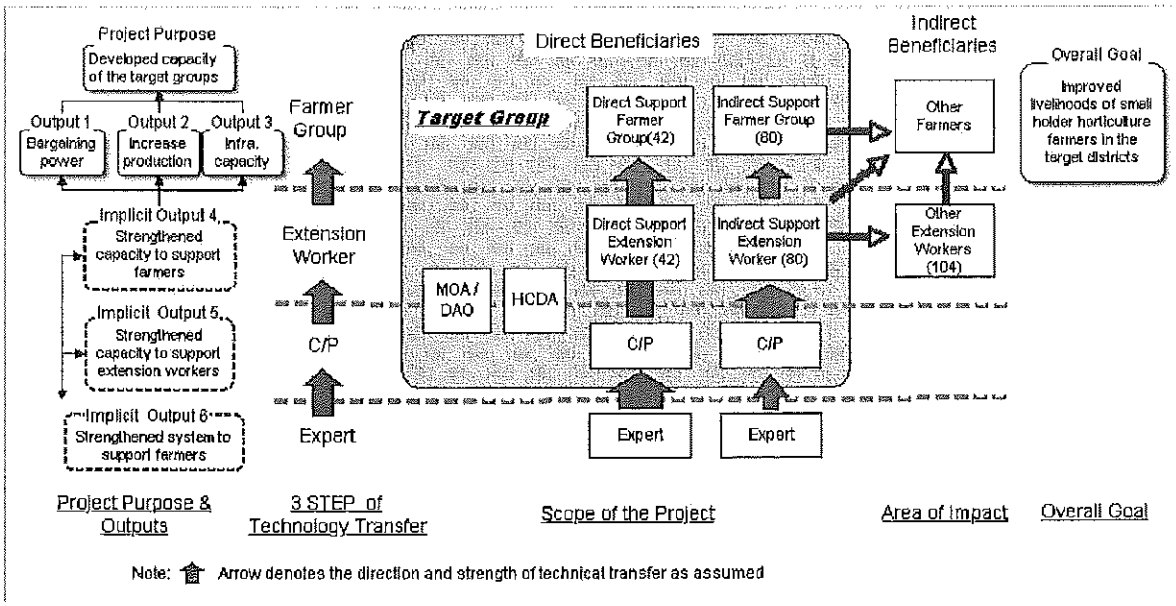


Figure 9: Project Design and Implicit Outputs

Thirdly, SHEP Team tried to strengthen the system to support farmers through indirect support approach. SHEP Team obtained lessons from this practices. Effectiveness of supporting farmers largely depends on extension worker's individual motivation and ability. It is necessary to work out and to strengthen the effective implementation system.

Furthermore, the Ministry of Agriculture recognized the good performance of the project; they have established a new unit, National Horticulture Information Management and Utilization Unit (NAHIMU) at State Ministry in Nairobi. The Ministry already allocated the office space and budgetary provision. Judging from this, SHEP can be said to have achieved sustainability at institutional level.

4.6 Conclusion

The Joint Evaluation Team concludes that SHEP showed high relevance, effectiveness and efficiency

The market-oriented approach of SHEP is highly consistent with Kenyan agricultural commercialization policy and Japanese Aid policy. The project achieved the designated project purpose in spite of the three-month delay caused by the post-election turmoil. The income of the target groups showed a significant growth in short time, only two years, as well as a high rate of investment efficiency.

The Team also concludes that the project has a positive impact and sustainability.

For sustaining the positive effects and impacts and expanding into the wider areas, continuous and scaling-up efforts are recommended.

5. Recommendations

Recommendations to SHEP Team

(1) Further analysis on factors contributing to the outcome

SHEP monitoring results shows that the level of increase of income and/or production varies across the districts and groups. Throughout the project, SHEP obtained valuable data on horticulture development. A further analysis shall be made on factors contributing to produce the outcomes. This analysis should be utilized for developing horticulture policy and program, institutional framework, and Japanese cooperation policy. The analysis may also be utilized to study a differentiated approach according to the local conditions.

(2) Documentation for information sharing and public relation

SHEP produced various materials and reports internally and brochures for the public. However, the information is not well managed. In addition, information disclosure to outside is limited; outsiders cannot understand SHEP activities easily. For the utilization of the valuable information produced, further management of information is necessary. The Terminal Evaluation Team recommends that SHEP will strengthen its public relation, information sharing among development partners and information disclosure through better documentation including various reports describing project activities and outcomes.

(3) Strengthening the system to support farmer groups

The effectiveness of the supporting farmer group depends on the individual extension workers' motivation and abilities. To sustain the effect of the project, the Evaluation Team recommends that SHEP strengthen the system to support extension workers and farmer groups, in terms of management, reporting and motivation development within the framework of current extension service system by the termination of the project.

Recommendations to the Government of Kenya (GOK)

(4) Timely budgetary allocation

The flow of funds from the government of Kenya to the project was not predictable. The last tranche for 2008/2009 financial-year was not disbursed. This makes planning and implementation difficult and therefore requires to be improved.

Recommendations to GOK and JICA

(5) Follow-up activities

SHEP Team has been engaged in full implementation to put the project activities back on track. SHEP Team obtained valuable knowledge and experience. However, it is necessary for SHEP Team to spend a time to organize, manage and digest the knowledge and experiences by analyzing data, developing model, managing information, and developing an applicable system, as mentioned in the recommendations in (1) to (3).

The Evaluation Team recommends that follow-up activities be made to digest knowledge and experiences to be shared among MoA and development partners applicable to other projects and programs. Then, the knowledge and experiences shall be utilized in other areas.

Furthermore, further consolidated inputs to forth-coming NAHIMU (National Horticulture Information Management and Utilization Unit) project can be made. The effect and impacts of the project are limited to the local area, since SHEP took farmers' demand-driven approach to meet farmer's demand. Based on the result obtained, scaling-up will be considered so that the effect and impact are expanded to meso and macro level, such as:

- Strengthening the institutional set-up and contributing to policy development,
- Incorporating the sector survey and market survey, and
- Risk management to challenges such as crop price risk, input price risk, weather risk, pest and diseases risk.

6. Lessons Learnt

The Evaluation Team draws lessons learnt replicable to other programs and projects, as follows:

(1) Well designed monitoring system

The SHEP structures for internal monitoring of the project activities were commendable. Data collected on a regular basis on the implementation progress made the terminal evaluation easy to perform objective. It is an attribute that can be emulated by other projects in the Ministry of Agriculture.

(2) Use of indicators boosts stakeholder motivation

In relation to the monitoring system mentioned, indicators of SHEP are well designed for monitoring purpose as well as incorporating motivation and incentive mechanism within the project. SHEP designed tangible indicators to SHEP Kenyan team members, extension workers and framer groups so that they were motivated to produce the better outcomes according to the indicators. This mechanism can be replicable to other projects.

(3) Market survey changes farmer's thinking to be more into market-oriented

The Evaluation Team found the market survey with farmer's initiative changed their way of production from ***"grow and sell"*** to ***"grow to sell"***. At the beginning of the intervention, SHEP held stakeholder forum where farmers and market players participated followed by market survey. SHEP gives training to farmers how to conduct the market survey. This is a key to change farmer's behavior from passive to proactive market approach. The market survey enables them to determine what to produce and when to sell it. *The market survey strengthens farmers' capacity of farm business planning.* Farmers became aware that farming is a farm business. This ***"market-first approach"*** is very commendable and should be encouraged in the on-going and future projects.

(4) Higher gender awareness makes efficient utilization of labor in the household

Gender awareness building is effective for improving farm business management, after their market awareness was built. Gender awareness building makes farmer aware of houschold as a farm business unit. In the household as a business unit, their relationship changed. The relationship between men and women changed from ***"manager and labor" to "farm business management partner"***. They introduce collaborative decision-making, management and efficient division of labor for their business purpose. This gender awareness approach to farm business is recommendable for other projects.

Appendix

1. Project Design Matrix (PDM) 0

2. PDM 1

3. PDM 2

4. Summary of Inputs, Summary of Activities

5. Plan of Operation 1

6. Plan of Operation 2

7. Evaluation Grid

8. Pre-survey questionnaire

   8.1. Summary of the results

   8.2 Questionnaire form

9. Output 2: Progress

10. Output 3: Progress

11. Schedule of the Evaluation Study

12. Questionnaire to SHEP team

   12.1 To deputy team leaders

   12.2 To Kenyan team members

Appendix 1. PDM 0

Project Design Matrix (PDM) for Smallholder Horticulture Empowerment Project

Ver. 0, made o n 25 th May , 20 06

Project Name: Smallholder Horticulture Empowerment Project (SHEP)
Duration: 3 years (2006/10 – 2009/9)
Implementing Agencies: MoA, HCDA and JICA
Target Group: Smallholder horticulture farmer groups (Approx. 10% of the total 262,650 farmers) and ex tension staff of MoA and HCDA in the target area.
Target Area: Bungoma District, Trans-nzoia District, Kisii District, Nyandarua District

Narrative Summary	Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: Improved livelihoods of smallholder horticulture farmers in the target districts.	Reduced poverty rate in the target districts (% to be determined in 6months after launching).	District Development Profiles	There is no severe drought.
Project Purpose: Developed capacity of the smallholder horticulture farmer groups supported by the Project.	Increased net-benefit of the smallholder horticulture groups supported by the project (% to be determined in 6months after launching).	Base-line Survey Reports; Project Evaluation Reports.	Market demand of horticultural produce and products do not shrink; Market prices of horticultural crops don slump.
Outputs: 1. Target groups (smallholder horticulture farmer groups) gain bargaining power in marketing their produce.	1-1. Average growth rate of net income per acre of the farmer groups supported by the extension staff who were trained by the Project. 1-2. Average growth rate of net income per acre of the farmer groups supported directly by the Project.	Base-line Survey Reports; Project Evaluation Reports.	Market demand of horticultural produce and products do not shrink; Market prices of horticultural crops don slump; There is no severe outbreak of pests and diseases; Policy support for road maintenance and network development is not deteriorated.
2. Target groups increase the production of better quality crops.	2-1. Average growth rate of net produce (i.e. deducting the rejected amount) of the farmer groups supported by the extension staff who were trained by the Project. 2-2. Average growth rate of net produce (i.e. deducting the rejected amount) of the farmer groups supported directly by the Project.		
3. Target groups develop capacity to improve rural infrastructure for production and transportation.	3-1. Number of farmer groups who put the introduced technology into the practice of rural infrastructure development.		
Input: Kenyan Side -Counterparts respectively from MoA and HCDA (Project Director, Project Manager, Project Coordinator, Project Specialists) -Useful equipments, Offices -Counterpart budget Japanese Side -3 long-term experts (Team Leader/ Farmer Group Formation and Management, Horticulture Production and Extension, Coordinator/ Training Administration) -Short-term experts (Appropriate Technology on Rural Infrastructure) *Others to be dispatched if necessary. -Local consultant (Appropriate Technology on Rural Infrastructure) -3 vehicles, 1 photocopier, audio-visual equipments, office equipments -Construction cost, Operational cost			Preconditions: Policy support for horticulture sub-sector development is not deteriorated.

*MoA: Ministry of Agriculture
*HCDA: Horticulture Crops Development Authoritics
*JICA: Japan International Cooperation Agency

Activities:

1. Activities for Increased Bargaining Power in Marketing Horticultural Produce

[Base-line survey and analysis]

1-1. Base-line survey and analysis on transactions of horticultural commodities, livelihoods of smallholder horticulture farmers, system of price formation and group formation;

[Manual and other materials for training]

1-2. Developing manuals on group formation and management (for 1-4/1-5), and other audio-visual materials for sensitisation (for 1-6), for extension staff and farmer groups respectively;

1-3. Developing manual on group marketing of horticultural produce, and other audio-visual materials for sensitisation, for extension staff and farmer groups respectively;

[Training]

1-4. Training of extension staff on the formation and management of farmer group and the collective marketing of horticultural produce (incl. visit to advanced farmer groups, technical exchange);

1-5. Training of smallholder farmer groups on the formation and management of farmer group and the collective marketing of horticultural produce (incl. visit to advanced farmer groups, technical exchange);

[Monitoring visit and follow-up support]

1-6. Mobile forum (jointly held with 2-6) for different stakeholders of horticulture sector (i.e. traders, extension staff, NGOs, farmer groups) and visit to advanced areas;

1-7. Monitoring visit and follow-up support for farmer groups trained;

1-8. Revision of training materials (incl. feed-back to the next training courses).

2. Activities for Improved Productivity and Quality of Horticultural Produce

[Base-line survey and analysis]

2-1. Base-line survey and analysis on agro-ecological conditions, horticulture production techniques and quality control practice (pre-/post-harvest) in target districts;

[Manual and other materials for training]

2-2. Developing manuals (incl. audio-visuals) on production techniques by major horticulture crops (for 2-4/2-5) for extension staff and for farmer groups respectively;

2-3. Developing materials (incl. audio-visuals) for sensitisation (for 2-6) on production techniques and quality control (pre-/post-harvest) for extension staff and farmer groups respectively;

[Training]

2-4. Training of extension staff on the formation and management of farmer group and the collective marketing of horticultural produce (incl. visit to advanced farmer groups, technical exchange);

2-5. Training of smallholder farmer groups on the formation and management of farmer group and the collective marketing of horticultural produce (incl. visit to advanced farmer groups, technical exchange);

[Monitoring visit and follow-up support]

2-6. Mobile forum on quality control (pre-/post-harvest) for different stakeholders of horticulture sector (i.e. traders, MoA/HCDA extension staff, NGOs, farmer groups) and visit to advanced areas (jointly held with 1-6);

2-7. Monitoring visit and follow-up support for farmer groups trained;

2-8. Revision of training materials (incl. feed-back to the next training courses).

3. Activities for Developed Capacity to Improve Rural Infrastructure for Production and Transportation

[Planning]

3-1. Data collection and study on appropriate technologies related to rural infrastructure (e.g. production, storage, transportation);

3-2. Base-line survey on existing practice related to rural infrastructure in the target districts;

[Materials for sensitisation]

3-3. Developing materials (incl. audio-visuals) for sensitization on appropriate technologies related to rural infrastructure;

[Sensitisation]

3-4. Providing information on the technologies for smallholder farmer groups and other stakeholders in the mobile forum (see. 2-6 and 1-6);

[Support for trials]

3-5. Monitoring visit and follow-up support for trials by farmer groups and staff in charge;

[Feed-back of result]

3-6. Feed-back of the trial result to the following season (incl. revision of developed materials).

Appendix 2. PDM 1

Project Design Matrix
for the Smallholder Horticulture Empowerment Project
(Version 1 / Oct 2007)

Narrative Summary	Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: Improved livelihoods of smallholder horticulture farmers in the target districts.	Reduced poverty rate in the target districts	District Development Profiles	There is no severe drought.
Project Purpose: Developed capacity of the smallholder horticulture farmer groups supported by the Project.	By the end of the project, the net-income benefit ***for members (men and women)*** of the smallholder horticulture farmer groups supported by the project increase ***by 12.5 – 28.3 %.***	Base-line Survey Reports; Project Evaluation Reports.	Market demand of horticultural produce and products do not shrink; Market prices of horticultural crops don't slump.
Outputs: 1. Target groups (smallholder horticulture farmer groups) gain bargaining power in marketing their produce.	***1-1. One year after the Training of Trainers (ToT) for extension staff, more than 60% of the farmer groups supported by the extension staff trained by the Project improve by at least one level of the Group Empowerment indicators.*** ***1-2. One year after the first in-field training, 100% of farmer groups supported directly by the Project improve by at least one level of the Group Empowerment Indicators.***	Base-line Survey Reports; Project Evaluation Reports.	Market demand of horticultural produce and products do not shrink; Market prices of horticultural crops don't slump; There is no severe drought and or outbreak of pests and diseases; Policy support for road maintenance and network development is sustained.
2. Target groups increase the production of better quality crops.	2-1. Average growth rate of net-produce per acre (i.e. total yield minus the quantity of rejected produce) ***of the members (men and women)*** of farmer groups supported by the extension staff who were trained by the Project increase ***by 5 %.*** 2-2. Average growth rate of net-produce per acre (i.e. total yield minus the quantity of rejected produce) ***of the members (men and women)*** of farmer groups supported directly by the Project increased ***by 10 – 30%.***		
3. Target groups develop capacity to improve rural infrastructure for production and transportation.	***3-1. 80% of farmer groups, which indicated in the problem analysis the problem of the rural infrastructure in the community, puts the introduced technology into the prsctice.***		

Annex 1;

Verifiable Indicators of Project Purpose

Proposed Rate (%) of increase and Expected Net-income benefit

		Average net-income benefit (Ksh)				Proposed rate (%) of Increase
		Group	Per farmer*	Men*	Women*	
Nyandarua	Baseline data	983,919	38,674	41,244	35,087	12.5
	Target	1,106,909	39,553	42,181	35,884	
Kisii	Baseline data	177,747	7,637	10,812	4,965	28.3
	Target	228,049	8,908	11,058	5,078	
Bungoma	Baseline data	343,636	14,924	19,494	9,815	27.3
	Target	437,449	17,271	19,937	10,038	
Trans-Nzoia	Baseline data	622,141	27,347	29,236	24,947	27.5
	Target	793,230	31,698	29,900	25,514	

* Target net-benefit is not considered the influence of increased number of group members

Formula for the indicator

All data used below were based on the baseline survey conducted by the project.

1. The growth rates of production per acre for main three crops in each four area were set up (refer to indicator for output2). The range of growth rate was 10 - 30 % for each crop for the groups supported by the project directly.

2. These growth rates affect increase of net-income benefit

(1) Current production per acre @ 1.1 (in the case of 10 % of growth rate) @ Total area for crop = Net-produce of the crop

Assumption 1: If rural roads are improved by the project using "Do-nou" and/or the quantity and quality of products become higher, the price for selling crops should be higher. Then the project expects that the prices will be 10 % higher than current prices.
Assumption 1: the produce rejection rate is negligible

(2) Net-produce @ current prices @ 1.1 (10% up) = Total Net-income for a crop

(3) Total Net-income of above three crops sum up

(4) (3) / Number of groups = Increased net-income per a group

(5) (4) / (Current net-income per a group + (3)) @ 100 – 100 % = Increased Rate

The target on members (men and women) will be calculated by above formula.

The target on group net-benefit will be considered below assumption.

Assumption 2: Through the training, the group members will make effort to increase number of farmers, so that the quantity of their products will be higher and can be expected to sell higher prices. Then the project expects that the number of members will be 10 % higher than current situation.

(6) (5) @ 1.1 (10% up) = Expected Increased Rate

The expected increased rate will be determined through the above calculation.

Annex 2

Group Empowerment Indicators

Indicators to assess the capacity change in a farmer group

Version 1, 22nd Oct 2007

Level	Description		Qualitative Aspects	Quantitative Aspects
Level 1	The group is formed as recommended by outsiders. But not all members are fully convinced of its benefit.	Leadership	- The leader is not aware of her/his role and responsibility	
		Cooperation among members	- Only the group officials are exclusively involved in the decision-making. - Little cooperation exists among member i.e. limited number of group members implement the group plan	
		Gender	- No awareness on gender issues i.e. What is to be a man and What is to be a woman - Gender disparities are accepted as culture and tradition.	
Level 2	The group members are becoming aware of the benefits of grouping.	Leadership	- A leader started taking an initiative in group operation.ie A leader has started to support day to day activities of the group	- Both the management committee and the general meeting are held on ad hock basis.ie There is no consensus reached; on the time, date and place where the next meeting will be held at the end of the meeting. - The meetings are not for discussion but to convey messages from the leaders/officials to the ordinary members i.e. Group members are not given the opportunity either to make changes or approve the agenda.
		Cooperation among members	- Group members organize the farming activities together with an aim to upgrade their skills/knowledge. - Some members are of interest on how the group is managed but not all of them.ie. Not all the members are aware of the group's constitution.	- More than twice a month the group activities are organized. - The members are verbally informed of the decisions made in the management committee i.e. there is no documentation of the decisions made in the management committee - The member fee is collected but less than 50% of the members regularly contribute.ie Not all the members practice/honor their group constitution or membership rules and regulations.
		Gender	- Women participate in the group activities along with men. - Few women show their interest to join the decision-making process and men dominate both the general meetings and the management committee.ie.Women passively participates in the management and general meetings.	- More than 70% of women members participate in the group activities regularly.

Level 3	The group members became confident in each other.	Leadership	- A leader listens to the members' voices and tries to manage the group in a democratic way. I.e. A leader looks at the interest of all members of the group; Works with each member to make them feel equally important OR in other words; A leader works with each member to build their confidence.	- The management committee and the general meeting are held regularly. The decisions and plans of the group activities are discussed in the regular management and general meetings.
		Cooperation among members	- Every member actively participates in a general meeting, which is regularly held. - The members support each other in the implementation of new skills/knowledge both in the individual field and the common field. - The group is about to start / just started the collective purchase of inputs and sales of products. The group has started to collect funds from the members for the collective purchase of inputs and conducted the market survey for the sale of their products.	- The general meetings are held regularly with more than 80% of men and women members participating. - New skills/knowledge are implemented in the members' fields. - Member fee is collected regularly and more than 90% of members contribute. - The treasurer/secretary keeps books but the accuracy needs to be improved. - OR The Treasure/secretary; Each keep Record books but without/or with poor accountability procedures
		Gender	- Both men and women are comfortable in expressing him/herself freely in the meeting. - Women are actively involved in the group management.	- More than 30% of committee members are women.

Level 4	The strong tie has established among the group members. The members are interested in the capacity enhancement of the group as well as the community as a whole.	Leadership	- Members have confidence in leaders and assist them for the smooth group operation.	- The committee members are selected through either the election or the discussion in the general meeting.Ie The committee members are democratically voted in the office during the general meeting
		Cooperation among members	- The group has a capacity to find a solution for most of problems raised in the group management and operation including the collective purchase of inputs and marketing of products. OR The Group has an effective conflict resolution in place. - The members assist the neighbors and community members in dissemination of their farming skills/knowledge freely and openly	- The treasurer/secretary keeps record books with a good accuracy (good accountability procedure). - All members are aware of and are satisfied with how the membership fee is spent and how the profits from the collective marketing are shared among the members. - More than 80% of men and women members are engaged in the skills /knowledge dissemination to other farmers.
		Gender	- Both women and men are fully aware of the negative impacts of the gender disparities on the community development as well as the improvements of their livelihoods. - Women members also participate in the community meetings actively.	- More than 40% of the committee members are women. - Women members participate in various community activities.

Level 5	The group is able to work together to address various problems and can build and maintain the network with other groups and organizations.	Leadership	- A chairperson is selected through the democratic process. - The change of leaders doesn't affect the group management and operation.	- A chairperson is selected through the election or the discussion among members in the general meeting. - The group has by-laws, which was developed with the consent of all group members.
		Cooperation among members	- The group interacts with other groups/organization to address any problem arisen. - Many members are engaged in the well-being of the community, making a use of their skills/knowledge learned through the SHEP activities. - The group negotiates with buyers over the prices and volumes.	- The number of other groups / organization with the regular contact - The group has a bank account. - The selling prices of the products are better than those of previous season.
		Gender	- Members work with other community members on the improvement of gender relations in the community.	- The community increased the number of women committee members in the community management committee (the highest decision-making entity in the community).

Annex 3

Verifiable Indicators for Output 2

Nyandarua

Crop	**Baseline analysis (ton/acre)**	District potential (ton/acre)	National potential (ton/acre)	Suggested potential (tons/acre)		**Groups supported directly by the project**		**Groups supported by extension staff**	
				Farm chem	Seminis	**Proposed growth rate**	**Expected production (ton/acre)**	**Proposed growth rate**	**Expected production (ton/acre)**
Cabbage (Copenhagen)	**15.7**	10.8	8.1	20-24	28-44	**Up to 10 %**	**17.3**	**Up to 5 %**	**16.5**
Carrot (Nantes)	**9.3**	6.8	4.4		16	**Up to 10 %**	**10.2**	**Up to 5 %**	**9.8**
Snow pea	**2.4**	3.3	2.7		4-5	**Up to 10 %**	**2.6**	**Up to 5 %**	**2.5**

Remarks

- The differences are not significant considering the farmers are horticulture oriented
- The trainings on production and quality, improved rural infrastructure , and the formation of PMOs will enhance the proposed increment
- The climate is fairly ideal for the production of these crops

Kisii

Crop	**Baseline analysis (ton/acre)**	District potential (ton/acre)	National potential (ton/acre)	Suggested potential (tons/acre)			**Groups supported directly by the project**		**Groups supported by extension staff**	
				Farm chem	Seminis	HCDA	**Proposed growth rate**	**Expected production (ton/acre)**	**Proposed growth rate**	**Expected production (ton/acre)**
Kales (Thousand headed)	**7.2**	8	5.6	16-32			**Up to 10 %**	**7.9**	**Up to 5 %**	**7.6**
Tomato (Moneymaker)	**5.9**	8	8.8		20-25		**Up to 10 %**	**6.5**	**Up to 5 %**	**6.2**
Banana	**11.1**	8	5.1			14-16	**Up to 10 %**	**12.2**	**Up to 5 %**	**11.7**

Remarks

- The baseline analysis done is an average for the farmer groups interviewed
- The district potential is an average figure encompassing the different agro-ecological conditions and the management practices
- The national potential is a total average of the different district potential averages country wide
- The figure from the seed companies are yields expected under optimal conditions
- The criteria for crop selection is based on the crop acreage
- The use of acreage in setting the project indicator was because it could act as a parameter for comparison purposes

Bungoma

Crop	Baseline analysis (ton/acre)	District potential (ton/acre)	National potential (ton/acre)	Suggested potential (tons/acre)		Groups supported directly by the project		Groups supported by extension staff	
				Farm chem	Seminis	Proposed growth rate	Expected production (ton/acre)	Proposed growth rate	Expected production (ton/acre)
Kale (Thousand headed)	3.5	5.6	5.6	16-32		Up to 30 %	4.6	Up to 5 %	3.7
Tomato (Money Maker)	4.7	7.2	6.8		25-30	Up to 20 %	5.6	Up to 5 %	4.9
Onion (Red creole)	2.7	19.2	5.0		15.0	Up to 30 %	3.5	Up to 5 %	2.8

Remarks

- The kales can increase significantly considering their main problems are getting market outlets which the project can address through the formation of PMOs
- The farmers have been discouraged by the lack of standard weight for kales by the middle buyers leading to the low production
- The control of pests and diseases in tomatoes can be reduced through the infield trainings
- The trainings on production and quality control will ensure farmers use certified seeds for the tomatoes
- The trainings on the production and husbandry will ensure the pests and diseases are minimized
- The major problem of curing in onions will be addressed through infield trainings and will enhance the increase in the net yields

Trans-Nzoia

Crop	Baseline analysis (ton/acre)	District potential (ton/acre)	National potential (ton/acre)	Suggested potential (tons/acre)		Groups supported directly by the project		Groups supported by extension staff	
				Farm chem	Seminis	Proposed growth rate	Expected production (ton/acre)	Proposed growth rate	Expected production (ton/acre)
Tomato (Cal J)	7.9	10	6.8	33	10	Up to 10 %	8.7	Up to 5 %	8.3
Kale (Collard)	4.7	12	5.6			Up to 30 %	6.1	Up to 5 %	4.9
Cabbage (Gloria)	16.4	10	8.1		44-64	Up to 20 %	19.7	Up to 5 %	17.2

Appendix 3. Project Design Matrix (PDM): the Smallholder Horticulture Empowerment Project (SHEP)

Name of Project: Smallholder Horticulture Empowerment Project (SHEP)
Term of Cooperation: three (3) years (Nov. 14, 2006 – Nov. 13, 2009)
Implementing Organization: MoA and HCDA
Target Area: Bungoma East, West, North districts (Western Province)
TransNzoia East, West and Kwanza districts (Rift Valley Province)
Kisii Central, South and Masaba districts (Nyanza Province)
Nyandarua North and South districts (Central Province)
Target Group:
Direct Beneficiary: Smallholder horticulture farmer groups and extension staff of MoA and HCDA in the target area.
Indirect Beneficiary: Smallholder horticulture farmer groups
Supported Group: Direct supported farmer groups (10 groups in each district)
Indirect supported farmer groups (20 groups each district)

PDM Version 2 / Sep 2008

NARATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Overall Goal Improved livelihoods of smallholder horticulture farmers in the target districts.	Reduced poverty rate in the target districts	District Development Profiles	There is no severe drought.
Project Purpose Developed capacity of the smallholder horticulture farmer groups supported by the Projects.	By the end of the project, the net-income benefit for individual members (men and women) of the smallholder horticulture farmer groups and the groups supported by the project increase by 14.7– 20.2 %.	Baseline Survey Reports; Project Evaluation Reports.	
Outputs of the Project 1.Target groups (smallholder horticulture farmer groups) gain bargaining power in marketing their produce. 2.Target groups increase the production of better quality crops. 3. Target groups develop capacity to improve rural infrastructure for production and transportation.	1-1.By the end of the project, 100% of farmer groups supported directly by the Project improves by at least one level of the Group Empowerment Indicators. 1-2.By the end of the project, more than 60% of the farmer groups supported indirectly by the Project improve by at least one level of the Group Empowerment indicators. 2-1.Average growth rate of net-produce per acre (i.e. total yield minus the quantity of rejected produce) of the members (men and women) of farmer groups supported directly by the Project increased by 10 - 50%. 2-2.Average growth rate of net-produce per acre (i.e. total yield minus the quantity of rejected produce) of the members (men and women) of farmer groups supported indirectly by the Project increase by 5 - 30 %. 3-1.80% of farmer groups, which indicated in the problem analysis the problem of the rural infrastructure in the community, put the introduced technology into the practice (For directly supported groups). 3-2.60 % of farmers groups, which submitted requirement form filled correctly, puts the introduced technology into the practice. (For indirectly supported groups)	Baseline Survey Reports; Project Evaluation Reports.	Market demand of horticultural produce and products do not shrink; Market prices of horticultural crops do not slump; There is no severe outbreak of pests and diseases; Policy support for road maintenance and network development is not deteriorated.

Activities of the Project	**Inputs**		
	Japanese side	Kenyan side	
1. Preparation for establishment of Project office 2. Making TOR of each C/P and the figure of the Project structure 3. Determination of role of each stakeholder 4. The sensitization workshop and launching ceremony 5. Selection of model groups 6. Baseline survey 7. Re-setting the Project indicators 8. Steering Committee 9. Stakeholder Forum 10. Treining 10-1. Making the training materials A. Direct group 10A-1. Residential training (JEF2G) 10A-2. In-field training B. Indirect group 10B-1. JEF2G training 10B-2. Training of trainers 10B-3. In-field training by extension staff 11. Follow-up support 12. Manuals (Project final products) 13. Dispatch of Japanese short term experts 13-1. Gender mainstreaming 13-2. Rural Infrastructure	1. Three (3) long –term experts (Team Leader/ Farmer Group Formation and Management, Horticulture Production and Extension, Coordinator/Training Administration). 2. Short-term expert (Appropriate Technology on Rural Infrastructure). Others to be dispatched if necessary. 3. Local consultant (Appropriate Technology on Rural Infrastructure). 4. Three (3) vehicles, one (1) photocopier, audio-visual equipments, office equipments. 5. Construction cost, Operational cost.	1. Counterparts respectively from MOA and HCDA (Project Director, Project Manager, Project Coordinator, Project Specialists). 2. Useful equipments, offices. 3. Counterpart budget	**Preconditions:** Policy support for horticulture sub-sector development is not deteriorated.

A3-1

SHEP Verifiable Indicators of Project Purpose amended 4th Sep 2008

Proposed Rate (%) of increase and Expected Net-income benefit

		Average net-income benefit (Ksh)				Proposed rate (%) of Increase
		Group	Per farmer	Per man	Per woman	
Bungoma	Baseline data	343,636	14,924	19,494	9,815	**20.2**
	Target	**413,030**	**17,938**	**22,660**	**12,429**	
Kisii	Baseline data	177,747	7,637	10,812	4,965	**18.0**
	Target	**209,798**	**9,015**	**12,371**	**6,627**	
Nyandarua	Baseline data	983,919	38,674	41,244	35,087	**14.7**
	Target	**1,128,405**	**44,353**	**47,126**	**41,310**	
Trans-Nzoia	Baseline data	622,141	27,347	29,236	24,947	**16.2**
	Target	**723,062**	**31,783**	**35,260**	**27,368**	

Amendment of the verifiable indicator for the project purpose

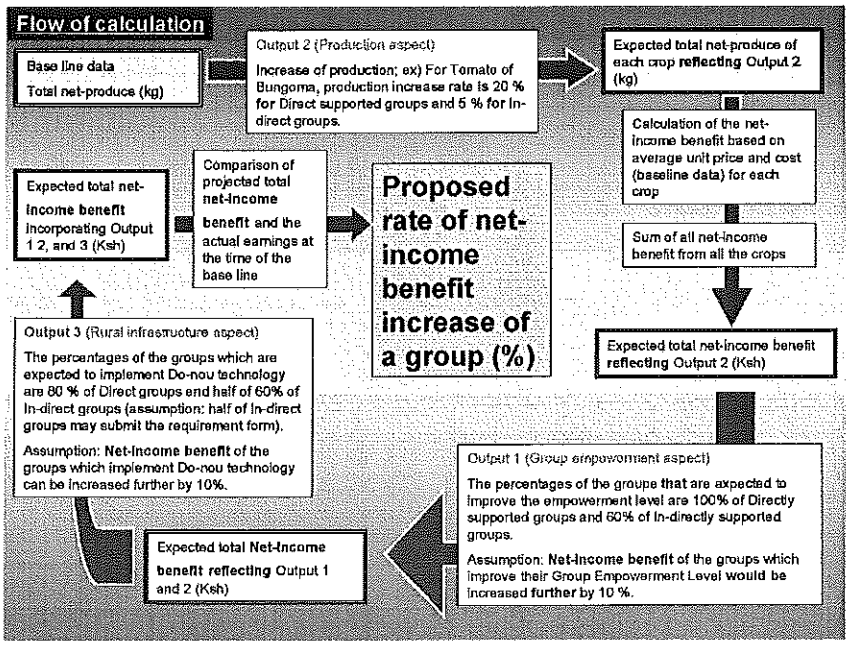
Back ground

The verifiable indicator for the project purpose of PDM ver. 1 amended and approved in the last Project Steering Committee in October 2007 was calculated by the data based on the increase rate of production of three main crops which were selected by the project. Since the target crops were selected by the groups themselves through the exercise of crop selection conducted during the 1st in-field training, the verifiable indicator of the project purpose should be re-calculated referring the results of crop selection.

SHEP PDM version 2, Annex 1, Sep2008

Summary

The concept of the calculation is as below:



SHEP PDM version 2, Annex 1, Sep2008

1. Influence of Output 2 to the increase net-income benefit
In the following explanation on calculation, the case of tomato in Bungoma is used as an example. The total net-income in Bungoma was calculated from 40 groups which were surveyed during the baseline survey in May to July 2007.

1-1) Increased amount of production of directory supported groups
Ten groups are supported directory by the project in Bungoma as model group and five groups have selected tomato as their target crop. According to verifiable indicator for Output 2, the increase rate of tomato production for directly supported groups is set up by 20 %. If the five groups succeed in increase their production by 20 %, increased amount of production of tomato can be calculated by the below formula.
A) The increased amount of production of directory supported groups (kg) = total production (kg) @ 20 % @ 5 groups / 40 groups

1-2) The number of in-directory supported groups which will select tomato as a target crop
The training for the in-direct supported groups has not started yet. Therefore, the number of groups which select tomato as a target crop cannot be understood. However, assumption that ratio of the number of the in-directory supported groups can be assumed from it of directory supported groups because some agronomic conditions are same in both groups. The ratio of the number of directory supported groups which have selected tomato is 25 % because all ten model groups selected 2 crops through the exercise on crop selection and the total number of selected crops are 20, then 5 groups selected tomato. So, the hypothetical number of the in-directory supported groups which select tomato can be calculated from the below formula.
B) The hypothetical number of the in-directory supported groups which select tomato = (40 groups – 10 directory supported groups) @ 2 crops @ 25%

1-3) Increased amount of production of in-directory supported groups
The hypothetical number of in-directory groups is 15 groups calculating above formula. In the verifiable indicator for Output 2, the increase rate of tomato production for in-directory supported groups is set up by 5%. So, the amount can be calculated as below.
C) The increased amount of production of in-directory supported groups (kg) = total production @ 5% @ 15 groups / 40 groups

1-4) Total modified production
A) and C) are the increased amount of production from both directory and in-directory supported groups.
D) Total modified production (kg) = total production (baseline data) + A) + C)

The total production of each crop is calculated as same as above formula and total net-income benefit from each crop can be clear after multiplication of unit price (baseline data) for each and subtraction of costs (baseline data).
E) Total net-income benefit in the district (Ksh) = sum up by net-income benefit from all crops

SHEP PDM version 2, Annex 1, Sep2008

2. Influence of Output 1 to the increase net-income benefit
When the output 1 is achieved completely, total net-income benefit which is calculated above must be influenced positively. Because proper group formation and management can bring positive impact on their income, for instance, exercise on purchasing input and selling their produce, motivating women farmers who play a key role in horticulture production, etc. It is difficult to identify the exact percentage of impact on total net-income benefit, however in this situation, the increase rate is assumed as 10%.

2-1) Increased net-income benefit from the directory supported groups
According to the verifiable indicator for output 1, all directory supported groups improve their Group Empowerment level at least 1 from the baseline. So, the influence on total net-income benefit in the district can be calculated as below formula.
F) Increased total net-income benefit from the directory supported groups (Ksh) = E) @ 10% @ 10 groups (directory supported groups) / 40 groups

2-2) Increased net-income benefit from the in-directory supported groups
According to the verifiable indicator for output 1, 60% of the in-directory supported groups improve their Group Empowerment level at least one from baseline. In Bungoma, the number of in-directory supported groups is 30 (40 – 10).
G) Increased total net-income benefit from the in-directory supported groups (Ksh) = E) @ 10% @ 30 groups @ 60% / 40 groups

2-3) Total net-income benefit reflecting Output 1
Above F) and G) are increased net-income benefits from both groups.
H) Total net-income benefit reflecting Output 1 (Ksh) = E) + F) + G)

3. Influence of Output 3 to the increase net-income benefit
When the access to markets from rural area of groups is improved, this is the target of Output 3, loss of crops during transportation must be decreased and unit selling price will be higher than before. It is difficult to identify the exact percentage of impact on total net-income benefit as same as output 1, the increase rate in this case is also assumed as 10%.

3-1) Increased net-income benefit from the directory supported groups
According to the verifiable indicator for output 3, 80% of farmer groups (directory supported groups), which indicated in the problem analysis the problem of the rural infrastructure in the community, puts the introduced technology into the practice. So the below formula can give the increased total net-benefit from the groups.
I) Increased net-income benefit from the directory supported groups (Ksh) = H) @ 10% @ 10 groups @ 80% / 40 groups

3-2) Increased net-income benefit
The verifiable indicator for the in-directory supported groups in output 3 is that 60 % of farmers groups, which submitted requirement form filled correctly, put the introduced technology into the practice. The number of groups which submit the requirement form can be assumed as 50% based on previous experiences of the project activities on Do-nou. Then the half of 30 in-directory supported groups (40-10model groups) which are expected increase their net-income benefit by 10% as same as directory supported groups will submit the requirement form and 60% of the half of them will put the Do-nou technology.
J) Increased net-income benefit from the in-directory supported groups (Ksh) = H) @ 10% @ 30 groups @ 50% @ 60% / 40 groups

3-3) Total net-income benefit reflecting Output 3
Above I) and J) are increased net-income benefits from both groups.
K) Total net-income benefit reflecting Output 3 (Ksh) = H) + I) + J)

4. Increase rate of net-income benefit per a group
The increase of net-income benefit of target greups is the project purpose and the increase rate is required to set up. K) is the total net-income benefit from horticulture crops in the district, so the total net-income benefit per a group can be calculated by dividing the total number which participated the baseline survey.
L) Expected net-income benefit per a group (Ksh) = K) / 40groups

Further, comparison between L) and the baseline data can give "the percentage of increase rate".

SHEP Group Empowerment Indicators
Indicators to assess the capacity change in a farmer group

Version 1, 22nd Oct 2007

Level	Description		Qualitative Aspects	Quantitative Aspects
Level 1	The group is formed as recommended by outsiders. But not all members are fully convinced of its benefit.	Leadership	- The leader is not aware of her/his role and responsibility	
		Cooperation among members	- Only the group officials are exclusively involved in the decision-making. - Little cooperation exists among member i.e. limited number of group members implement the group plan	
		Gender	- No awareness on gender issues i.e. What is to be a man and What is to be a woman - Gender disparities are accepted as culture and tradition.	

SHEP PDM version 2, Annex 2, Sep2008

Level 2	The group members are becoming aware of the benefits of grouping.	Leadership	- A leader started taking an initiative in group operation.ie A leader has started to support day to day activities of the group	- Both the management committee and the general meeting are held on ad hock basis.ie There is no consensus reached; on the time, date and place where the next meeting will be held at the end of the meeting. - The meetings are not for discussion but to convey messages from the leaders/officials to the ordinary members i.e. Group members are not given the opportunity either to make changes or approve the agenda.
		Cooperation among members	- Group members organize the farming activities together with an aim to upgrade their skills/knowledge. - Some members are of interest on how the group is managed but not all of them.ie. Not all the members are aware of the group's constitution.	- More than twice a month the group activities are organized. - The members are verbally informed of the decisions made in the management committee i.e. there is no documentation of the decisions made in the management committee - The member fee is collected but less than 50% of the members regularly contribute.Ie Not all the members practice/honor their group constitution or membership rules and regulations.
		Gender	- Women participate in the group activities along with men. - Few women show their interest to join the decision-making process and men dominate both the general meetings and the management committee.ie.Women passively participates in the management and general meetings.	- More than 70% of women members participate in the group activities regularly.

SHEP PDM version 2, Annex 2, Sep2008

Level 3	The group members became confident in each other.	Leadership	- A leader listens to the members' voices and tries to manage the group in a democratic way. I.e. A leader looks at the interest of all members of the group; Works with each member to make them feel equally important OR in other words; A leader works with each member to build their confidence.	- The management committee and the general meeting are held regularly. The decisions and plans of the group activities are discussed in the regular management and general meetings.
		Cooperation among members	- Every member actively participates in a general meeting, which is regularly held. - The members support each other in the implementation of new skills/knowledge both in the individual field and the common field. - The group is about to start / just started the collective purchase of inputs and sales of products. The group has started to collect funds from the members for the collective purchase of inputs and conducted the market survey for the sale of their products.	- The general meetings are held regularly with more than 80% of men and women members participating. - New skills/knowledge are implemented in the members' fields. - Member fee is collected regularly and more than 90% of members contribute. - The treasurer/secretary keeps books but the accuracy needs to be improved. - OR The Treasure/secretary; Each keep Record books but without/or with poor accountability procedures
		Gender	- Both men and women are comfortable in expressing him/herself freely in the meeting. - Women are actively involved in the group management.	- More than 30% of committee members are women.

SHEP PDM version 2, Annex 2, Sep2008

Level 4	The strong tie has established among the group members. The members are interested in the capacity enhancement of the group as well as the community as a whole.	Leadership	- Members have confidence in leaders and assist them for the smooth group operation.	- The committee members are selected through either the election or the discussion in the general meeting.ie The committee members are democratically voted in the office during the general meeting
		Cooperation among members	- The group has a capacity to find a solution for most of problems raised in the group management and operation including the collective purchase of inputs and marketing of products. OR The Group has an effective conflict resolution in place. - The members assist the neighbors and community members in dissemination of their farming skills/knowledge freely and openly	- The treasurer/secretary keeps record books with a good accuracy (good accountability procedure). - All members are aware of and are satisfied with how the membership fee is spent and how the profits from the collective marketing are shared among the members. - More than 80% of men and women members are engaged in the skills /knowledge dissemination to other farmers.
		Gender	- Both women and men are fully aware of the negative impacts of the gender disparities on the community development as well as the improvements of their livelihoods. - Women members also participate in the community meetings actively.	- More than 40% of the committee members are women. - Women members participate in various community activities.

Level 5	The group is able to work together to address various problems and can build and maintain the network with other groups and organizations.	Leadership	- A chairperson is selected through the democratic process. - The change of leaders doesn't affect the group management and operation.	- A chairperson is selected through the election or the discussion among members in the general meeting. - The group has by-laws, which was developed with the consent of all group members.
		Cooperation among members	- The group interacts with other groups/organization to address any problem arisen. - Many members are engaged in the well-being of the community, making a use of their skills/knowledge learned through the SHEP activities. - The group negotiates with buyers over the prices and volumes.	- The number of other groups / organization with the regular contact - The group has a bank account. - The selling prices of the products are better than those of previous season.
		Gender	- Members work with other community members on the improvement of gender relations in the community.	- The community increased the number of women committee members in the community management committee (the highest decision-making entity in the community).

SHEP PDM version 2, Annex 3, Sep2008

SHEP

Project Indicators for Output 2: Percent Increase Rate for Selected Horticultural Crops for Groups Supported Directly by the Project and Groups Supported by the Extension Staff.

Prepared by Stephen Kioko on 16th July 2008

Bungoma District

Crop	Number of groups	Baseline Analysis Tons/acre	District potential Tons/acre	National Potential Tons/acre	Suggested potential based on seed companies Tons/acre		Increase rate for groups supported directly by project		Increase rate for groups supported by extension staff	
					Farmchem	Seminis	Proposed increase rate %	Expected production Tons/acre	Proposed increase rate %	Expected production Tons/acre
Tomato	7	4.7	7.2	12	13-20	25-30	Up to 20 %	5.6	Up to 5 %	4.9
Kales	3	3.5	5.6	6	16-32	*	Up to 30 %	4.6	Up to 5 %	3.7
Bulb Onion	3	2.7	19.2	5.0	28	15	Up to 30 %	3.5	Up to 5 %	2.8
Cabbage	3	13.6	8	22.6	*	44-64	Up to 30 %	17.6	Up to 5 %	14.2
Capsicum	1	†	#	4	3-4	6		4		3
Bananas	2	8.44	8	6			Up to 10 %	9.3	Up to 5 %	8.7
Passion fruit	1	†	#	5				4		3

SHEP PDM version 2, Annex 3, Sep2008

Kisii District

Crop	Number of groups	Baseline Analysis Tons/acre	District potential Tons/acre	National Potential Tons/acre	Suggested potential based on seed companies Tons/acre		Increase rate for groups supported directly by project		Increase rate for groups supported by extension staff	
					Farmchem	Seminis	Proposed increase rate %	Expected production Tons/acre	Proposed increase rate %	Expected production Tons/acre
Onion	5	1.39	#	4.8	*	8-10	Up to 50 %	2.0	Up to 30 %	1.8
Black night shade	4	2.46	#	3.2	*	*	Up to 30 %	3.19	Up to	2.58
Tomato	3	5.9	8	12	13-20	20-25	Up to 10 %	6.5	Up to 5 %	6.2
Kales	3	7.2	8	6	16-32	*	Up to 10 %	7.9	Up to 5 %	7.6
Carrot	2	1.72	10	5.6	12-36	16	Up to 50 %	2.6	Up to 30 %	2.2
Spider plant	1	2.55	#	3.2	*	*	Up to 30 %	3.32	Up to	2.68
Pineapple	1	1.88	4	6			Up to 30 %	2.44	Up to 5 %	1.97
Passion fruit	1	1.37	4	5			Up to 3o %	1.78	Up to 5 %	1.44
Banana	1	11.14	8	6			Up to 10%	12.3	Up to 5 %	11.7
Capsicum	1	†	5	4	3-4	6		4		3

SHEP PDM version 2, Annex 3, Sep2008
Nyandarua District

Crop	Number of groups	Baseline Analysis Tons/acre	District potential Tons/acre	National Potential Tons/acre	Suggested potential based on seed companies Tons/acre		Increase rate for groups supported directly by project		Increase rate for groups supported by extension staff	
					Farmchem	Seminis	Proposed increase rate %	Expected production Tons/acre	Proposed increase rate %	Expected production Tons/acre
Cabbage	10	15.7	10.8	22.6	28-50	28-44	Up to 10 %	17.3	Up to 5 %	16.5
Snow peas	4	2.4	3.3	2.7	*	4-5	Up to 10 %	2.6	Up to 5 %	2.5
Garden Peas	3	2.34	0.8	2	3	*	Up to 10 %	2.57	Up to 5 %	2.45
Carrot	3	9.3	6.8	4.4	12-36	16	Up to 10 %	10.2	Up to 5 %	9.8
Kales	1	13.22	12	6	16-22	*	Up to 10 %	14.54	Up to 5 %	13.88
Tree tomato	1	16.02	6				Up to 10 %	17.62	Up to 5 %	16.82

SHEP PDM version 2, Annex 3, Sep2008
Trans-Nzoia District

Crop	Number of groups	Baseline Analysis Tons/acre	District potential Tons/acre	National Potential Tons/acre	Suggested potential based on seed companies Tons/acre		Increase rate for groups supported directly by project		Increase rate for groups supported by extension staff	
					Farmchem	Seminis	Proposed increase rate %	Expected production Tons/acre	Proposed increase rate %	Expected production Tons/acre
Cabbage	7	16.4	10	22.6	*	44-64	Up to 20 %	19.7	Up to 5 %	17.2
Tomato	6	7.9	10	12	33	10	Up to 10 %	8.7	Up to 5 %	8.3
Capsicum	3	6.1	#	4	3-4	6	Up to 10 %	6.7	Up to 5 %	6.4
Bulb Onion	2	3.27	#	2.5	28	16	Up to 30 %	4.25	Up to 5 %	3.47
Passion fruit	1	2.45	#	5			Up to 30 %	3.18	Up to 5 %	2.57
Black night shade	1	5.48	#	3.2	*	*	Up to 10 %	6.0	Up to 5 %	5.75

NOTES

1. The above crops were selected by the SHEP Model farmer groups during the 1st In-field Training through produce selection process.
2. The baseline data represents an average for the farmer groups interviewed.
3. The symbols in the tables are used as follows:
   * Seed companies' data is not available
   † Baseline data not collected
   # District data not available.
4. The national data is the national average and does not take into account the differences in the varieties.
5. It is assumed that the farmer groups supported by the extension staff will select crops similar to the model groups.
6. Source of data:
   - Vegetable Seed bred for East Africa by Regina Seeds
   - Seed Stock News by Seed Links

- Reports by the District Agricultural Officers
- Final Horticulture Data Validation Report by Ministry of Agriculture
- SHEP Baseline Reports

7. Data on indigenous vegetables and tree tomato is not easily available.
8. Inability of farmers to keep up to date records affects the quality of data.
9. Gray colored columns are the crops which were selected for the previous indicator.

Appendix 4. Summary of Inputs

1: List of Japanese Experts

【Long-term】

Name	Assignment	Period	Office affiliated
Dr. Jiro AIKAWA	Team Leader/ Farmer Group Formation	2006.11.14 - 2009.11.13	
Mr. Kiyoshi KITA	Horticulture Production and Extension	2006.11.14 - 2008.11.13	
Ms. Yuki HONJO	Project Co-ordination/ Training Administration	2006.11.14 - 2008.11.13	
Ms. Harue Kitajima	Horticulture Production and Extension	2008.11.02 -2009.11.13	
Mr. Kenichi BAMBA	Project Coordinator/ Information Management	2008.11.07 - 2009.11.13	

【Short-term】

Name	Assignment	Period	Office affiliated
Ms.Yoko HARADA	Gender Mainstreaming	2007.03.07 - 2007.06.14	Social Development Specialist
		2009.04.28-2009.06.26	Global Link Mangement
Dr. Yoshinori FUKUBAYASHI	Rural Infrastructure	2007.02.28 - 2007.05.01	Community Road Empowerment(CORE)
		2008.03.29 - 2008.09.25	
		2009.02.08 -2009.10.07	

【Mission member】

Name	Assignment	Period	Office affiliated
Makoto KIMURA	Rural Infrastructure	2007.3.10 - 2007.3.22	Professor International innovation Center Kyoto University

Appendix 4. Summary of Inputs

2: List of Kenyan Counterpart Personnel Trained in Japan

	Name	Course Title	Duration (D/M/Y)	Post	Organization/Department
1	Stephen Kioko(Mr.)	Integrated Agriculture and Rural Development thtough the Particiaption of Local Farmers III	19.11.2007-23.12.2007	Project Counterpart	Ministry of Agriculture
2	Zablon Oirere(Mr.)	The Supporting Program for Farmers Organisation under Japan Association for International Collaboration of Agriculture and Forestry (JAICAF'	29.10.2007-16.11.2007	Project Counterpart	Ministry of Agriculture
3	Grace Mbuthia(Ms.)	Integrated Pest management for Plant Protection	26.05.2008-06.09.2008	Project Counterpart	Horticultural Crops Development Agency (HCDA)
4	Tom Bonyo(Mr.)	Strengthening of Market Competitiveness of Agricultural Products in African Countires	30.03.2008-12.04.2008	Director of crop and land management development	Ministry of Agriculture
5	Peter Orangi(Mr.)	Horticulture Crop Cultivation and Extension for Africa	18.05.2008-13.09-2008	District Crop Officer/Kisii Central (SHEP Desk Officer)	Ministry of Agriculture
6	Florence Khaemba(Ms.)	Educating of Leaders of Communities for the Improvement of Women's Status and Quality of Life	17.11.2008-12.12.2008	Project Counterpart	Horticultural Crops Development Agency (HCDA)
7	Johnson Irungu Waithaka (Dr.)	Promotion of Horticulture	1.3.2009-15.3.2009	Director, Crop Management Department	Ministry of Agriculture
8	N. C. Chepkwony (Mr.)	Promotion of Horticulture	1.3.2009-15.3.2010	Senior Deputy Director, Horticulture Division, Crop Management Department	Ministry of Agriculture
9	Grays Kiplagat (Ms.)	Rural Community Development by Livelihood Improvement Aproach	18.01.2009-07.03.2008	Project Counterpart	Horticultural Crops Development Agency (HCDA)

Appendix 4. Summary of Inputs

3: List of Equipment provision by Japanese side

No.	Item	Price (Ksh)	Budget Type (JICA)	Date(YY/MM)	unit	Vendor	Model Type	In charge
JFY2006								
SH-18-01	Printer	29,000.00	SHEP	2007-12-09	1	mfi	Canon, ip90	
SH-18-02	Satellite Internet System Equipment	243,385.40	SHEP	2007-01-25	1	Callkey networks		
SH-18-03	Manager Desk	21,530.17	SHEP	2007-01-26	1	MIBM		
SH-18-04								
SH-18-05	Digital Camera	42,000.00	SHEP	2006-12-29	1	Homecare&Hardwa	SONY DSC-N1	
SH-18-06	Safety Box	16,269.00	SHEP	2007-01-10	1	Victoria Furniture	AS-46	
SH-18-07	Switch Board on Telephone Lines	45,000.00	SHEP	2007-01-25	1	Panatec Electronics	Panasonic PABX 308	
SH-18-08	Kitchen Board	15,000.00	SHEP	2007-01-26	1	Ugenya modern furniture works	n/a	
SH-18-09	Tall cupboard Wood half Glass doors	17,068.97	SHEP	2007-01-26	1	MIBM	CBD-1C	
SH-18-10	Tall cupboard Wood half Glass doors	17,068.97	SHEP	2007-01-26	1	MIBM	CBD-1C	
SH-18-11	Tall cupboard Wood half Glass doors	17,068.97	SHEP	2007-01-26	1	MIBM	CBD-1C	
SH-18-12	Storage Cupboard full with Wooden doors	20,689.66	SHEP	2007-01-26	1	MIBM	CBD-2C	
SH-18-13	Storage Cupboard full with Wooden doors	20,689.66	SHEP	2007-01-26	1	MIBM	CBD-2C	
SH-18-14	Laptop Computer	129,500.00	SHEP	2007-01-30	1	Text Book Centre	TOSHIBA	
SH-18-15	Shredding machine	26,000.00	SHEP	2007-02-01	1	Boksburg Enterprises	n/a	
SH-18-16	Binding machine	21,000.00	SHEP	2007-02-01	1	Boksburg Enterprises	n/a	
SH-18-17	Mobilephone lines setting (Saf	35,000.00	SHEP	2007-03-09	1	Panatec Electronics	FUSION 100 CPSITER	
SH-18-18	Mobilephone lines setting (Cel	35,000.00	SHEP	2007-03-09	1	Panatec Electronics	FUSION 100 CPSITER	
SH-18-19	Digital Video	80,000.00	SHEP	2006-12-29	1	Homecare&Hardwa	SONY 750	
SH-18-20	TOYOTA Land Cruiser	2,365,090.00	JICA KENYA	2007-03-31	1	TOYATA EAST AFRICA	100 STD HZJ105R-GCMRS	
SH-18-21	TOYOTA Land Cruiser	2,219,190.00	JICA KENYA	2007-03-31	1	TOYATA EAST AFRICA	100 STD HZJ105R-GCMRS	
SH-18-22	TOYOTA Land Cruiser Prado	1,857,668.00	JICA KENYA	2007-03-31	1	TOYATA EAST AFRICA	LJ120R-GKMEE-STD	
SH-18-23	TOYOTA mini bus	2,576,137.00	JICA KENYA	2007-03-31	1	TOYATA EAST AFRICA		
SH-18-24	Photocopy machine	526,960.00	JICA KENYA	2007-03-31	1	mfi	KYOCERA-MITA KM4050	
SH-18-25	Printer/black&white	72,882.00	JICA KENYA	2007-03-31	1	mfi	KYOCERA FS-2000D	
SH-18-26	Printer/Color	157,135.00	JICA KENYA	2007-03-31	1	mfi	KYOCERA FS-C5030N	
SH-18-27	FAX machine	35,000.00	JICA KENYA	2007-03-31	1	mfi	CANON L110	
SH-18-28	Laptop Computer	125,799.75	JICA KENYA	2007-03-31	1	mfi	DELL	
SH-18-29	Laptop Computer	125,799.75	JICA KENYA	2007-03-31	1	mfi	DELL	
SH-18-30	Laptop Computer	125,799.75	JICA KENYA	2007-03-31	1	mfi	DELL	
SH-18-31	Laptop Computer	125,799.75	JICA KENYA	2007-03-31	1	mfi	DELL	
SH-18-32	Laptop Computer	125,799.75	JICA KENYA	2007-03-31	1	mfi	DELL	
SH-18-33	Laptop Computer	125,799.75	JICA KENYA	2007-03-31	1	mfi	DELL	
SH-18-34	Desktop Computer	84,662.25	JICA KENYA	2007-03-31	1	mfi	DELL	
SH-18-35	Desktop Computer	84,662.25	JICA KENYA	2007-03-31	1	mfi	DELL	
SH-18-36	Desktop Computer	84,662.25	JICA KENYA	2007-03-31	1	mfi	DELL	
SH-18-37	Desktop Computer	84,662.25	JICA KENYA	2007-03-31	1	mfi	DELL	
SH-18-38	Projector	127,850.00	JICA KENYA	2007-03-31	1	mfi	DELL	
	TOTAL	**11,862,630.30**						

No.	Item	Price (Ksh)	Budget Type (JICA)	Date(YY/MM)	unit	Vendor	Model Type	In charge
JFY2006								
~~SH-18-E-1~~ SH-18-06	Safe Box	0.00	SHEP	2007-01-10	1	Victoria furniture		
SH-18-E-2	Chair without arm	2,586.21	SHEP	2007-01-16	1	MIBM	UT-1	
SH-18-E-3	Chair without arm	2,586.21	SHEP	2007-01-16	1	MIBM	UT-1	
SH-18-E-4	Chair without arm	2,586.21	SHEP	2007-01-16	1	MIBM	UT-1	
SH-18-E-5	Chair without arm	2,586.21	SHEP	2007-01-16	1	MIBM	UT-1	
SH-18-E-6	Chair without arm	2,586.21	SHEP	2007-01-16	1	MIBM	UT-1	
SH-18-E-7	Chair without arm	2,586.21	SHEP	2007-01-16	1	MIBM	UT-1	
SH-18-E-8	Chair without arm	2,586.21	SHEP	2007-01-16	1	MIBM	UT-1	
SH-18-E-9	Chair without arm	2,586.21	SHEP	2007-01-16	1	MIBM	UT-1	
SH-18-E-10	Chair without arm	2,586.21	SHEP	2007-01-16	1	MIBM	UT-1	
SH-18-E-11	Chair without arm	2,586.21	SHEP	2007-01-16	1	MIBM	UT-1	
SH-18-E-12	Chair without arm	2,586.21	SHEP	2007-01-16	1	MIBM	UT-1	
SH-18-E-13	Chair with arm 1	5,172.41	SHEP	2007-01-16	1	MIBM	DM607	
SH-18-E-14	Chair with arm 2	5,172.41	SHEP	2007-01-16	1	MIBM	DM607	
SH-18-E-15	Chair with arm 3	5,172.41	SHEP	2007-01-16	1	MIBM	DM607	
SH-18-E-16	Chair with arm 4	5,172.41	SHEP	2007-01-16	1	MIBM	DM607	
SH-18-E-17	Chair with arm 5	5,172.41	SHEP	2007-01-16	1	MIBM	DM607	
SH-18-E-18	Chair with arm 6	5,172.41	SHEP	2007-01-16	1	MIBM	DM607	
SH-18-E-19	Chair with arm 7	5,172.41	SHEP	2007-01-16	1	MIBM	DM607	
SH-18-E-20	Chair with arm 8	5,172.41	SHEP	2007-01-16	1	MIBM	DM607	
SH-18-E-21	Chair with arm 9	5,172.41	SHEP	2007-01-16	1	MIBM	DM607	
SH-18-E-22	Managers desk	28,706.00	SHEP	2007-01-16	1	MIBM	V-723	

Appendix 4. Summary of Inputs

4: List of Kenyan Couterpart Personnel

Post/Assignment	Name	Organization /Department	Period
Deputy Team Leader	James Arim (Mr.)	Ministry of Agriculture	15.11.2006-14.11.2009
Farmer Group Formation/ Gender Mainstreaing	Zablon Oirere (Mr.)	Minisrty of Agriculture	15.11.2006-14.11.2009
	Florence Khacmba (Ms.)	Horticultural Crops Deve;opment Authority (HCDA)	15.11.2006-14.11.2009
Horticulture Production and Extension	Stephen Kioko (Mr.)	Minisrty of Agriculture	15.11.2006-14.11.2009
	Grace Mbuthia (Ms.)	Horticultural Crops Deve;opment Authority (HCDA)	15.11.2006-30.04.2009
	Collins Odhiambo(Mr.)	Horticultural Crops Deve;opment Authority (HCDA)	01.05.2009-14.11.2009
Project Coordination/Training Administration/ Rural Infrastructure	Grays Kiplagat (Ms.)	Horticultural Crops Deve;opment Anthority (HCDA)	15.11.2006-14.11.2009

Appendix 4. Summary of Inputs

5: Project Cost sharing by Kenyan side and Japanese Side

〈Japanese Side〉 (Unit : 1000YEN)

Items of Expenditure	JFY2006 (Plan)	JFY2006 (Result)	JFY2007 (Plan)	JFY2007 (Result)	JFY2008 (Plan)	JFY2008 (Result)	JFY2009 (Plan) up to Nov.2009	Total (Plan) Budget (JFY2006-JFY2009) approved by	Total Result (up to JFY2008) + Plan (JFY2009)
General recurrent cost by JICA	11,486	12,169	23,488	23,283	38,000	37,361	27,900		100,713
Equipment by JICA KY	14,100	19,174		0		147	0		19,321
Human Resources (by JICA HQ)	37,448	33,863	47,934	44,378	61,570	52,286	47,286		177,813
Training in Japan (by JICA HQ)				927	10,930	8,141	1,307		10,375
Others (by JICA HQ)		1,260		35	2,500	654	4,170		6,119
Total	63,034	66,466	71,422	68,623	113,000	98,589	80,663	295,080	314,341
Exchange rate				100JY=60KSH		100JY=75KSH	100JY=78KSH		

*JFY: Japanese Financial Year; April - March

〈Kenyan Side〉 (Unit : 1000KES)

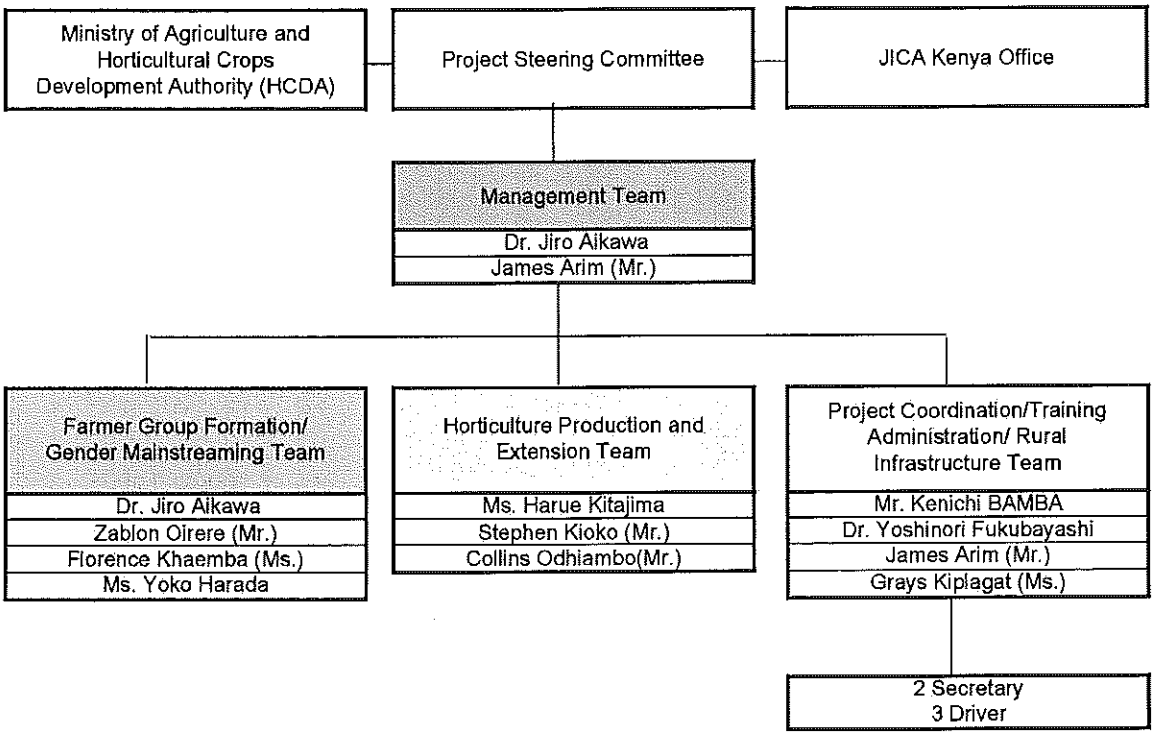
Items of Expenditure	KFY2006/07	KFY2007 (Plan)	KFY2007 (Result)	KFY2008 (Plan)	KFY2008 (Expected Result)	KFY2009 (Plan)		Total Result (up to KFY2008)
General recurrent cost by GOK	NIL		1,583	5,100	3,050			4,633
Equipment	NIL		NIL	NIL	NIL			
Total	NIL		1,583	5,100	3,050			4,633

*KFY: Kenyan Financial Year; July - June

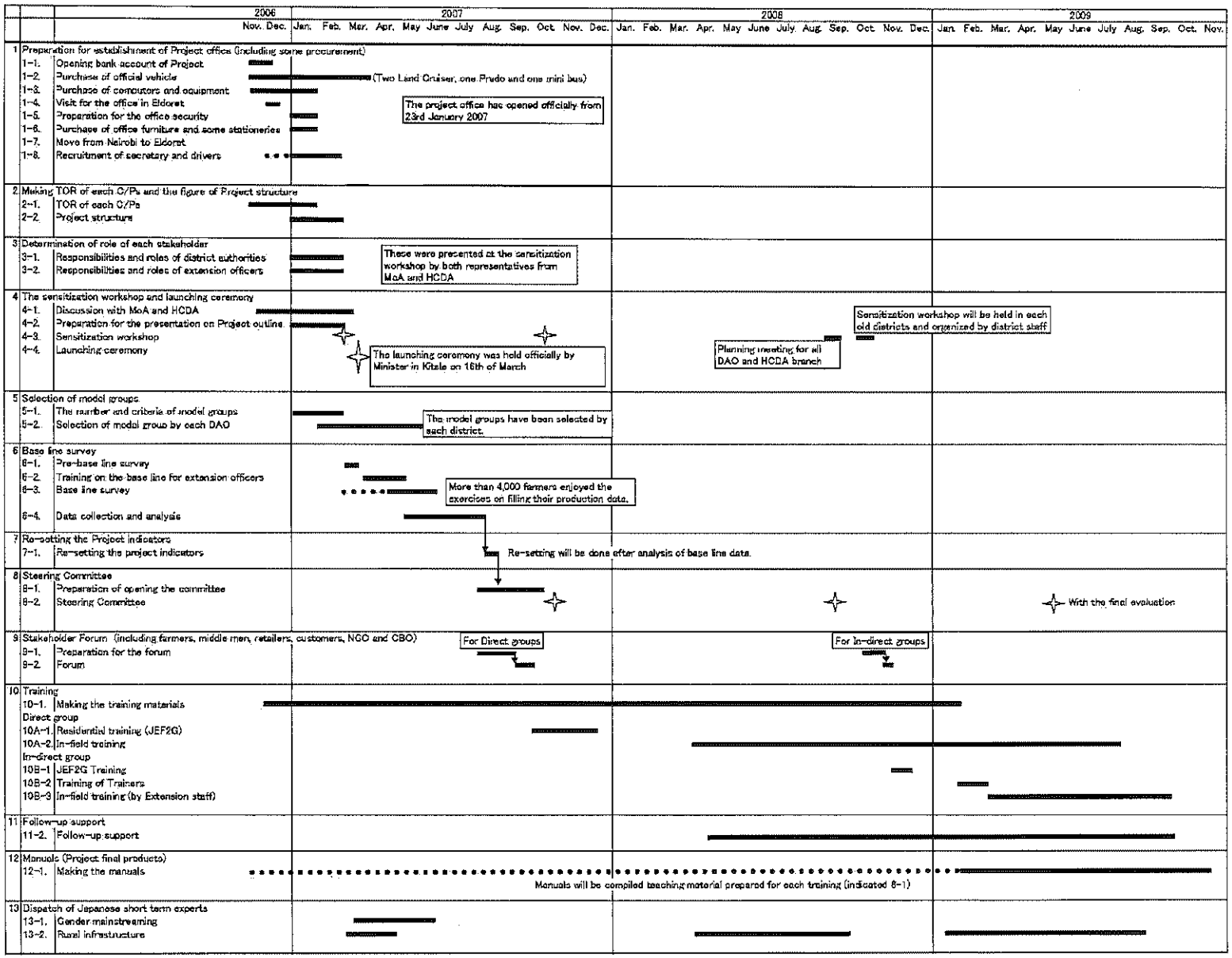
A4-1

Appendix 4. Summary of Inputs

6: Structure of SHEP

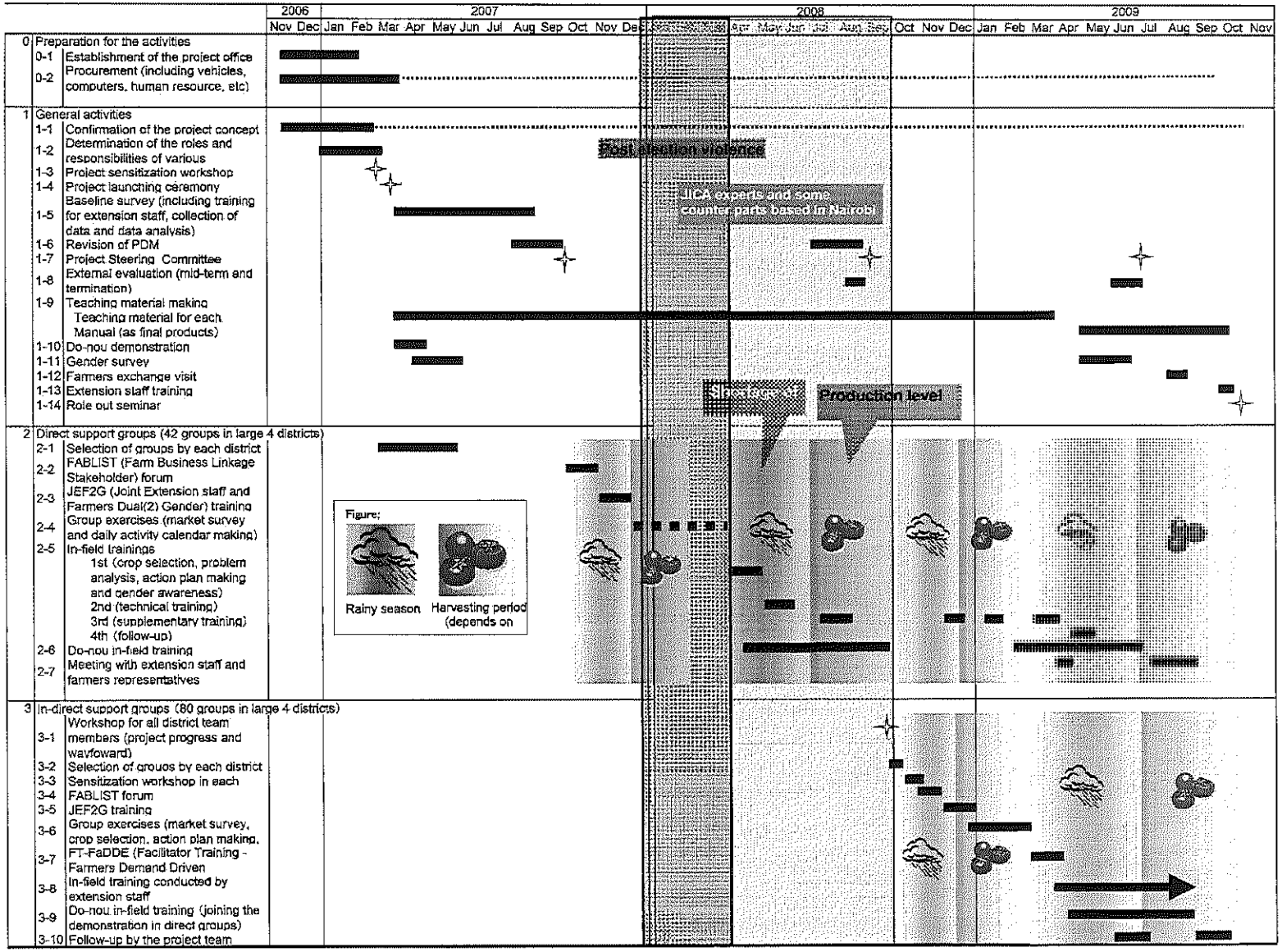


Appendix 5. Plan of Operation1



Appendix 6. Plan of Operation 2

SHEP Activities



Appendix 7. EVALUATION GRID: Smallholder Horticulture Empowerment Project (SHEP) Terminal Evaluation

June 21, 2009

ITEMS	EVALUATION QUESTION		INFORMATION/SOURCE	
	QUESTION	SUB-QUESTION		
ASSESSMENT OF RESULT	Was Japanese inputs conducted as planned?	• Japanese expert: number, timing, duration, field • Local consultant • Facilities and equipment: type, quality, quantity, timing and cost • Construction and operation cost	Performance/ Project team	
	Was Kenyan inputs conducted as planned?	• C/P assignment: number, timing, field • Facilities and equipment • Operation cost: size, timing	Performance/ Project team	
	Output produced	Was the output produced as planned?	Performance and perception/ Project team, farmer group, other stakeholder	
	Objective achieved	Has the project objective been achieved?	Performance and perception/ Project team, farmer group, other market player, MOA, HCDA, District	
	Overall goal achieved	Will the project overall goal be achieved?	Performance and perception/ Project team, MOA, HCDA, District	
ASSESSMENT OF IMPLEMENTATION PROCESS	Were the activities implemented as planned?	Performance of the activities: quality, quantity, timing, duration	Perception/ Project team,	
	Was technical transfer appropriate?	Good points and problems	Perception/ Project team,	
	Was the project management mechanism appropriate?	• Monitoring • Decision making/ management mechanism • Communication • Ownership/ Initiative • Harmonization/ coordination with other projects • Any problem in the process	Perception/ Project team, MOA, HCDA, JICA	
RELEVANCE	Priority	• Is the project still consistent with Kenyan development policies? • Is the project been still consistent with Japanese aid development policies?	• Policy document/ MOA • Aid policy document/ JICA	
	Necessity	• Does the project overall goal and objective still meet the needs of target groups?	Perception/ MOA, HCDA, farmer group	
	Relevance as a means	• Does Japanese aid have an advantage in the related sector? • Is the approach/ strategy of project appropriate to achieve the objective? • Was the selection of the target groups appropriate?	Perception/ Project team, MOA, HCDA, JICA	
	External environment	• Are there any major change in the policies, economy, and society to give important influence on the project?	Perception/ Project team, MOA, HCDA, farmer group, market players	
EFFECTIVENESS	Project objective achieved?	(See the implementation process)		
	Causal relationships	• Has the output contributed to achieving the objective sufficiently? • Have market demands of horticultural produce and products not shrunk? • Have market prices of horticultural crops not slumped? • Are there other important external factors influenced on the objective?	Perception/ Project team, MOA, HCDA	
	Constraints and contributing factors for achieving the objective		Perception/ Project team, MOA, HCDA, farmer group	
EFFICIENCY	Output produced?	(See the implementation process)		
	Efficient use of the inputs?	Quality, quantity, method, timing, utilization	Perception/ Project team, MOA, HCDA	
	Causal relationships	• Have the activities contributed to achieving the outputs sufficiently? • Are there other important external factors influenced on the objective?	Perception/ Project team, MOA, HCDA	
	Constraints and contributing factors for producing outputs		Perception/ Project team, MOA, HCDA	
IMPACT	Overall goal achieved?	(See the implementation process)		
	Constraints/ contributing factors for achieving the overall goal?		Perception/ Project team, MOA, HCDA	
	Causal relationships	• Is the project objective consistent with the project goal? • Has the achievement of project objective contributed to achieving the overall goal sufficiently? • Are important assumptions appropriate?	Perception/ Project team, MOA, HCDA	
	Other impacts?	• Are there any other positive or negative impact on the policies, economy, society, and environment?	Perception/ Project team, MOA, HCDA	
SUSTAINABILITY	Development intervention effect sustained?	• Policy and institutional aspect • Technical aspect • Organizational and financial aspect	Perception/ Project team, MOA, HCDA	
	Constraints and contributing factors for project sustainability?		Perception/ Project team, MOA, HCDA	

Appendix 8. Pre-survey questionnaire

8.1. Summary of the results (1): Result of questionnaire to Frontline extension officers

Larger District	Number of Frontline Extension Workers (FEWs)* Total Men (M) Women (W)	FEWs status* Direct (D) Indirect (I) Both (B)	Q7 SHEP activity Which activity of the Project (SHEP) helped farmers to increase production/income most?	Q11 Positive skill What skills/knowledge helped farmers to significantly increase production/income? Choice number (Skill-Number of people who select the skill)	Q12 Negative factor What factor made it difficult to increase farmers' production/income, if any? Choice number (Factor-Number of people who select the factor)	Q13 Collaboration As a result of stakeholder forum by the Project (SHEP), did farmers' group enter into collaboration, partnership or agreement with other stakeholders?	Q16 Area for further interest Which are of skills/knowledge do you want to learn more to help farmers? Choice number (Skill-Number of people who select the skill)	Q19 Contact How often per month do your meet/contact farmers?
Kisii	24 M14 W10	D6 ID18 B5	In-field-18 FT-FaDDE-3 JEF2G-2	3(Market survey-14) 1(Group mngt-10) 2(Gender awareness-9) 11(Pest&disease ctrl-8) 5(Crop cultivation/rotation schedule-8) 7(Seed/variety selection-6)	4(Fertilizer prices-14) 1(Weather-12) 2(Pest&disease-8)	Yes 8, No 15	6(Organic manure-13) 1(Group mngt-11) 11(Pest&disease ctrl-7) 13(Post harvest mngt-5) 12(Harvest index-5) 14(Donor-4)	1/month-13 2/month-6 >3/month-3 Others-2
Nyandarua	2 M2	D1 ID1	In-field-1 FT-FaDDE-1	3(Market survey-2) 1(Group management-1) 4(Collaboration-1) 7(Seed/variety selection-1) 11(Pest&disease ctrl-1)	1(Weather-2) 4(Fertilizer prices-1) 9(Low farm gate Price-1)	Yes 1, No 1	3(Market survey-1) 6(Organic Manure-1) 9(Nursery-1) 12(Harvest index-1) 13(Post harvest mngt-1) 15(Value addition-1)	1/month-1 2/month-1
Trans-Nzoia	10 M4 W6	D3 ID7	In-field-6 FT-FaDDE-2 JEF2G-2	3(Market survey-8) 11(Pest &disease ctrl-6) 7(Seed/variety selection-4), 1(Group mngt-2)	2(Pest&disease-7) 1(Weather-7) 4(Fertilizer prices-2)	Yes 5, No 5	1(Group mngt-4) 11(Pest&disease ctrl-4) 13(Post harvest mngt-4) 4(Collaboration-3) 6(Organic Manure-2)	>3/month-5 1/month-1 2/month-1
Bungoma	4 M2 W2	D1 ID2 B1	JEF2G-2 FT-FaDDE-1 In-field-1	3(Market survey-4) 11(Pest&disease ctrl-3) 6(Organic manure-2)	1(Weather-1) 2(Pest&disease-2) 7(post harvest-1) 4(Fertilizer prices-1)	Yes 3, No 1	4(Collaboration-3) 1(Group mngt-2) 2(Gender awareness-1) 13(Post harvest mngt-2) 6(Organic Manure-1) 7(Seed/variety selection-1) 11(Pest&disease ctrl-1) 14(Donor-1)	2/month-3 >3/month-1
Total	40 M22 W18	D11 ID23 B6	In-field-27 FT-FaDDE-7 JEF2G-6	3(Market survey-28) 11(Pest&disease ctrl-18) 1(Group management-13) 5(Crop cultibation/rotation schedule-11) 7(Seed/variety selection-11) 1(Group mngt-10)	1(Weather-25) 4(Fertilizer prices-19) 2(Pest&disease-17) 7(Post harvest-1)	Yes 16, No 19	6(Organic manure-17) 1(Group mngt-17) 11(Pests&disease ctrl-12) 13(Post harvest mngt-12)	2/month-11 >3/month-9 1/month-2

Q15 Did SHEP activities occur at the right time and season to enable farmers to use the aquired skill/knowledge? Yes 40 (100%)
Q16 Did you disseminate the skills/knowledge introduced by SHEP to farmers who are not in SHEP assisted group? Yes 40 (100%)
Q17 Are you going to use the skills/knowledge acquired through SHEP after SHEP comes to and end? Yes 40 (100%)

*Key:
M=Men
W=Women
D=Frontline Extension Worker who in charge of **Direct** Model Farmer Group
ID=Frontline Extension Worker who in charge of **Indirect** Model Farmer Group
B=Frontline Extension Worker who in charge **both** Diirect and Indirect Model Farmer Group

8.1. Summary of the results (2): Resulut of questionnaire to Farmers

Name of group	Number of farmers* Total Men (M) Women (W)	D or ID *	Q5 Cooperation Have the Project (SHEP) activities helped your group to improve cooperation among members?	Q6 Production Have the Project (SHEP) activities helped you to increase production?	Q7 Income Have the Project (SHEP) activities helped you to increase income?	Q8 Positive skill What skills/knowledge helped you to increase production/income? (Top 3 out of 15) Choice number (Skill: Number of people who select the skill)	Q9 Negative factor What factors made it difficul to increase production/income if any? (Top 2 out of 10) Choice number (Factor: Number of people who select the factor)	Q10 Collaboration As a result of the stakeholder forum by the Project (SHEP), did your group enter into collaboration, partnership or agreement with other stakeholders?	Q14 Contact before SHEP How often per month did your meet/contact the extension officer before the Project (SHEP) had started?	Q15 Contact after SHEP How often per month do you meet/contact the extension officer since the Project (SHEP) started?	Q16 Area for follow up Which area do you want to continue to ask the extension officer to help you? (Top 3 out of 15) Choice number (Area: Number of people who select the area)	Selected crop
Kisii	55		Yes 51 (92.7%) No 4 Not sure 0	Yes 53 (96.4%) No 2 Not sure 0	Yes 53 (96.4%) No 0 Not sure 2	2(Gender42) 3(Market38) 5(Calender36)	2(Pest35) 4(Fertilizer33)				11(Pest30) 4(Collaboration20) 14(Do-nou24)	
Men (M)	22		Yes 13 (92.9%) No 1 Not sure 0	Yes 21 (95.5%) No 1 Not sure 0	Yes 22 (100%) No 0 Not sure 0							
Women (W)	33		Yes 22 (88.0%) No 3 Not sure 0	Yes 32 (97.0%) No 1 Not sure 0	Yes 31 (93.9%) No 0 Not sure 2							
Ebate	20 M1 W16	D	Yes 19 (M3, W16) No 1 (M1) Not sure 0	Yes 19 (M3, W16) No 1 (M1) Not sure 0	Yes 19 (M4, W15) No 0 Not sure 1 (W1)	2(Gender17) 3(Market17) 5(Calender11)	2(Pest19) 6(Transport15)	Women enterprice Wakenya pamoja sacco	1/month	2/month	1(Collaboration19) 14(Do-nou19) 11(Pest17)	Pineapples Banana
Mobamba 2000	19 M8 W11	ID	Yes 16 (M8, W8) No 3 (W3) Not sure 0	Yes 18 (M8, W10) No 1 (W1) Not sure 0	Yes 19 (M8, W11) No 0 Not sure 0	2(Gender18) 5(Calender15) 3(Market13)	4(Fertilizer14) 2(Pest13)		1/month	2/month	3(Market18) 5(Calender11) 8(Land9) 11(Pest9)	
Rioyuko	16 M10 W6	ID	Yes 16 (M10, W6) No 0 Not sure 0	Yes 16 (M10, W6) No 0 Not sure 0	Yes 15 (M10, W5) No 0 Not sure 1 (W1)	5(Calender10) 3(Market8) 2(Gender7) 9(Nursery7)	4(Fertilize18) 0(Transport prbm)	Sygenta, K rep Nyanza farm ltd AFC Kenya seed co.	2/month	>3/month	4(Collaboration7) 6(Manure7) 2(Gender9) 9(Nursery6)	
Nyandarua	30		Yes 29 (96.7%) No 0 Not sure 0	Yes 30 (100%) No 0 Not sure 0	Yes 30 (100%) No 0 Not sure 0	1(Group18) 2(Market16) 5(Calender15) 7(Seed15)	4(Fertilizer20) 3(Seed17)				6(Manure 19) 12(Harvest13) 11(Pest 11)	
Men (M)	16		Yes 16 (100%) No 0 Not sure 0	Yes 16 (100%) No 0 Not sure 0	Yes 16 (100%) No 0 Not sure 0							
Women (W)	12		Yes 11 (91.7%) No 0 Not sure 0	Yes 12 (100%) No 0 Not sure 0	Yes 12 (100%) No 0 Not sure 0							
Mweiteithia	16 M7 W7 ?2	D	Yes 15 (M7, W6, ?2) No 0 Not sure 0	Yes 16 (M7, W7, ?2) No 0 Not sure 0	Yes 16 (M7, W7, ?2) No 0 Not sure 0	7(Seed12) 1(Group11) 5(Calender7)	3(Seed12), 4(Fertizer10)	Formchem	1/month	2/month	11(Pest11) 5(Calender9) 3(Market7)	
Lake Olbollosat Makereita	14 M9 W5	ID	Yes 14 (M9, W5) No 0 Not sure 0	Yes 14 (M9, W5) No 0 Not sure 0	Yes 14 (M9, W5) No 0 Not sure 0	3(Market12) 8(Calender8) 1(Group7)	1(Weather11) 4(Fertilizer10)	Bayer co. Mungai cabbage buyer	1/month	2/month	6(Manure14) 12(Harvest13) 14(Do-nou7)	
Trans-Nzoia	94		Yes 89 (96.7%) No 2 Not sure 1	Yes 76 (81.7%) No 16 Not sure 1	Yes 77 (81.9%) No 16 Not sure 1	3(Market56) 5(Calender40) 2(Gender37)	1(Weather65) 8(Market43)				4(Collaboration 60) 6(Manure 57) 14(Do-nou 57)	
Men (M)	42		Yes 41 (95.3%) No 2 Not sure 0	Yes 42 (100%) No 0 Not sure 0	Yes 41 (97.6%) No 0 Not sure 1							
Women (W)	52		Yes 48 (96.0%) No 0 Not sure 1	Yes 34 (66.7%) No 16 Not sure 1	Yes 36 (67.9%) No 16 Not sure 1							
Inuka	19 M10 W9	ID	Yes 19 (M10, W9) No 0 Not sure 0	Yes 18 (M10, W8) No 0 Not sure 0	Yes 19 (M10, W9) No 0 Not sure 1 (W1)	4(Collaboration18) 2(Gender17) 3(Market16)	8(Market17) 2(Pest14)	Biomedica Kenya seed Mazop, KFA GNLD	>3/month	>3/month	4(Collaboration19) 6(Manure19) 14(Do-nou14)	
Queen	20 M4 W16	ID	Yes 20 (M4, W16) No 0 Not sure 0	Yes 4 (M4) No 15 (W15) Not sure 1 (W1)	Yes 3 (M3) No 16 (W16) Not sure (M1)	1(Group16) 11(Pest14) 3(Market8)	8(Market20) 1(Weather16)		0/month	>3/month	1(Group16) 11(Pest15) 5(Calender7)	
Kapkoi	20 M7 W13	ID	Yes 16 (M6, W10) No 2 (M2) Not sure 0	Yes 19 (M7, W12) No 1 (W1) Not sure 0	Yes 20 (M7, W13) No 0 Not sure 0	3(Market20) 5(Calender20) 9(Nursery20)	1(Weather20) 4(Seed20)		>3/month	>3/month	4(FABLIST20) 6(Manure, Fertilizer20) 14(Do-nou20)	

8.1. Summary of the results (2): Resulut of questionnaire to Farmers

Name of group	Number of farmers* Total Men (M) Women (W)	D or ID *	Q5 Cooperation Have the Project (SHEP) activities helped your group to improve cooperation among members?	Q6 Production Have the Project (SHEP) activities helped you to increase production?	Q7 Income Have the Project (SHEP) activities helped you to increase income?	Q8 Positive skill What skills/knowledge helped you to increase production/income? (Top 3 out of 15) Choice number (Skill: Number of people who select the skill)	Q9 Negative factor What factors made it difficul to increase production/income if any? (Top 2 out of 10) Choice number (Factor: Number of people who select the factor)	Q10 Collaboration As a result of the stakeholder forum by the Project (SHEP), did your group enter into collaboration, partnership or agreement with other stakeholders?	Q14 Contact before SHEP How often per month did your meet/contact the extension officer before the Project (SHEP) had started?	Q15 Contact after SHEP How often per month do you meet/contact the extension officer since the Project (SHEP) started?	Q16 Area for follow up Which area do you want to continue to ask the extension officer to help your? (Top 3 out of 15) Choice number (Area: Number of people who select the area)	Selected crop
Kananachi	17 M8 W9	D	Yes 17 (M8, W9) No 0 Not sure 0	Yes 17 (M8, W9) No 0 Not sure 0	Yes 17 (M8, W9) No 0 Not sure 0	2(Gender9) 1(Group7) 5(Calender7)	1(Weather14) 4(Fertilizer11)	Can Kon, Equity Bank E.A. Seed co. Local buyers Mace (Mess) Foods	1/month	>3/month	4(Collaboration14) 14(Do-nou12) 11(Pest6)	Passions Capsicum
Kapsitwet	18 M13 W5	ID	Yes 17 (M13, W4) No 0 Not sure 1 (W1)	Yes 18 (M13, W5) No 0 Not sure 0	Yes 18 (M13, W5) No 0 Not sure 0	3(Market8) 6(Manure8) 2(Gender7) 5(Calender7) 11(Pest7)	1(Weather13) 9(Farm gate price11)		1/month	2/month	3(Market11) 6(Manure11) 9(Nersury8)	Cabbage Blacknight shade
Bungoma	97		Yes 96 (99.0%) No 1 Not sure 0	Yes 96 (99.0%) No 1 Not sure 0	Yes 85 (86.6%) No 9 Not sure 1	3(Market-47) 7(Seed-45) 11(Pest-45)	1(Weather-84) 4(Fertilizer-48)				11(Pest-61) 3(Market-46) 7(Seed-45)	
Men (M)	41		Yes 41 (100%) No 0 Not sure 0	Yes 41 (100%) No 0 Not sure 0	Yes 37 (90.2%) No 3 Not sure 1							
Women (W)	54		Yes 53 (98.1%) No 1 Not sure 0	Yes 53 (98.1%) No 1 Not sure 0	Yes 47 (88.7%) No 6 Not sure 0							
Bukunjangabo	20 M10 W9 ?1	D	Yes 20 (M10, W9, ?1) No 0 Not sure 0	Yes 20 (M10, W9, ?1) No 0 Not sure 0	Yes 20 (M10, W9, ?1) No 0 Not sure 0	2(Gender12) 3(Market7) 4(Collaboration7)	1(Weather20) 4(Fertilizer20)	Camkem international Khotia spmkt Equity bank KENFAP, KFA Bungoma Chemist	>3/month	>3/month	3(Market15) 7(Seed15) 11(Pest12)	Kales Tomatoes
Good Neighbours	18 M11 W7	D	Yes 18 (M11, W7) No 0 Not sure 0	Yes 17 (M11, W6) No 1 (W1) Not sure 0	Yes 17 (M11, W6) No 0 Not sure 0	3(Market12) 11(Pest12) 9(Nursery9)	1(Weather18) 2(Pest16)	Khotia spmkt	1/month	1.5/month	9(Nursery17) 11(Pests15) 5(Calender9)	Tomatoes Passions
Kongoli	20 M10 W9 ?1	ID	Yes 19 (M10, W8, ?1) No 1 (W1) Not sure 0	Yes 20 (M10,W9, ?1) No 0 Not sure 0	Yes 20 (M10, W9, ?1) No 0 Not sure 0	7(Seed11) 5(Calender10) 11(Pest8)	1(Weather18) 2(Pest7)	Nzoia sugar co. Equity bank Kenya seed	1/month	2/month	18(Post harvest14) 4(Collaboration18) 6(Manure10)	
Nalukesi	19 M5 W14	ID	Yes 19 (M5, W14) No 0 Not sure 0	Yes 19 (M5, W14) No 0 Not sure 0	Yes 9 (M1, W8) No 9 (M4, W6) Not sure 1 (M1)	7(Seed8) 11(Pest6) 3(Market7) 6(Manure7)	1(Weather11) 8(Market10)		2/month	2/month	6(Manure9) 8(Market8) 11(Pest8)	
Yalusi	20 M5 W15	ID	Yes 20 (M5, W15) No 0 Not sure 0	Yes 20 (M5, W15) No 0 Not sure 0	Yes 19 (M5, W15) No 0 Not sure 0	7(Seed16) 11(Pest16) 3(Market14)	1(Weather17) 4(Fertilizer14)	Farm Chem, Kenya seed co. Bungoma Chemist AFC, KFA, ACE Africa MAANISHA prog. Camkon international Khotia spmkt	2/month	>3/month	11(Pest20) 3(Market17) 7(Seed17)	Brightnight shade Capsicums
Total	275		Yes 266 (97.1%) No 7 Not sure 1	Yes 266 (93.0%) No 19 Not sure 1	Yes 215 (89.1%) No 25 Not sure 5	3(Market-167) 56.0% 5(Calender-117) 42.2% 2(Gender-109) 39.5%	1(Weather-170) 61.8% 4(Fertilizer-117) 42.4%				11(Pest-127) 46.0% 4(Collaboration-111) 40.2% 6(Manure-110) 39.8%	
Men (M)	121		Yes 119 (98.7%) No 1 Not sure1	Yes 120 (99.2%) No 1 Not sure 0	Yes 116 (95.8%) No 3 Not sure 2							
Women (W)	151		Yes 142 (97.3%) No 3 Not sure1	Yes 131 (87.3%) No 18 Not sure 1	Yes 126 (83.4%) No 22 Not sure 3							

*Key:
M=Men D=**Direct** Model Farmer Group
W=Women ID= **Indirect** Model Farmer Group

8.1. Summary of the results (3): Resulut of key questions to

Larger district	Total farmers	What skills/knowledge helped you to increase production/income? (Top3 out of 15)			Which area do you want to continue to ask the extension officr to help you? (Top3 out of 15)			What factors made it difficult to increase production/income? (Top2 out of 10)		
Kisii	55	Improved gender awareness	42	76%	Pest and disease control	30	55%	Pest and disease problem	35	64%
		Market survey	38	69%	Collaboration with other stakeholders	26	47%	Fertilizer	33	60%
		Crop planting calender / rotation schedule	36	65%	Rural infrastructure improvement by Do-nou	24	44%			
Nyandarua	30	Improved group management	18	60%	Preparation of organic manure, appropriate application of fertilizer	19	63%	High price of fertilizer	20	67%
		Market survey	16	53%	Harvest indices	13	43%	High price of seed	17	57%
		Crop planting calender / rotation schedule Improved seed / variety selection	15	50%	Pest and disease control	11	37%			
Trans-Nzoia	94	Market survey	56	60%	Collaboration with other stakeholders	60	64%	Weather (Lack or too much rain)	65	69%
		Crop planting calender / rotation schedule	40	43%	Preparation of organic manure, appropriate application of fertilizer	57	61%	Lack of market	43	46%
		Improved gender awareness	37	39%	Rural infrastructure improvement by Do-nou	57	61%			
Bungoma	97	Market survey	47	48%	Pest and disease control	84	87%	Weather (Lack or too much rain)	84	87%
		Improved seed / variety selection	45	46%	Market survey	46	47%	High price of fertilizer	48	49%
		Improved pest & disease control	45	46%	Seed/variety selection	45	46%			
Total	276	Market survey	157	57%	Pest and disease control	127	46%	Weather (Lack or too much rain)	170	62%
		Crop planting calender / rotation schedule	117	42%	Collaboration with other stakeholders	111	40%	High price of fertilizer	117	42%
		Improved gender awareness	109	39%	Preparation of organic manure, appropriate application of fertilizer	110	40%			

Appendix 8. Pre-survey questionnaire

8.2. Questionnaire form

This is a questionnaire for terminal evaluation of the project (SHEP) by JICA Kenya Office. Thank you for your cooperation!

Division name ( ), District name ( )

	Question: (For every question tick the answer appropriately)	1	2	3	4	5
Ex)	Are you Kenyan or Japanese?	Kenyan √	Japanese			
1	Are you in charge of direct group, in-direct group or both of them?	Only **direct group** (SHEP Activities started from 2007)	Only **in-direct group** (SHEP Activities started from 2008)	**Both direct and in-direct** group		
2	Are you male or female?	Male	Female			
3	When did you start working in current division?	Month	Year			
4	Did you participate in FABLIST forum by the project (SHEP)?	No	Yes			
5	Did you attend JEF2G training by the project (SHEP)?	No	Yes			
6	Did you attend FT-FaDDE (Facilitators' Training for Farmers' Demand Driven Extension) traing by the project (SHEP)? *FT-FaDDE training was targeted extension officers who were in charge of "In-direct group".	No	Yes			
7	Which activity of the project (SHEP) helped farmers to increase production/income most ? Please select 1.	FABLIST forum	JEF2G training	FT-FaDDE training	In-field trainings	Follow up activities
8	Please rate how much the project (SHEP) activities help farmers' group to improve cooperation among members?.	0-25%	25%-50%	50%-75%	75%-100%	Don't know
9	Did the project (SHEP) activities help farmers' group to increase production? Please rate in a scale of (0-100%)	0-25%	25%-50%	50%-75%	75%-100%	Don't know
10	Did the project (SHEP) activities help farmers' group to increase income?Please rate in a scale of (0-100%)	0-25%	25%-50%	50%-75%	75%-100%	Don't know
11	What skills/knowledge helped farmers to significantly increase production/income? Please select 3 out of 15.	1. Improved group management	2. Improved gender awareness	3. Market survey	4. Collaboration with other stakeholders-FABLIST (such as buyers, exporter, etc.)	5. Improved crop cultivation/ rotation schedule
		6. Utilization of organic manure (Bokashi), Appropriate application of fertilizer	7. Improved seed/Variety selection	8. Improved land preparation	9. Improved seedlings preparation, transplanting	10. Improved weeding, use of weeding tools
		11. Improved pest & disease control	12. Improved harvest	13. Improved post harvest management	14. Rural infrastructure improvement by Do-nou	15. Others ( )
12	What factor(s) made it difficult to increase farmers' production/income, if any? Please select 2 out of 10.	1. Weather (Lack of rain)	2. Pest and disease problem.	3. High price of seed	4. High price of fertilizer	5. High price of others ( )
		6. Transportation problem	7. Post harvest loss	8. Lack of market	9. Low farm gate price	10. Others ( )
13	As a result of FABLIST forum (stakeholder forum) by the project (SHEP), did farmers' group enter into collaboration, partnership or agreement with other stakeholders?	No	Yes	In case of Yes, please list the name of the stakeholders below. E.g.) Japan vegetable company		
14	Did the project (SHEP) activities occur at the right time and season to enable you to use the acquired skills/knowledge for your work?	No	Yes			
15	Did the project (SHEP) activities occur at the right time and season to enable farmers to use the acquired skills/knowledge?	No	Yes			
16	Did you disseminate the skills/knowledge introduced by the project (SHEP) to farmers who are not in SHEP assisted group?	No	Yes	Don't know		
17	Are you going to use the skills/knowledge acquired through the project (SHEP) after the project (SHEP) comes to an end?	No	Yes	Not sure		
18	Which area of skills/knowledge do you want to learn more to help farmers? Please select 3 out of 15.	1. Group facilitation (management and organization)	2. Gender awareness	3. Market survey	4. Collaboration with other stakeholders-FABLIST (such as buyers, exporter, etc.)	5. Crop planting calender/ rotation schedule
		6. Preparation of organic manure (Bokashi), Appropriate application of fertilizer	7. Seed/Variety selection	8. Land preparation	9. Nursery establishment, Seedlings preparation,& transplanting	10. Weeding, Use of weeding tool
		11. Pest & disease control	12. Harvest indices	13. Post harvest management	14. Rural infrastructure improvement by Donou	15. Others ( )
19	How often per month do you meet/contact farmers?	0 (Not all) per month	1 (Once) per month	2 (Twice) per month	More than 3 times per month	15. Others ( )
20	How often per month do you meet/contact district office for SHEP activities?	0 (Not all) per month	1 (Once) per month	2 (Twice) per month	More than 3 times per month	15. Others ( )

Thank your for your time and cooperation!!

To farmers: This is a questionnaire for terminal evaluation of the project (SHEP) by JICA Kenya Office. Thank you for your cooperation!

Group name ( ), Division name ( ), District name ( )

	Question. Please tick the answer appropriately	1	2	3	4	5
Eg)	Are you Kenyan or Japanese?	Kenyan V	Japanese			
1	Are you committee member or other member?	Group official	Committee member	Other member		
2	Are you male or female?	Male	Female			
3	Did you participate in FABLIST forum by the project (SHEP)?	No	Yes			
4	Did you attend JEF2G training by the project (SHEP)?	No	Yes			
5	Have the project (SHEP) activities helped your group to improve cooperation among members?	No	Yes	Not sure		
6	Have the project (SHEP) activities helped you to increase production?	No	Yes	Not sure		
7	Have the project (SHEP) activities helped you to increase income?	No	A little	Not sure		
8	What skills/knowledge helped you to increase production/income? Please select 3 out of 15.	1. Improved group management	2. Improved gender awareness	3. Market survey	4. Collaboration with other stakeholders-FABLIST (such as buyers, exporter, etc)	5. Crop planting calender / rotation schedule
		6. Preparation of organic manure (Bokashi), Appropriate application of fertilizer	7. Improved seed/Variety selection	8. Improved land preparation	9. Improved, Nursery establishment, seedlings preparation, transplanting	10. Improved weeding
		11. Improved pest & disease control	12. Improved harvest indices	13. Improved post harvest management	14. Rural infrastructure improvement by Do-nou	15. Others ( )
9	What factors made it difficult to increase production/income if any? Please select 2 out of 10.	1. Weather (Lack or too much rain)	2. Pest and disease problem	3. High price of seed	4. High price of fertilizer	5. High price of others ( )
		6. Transportation problem	7. High Post harvest loss	8. Lack of market	9. Low farm gate price	10. Others ( )
10	As a result of the FABLIST forum (stakeholder forum) by the project (SHEP), did your group enter into collaboration, partnership or agreement with other stakeholders?	No	Yes	In case of Yes, please list the name of the stakeholders bellow. E.g) Japan vegetable company		
11	Did the project (SHEP) activities occur at the right time and season to enable you to use the acquired skills/knowledge?	No	Yes	Not sure		
12	Are you going to use the skills/knowledge acquired by the project (SHEP) after the project (SHEP) comes to an end?	No	Yes	Not sure		
13	Are the farmers who are not in your group interested in your group's activities?	No	Yes	Don't know		
14	How often per month did you meet/contact the extension officer before the project (SHEP) had started?	0 (Not all) per month	1 (Once) per month	2 (Twice) per month	More than 3 times per month	Others: specify ( )
15	How often per month do you meet/contact the extension officer since the project (SHEP) started?	0 (Not all) per month	1 (Once) per month	2 (Twice) per month	More than 3 times per month	Others: specify ( )
16	Which area do you want to continue to ask the extension officer to help you? Please select 3 out of 15.	1. Group management	2. Gender awareness	3. Market survey	4. Collaboration with other stakeholders-FABLIST (such as buyers, exporter, etc)	5. Crop Planting calender , cultivation
		6. Preparation of organic manure (Bokashi), Appropriate application of fertilizer	7. Seed/Variety selection	8. Land preparation	9. Nursery establishment, Seedlings preparation, transplanting	10. Weeding
		11. Pest & disease control	12. Harvest indices	13. Post harvest management	14. Rural infrastructure improvement by Do-nou	15. Others ( )

Thank your for your time and cooperation!!

Appeudix 9. SHEP PDM Version 2: Output 2

SHEP

Output 2: Percent Increase Rate of the Selected Horticultural Crops for Groups Supported Directly by the Project (Direct Groups) and Groups Supported by the Extension Staff (In-Direct Groups)

Verifiable Indicator 2-1: Average growth rate of net-produce per acre (i.e. total yield minus the quantity of rejected produce) of the members (men and women) of farmer groups supported directly by the Project increase by 10-50%
Verifiable Indicator 2-2: Average growth rate of net-produce per acre (i.e. total yield minus the quantity of rejected produce) of the members (men and women) of farmer groups supported indirectly by the Project increase by 5-30%

Revised by Kitajima on 2nd July 2009

Bungoma District

Crops	Baseline Analysis (Tons/acre)			Increase Rate for Groups Supported Directly by Project (Direct Groups)					Increase Rate for Groups Supported by Extension Staff (In-Direct Groups)				
						May 2009 (Tons/acre)					May 2009 Tons/acre		
	Total	Male	Female	Proposed Increase (Rate %)	Expected Production (Tons/acre)	Total (Increased Rate %)	Male	Female	Proposed Increase Rate %	Expected Production Tons/acre	Total (Increased Rate %)	Male	Female
Tomato	4.7	4.8	4.5	Up to 20 %	5.6	6.6 (40 %)	6.8 (42 %)	6.3 (40 %)	Up to 5%	4.9	5.9 (26 %)	5.2 (8 %)	6.7 (49 %)
Kale	3.5	3.6	3.5	Up to 30 %	4.6	9.3 (166 %)	9.6 (167 %)	8.9 (154 %)	Up to 5%	3.7	3.7 (6 %)	4.3 (19 %)	2.9 (-17 %)
Bulb Onion	2.7	2.5	3.4	Up to 30 %	3.5	1.3 (-52 %)	1.2 (-52 %)	2.0 (-41 %)	Up to 5%	2.8	3.0 (11 %)	3.6 (44 %)	2.8 (-18 %)
Cabbage	13.6	13.3	14.6	Up to 30 %	17.6	20.3 (49 %)	19.9 (50 %)	22.0 (51 %)	Up to 5%	14.2	11.7 (-14 %)	12.1 (-9 %)	11.1 (-24 %)
Capsicum	†	†	†	-	4.0	2.0 (-)	2.0 (-)	* (-)	-	3.0	3.5 (-)	3.2 (-)	4.4 (-)
Banana	8.44	6.2	11.9	Up to 10 %	9.3	17.3 (105 %)	14.2 (129 %)	22.8 (92 %)	Up to 5%	8.7	10.1 (20 %)	10.6 (71 %)	9.6 (-19 %)
Passion Fruit	†	†	†	-	4.0	11.3 (-)	10.8 (-)	12.3 (-)	-	3.0	2.7 (-)	2.7 (-)	2.6 (-)

Kisii District

Crops	Baseline Analysis (Tons/acre)			Increase Rate for Groups Supported Directly by Project (Direct Groups)					Increase Rate for Groups Supported by Extension Staff (In-Direct Groups)				
						May 2009 (Tons/acre)					May 2009 Tons/acre		
	Total	Male	Female	Proposed Increase (Rate %)	Expected Production (Tons/acre)	Total (Increased Rate %)	Male	Female	Proposed Increase Rate %	Expected Production Tons/acre	Total (Increased Rate %)	Male	Female
Onion	1.39	1.5	1.6	Up to 50 %	2.0	0.7 (-50 %)	0.6 (-60 %)	0.8 (-50 %)	Up to 30%	1.8	3.9 (181 %)	5.2 (247 %)	3.6 (125 %)
Black Night Shade	2.46	2.0	2.9	Up to 30 %	3.19	1.0 (-59 %)	0.7 (-65 %)	1.1 (-62 %)	-	2.58	2.7 (10 %)	3.5 (75 %)	2.2 (-24 %)
Tomato	5.9	6.4	4.3	Up to 10 %	6.5	4.0 (-32 %)	2.9 (-55 %)	4.8 (12 %)	Up to 5%	6.2	4.1 (-31 %)	4.8 (-25 %)	2.6 (-40 %)
Kale	7.2	6.7	7.7	Up to 10 %	7.9	5.1 (-29 %)	6.8 (1 %)	4.2 (-45 %)	Up to 5%	7.6	1.8 (-75 %)	2.0 (-70 %)	1.1 (-86 %)
Carrot	1.72	-	2.4	Up to 50 %	2.6	0.5 (-71 %)	1.7 (-)	0.4 (-83 %)	Up to 30%	2.2	5.2 (202 %)	4.7 (-)	6.3 (163 %)
Spider Plant	2.55	2.4	2.7	Up to 30 %	3.32	0.5 (-80 %)	1.5 (-38 %)	0.3 (-89 %)	-	2.68	2.8 (10 %)	2.6 (8 %)	3.0 (11 %)
Pineapple	1.88	1.9	1.0	Up to 30 %	2.44	22.3 (1086 %)	16.9 (789 %)	31.0 (3000 %)	Up to 5%	1.97	* (-)	* (-)	* (-)
Passion Fruits	1.37	1.8	0.3	Up to 30 %	1.78	2.1 (53 %)	2.3 (28 %)	0.9 (200 %)	Up to 5%	1.44	9.3 (579 %)	9.3 (417 %)	* (-)
Banana	11.14	12.6	9.5	Up to 10 %	12.3	26.3 (136 %)	39.0 (210 %)	21.8 (129 %)	Up to 5%	11.7	11.5 (3 %)	10.1 (-20 %)	14.5 (53 %)
Capsicum	†	†	†	-	4.0	0.6 (-)	0.4 (-)	0.8 (-)	-	3.0	5.1 (-)	12.2 (-)	4.5 (-)

Appendix 9. SHEP PDM Version 2: Output 2

Nyandarua District

Crops	Baseline Analysis (Tons/acre)			Increase Rate for Groups Supported Directly by Project (Direct Groups)					Increase Rate for Groups Supported by Extension Staff (In-Direct Groups)				
	Total	Male	Female	Proposed Increase (Rate %)	Expected Production (Tons/acre)	May 2009 (Tons/acre)			Proposed Increase Rate %	Expected Production Tons/acre	May 2009 Tons/acre		
						Total (Increased Rate %)	Male	Female			Total (Increased Rate %)	Male	Female
Cabbage	15.7	13.6	18.8	Up to 10 %	17.3	19.8 (26 %)	20.3 (49 %)	17.8 (-5 %)	Up to 5%	16.5	30.3 (93 %)	30.0 (121 %)	31.4 (67 %)
Snow Peas	2.4	2.3	2.6	Up to 10 %	2.6	1.8 (-25 %)	1.9 (-17 %)	1.5 (-42 %)	Up to 5%	2.5	1.2 (-50 %)	1.1 (-52 %)	1.9 (-27 %)
Garden Peas	2.34	2.4	2.3	Up to 10 %	2.57	2.0 (-15 %)	2.0 (-17 %)	1.9 (-17 %)	Up to 5%	2.45	1.8 (-23 %)	1.5 (-38 %)	2.3 (0 %)
Carrot	9.3	8.5	10.9	Up to 10 %	10.2	10.7 (15 %)	12.8 (51 %)	6.8 (-38 %)	Up to 5%	9.8	9.0 (-3 %)	9.0 (6 %)	9.1 (-17 %)
Kale	13.22	12.0	15.1	Up to 10 %	14.54	25.5 (93 %)	26.7 (123 %)	20.0 (32 %)	Up to 5%	13.88	6.4 (-52 %)	6.5 (-46 %)	6.4 (-58 %)
Tree Tomato	16.02	16.8	14.4	Up to 10 %	17.62	20.6 (29 %)	20.6 (23 %)	* (-)	Up to 5%	16.82	5.3 (-67 %)	5.3 (-68 %)	* (-)

Trans-Nzoia District

Crops	Baseline Analysis (Tons/acre)			Increase Rate for Groups Supported Directly by Project (Direct Groups)					Increase Rate for Groups Supported by Extension Staff (In-Direct Groups)				
	Total	Male	Female	Proposed Increase (Rate %)	Expected Production (Tons/acre)	May 2009 (Tons/acre)			Proposed Increase Rate %	Expected Production Tons/acre	May 2009 Tons/acre		
						Total (Increased Rate %)	Male	Female			Total (Increased Rate %)	Male	Female
Cabbage	16.4	16.9	15.6	Up to 20 %	19.7	21.8 (33 %)	21.3 (26 %)	23.4 (50 %)	Up to 5%	17.2	36.1 (120 %)	34.4 (104 %)	39.8 (155 %)
Tomato	7.9	7.6	8.5	Up to 10 %	8.7	6.6 (-16 %)	5.2 (-32 %)	8.8 (4 %)	Up to 5%	8.3	9.1 (15 %)	9.2 (21 %)	9.1 (7 %)
Capsicum	6.1	6.1	6.0	Up to 10 %	6.7	5.1 (-16 %)	5.2 (-15 %)	5.0 (-17 %)	Up to 5%	6.4	1.4 (-77 %)	1.4 (-77 %)	* (-)
Bulb Onion	3.27	3.8	2.6	Up to 30 %	4.25	4.8 (47 %)	4.8 (26 %)	4.9 (88 %)	Up to 5%	3.47	4.2 (28 %)	5.1 (34 %)	0.5 (-81 %)
Passion Fruits	2.45	2.9	1.6	Up to 30 %	3.18	* (-)	* (-)	* (-)	Up to 5%	2.57	* (-)	* (-)	* (-)
Black Night Shade	5.48	5.7	5.3	Up to 10 %	6.0	2.8 (-49 %)	2.1 (-63 %)	3.3 (-38 %)	Up to 5%	5.75	3.0 (-45 %)	2.8 (-51 %)	3.1 (-42 %)

NOTES

1. The above crops were selected by the SHEP model farmer groups during the 1st In-field Training through produce selection process.
2. The baseline data represents an average for the farmer groups interviewed.
3. The symbols in the tables are used as follows:
   - † Baseline data not collected
   - * Current (May 2009) data is not available
   - - Data is not available
4. It was assumed that the farmer groups supported by the extension staff will select crops similar to the model groups.
5. Source of data:
   - Vegetable Seed bred for East Africa by Regina Seeds
   - Seed Stock News by Seed Links
   - Reports by the District Agricultural Officers
   - Final Horticulture Data Validation Report by Ministry of Agriculture
   - SHEP Baseline Reports
6. Data on indigenous vegetables and tree tomato is not easily available.
7. Inability of farmers to keep up to date records affects the quality of data.
8. Gray colored columns are the crops which were selected for the previous indicator.

Schedule of Rural Infrastructure Component

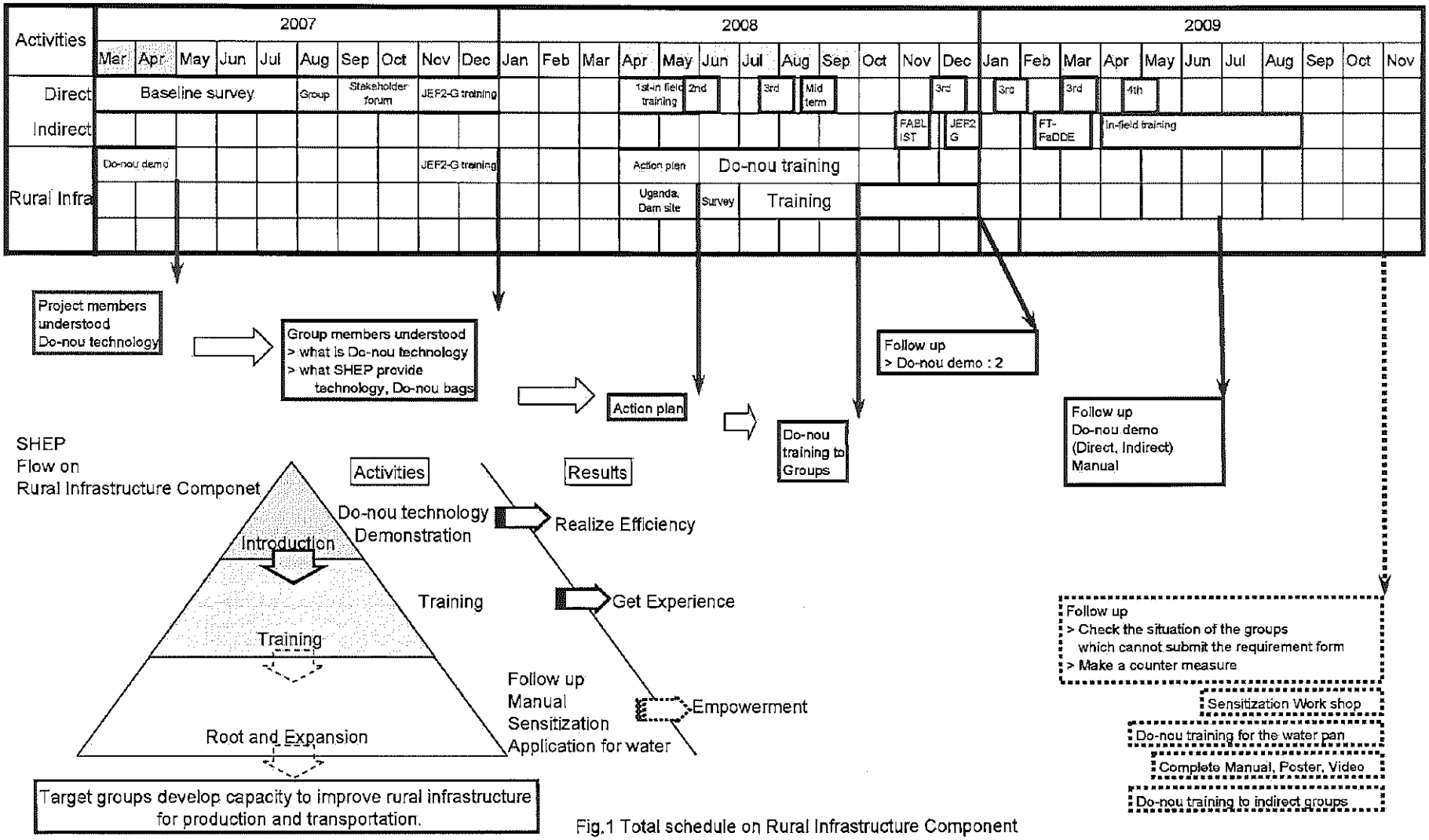


Fig.1 Total schedule on Rural Infrastructure Component

Reference for Smallholder Horticulture Empowerment Project (SHEP)

3. Target groups develop capacity to improve rural infrastructure for production and transportation.

3-1. 80% of farmer groups, which indicated in the problem analysis the problem of the rural infrastructure in the community, puts the introduced technology into the practice (For directly supported groups).

	Numbers of Groups	Number of Farmers		Notes
		M	F	
A	41	684	484	Number of the groups (farmers) which have indicated the problem of rural infrastructure in the community
B	41	732	439	Number of the groups (farmers) which SHEP trained directly (Demo was done in the groups or Invited to the demo)
C	33	699	415	Number of the groups (farmers) which puts the introduced technology into the practice

Verfiable Indicator

The number of the groups

V =C/A x 100

V≧ 80 %　　V = 80.49 %

3-2. 60 % of farmers groups, which submitted requirement form (Annex 2) filled correctly, puts the introduced technology into the practice. (For indirectly supported groups)

	Numbers of Groups	Notes
A	9	Number of the groups which submitted requirement form (Annex 2) filled correctly
B	7	Number of the groups which put the introduced technology into the practice

Verfiable Indicator

The number of the groups

V = B/A x 100

V ≧ 60 %　　A = 77.78 %

Reference for Smallholder Horticulture Empowerment Project (SHEP)
Rural Infrastructure Component Activities
Nyandarua Districts, Direct Groups

Division		Group	Action plan	Participants Male	Participants Female	Demo-Training	Participants Male	Participants Female	Do-nou bags	Put into practice	Participants Male	Participants Female	Notes
Nyandarua North													
Oljororok	1	Mweiteithia	Road, Irrigation	13	11	Done, 22-Apr	10	7	500, 22-Apr	Do-nou road	10	7	
Ndaragwa	2	Muga	Irrigation, Road	14	3	Done, 9-Jul-08	44	3	500, 9-Jul-08	Do-nou road	44	3	They maintained the road with Do-nou after Demo.
Ndaragwa	3	Wihoti	Well, Waterpan, Road	33	21	Done, 15-Sep-08	18	12	500,15-Sep-08	Do-nou road	18	12	They extended the portion after demo.
Olkalau	4	Maproma	Water, Road	12	6	Done, 11-Jul-08	27	10	500,11-Jul-08	Do-nou road	27	10	Prepare gravel by themselves, Approached the county council at the demo.
Olkalau	5	Manyatta	Drainage, Road, Irrigation	27	3	Done, 25-Feb	10	6	500, 25-Feb	Do-nou road	10	6	
Oljororok	6	Karandi	Irrigation, Drainage, Road	10	10	*Invited, 25-Feb*	1	1	500, 25-Feb	Do-nou road	10	10	After JEF2-G training, they started the road maintenance.
Nyandarua South													
Engineer	7	Mwendi Kurima	Irrigation, Road	35	12	*Invited, 23-Apr*	3	0					
Engineer	8	Kitogo	Road,Irrigation	76	21	Done, 23-Apr	16	12	500, 23-Apr	Do-nou road	16	12	
Kipipiri	9	Kariko	Irrigation, Road	9	17	Done, 10-Jul-08	16	25	500,10-Jul-08	Do-nou road	16	25	They continued to maintain the road with the remaining Do-nou bags.
Njambini	10	Bahati	Irrigation, Road	7	3	*Invited, 24-Apr*	14	2					
Njambini	11	Yanga	Irrigation, Road	17	0	Done, 24-Apr	18	1	500, 24-Apr	Do-nou road	18	1	
Total Number			11	253	107	11	177	79		9	169	86	

Smallholder Horticulture Empowerment Project (SHEP)

Numbers of Groups	Number of Farmers M	Number of Farmers F	Notes
11	253	107	Number of the groups (farmers) which have indicated the problem of rural infrastructure in the community
11	177	79	Number of the groups (farmers) which SHEP trained directly (Demo was done in the groups or invited to the demo)
9	169	86	Number of the groups (farmers) which puts the introduced technology into the practice

Reference for Smallholder Horticulture Empowerment Project (SHEP)
Rural Infrastructure Component Activities
Nyandarua Districts, In-direct groups

Division		Group	Submit form			Demo-Training	Participants Male	Participants Female	Do-nou bags	Put into practice	Participants Male	Participants Female	Notes
Nyandarua North													
Oljororok	1	Matathi SHG				*Mweiteithia, 22Apri*	3	2					
	2	Gatimu dairy				*Mweiteithia, 22Apri*	3	2					
	3	Nyairoko kariko				*Mweiteithia, 22Apri*	2	3					
Ndaragwa	4	Kigade SHG											
	5	Karangoine											
	6	[illegible]											
Olkalau	7	Mugumo-ini											
	8	Beraka SHG											
	9	Karima YDG											
	10	Ukulima Bora											
Nyandarua South													
South Kinangopi	11	Neighbours welfare											
	12	South nyandarua											
	13	Gitwe											
North Kinangopi	14	Nandarasi Gate	(3-Apr)			*Kitogo, 23-Apr*	6	3					
	15	Mkuna											
	16	Mwenge Multi purpose											
Kipipiri	17	Muoroto Kiburuti											
	18	Rakas											
	19	Mwienderi women	(28-May)										
	20	Makumbi potato											
Total Number			0			4	14	10	0		0	0	

( ): Form was submitted, but they are not ready to do.

Smallholder Horticulture Empowerment Project (SHEP) , Indirect Groups

No. of Question	Numbers of Groups		Notes
A	0		Number of the groups which submitted requirement form (Annex 2) filled correctly
B	0		Number of the groups which put the introduced technology into the practice

Reference for Smallholder Horticulture Empowerment Project (SHEP)
Rural Infrastructure Component Activities
Trans Nzoia Districts, Direct Groups

Trans-Nzoia West													
Division	Group		Action plan	Participants		Demo-Training	Participants		Do-nou bags	Put into practice	Participants		Notes
				Male	Female		Male	Female			Male	Female	
Matisi	1	Matisi	Irrigation, Road	18	20	*Invited, 22-Jul-08*	2	2					
						Done, 9-Apr	31	25	500, 9-Apr	*Do-nou road*	31	25	They extended the portion
Kiminini	2	Kananachi	Road	5	18	*Invited, 22-Jul-08*	3	3	500, 22-Jul-08		3	3	They accessed to counclior and maintained by themselves.
						Done,6-Apr	14	31		*Do-nou road*	14	31	
	3	Kilimo Msingi	Road	10	6	Done,Apr-07	25	7	500, 12-Jun-08	Do-nou road	25	7	They maintained the bridge using Do-nou./Filming
	4	Kiungani	Road	12	3	*Invited, 13-Aug.-08*	5	2					
Central	5	Siuna	Water, Road	14	7	Done, 22-Jul-08	18	3	500, 22-Jul-08	Do-nou road	18	3	They extent the portion by themselves.
Kwanza													
Division	Group		Action plan	Participants		Demo-Training	Participants		Do-nou bags	Put into practice	Participants		Notes
				Male	Female		Male	Female			Male	Female	
Endebes	6	Salama Umbrella	Road	73	58	*Invited, 23-Jul-08*	2	2					
						Done, 7-Apr	44	20	500, 7-Apr	*Do-nou road*	44	20	They extended the protion
Kwanza	7	Kapsiwet	Road	15	19	*Invited, 23-Jul-08*	2	2	500, 23-Jul-08				
Trans-Nzoia East													
Division	Group		Action plan	Participants		Demo-Training	Participants		Do-nou bags	Put into practice	Participants		Notes
				Male	Female		Male	Female			Male	Female	
Kaplamai	8	Rurie Inuka	Road,Bridge	12	9	*Invited, 23-Jul-08*	4	2	500, 1-Apr				They maintained the road by themselves without do-nou bags
						Done, 27-May	11	12	500, 27-May	Do-nou road	11	12	After they got Do-nou, they started by themselves
Chereganyi	9	Perikera	Road	6	4	Done, 23-Jul-08	26	13	500, 23-Jul-08	Do-nou road	26	13	They maintained the road by themselves with do-nou bags
Kaplamai	10	Kabotet	Road	12	5	Done, Dec-08	12	5	500, Dec-08	Do-nou road	12	5	They maintained the road by themselves with do-nou bags
						Invited, 23-Jul-08	4	2	500, 13-Aug	Drainage	4	2	After JEF2-G training, they maintained the drainage.
Total Number			10	177	149	10	203	131		8	188	121	

Smallholder Horticulture Empowerment Project (SHEP)

Numbers of Groups	Number of Farmers		Notes
	M	F	
10	177	149	Number of the groups (farmers) which have indicated the problem of rural infrastructure in the community
10	180	114	Number of the groups (farmers) which SHEP trained directly (Demo was done in the groups or invited to the demo)
8	188	121	Number of the groups (farmers) which puts the introduced technology into the practice

Reference for Smallholder Horticulture Empowerment Project (SHEP)
Rural Infrastructure Component Activities
Trans Nzoia In-direct groups

Trans-Nzoia East													
Division	Group		Submit Form			Demo-Training	Participants		Do-nou bags	Put into practice	Participants		Notes
							Male	Female			Male	Female	
Kaplamai	1	Jipe Moyo				Rurie Inuka, 27-May	1	1					
	2	Inuka SHG				Rurie Inuka, 27-May	2	2					
	3	BidiiSHG	3-Jun			Rurie Inuka, 27-May	1	1	300, 4-Jun	Done, 12-June			
Chereganyi	4	Pioneer											
	5	Kosiral											
	6	Cherangany christian											
Trans-Nzoia West													
Saboti	7	Bondeni				*Matisi, 9-Apr*	2	4					
	8	Londakho	12-Jun			*Matisi, 9-Apr*	3	2	300, 12-Jun	Done, 12-June			
Kiminini	9	Umoja				*Kananachi, 6-Apr*	3	3					
	10	Makhonge				*Kananachi, 6-Apr*	3	1					
	11	Bunyasiri				*Kananachi, 6-Apr*	4	2					
Central	12	Bidii NALEP				*Kananachi, 6-Apr*	4	1					
	13	Wakape				*Kananachi, 6-Apr*	3	5					
	14	Kapkoi Sisal				*Kananachi, 6-Apr*	2	1					
Kwanza													
Endebess	15	Queen SHG											
	16	Keenoomye CBO											
	17	Jepeton											
Kwanza	18	Amua											
	19	Chemichemi											
	20	St Johns											
Total Number			2			11	28	23	2	2			

( ): Form was submitted, but they are not ready to do.

Smallholder Horticulture Empowerment Project (SHEP) , Indirect Groups

No. of Question	Numbers of Groups	Notes
A	2	Number of the groups which submitted requirement form (Annex 2) filled correctly
B	2	Number of the groups which put the introduced technology into the practice

Reference for Smallholder Horticulture Empowerment Project (SHEP)
Rural Infrastructure Component Activities
Bungoma Districts, Direct Groups

Division		Group	Action plan	Participants Male	Participants Female	Demo-Training	Participants Male	Participants Female	Do-nou bags	Put into practice	Participants Male	Participants Female	Notes
Bungoma West													
Nalando	1	Namilama	Road	13	3	Done, 24-Jul-08	23	9	500, 24-Jul-08	Do-nou road	23	9	They maintained another portion by themselves.
Chwele	2	Sikulu	Road	12	4	*Invited, 25-Jul-08*	5	0					
						Done, Dec-08	8	6	500, Dec-08	*Do-nou road*	8	6	
Sirisia	3	Namwanda	Road, Water	6	11	*Invited, 24-Jul-08*	4	5					
						Done, 6-Apr	33	5	500, 6-Apr	*Do-nou road*	33	5	They extened the portion.
Malakisi	4	Namubila	Road	36	20	*Invited, 24-Jul-08*	5	3	500, 6-Apr	*Do-nou road*	36	20	They started theroad maintance using Do-nou technology
Bungoma South													
Kandunyi	5	Sasuri	Road	12	7	*Invited, Dec-08*			500, 3-Apr				
Bumula	6	Tabuti	Road	4	16	Done, 2-Apr	25	15	500, 2-Apr	Do-nou road	25	15	
Bungoma East													
Webuye	7	Bukunjambo	Road	15	16	Done, 3-Apr	10	13	500, 3-Apr	*Do-nou road*	10	13	They extened the portion.
Ndivisi	8	Sitabicha	Road	28	17	*Invited, 25-Jul-08*	3	2					
						Done, 27-Aug-08	10	8	500, 27-Aug-08	Do-nou road	10	8	They extened the portion.
Bungoma North													
Tongaren	9	Good neighbours	Road	29	20	Done, 26-Aug-08	20	15	1,500, 26-Aug-08	Do-nou road	20	15	They continued to maintain the road with the remaining Do-nou bags
Kimilili	10	Bandumba	Road	7	13	Done, 25-Jul-08	46	8	500, 25-Jul-08	Do-nou road	46	8	They continued to maintain the road with the remaining Do-nou bags
Total Number			10	162	127	10	192	89		9	211	99	

Smallholder Horticulture Empowerment Project (SHEP)

Numbers of Groups	Number of Farmers M	Number of Farmers F	Notes
10	162	127	Number of the groups (farmers) which have indicated the problem of rural infrastructure in the community
10	192	89	Number of the groups (farmers) which SHEP trained directly (Demo was done in the groups or invited to the demo)
9	211	99	Number of the groups (farmers) which puts the introduced technology into the practice

Reference for Smallholder Horticulture Empowerment Project (SHEP)
Rural Infrastructure Component Activities
Bungoma Districts, In-Direct Groups

Division		Group	Submit form			Demo-Training	Participants Male	Participants Female	Do-nou bags	Put into practice	Participants Male	Participants Female	Notes
Bungoma West													
Nalando	1	Yawesekana SHG	(19th Mar)						300, 10-Jun	*Done, Jun*			
Chwele	2	Kimu Horticulture	19th Mar						300, 25-Mar	*Done, Apr*			
	3	Vumiba Women Group											
Sirisia	4	Nalukesi WG	19th Mar			*Namwanda, 6-Apr*	2	2	300, 24-Mar	*Done, May*			
Malakisi	5	Chebukuyi CBO											
Bungoma South													
Kandunyi	6	Kongoli	18th Mar						300, 23-Mar				
	7	Nalukesa	18th Mar						300, 23-Mar				
Bumula	8	Bukumuma	(18th Mar)			*Tabuti, 2-Apr*	2	2	300, 9-Jun				
	9	Kimaeti	(18th Mar)			*Tabuti, 2-Apr*	3	0	300, 9-Jun				
	10	Kisloyi environ.	(18th Mar)			*Tabuti, 2-Apr*	2	1	300, 9-Jun				
Bungoma East													
Webuye	11	Yalusi	8-Jun			*Bukunjangabo, 3-Apr*	1	1	300, 9 Jun				
	12	Muchi	25th Mar			*Bukunjangabo, 3-Apr*	2	1	300, 26-Mar	*Done, Apr*			
	13	Amuka				*Bukunjangabo, 3-Apr*	1	1					
Ndivisi	14	Nakewa youth											
	15	Ukulima Mbele											
Bungoma North													
Tongaren	16	Mukabi mixed											
	17	Utafiti											
	18	Omuchuma											
Kimilili	19	Uchumi w.g.											
	20	Ngalasia											
Total Number			6			7	13	8	10	4			

( ): Form was submitted, but they are not ready to do.

Smallholder Horticulture Empowerment Project (SHEP) , Indirect Groups

No. of Question	Numbers of Groups	Notes
A	6	Number of the groups which submitted requirement form (Annex 2) filled correctly
B	4	Number of the groups which put the introduced technology into the practice

Reference for Smallholder Horticulture Empowerment Project (SHEP)
Rural Infrastructure Component Activities
Kisii District, Direct Groups

Kisii Central

Division		Group	Action plan	Participants Male	Participants Female	Demo-Training	Participants Male	Participants Female	Do-nou bags	Put into practice	Participants Male	Participants Female	Notes
Keumbu	1	Nyakeburo Orphans	Road	5	13	*Invited, 5-Aug-08*	4	4					
Kiogoro	2	Tumaini	Road	9	10	*Invited, 5-Aug-08*	2	3					
						Done, 13-May	13	16	500, 13-May	Do-nou road	13	16	
	3	Mwanyabomo	Road	7	5	*Invited, 5-Aug-08*	2	3					
						Invited, 13-May	2	2					
Marani	4	Mwanga	Road, Irrigation	10	15	*Invited, 6-Aug-08*	4	10					
						Invited, 6-May	4	2					
	5	Kiareni	Road	18	6	*Invited, 6-Aug-08*	5	1					
						Done, 6-May	53	20	500, 6-May	Do-nou road	53	20	
Mosocho	6	Matieko	Road	7	7	*Invited, 6-Aug-08*	3	4					
	7	Nyandiba	Road	3	7	*Invited, 6-Aug-08*	3	2					
						Done, 11-May	7	13	500, 11-May	Do-nou road	7	13	

Kisii South

Division		Group	Action plan	Participants Male	Participants Female	Demo-Training	Participants Male	Participants Female	Do-nou bags	Put into practice	Participants Male	Participants Female	Notes
Suneka	8	Mwangaza	Road	8	5	Done, 8-Aug-08	35	15	500, 8-Aug-08	Do-nou road	35	15	
Suneka	9	Ebate	Road	8	15	Done, 19-May	5	17	500, 19-May	Do-nou road	5	17	

Masaba

Division		Group	Action plan	Participants Male	Participants Female	Demo-Training	Participants Male	Participants Female	Do-nou bags	Put into practice	Participants Male	Participants Female	Notes
Masaba	10	Bidii		10	15	*(Invited, 5-Aug)*	(1)	(8)					
						Done, 8-May	9	16	500, 5-May	Do-nou road, bridge	9	16	Maintain by digging drainage, Build the bridge for footpath with Do-nou
Kiamokama	11	Bomobaa Ekeonga	Road	7	3	Done, 5-Aug-08	9	12	500, 5-Aug-08	Do-nou road	9	12	
Total Number			10	92	101	10	160	140		7	131	109	

Smallholder Horticulture Empowerment Project (SHEP)

Numbers of Groups	Number of Farmers M	Number of Farmers F	Notes
10	92	101	Number of the groups (farmers) which have indicated the problem of rural infrastructure in the community
10	67	54	Number of the groups (farmers) which SHEP trained directly (Demo was done in the groups or invited to the demo)
7	131	109	Number of the groups (farmers) which puts the introduced technology into the practice

Reference for Smallholder Horticulture Empowerment Project (SHEP)
Rural Infrastructure Component Activities
Kisii District, In direct groups

Kisii Central

Division		Group	Submit Form			Demo-Training	Participants Male	Participants Female	Do-nou bags	Put into practice	Participants Male	Participants Female	Notes
Kiogoro	1	Otamba embakasi				*Tumaini, 13-May*	3	0					
	2	Nyaura widow				*Tumaini, 13-May*		5					
	3	Kenyuni women											
Marani	4	Kionganyo				*Kiareni, 6-May*	2	1					
	5	Mfadesh				Done, 6-Aug-08	21	7	500, 6-Aug-08	Done	21	7	Extension staff push the farmers, They made the subsurface drainage
Mosocho	6	Bomeroga comer				*Nyandiba, 11-May*	2	1					
	7	Bomenya				*Nyandiba, 11-May*	3	0					

Kisii South

Division		Group	Submit Form			Demo-Training	Participants Male	Participants Female	Do-nou bags	Put into practice	Participants Male	Participants Female	Notes
Suneka	8	Roiyuko SHG	(14th Mar)			*Evate, 19-May*	1	0					
	9	Bogakumu Jua kari				*Evate, 19-May*	3	2					
	10	Nyamatwoni				*Evate, 19-May*	3	2					
	11	Mshauri mwema											

Masaba

Division		Group	Submit Form			Demo-Training	Participants Male	Participants Female	Do-nou bags	Put into practice	Participants Male	Participants Female	Notes
Masaba	12	Nyabomo				*Bidii, 8-May*	2	1					
	13	Machuki				*Bidii, 8-May*	1	2					
Kiamokama	14	Mobamba 2000											
	15	Masaba umoja											
Rigoma	16	Karungu farmegor											
	17	Mwanyirasi women											
Total Number			0			11	41	21	1	1			

( ): Form was submitted, but they are not ready to do.

Smallholder Horticulture Empowerment Project (SHEP) , Indirect Groups

No. of Question	Numbers of Groups	Notes
A	1	Number of the groups which submitted requirement form (Annex 2) filled correctly
B	1	Number of the groups which put the introduced technology into the practice

Appendix 11. Schedule of SHEP Terminal Evaluation

		Schedule		
		Consultant	Other members	Stay
	12th–19th June	Preparatory work	(Analysis of Pre-survey questionnaire)	
	15th (Mon)	Preparatory TV meeting between JICA HQ and JICA Kenya		
1	21th (Sun)	Departure from Japan		Air
2	22th (Mon)	PM Arrival in Kenya		Nairobi
3	23th (Tue)	10:00 Meeting with Ministry of Agriculture PM Interview with Ms. Harada Meeting with SHEP experts 16:00 Fly from Nairobi to Eldoret (JO-357)		Eldoret
4	24th (Wed)	Pre-survey in Bungoma (Visit to 2 farmer groups) Interview with SHEP experts and C/Ps	Odanga	
5	25th (Thr)	Move from Eldoret to Nyandarua (by car) Pre-survey in Nyandarua (Visit to 1 farmer group)	(Odanga 8:45 ELD to NBI JO-354) Miyata	Nyandarua
6	26th (Fri)	Pre-survey in Nyandarua (Visit to 1 farmer group) Move from Nyandarua to Nairobi (by car)	Miyata	Nairobi
7	27th (Sat)	Documentation	(Meeting with Masuko)	
8	28th (Sun)	Documentation		
9	29th (Mon)	Meeting within Joint Evaluation Team		
10	30th (Tue)	7:45 Fly from Nairobi to Eldoret 8:30 (JO-353) Survey in Trans-nzoia (Meeting with extension officers and farmer representatives)		Eldoret
11	1st July (Wed)	Interview with SHEP experts and C/Ps Move from Eldoret to Kisii (by car) *17:00 Kawazumi and Masuko fly from Eldoret to Nairobi 17:45 (JO-358)		Kisii
12	2nd (Thr)	Survey in Kisii (Visit to 2 farmer groups) Move from Kisii to Kisumu (by car) 18:30 Fly from Kisumu to Nairobi (B5-710 or JO-758)		Nairobi
13	3rd (Fri)	Meeting within joint evaluation team (Discussion on report) Interview with Smallscale Horticulture Development Project		
14	4th (Sat)	Documentation		
15	5th (Sun)	Documentation		
16	6th (Mon)	Meeting within joint evaluation team (Discussion on report) Interview with Smallholder Marketing Program, SHoMaP		
17	7th (Tue)	Meeting within joint evaluation team (Discussion on report) Interview with Agriculture Sector Coordination Unit, ASCU		
18	8th (Wed)	Discussion on report Final confirmation of contents of the report		
19	9th (Thr)	12:00 Project Steering Committee, Signing of Aide Memoire		
20	10th (Fri)	(Report to Embassy of Japan)		Air
		Departure from Kenya		
21	11th (Sat)	Arrive in Japan		

Appendix 12. Quesionnaire to SHEP team

12.1 To deputy team leaders

ə Smallholder Horticulture Empowerment Project (SHEP) Terminal Evaluation

Questionnaire to Deputy Team Leader

Dear Mr. James Arim, Depty Team Leader of SHEP

This is a questionnaire for the terminal evaluation of SHEP. The Joint Evaluation Team consists of Japanese and Kenyan members evaluates the project from the viewpoints of DAC evaluation criteria, i.e., RELECANCE, EFFECTIVENESS, EFFICIENCY, IMPACT and SUSTAINABILITY, based on the information from related stakeholders.

We would like to hear and exchange view of many people concerned on the project. We would like to know your view and opinion on the project, since you have conprehensive understanding on the project as a Deputy Team Leader of SHEP.

This questionnaire is a base for interview to you. We would to interview and discuss with you on the project during our visit to the project site in the period from 22th of June to July 2nd, according to this questionnaire. We would appreciate if you answer and fill this questionnaire to give me back at out meeting.

Thank you very much for your cooperation.

1. Question on Implementation Process

QUESTION	SUB-QUESTION	ANSWER			
1.1 Progress of activities	1.1.1 Were activities implemented as planned?	□Not at all	□Rarely	□More or less	□Very much
	1.1.2 If not, please specify the reason.				
	1.1.3 Were technical transfer by Japanese experts in appropriate way?	□Not at all	□Rarely	□More or less	□Very much
	1.1.3 If not, please specify the reason.				
1.2 Decision making and management	1.2.1 Was a project steering committee held in appropriate manner?	□Not at all	□Rarely	□More or less	□Very much
	1.2.1 Is direction and instruction mechanism by the Project Steering Committee working for achieving project objective?	□Not at all	□Rarely	□More or less	□Very much
	1.2.3 If any problem, how do you think to improve in the decision making mechanism?				
	1.2.4 Has the management of daily project work been appropriate?	□Not at all	□Rarely	□More or less	□Very much
	1.2.5 If no, what are problems? How did you try to solve them?				
	1.2.6 Any other problem on the management?				
1.3 Monitoring system	1.3.1 Who mainly monitors the project?				
	1.3.2 Has the monitoring been done appropriate?	□Not at all	□Rarely	□More or less	□Very much
	1.3.3 Did the results of monitoring feed back to the project improvement?	□Not at all	□Rarely	□More or less	□Very much
	1.3.4 If yes, how it works?				
1.4 Communicatio	1.4.1 Has the communication between Japanese experts and Kenyan counterparts	□Not at all	□Rarely	□More or less	□Very much
	1.4.2 If not, what are problems? How do you solve them?				
	1.4.3 Has the communication among Kenyan counterparts been appropriate?	□Not at all	□Rarely	□More or less	□Very much
	1.4.4 Has the communication among with other institutions been appropriate?	□Not at all	□Rarely	□More or less	□Very much
	1.4.5 Has the communication among with extension workers and farmer groups been	□Not at all	□Rarely	□More or less	□Very much

Appendix 12. Quesionnaire to SHEP team

12.1 To deputy team leaders

	1.4.6 If not, what are problems? How did you try to solve them?				
1.5 Ownership	1.5.1 Has the Kenyan C/P initiative been strong enough?	□Not at all	□Rarely	□More or less	□Very much
	1.5.2 Has MoA gave enough support to the project?	□Not at all	□Rarely	□More or less	□Very much
	1.5.3 Did District officers of MoA and HCDA participated enough?	□Not at all	□Rarely	□More or less	□Very much
1.6 Others	1.6.1 Please state any other problem and issues on the implementation process.				

2. Question on Relevance

QUESTION	SUB-QUESTION	ANSWER			
2.1 Priority	2.1.1 Are the overall goal and project objective still consistent with Kenyan development	□Not at all	□Rarely	□More or less	□Very much
	2.1.2 If not, please specify.	□Not at all	□Rarely	□More or less	□Very much
2.2 Relevance	2.2.1 Does the project overall goal and objective still meet the needs of target groups?	□Not at all	□Rarely	□More or less	□Very much
2.3 Relevance of a means	2.3.1 Is the approach/ strategy of project appropriate to achieve the objective?	□Not at all	□Rarely	□More or less	□Very much
	2.3.2 Was the selection of the target groups appropriate?	□Not at all	□Rarely	□More or less	□Very much
	2.3.3 Was the selection of the target groups appropriate?	□Not at all	□Rarely	□More or less	□Very much
	2.3.4 Are there any major change in the policies, economy, and society to give important influence on the project?	□Not at all	□Rarely	□More or less	□Very much

3. Question on Effectiveness

QUESTION	SUB-QUESTION	ANSWER			
3.1 Project objectives	**Developed capacity of the smallholder horticulture farmer groups supported by the Projects.**				
	3.1.1 What extent do you think the project objective has been achieved?	□Not at all	□Rarely	□More or less	□Very much
	a. Direct support groups	□Not at all	□Rarely	□More or less	□Very much
	b. Indirect support groups	□Not at all	□Rarely	□More or less	□Very much
	3.1.2 What factors have contributed to the achievement of the project objective?				
	3.1.3 What have been constraints to the achievement of the project objective?				
3.2 Output	**OUTPUT 1. Target groups (smallholder horticulture farmer groups) gain bargaining power in marketing their produce.**				
	3.2.1 What extent do you think the output 1 has been produced?	□Not at all	□Rarely	□More or less	□Very much
	3.2.2 What points to be improved to produce output 1 ?				
	3.2.3 Has the output 1 contributed to achieving the objective sufficiently?	□Not at all	□Rarely	□More or less	□Very much
	OUTPUT 2. Target groups increase the production of better quality crops.				
	3.2.4 What extent do you think the output 1 has been produced?	□Not at all	□Rarely	□More or less	□Very much
	3.2.5 What points to be improved to produce output 1 ?				
	3.2.6 Has the output 1 contributed to achieving the objective sufficiently?	□Not at all	□Rarely	□More or less	□Very much

Appendix 12. Quesionnaire to SHEP team

12.1 To deputy team leaders

	OUTPUT 2. Target groups develop capacity to improve rural infrastructure for production and transportation.				
	3.2.7 What extent do you think the output 1 has been produced?	□Not at all	□Rarely	□More or less	□Very much
	3.2.8 What points to be improved to produce output 1 ?				
	3.2.9 Has the output 1 contributed to achieving the objective sufficiently?	□Not at all	□Rarely	□More or less	□Very much
3.3 Capacity Development of C/P, Extension Workers and	3.3.1 Has the capacities of counterparts to support extension workers, do you think, been strengthened?	□Not at all	□Rarely	□More or less	□Very much
	3.3.2 If yes, how strengthened? If not, what to be improved?				
	3.3.3 Has the capacities of extension workers to support farmer groups, do you think, been strengthened?	□Not at all	□Rarely	□More or less	□Very much
	a Extension workers in charge of Direct Support Group	□Not at all	□Rarely	□More or less	□Very much
	b. Extension workers in charge of Indirect Support Group	□Not at all	□Rarely	□More or less	□Very much
	c Other extension workers	□Not at all	□Rarely	□More or less	□Very much
	3.3.4 If yes, how strengthened? If not, what to be improved?				
3.4 PDM logic	3.4.1 Do you think that the causal sequence among activities, outputs, the project objective, and overall goal in PDM is appropriate?	□Not at all	□Rarely	□More or less	□Very much
	3.4.2 Do you think that project team member have enough understanding and agreement among them on the activities, outputs, and project objective mentioned in PDM?	□Not at all	□Rarely	□More or less	□Very much
	3.4.3 You revised PDM indicators. Why did you revise it? What kinds of discussion held? What kind of logical sequence do you have in mind to achieve objective?				
3.5 External conditions	3.5.1 Have you experienced any important change of external environment to influence on the project objective achievement?	□Did market demand of products do shrink?	□Did market prices of horticultural crops	□その他	□なし
	3.5.1 If yes, what kinds of change occur?				
3.6 Comments on activities	3.6.1 Any comments on activities?				

4. Question on Efficiency

QUESTION	SUB-QUESTION		ANSWER			
4.1 Have the Japanese inputs been appropriate?	4.1.1 Long-term Expert	a. Number	□Not at all	□Rarely	□More or less	□Very much
		b. Timeliness	□Not at all	□Rarely	□More or less	□Very much
		c. Fields of expertise	□Not at all	□Rarely	□More or less	□Very much
	4.1.2 Short-term Expert	a. Number	□Not at all	□Rarely	□More or less	□Very much
		b. Timeliness	□Not at all	□Rarely	□More or less	□Very much
		c. Fields of expertise	□Not at all	□Rarely	□More or less	□Very much

Appendix 12. Quesionnaire to SHEP team

12.1 To deputy team leaders

		d. Did not you need expert in marketing?				
	4.1.3 Local consultants	a. Number	□Not at all	□Rarely	□More or less	□Very much
		b. Timeliness	□Not at all	□Rarely	□More or less	□Very much
		c. Fields of expertise	□Not at all	□Rarely	□More or less	□Very much
	4.1.4 C/P Training in Japan	a. Number	□Not at all	□Rarely	□More or less	□Very much
		b. Timeliness	□Not at all	□Rarely	□More or less	□Very much
		c. Fields of expertise	□Not at all	□Rarely	□More or less	□Very much
	4.1.5 Facilities and equipment	a. Quantity	□Not at all	□Rarely	□More or less	□Very much
		b. Quality	□Not at all	□Rarely	□More or less	□Very much
		b. Timeliness	□Not at all	□Rarely	□More or less	□Very much
		d. Type/kinds	□Not at all	□Rarely	□More or less	□Very much
		e. Costs	□Not at all	□Rarely	□More or less	□Very much
	4.1.6 Operational cost	a. Amount	□Not at all	□Rarely	□More or less	□Very much
		b. Timeliness	□Not at all	□Rarely	□More or less	□Very much
	4.1.7 Please comment, if any.					
4.2 Have the Kenyan inputs been appropriate?	4.2.1 C/P assignment	a. Number	□Not at all	□Rarely	□More or less	□Very much
		b. Timeliness	□Not at all	□Rarely	□More or less	□Very much
		c. Professional fields	□Not at all	□Rarely	□More or less	□Very much
	4.2.2 Facilities and equipment	a. Facilities	□Not at all	□Rarely	□More or less	□Very much
		b. Equipment and supplies	□Not at all	□Rarely	□More or less	□Very much
	4.2.3 Operation cost	a. Amount	□Not at all	□Rarely	□More or less	□Very much
		b. Timeliness	□Not at all	□Rarely	□More or less	□Very much
	4.2.4 Please comment, if any.					
4.3 Have the inputs as a whole been effectively utilized?	4.3.1 Utilization of inputs as a whole	a. Personnel	□Not at all	□Rarely	□More or less	□Very much
		b. Facilities/ equipment/ supplies	□Not at all	□Rarely	□More or less	□Very much
		c. Operational cost	□Not at all	□Rarely	□More or less	□Very much
	4.3.2 Has the Steering Committee functioned well?	a. Frequency	□Not at all	□Rarely	□More or less	□Very much
		b. Timeliness	□Not at all	□Rarely	□More or less	□Very much
		c. Number of participants	□Not at all	□Rarely	□More or less	□Very much
		d. Effectiveness of management	□Not at all	□Rarely	□More or less	□Very much
	4.3.3 Do you think that the inputs were efficiently utilized to produce outputs?					

Appendix 12. Quesionnaire to SHEP team
12.1 To deputy team leaders

5. Question on Impact

QUESTION	SUB-QUESTION	ANSWER			
5.1 Impact to Overall Goal	5.1.1 Do you think that the project is likely to have an impact on the reduction of poverty rate in the target district?	□Not at all	□Rarely	□More or less	□Very much
5.2 Positive impact	5.2.1 Is there any intended positive situation change by the project? If yes, please describe				
	5.2.2 Is there any unexpected positive situation change by the project? If yes, please describe briefly.				
5.3 Negative impact	5.2.2 Is there any unexpected negative situation change by the project? If yes, please describe briefly.				
5.4 Influence of external environment	5.4.1 Is there any change of activities influenced by the important external condition? If yes, please describe briefly.				

6. Question on Sustainability

QUESTION	SUB-QUESTION	ANSWER			
6.1 Policy and Institutional	6.1.1 Is the Kenyan government likely to continue its policy to support small horticultural	□Not at all	□Rarely	□More or less	□Very much
	6.1.2 Is the project likely to continue supporting farmer group in cooperate with related agency?	□Not at all	□Rarely	□More or less	□Very much
6.2 Organizational and Financial	6.2.1 Is the Kenyan government likely to continue allocating sufficient operational budget?	□Not at all	□Rarely	□More or less	□Very much
	6.2.2 Is the Kenyan government likely to continue allocating sufficient budget to related	□Not at all	□Rarely	□More or less	□Very much
6.3 Technical	6.3.1 Is the transferred technology properly maintained and utilized?	□Not at all	□Rarely	□More or less	□Very much
	6.3.2 Is the strengthened capacity of the C/P likely to be maintained and utilized?	□Not at all	□Rarely	□More or less	□Very much
	6.3.3 Is the facilities and equipment likely to be maintained and utilized by Kenyan C/P?	□Not at all	□Rarely	□More or less	□Very much
	6.3.3 Is the strengthened capacity of the C/P enough to continue the activities?	□Not at all	□Rarely	□More or less	□Very much
6.4 Important factors to sustainability	6.4.1 What will be the promoting factors to sustain the project impact after termination?				
	6.4.2 What will be the inhibiting factors of the project impact after termination?				

THANK YOU VERY MUCH FOR YOUR COOPERATION!!

Appendix 12. Questionnaire to SHEP team

12.2 To Kenyan team members

The Smallholder Horticulture Empowerment Project (SHEP) Terminal Evaluation Questionnaire to Counterpart personnel

Team :
☐Farmer Group Formation/ Gender Mainstreaming
☐Horticulture Production and Extension
☐Project Coordination/Training, Administration/Rural Infrastructure

Name :
Affiliation :
Fields:
Contact :

This is a questionnaire to counterpart personnel for the terminal evaluation of SHEP. The question is related to the professional field of counterpart personnel.

This questionnaire is a base for interview to you. We would to interview and discuss with you on the project during our visit to the project site in the period from 22nd of June to July 2nd, according to this questionnaire. We would appreciate if you answer and fill this questionnaire to give me back at out meeting.

Thank you very much for your cooperation.

Best Regards,

Hiroshi YOSHIMURA, International Development Center of Japan (IDCJ)
Member in charge of Evaluation Analysis, Terminal Evaluation Mission of SHEP

1. Your duties in the Project

Could you kindly describe your duties in the Project? How did you contribute to the project?

2. Your capacity

2.2 Do you think that you have gained enough skills and knowledge to continue your duties by yourself?

2.3 Please describe what kinds of activities were useful for you to strengthen your capacity. How useful?

2.4 What kinds of capacity do you think need strengthening for further improvement?

2.5 Do you have acquired any technology or skill from the Japanese expert? Was method appropriate? Which is not available in Kenya?

Appendix 12. Questionnaire to SHEP team

12.2 To Kenyan team members

2.6Do you want to continue your job in the project? Do you likely to stay current position? What motivate you to continue your work?

3. Capacity of Extension Workers

a. Extension worker in charge of Directly Supported Farmers Group

3.1 Do you think that extension workers have gained enough skills and knowledge to continue their duties by themselves?

3.2 What kinds of capacities of extension workers improved, so far? What activities were useful to strengthen this capacity?

3.3 What kinds of capacities of extension workers need to be improved to continue to support farmer groups?

b. Extension worker in charge of Indirectly Supported Farmers Group

3.4 Do you think that extension workers have gained enough skills and knowledge to continue their duties by themselves?

3.5 What kinds of capacities of extension workers improved, so far? What activities were useful to strengthen this capacity?

3.6 What kinds of capacities of extension workers need to be improved to continue to support farmer groups?

c. Other extension workers

3.7 Do you think that the project has some impacts on the capacity development of other extension workers? If yes, what kinds of capacities improved? How is it strengthened?

4. Farmer Group

a. **Directly Supported Farmers Group**

4.1 Do you think that Directly Supported Farmer Groups have strengthened their capacity in terms of:

(1) Gaining bargaining power in marketing their produce,

(2) Increasing the production of better quality crops, and

(3) Developing capacity to improve rural infrastructure for production and transportation?

4.2 What kinds of capacities of Directly Supported Farmer Groups strengthened, so far? What activities were useful to strengthen this capacity?

4.3 What kinds of capacities of Directly Supported Farmer Groups need to be strengthened for improving their net income by them?

Appendix 12. Questionnaire to SHEP team

12.2 To Kenyan team members

b. **Indirectly Supported Farmers Group**

4.4 Do you think that Directly Supported Farmer Groups have strengthened their capacity in terms of:
(1) Gaining bargaining power in marketing their produce,

(2) Increasing the production of better quality crops, and

(3) Developing capacity to improve rural infrastructure for production and transportation?

4.5 What kinds of capacities of Directly Supported Farmer Groups strengthened, so far? What activities were useful to strengthen this capacity?

4.6 What kinds of capacities of Directly Supported Farmer Groups need to be strengthened for improving their net income by them?

c. **Other farmers**
4.7 Do you think that the project has some impact on the capacity development of other farmers? If yes, what kinds of capacities improved? How is it strengthened?

5. Please describe any comment on the project (Outstanding event, problem, consideration, etc.)

Thank you very much for your cooperation!!


ジャイカ
JICA